Town Of Erie
Planning Commission Regular Meeting
Wednesday, January 21, 2015
6:30 P.M.
Board Room, Erie Town Hall, 645 Holbrook, Erie, CO 80516

I. CALL TO ORDER & PLEDGE OF ALLEGIANCE TO THE FLAG

II. ROLL CALL

III. APPROVAL OF THE AGENDA

IV. APPROVAL OF MINUTES

Approval of the January 7, 2015, Planning Commission Regular Meeting Minutes

V. PUBLIC COMMENTS (This agenda item provides the public an opportunity to discuss items other than items that are on the agenda. The Planning Commission is not prepared to decide on matters brought up at this time, but it warranted, will place them on a future agenda.)

VI. RESOLUTIONS (This agenda item is for all matters that should be decided by resolutions.)

1. **Public Hearing – Wise Farms Rezoning**

Purpose: Consider Wise Rezoning
Project File #: RZ-13-00070
Request: Consider Resolution P15-07, A Resolution Regarding The Wise Farms Zoning Map, Rezoning, Adopting Certain Findings Of Fact And Conclusions Favorable To The Rezoning.
Location: South of Jasper Road, West of N.119th Street
Zoning: RR – Rural Residential
Applicants: Jasper Land Investments LLC – Jim Dullea
(Staff Planner: Deborah Bachelder)

2. **Public Hearing – Wise Farms PUD Overlay**

Purpose: Consider Wise PUD Overlay
Project File #: PUD-13-00071
Request: Consider Resolution P15-08, A Resolution Regarding The Wise Farms PUD Zoning Map, Adopting Certain Findings Of Fact And Conclusions Favorable To The PUD Overlay Rezoning.
Location: South of Jasper Road, West of N.119th Street
Zoning: RR – Rural Residential
Applicants: Jasper Land Investments LLC – Jim Dullea
(Staff Planner: Deborah Bachelder)

3. **Public Hearing – Wise Farms Preliminary Plat**

Purpose: Consider Wise Preliminary Plat
Project File #: PP-13-00012
Request: Consider Resolution P15-09, A Resolution Regarding The Preliminary Plat For Wise Farms Preliminary Plat, Adopting Certain Findings Of Fact And Conclusions Favorable To The Preliminary Plat.
Location: South of Jasper Road, West of N.119th Street
Zoning: RR – Rural Residential

Applicants: Jasper Land Investments LLC – Jim Dullea
(Staff Planner: Deborah Bachelder)

VII. STAFF REPORTS (This agenda items is reserved for specific items from Staff requiring Commission direction or just relaying important information.)

VIII. COMMISSIONER REPORTS AND DISCUSSION ITEMS (This agenda item is for all Planning Commission reports and items of information as well as Commission discussion items, not listed on the agenda.)

IX. ADJOURNMENT

FOR MORE INFORMATION ON THE AGENDA ITEMS LISTED, PLEASE CONTACT THE COMMUNITY DEVELOPMENT OFFICE AT 645 HOLBROOK STREET, 303-926-2770

Town of Erie
Planning Commission Special Meeting
Wednesday, January 7, 2015
6:30 p.m.
Board Room, Erie Town Hall, 645 Holbrook, Erie, Co 80516

I. CALL MEETING TO ORDER & PLEDGE OF ALLEGIANCE

Chairman Bottenhorn called the Regular Meeting of the Erie Planning Commission to order at 6:44 p.m.

II. ROLL CALL

Commissioner Gippe - present
Commissioner Fraser – present
Commissioner Kemp – present
Commissioner Harrison – late arrived at 7:00 p.m.
Commissioner Burgard – absent
Commissioner Campbell – absent
Chairman Bottenhorn - present

Staff Present: R. Martin Ostholthoff, Community Development Director;
Deborah Bachelder, Senior Planner; and
Melinda Helmer, Secretary to the Commission

III. APPROVAL OF THE AGENDA

Action: Commissioner Fraser moved to approve the January 7, 2015, Regular Meeting Agenda as submitted. The motion, seconded by Commissioner Kemp, carried with all voting in favor thereof.

IV. APPROVAL OF MINUTES

a. Minutes from the December 17, 2014 Planning Commission Regular Meeting.

Action: Commissioner Fraser moved to approve the December 17, 2014, minutes as submitted. The motion, seconded by Commissioner Kemp, carried with all voting in favor thereof.

V. PUBLIC COMMENTS

(This agenda item provides the public an opportunity to discuss items other than items that are on the agenda. The Planning Commission is not prepared to decide on matters brought up at this time, but it warranted, will place them on a future agenda.)
None.

VI. RESOLUTIONS

(This agenda item is for all matters that should be decided by resolutions.)

1. Designation of Posting Locations

Purpose: Annual adoption of posting locations for public notices.
Project File #: N/A
Request: Approval of Resolution P15-01: A Resolution Regarding The Posting Locations For Notice of Public Hearing.
Location: N/A
Zoning: N/A
Applicants: Town of Erie
Staff: Marty Ostholthoff, Community Development Director

Community Development Director, Marty Ostholthoff presented the Commission with Resolution No. P15-01. This is the first resolution of every year as state law requires the town to designate posting locations of the agenda. Current designation locations are the north end of the hallway at Town Hall (645 Holbrook St.) and the Erie Post Office (150 Wells St.). In addition, the Town posts to Comcast Channel 8 as well as the Town of Erie's Website. Staff recommends approval of this resolution.

Action: Commissioner Gippe moved to approve Resolution P15-01: A Resolution Regarding the Posting Locations for Notice of Public Hearing. The motion, seconded by Commissioner Kemp, carried with all voting in favor thereof.

2. Public Hearing - Canyon Creek Comprehensive Plan Amendment

Purpose: Consideration of an Amendment to the Town of Erie, Colorado, 2005 Comprehensive Plan, Land Use Plan Map to remove the NC – Commercial and MDR – Medium Density Residential Land Use designations on a portion of the Canyon Creek Filing No. 9 property and replace it with the LDR - Low Density Residential Land Use designation. The change will result in approximately 26.6 acres of a portion the Canyon Creek Subdivision being designated as LDR – Low Density Residential.
Project No: CPA-14-00005
Request: Consideration of Resolution P15-02, A Resolution Recommending Approval Of An Amendment To The Town Of Erie, Colorado, 2005 Comprehensive Plan, Land Use Plan Map For A Portion Of The Canyon Creek Subdivision Property; Adopting Certain Findings Of Fact And Conclusions Favorable To Amending The Town Of Erie, Colorado, 2005 Comprehensive Plan, Land Use Plan Map.
Location: Southeast corner of Erie Parkway and North 119th Street.
Zoning: PD – Planned Development (Canyon Creek)
Applicant: Boulder Creek Neighborhoods, LLC.
Staff: Deborah Bachelder

3. Public Hearing - Canyon Creek PD-Planned Development Amendment No. 8

Purpose: Consideration of a PD-Planned Development Amendment in the Canyon Creek Subdivision to amend: 1. Architectural standards for proposed single family patio homes; 2. Lot sizes and setbacks for proposed townhomes and single family patio homes; and, 3. Street standards to allow attached walks on local streets with single family patio homes fronting on the street.
Project No: PDA-14-00006
Request: Consideration of Resolution P15-03, A Resolution Regarding The Hearing On Canyon Creek PD Amendment No. 8, Adopting Certain Findings Of Fact And Conclusions Favorable To The PD Amendment.
Location: Southeast corner of Erie Parkway and North 119th Street.
Zoning: PD – Planned Development (Canyon Creek)
Applicant: Boulder Creek Neighborhoods, LLC.
Staff: Deborah Bachelder

4. Public Hearing - Canyon Creek Filing No. 9, 1st Amendment Preliminary Plat

Purpose: Consideration of a Preliminary Plat that includes 66 single family lots for patio homes and 64 single family attached lots for townhomes within the Canyon Creek Filing No. 9, 1st Amendment.
Project No: PP-14-00014
Request: Consideration of Resolution P15-04, A Resolution Regarding The Preliminary Plat Of Canyon Creek Filing No. 9, 1st Amendment, Adopting Certain Findings Of Fact And Conclusions Favorable To The Preliminary Plat.
Location: Southeast corner of Erie Parkway and North 119th Street.
Zoning: PD – Planned Development (Canyon Creek)
Applicant: Boulder Creek Neighborhoods, LLC.
Staff: Deborah Bachelder

5. Public Hearing - Canyon Creek Filing No.9, 1st Amendment Site Plan

Purpose: Consideration of a Site Plan with 64 single family attached lots for townhomes within the Canyon Creek Filing No. 9, 1st Amendment.
Project No: SP-14-00034
Request: Consideration of Resolution P15-05, A Resolution Making Certain Findings Of Fact And Conclusions Favorable To The Site Plan For Canyon Creek Filing No. 9, 1st Amendment, Town Of Erie, County Of Boulder, State Of Colorado.
Location: Southeast corner of Erie Parkway and North 119th Street.
Zoning: PD – Planned Development (Canyon Creek)
Applicant: Boulder Creek Neighborhoods, LLC.
Staff: Deborah Bachelder

Action: Chairman Bottenhorn opened the Public Hearing for Resolution Nos. P15-02, P15-03, P15-04 and P15-05 at 6:47 p.m.

Senior Planner, Deborah Bachelder presented the Commission with all four land use applications (Canyon Creek Comprehensive Plan Amendment, Canyon Creek PD-Planned Development Amendment No. 8, Canyon Creek Filing No. 9, 1st Amendment Preliminary Plat, and Canyon Creek Filing No.9, 1st Amendment Site Plan). Staff recommends approval of the Comprehensive Plan Amendment to change the current land use designation from NC – Neighborhood Commercial and MDR – Medium Density Residential to LDR – Low Density Residential Land Use. Staff recommends approval of the Canyon Creek PD Amendment No. 8 application with the condition that the applicant remove the section titled "Standards for Pedestrian Facilities in SFD-P Single Family" in the PD Amendment that would allow attached walks to be installed. Staff is recommending approval of the Preliminary Plat with four conditions: 1) Canyon Creek PD Amendment No. 8 shall be approved and recorded before the Preliminary Plat approval comes in effect; 2) The Canyon Creek Filing No. 9, Block 4, Lots 1 – 3 Final Plat shall be vacated prior to recordation of a final plat for Canyon Creek Filing No. 9, 1st Amendment Final Plat; 3) The Town and Owner will enter into a Development Agreement, prior to recordation of the Canyon Creek Subdivision Filing No. 9, 1st Amendment Plat; and 4) If construction is proposed to begin between March 15th and August 31st, a formal migratory bird survey shall be conducted before construction commences. Lastly, staff is recommending approval of the Canyon Creek Filing No. 9, 1st Amendment Site Plan and request for Alternative Equivalent Compliance with the conditions that: 1) The Site Plan approval requires the Canyon Creek PD Amendment No. 8 be approved and recorded before the Site Plan is signed and put into effect; 2) The Site Plan may only be signed and put into effect after a Final Plat for the property is recorded; and 3) Staff may direct the consultants to make technical corrections to the documents.

The applicant, David Gregg, representing Boulder Creek Neighborhoods also gave a presentation to the Commission.

Action: Chairman Bottenhorn swore in the audience for Public Comment.

Micah Porter, 2041 Wheatberry Court, spoke against the development of this neighborhood as it goes against what the Comprehensive Plan allows and believes the market is geared toward families and not retirees.
Rob Cope, 403 Wheatberry Drive, spoke in favor of the neighborhood as there is a shortage of accessible homes in the area and believes that this will add to the value and attraction of living in Erie.
Clay Davis, 1706 Daily Drive, spoke in favor of the neighborhood with the proposed change in land use. His only concern was with the elevation of the grade on the Southeast corner of the property.

Action: Chairman Bottenhorn closed the Public Hearing at 8:07 p.m.

Action: **Commissioner Kemp moved to approve Resolution P15-02. The motion, seconded by Commissioner Fraser, carried with all voting in favor thereof.**

Action: **Commissioner Fraser moved to approve Resolution P15-03. The motion, seconded by Commissioner Harrison, carried in favor with a 4-1 vote: Commissioner Kemp voting no.**

Action: **Commissioner Kemp moved to approve Resolution P15-04. The motion, seconded by Commissioner Gippe, carried with all voting in favor thereof.**

Action: **Commissioner Fraser moved to approve Resolution P15-05. The motion, seconded by Commissioner Gippe, carried with all voting in favor thereof.**

VII. STAFF REPORTS (This agenda items is reserved for specific items from Staff requiring Commission direction or just relaying important information.)
Nothing to report.

VIII. COMMISSIONER REPORTS AND DISCUSSION ITEMS (This agenda item is for all Planning Commission reports and items of information as well as Commission discussion items, not listed on the agenda)
None.

IX. ADJOURNMENT
Action: Chairman Bottenhorn adjourned the January 7, 2015 Planning Commission Meeting at 8:12 p.m.

Respectfully Submitted,

By: _____
Melinda Helmer, Secretary

Town of Erie Planning Commission

By: _____
J. Eric Bottenhorn, Chair

TOWN OF ERIE
PLANNING COMMISSION MEETING
January 21, 2015

SUBJECT:	**PUBLIC HEARING:**
	Consideration of Resolution P15-07: A Resolution Regarding The Wise Farms Zoning Map, Rezoning, Adopting Certain Findings Of Fact And Conclusions Favorable To The Rezoning.
PURPOSE:	The applicant proposes to rezone the Wise Farms property from all RR – Rural Residential to 20.38 Acres of AG/OS Agricultural/Open Space, 93.24 Acres of RR-Rural Residential, and 64.78 acres of LR – Low Density Residential.
PROJECT FILE NO:	RZ-13-00070
CODE:	Erie Municipal Code, Title 10
DEPARTMENT:	Community Development
PRESENTER:	Deborah Bachelder AICP, Senior Planner

STAFF RECOMMENDATION

Staff recommends that the Planning Commission recommend approval to the Board of Trustees for the Rezoning by the Wise Farms Zoning Map by approving Resolution No. P15-07, with the following condition:

a. Technical corrections to the Wise Farms Zoning Map shall be made to the Town's satisfaction.

SUMMARY AND BACKGROUND OF SUBJECT MATTER

Applicant:	Jasper Land Investments, LLC 9162 S. Kenwood Court Highlands Ranch, CO 80126
Owners:	Wise Homestead, LLC; and, Elizabeth Kissell

Location: The Wise Farms property is located south of Jasper Road and west of 119th Street. The property is separated by the RTD railroad right of way.

Existing Conditions:

Current Zoning: Current zoning is RR – Rural Residential; however, the applicant is processing a concurrent Rezoning and PUD Overlay application.

Rezoning Size: 178 Acres

Existing Use: On the property are two existing single family houses and associated accessory structures; historic farm structures; one oil/gas facility; with the majority of the property being used for agriculture.

Adjacent Land-Use/Zoning:

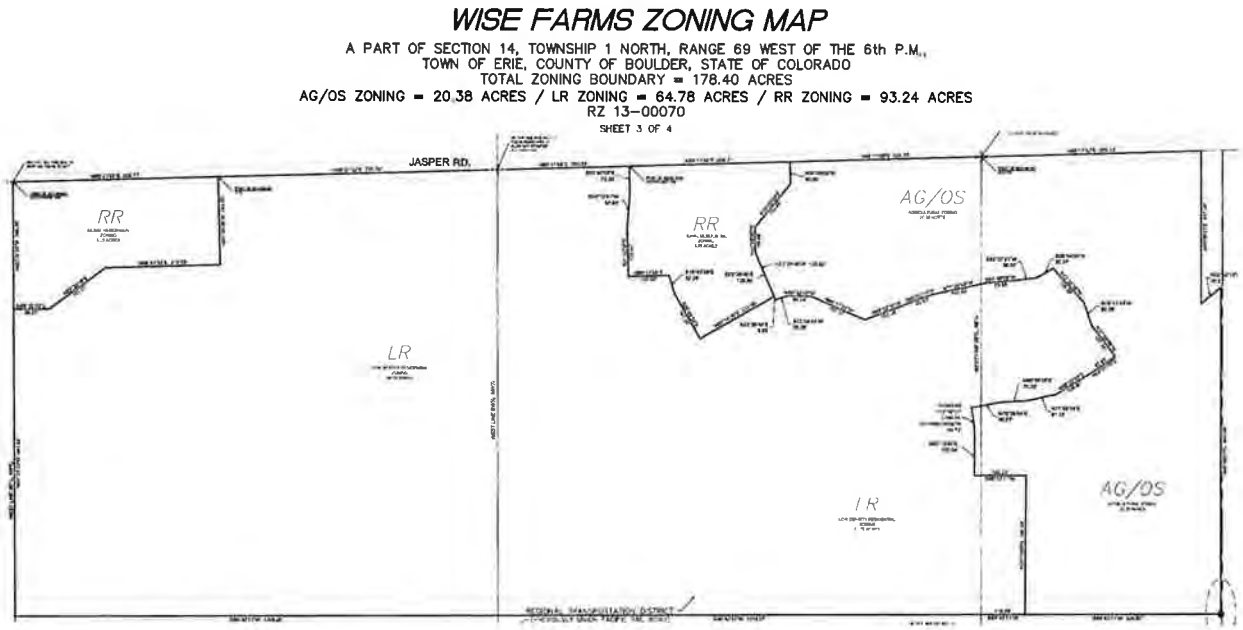
	ZONING	LAND USE
NORTH	Rural Residential Neighborhood Mixed Use AG-OS Agricultural – Open Space A-Agricultural: Boulder County	Single Family Residential Erie Historical Museum Boulder County/Town Open Space Single Family Residential
EAST	A-Agricultural: Boulder County ER-Estate Residential	Single Family Residential Single Family Residential
SOUTH	A-Agricultural: Boulder County	Single Family Residential
WEST	A-Agricultural: Boulder County	Farm/Agricultural

Wise Farms Rezoning Proposal:

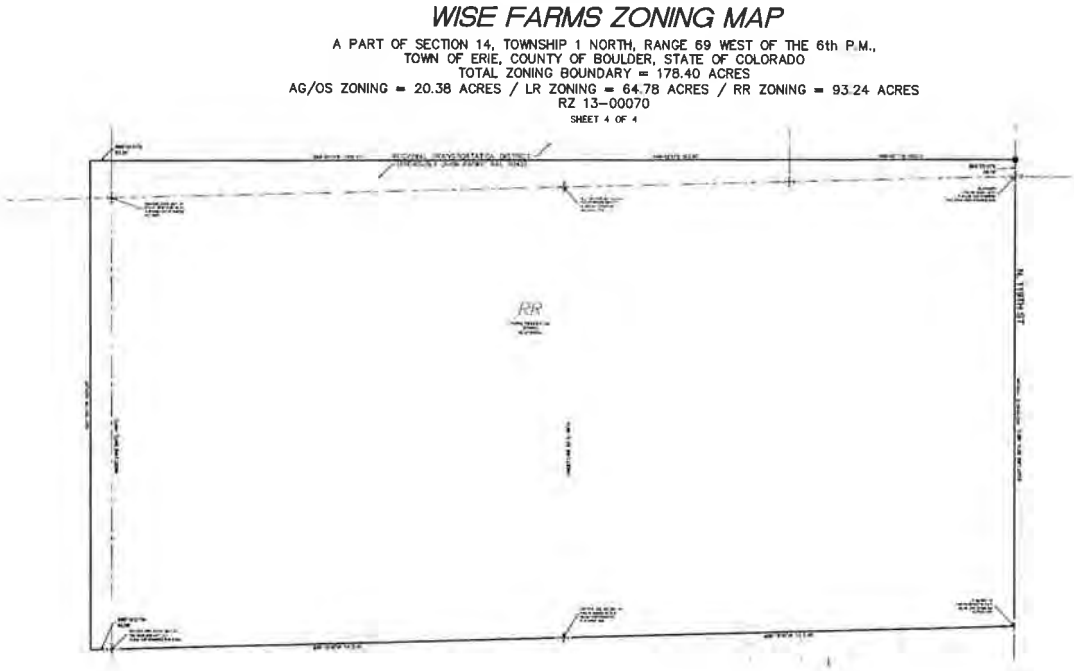
The applicant is requesting to rezone Wise Farms from RR – Rural Residential to:

Proposed Zone District	Acres in Proposed District
AG/OS - Agricultural/Open Space	20.38 acres
RR - Rural Residential	93.24 acres
LR - Low Density Residential	64.78 acres

Proposed Zoning Map – North Half of Wise Farms

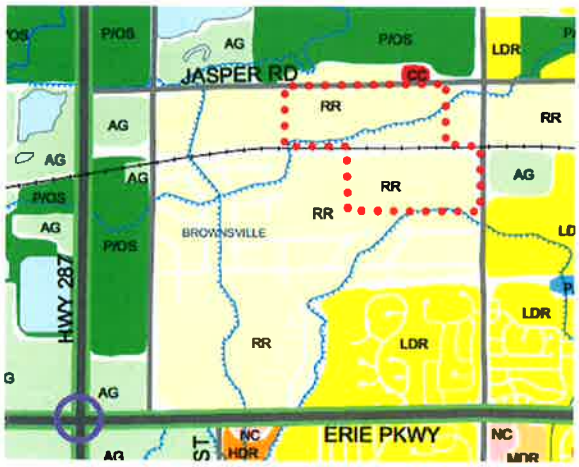


Proposed Zoning Map – South Half of Wise Farms



Compliance with Town of Erie Comprehensive Plan:

The Rezoning application is in general Compliance with the Land Use designation of RR-Rural Residential on the 2005 Comprehensive Plan, Land Use Plan Map; as illustrated below. The density range of RR, in the Comprehensive Plan, is 0 to 2 dwelling units per acre; however, gross densities will not typically exceed 1 dwelling unit per acre. The applicant proposal is for 166 dwelling units on approximately 169 acres; this equals a gross density of 0.98 dwelling units per acre.



STAFF REVIEW AND ANALYSIS

The Wise Farms Zoning Map was reviewed for conformance with Municipal Code 10.7.5 B.9. Rezoning Approval Criteria. Staff finds the Wise Farms Zoning Map in compliance with the Rezoning Approval Criteria as listed below.

a. The Rezoning will promote the public health, safety, and general welfare;

   Staff: The Wise Farms Zoning Map promotes the public health, safety, and general welfare.

b. The Rezoning is generally consistent with the Town's Comprehensive Master Plan and the purposes of this UDC;

   Staff: The Wise Farms PUD sets the maximum number of dwelling units allowed on the property. The gross density proposed is within the 0 to 2 dwelling units per acre density range for the Rural Residential Land Use in the Comprehensive Plan.

c. Adequate facilities and services (including streets and transportation, water, gas, electric, police and fire protection, and sewage and waste disposal, as applicable) will be available to serve the subject property while maintaining adequate levels of service to existing development;

   Staff: The Wise Farms development will need to bring Town water to the site. All other facilities and services are available.

d. The Rezoning is not likely to result in significant adverse impacts upon the natural environment, including air, water, noise, storm water management, wildlife, and vegetation, or such impacts will be substantially mitigated;

   Staff: The Town and applicant have worked to preserve healthy trees and the non-jurisdictional wetland on the east side of the property as public open space.

e. The Rezoning is not likely to result in significant adverse impacts upon other property in the vicinity of the subject property;

Staff: The Wise Farms PUD identifies buffers on all sides of the proposed development. Additionally, the applicant has increased the size of the residential lots, from the original Sketch Plan application, on the south half of the property to lot sizes that are compatible to the adjacent neighborhood.

f. Future uses on the subject property will be compatible in scale with uses on other properties in the vicinity of the subject property; and

Staff: The applicant has increased the size of the residential lots, from the original Sketch Plan application, on the south half of the property to lot sizes that are compatible to the adjacent neighborhood.

g. The Zoning is generally consistent with the Towns' economic development goals and objectives to bring positive growth and sustainable revenues to the Town.

Staff: The applicant will bring positive growth and sustainable revenues to the Town.

NEIGHBORHOOD MEETING

As required by the Municipal Code a Neighborhood Meeting was held:

Neighborhood Meeting Date:	January 7, 2015
Neighborhood Meeting Location:	Erie Community Center

The required posted and mailed notice of the Neighborhood Meeting was provided as required.

PUBLIC NOTICE

Notice of this Public Hearing has been provided as follows:

Published in the Colorado Hometown Weekly:	December 31, 2014
Property Posted:	January 2, 2015
Letters to adjacent property owners within 300':	January 2, 2015

STAFF RECOMMENDATION

Staff recommends that the Planning Commission recommend approval to the Board of Trustees for the Rezoning by the Wise Farms Zoning Map by approving Resolution No. P15-07, with the following condition:

a. Technical corrections to the Wise Farms Zoning Map shall be made to the Town's satisfaction.

Approved by:

R. Martin Ostholthoff
Community Development Director

Attachments:

1. Resolution P15-07
2. Applicant submittal materials

RESOLUTION NO. P15-07

A RESOLUTION REGARDING THE WISE FARMS ZONING MAP, REZONING, ADOPTING CERTAIN FINDINGS OF FACT AND CONCLUSIONS FAVORABLE TO THE REZONING.

WHEREAS, the Planning Commission of the Town of Erie Colorado has received and considered the Wise Farms Zoning Map, Rezoning on January 21, 2015 on the application of Elizabeth W. Kissell, and Wise Homestead, LLC, 11497 Jasper Road, Lafayette, CO, for Rezoning of the following described real property:

See Exhibit "A," attached hereto and incorporated herein, and

WHEREAS, the application for Rezoning is detailed on the zoning map titled Wise Farms Zoning Map, attached hereto and incorporated herein as Exhibit "B," and

WHEREAS, said Wise Farms Zoning Map is incorporated herein and made a part hereof by this reference.

NOW, THEREFORE, BE IT RESOLVED BY THE PLANNING COMMISSION OF THE TOWN OF ERIE, COLORADO, as follows:

Section 1. Findings of Fact

1. The application for rezoning and supporting documents were submitted in accordance with Municipal Code, Title 10, Section 7.5.
2. Following a duly noticed and conducted public hearing, the Planning Commission determined that the application meets the approval criteria as specified in Title 10, Section 7.5 B.9 of the Town of Erie Municipal Code. Specifically that,
   a. The Rezoning will promote the public health, safety, and general welfare;
   b. The Rezoning is generally consistent with the Town's Comprehensive Master Plan and the purposes of this UDC;
   c. Adequate facilities and services (including streets and transportation, water, gas, electric, police and fire protection, and sewage and waste disposal, as applicable) will be available to serve the subject property while maintaining adequate levels of service to existing development;
   d. The Rezoning is not likely to result in significant adverse impacts upon the natural environment, including air, water, noise, storm water management, wildlife, and vegetation, or such impacts will be substantially mitigated;
   e. The Rezoning is not likely to result in significant adverse impacts upon other property in the vicinity of the subject property;
   f. Future uses on the subject property will be compatible in scale with uses on other properties in the vicinity of the subject property; and
   g. The Zoning is generally consistent with the Towns' economic development goals and objectives in bring positive growth and sustainable revenues to the Town.

Section 2. Conclusion and Order

Based on the above Findings of Fact, the Planning Commission hereby forwards the Wise Farms Zoning Map, Rezoning application to the Board of Trustees with the Planning Commission's recommendation for approval, with the following conditions:

1. Technical corrections to the Wise Farms Zoning Map shall be made to the Town's satisfaction.

INTRODUCED, READ, SIGNED AND APPROVED this 21st day of January 2015.

TOWN OF ERIE, PLANNING COMMISSION

By: _____
J. Eric Bottenhorn, Chair

ATTEST:

By: _____
Hallie S. Sawyer, Secretary

EXHIBIT A

(Wise Farms Legal Description)

NORTH PARCEL:

A PARCEL OF LAND BEING A PART OF THE NORTH HALF OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE EAST QUARTER CORNER OF SAID SECTION 14, FROM WHICH THE EAST-SOUTH ONE SIXTEENTH CORNER OF SAID SECTION 14 BEARS S00°04'01"E, A DISTANCE OF 1,316.88 FEET SAID LINE FORMING THE BASIS OF BEARINGS WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;

THENCE S88°24'34"W, ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 30.01 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF NORTH 119TH STREET;

THENCE S88°24'34"W ALONG SAID SOUTH LINE, A DISTANCE OF 627.28 FEET; TO THE SOUTHEAST CORNER OF THE WEST HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING S88°24'34"W ALONG SAID SOUTH LINE , A DISTANCE OF 3.19 FEET;

THENCE NORTH 00°09'24"W, A DISTANCE OF 114.08 FEET TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY, SAID RIGHT-OF-WAY LINE BEING 50 FEET, BY PERPENDICULAR MEASUREMENT NORTHERLY OF THE CENTERLINE OF THE EXISTING TRACK, SAID POINT BEING THE POINT OF BEGINNING;

THENCE S89°42'11"W ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 653.74 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING S89°42'11"W ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1,314.16 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING S89°42'11"W ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1,309.61 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEEST QUARTER OF SAID SECTION 14;

THENCE N00°29'33"W ALONG SAID WEST LINE, A DISTANCE OF 1,119.88 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF JASPER ROAD;

THENCE ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE THE FOLLOWING THREE (3) COURSES:

1. N88°21'52"E, A DISTANCEE OF 1,314.39 FEET
2. N88°17'28"E, A DISTANCE OF 1,317.03 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;
3. CONTINUING N88°17'28"E, A DISTANCE OF 599.53 FEET TO THE NORTHWESTERLY CORNER OF THAT TRACT OF LAND AS DESCRIBED ON SAID FILM 1555, AT RECEPTION NO. 953348;

THENCE S00°09'21"E ALONG THE WESTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 397.57 FEET TO THE MOST SOUTHERLY CORNER THEREOF;

THENCE N50°52'13"E ALONG THE SOUTHEASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 70.21 FEET;

THENCE S00°09'21"E, A DISTANCE OF 843.98 FEET TO THE POINT OF BEGINNING.

SOUTH PARCEL:

A PARCEL OF LAND BEING A PART OF THE NORTH HALF AND A PART OF THE SOUTHEAST QUARTER OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE EAST QUARTER CORNER OF SAID SECTION 14, FROM WHICH THE EAST-SOUTH ONE SIXTEENTH CORNER OF SAID SECTION 14 BEARS SOUTH 00°04'01" EAST, A DISTANCE OF 1316.88 FEET, SAID LINE FORMING THE BASIS OF BEARINGS WITH ALL BEARINGS CONTAINED HEREWITH BEING RELATIVE THERETO;

THENCE SOUTH 88°24'34" WEST, A DISTANCE OF 30.01 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF NORTH 119TH STREET, SAID POINT BEING THE POINT OF BEGINNING;

THENCE SOUTH 00°04'10" EAST ALONG SAID WESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1316.93 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 88°18'16" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 1282.45 FEET TO THE SOUTHWEST CORNER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 88°18'16" WEST ALONG THE SOUTH LINE OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 1312.40 FEET TO THE SOUTHWEST CORNER OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 88°16'21" WEST ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 14, A DISTANCE OF 60.98 FEET TO THE SOUTHEASTERLY CORNER OF THAT TRACT OF LAND CONVEYED TO RONALD SCOTT JASPER, RONALD LEE JASPER AND VEE ANN JASPER AS DESCRIBED IN WARRANTY DEED RECORDED MAY 3, 1976, ON FILM 922 AS RECEPTION NO. 175271, OF THE RECORDS OF BOULDER COUNTY, COLORADO;

THENCE NORTH 00°19'00" WEST ALONG THE EASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 1381.63 FEET TO THE SOUTHERLY RIGHT-OF-WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY, SAID RIGHT-OF-WAY LINE BEING 50 FEET, BY PERPENDICULAR MEASUREMENT, SOUTHERLY OF THE EXISTING TRACK;

THENCE NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 62.45 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1314.28 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, A

DISTANCE OF 653.74 FEET;

THENCE SOUTH 00°09'21" EAST, A DISTANCE OF 14.08 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE NORTH 88°24'34" EAST ALONG SAID SOUTH LINE, A DISTANCE OF 3.19 FEET TO THE SOUTHEAST CORNER OF THE WEST HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 88°24'34" EAST ALONG SAID SOUTH LINE, A DISTANCE OF 627.28 FEET TO THE POINT OF BEGINNING.

SAID NORTH, SOUTH AND JASPER ROAD RIGHT-OF-WAY PARCELS CONTAINING A CALCULATED AREA OF 7,576,344 SQUARE FEET, OR 173.929 ACRES, MORE OR LESS.

EXHIBIT B
(Wise Farms Zoning Map)

WISE FARMS ZONING MAP

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
TOTAL ZONING BOUNDARY = 178.40 ACRES
AG/OS ZONING = 20.38 ACRES / LR ZONING = 64.78 ACRES / RR ZONING = 93.24 ACRES
RZ 13–00070

SHEET 1 OF 4

LEGAL DESCRIPTION – OVERALL BOUNDARY OF ZONING PARCEL

A PARCEL OF LAND BEING A PART OF THE SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE EAST QUARTER CORNER OF SAID SECTION 14, FROM WHICH THE EAST-SOUTH ONE SIXTEENTH CORNER OF SAID SECTION 14 BEARS SOUTH 00°04'01" EAST, A DISTANCE OF 1316.88 FEET SAID LINE FORMING THE BASIS OF BEARINGS WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;

THENCE SOUTH 00°04'01" EAST ALONG THE EAST LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 1316.88 FEET TO THE SOUTHEAST CORNER OF SAID NORTHEAST QUARTER OF THE SOUTHEAST QUARTER;

THENCE SOUTH 88°18'16" WEST ALONG THE SOUTH LINE OF SAID NORTHEAST QUARTER OF THE SOUTHEAST QUARTER, A DISTANCE OF 1312.40 FEET TO THE SOUTHWEST CORNER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 88°18'16" WEST ALONG THE SOUTH LINE OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 1312.40 FEET TO THE SOUTHWEST CORNER OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 88°16'21" WEST ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 14, A DISTANCE OF 60.98 FEET TO THE SOUTHEASTERLY CORNER OF THAT TRACT OF LAND CONVEYED TO RONALD SCOTT JASPER, RONALD LEE JASPER AND VEE ANN JASPER AS DESCRIBED IN WARRANTY DEED RECORDED MAY 3, 1978, ON FILM 922 AS RECEPTION NO. 175271, OF THE RECORDS OF BOULDER COUNTY, COLORADO

THENCE NORTH 00°19'00" WEST ALONG THE EASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 1431.63 FEET TO A POINT ON THE CENTERLINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY;

THENCE SOUTH 88°42'11" WEST ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1246.91 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14;

THENCE NORTH 00°29'33" WEST ALONG SAID WEST LINE, A DISTANCE OF 1159.88 FEET TO THE NORTHWEST CORNER OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14;

THENCE NORTH 88°21'52" EAST ALONG THE NORTH LINE OF SAID SOUTHEAST QUARTER OF THE NORTHWEST QUARTER, A DISTANCE OF 1314.47 FEET TO THE NORTHEAST CORNER OF SAID SOUTHEAST QUARTER OF THE NORTHWEST QUARTER;

THENCE NORTH 88°17'58" EAST ALONG THE NORTH LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER, A DISTANCE OF 1317.07 FEET THE NORTHEAST CORNER OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE NORTH 88°17'53" EAST ALONG THE NORTH LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 599.53 FEET TO THE NORTHWESTERLY CORNER OF THAT TRACT OF LAND AS DESCRIBED ON SAID FILM 1555, AT RECEPTION NO. 953348;

THENCE SOUTH 00°09'21" EAST ALONG THE WESTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 417.59 FEET TO THE MOST SOUTHERLY CORNER THEREOF;

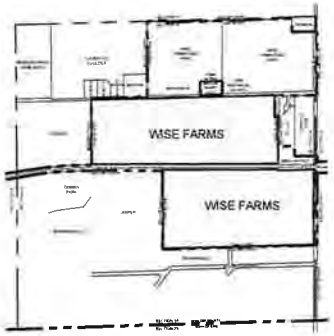
THENCE NORTH 50°52'13" EAST ALONG THE SOUTHEASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 70.21 FEET;

THENCE SOUTH 00°09'21" EAST, DISTANCE OF 693.98 FEET TO A POINT ON THE CENTERLINE OF THE POINT OF SAID UNION PACIFIC RAILROAD RIGHT-OF-WAY;

THENCE NORTH 89°42'11" EAST ALONG SAID CENTERLINE, A DISTANCE OF 660.37 FEET TO A POINT ON THE EAST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 00°03'07" EAST ALONG SAID EAST LINE, A DISTANCE OF 48.18 FEET TO THE POINT OF BEGINNING,

SAID PARCEL CONTAINING A CALCULATED AREA OF 7,770,538 SQUARE FEET OR 178.40 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1" = 1000

GENERAL NOTES

1. THE BEARINGS SHOWN HEREON ARE BASED UPON THE EAST LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 14 BEING BASED UPON THE TOWN OF ERIE HORIZONTAL CONTROL NETWORK IS ASSUMED TO BEAR SOUTH 00°04'01" EAST, A DISTANCE OF 1316.88 FEET.
2. THE LINEAL UNIT USED IN THE PREPARATION OF THIS ZONING MAP IS THE U.S. SURVEY FOOT AS DEFINED BY THE UNITED STATES DEPARTMENT OF COMMERCE, NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.
3. NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE (3) YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THEN TEN (10) YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON
4. THIS ZONING MAP IS NOT INTENDED TO BE AN IMPROVEMENT SURVEY PLAT, AN ALTA/ACSM LAND TITLE SURVEY NOR SUBDIVISION PLAT. IT IS INTENDED ONLY TO SHOW THE EXISTING AND PROPOSED ZONING OF THE DESCRIBED OVERALL WISE FARMS DEVELOPMENT.
5. THIS ZONING MAP DOES NOT CONSTITUTE A TITLE SEARCH BY CVL CONSULTANTS OF COLORADO, INC. TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. FOR ALL INFORMATION REGARDING EASEMENTS, RIGHTS-OF-WAY, AND TITLE OF RECORD, CVL CONSULTANTS OF COLORADO, INC. RELIED UPON LAND TITLE GUARANTEE COMPANY COMMITMENT NUMBER ABD70339758.1-2 EFFECTIVE DATE: OCTOBER 28, 2013 AT 5:00 P.M.

SURVEYOR'S CERTIFICATE:

I WILLIAM F. HESSELBACH, JR., A DULY REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS ZONING MAP TRULY AND CORRECTLY REPRESENTS THE ABOVE DESCRIBED LEGAL DESCRIPTIONS FOR EACH ZONE DISTRICT.

I ATTEST THE ABOVE ON THIS _____ DAY OF _____ 2014

_____
WILLIAM F. HESSELBACH, JR., PLS NO. 25389
FOR AND ON BEHALF OF
CVL CONSULTANTS OF COLORADO, INC.

PLANNING COMMISSION CERTIFICATE:

THIS ZONING MAP WAS REVIEWED BY THE PLANNING COMMISSION ON

THE _____ DAY OF _____, 2014.

_____ _____
CHAIRPERSON DATE

BOARD OF TRUSTEES APPROVAL CERTIFICATE:

THIS ZONING MAP IS TO BE KNOWN AS THE "WISE FARMS ZONING MAP" AND IS APPROVED AND ACCEPTED BY ORDINANCE NO. _____ PASSED AND ADOPTED REGULAR (SPECIAL) MEETING OF THE BOARD OF TRUSTEES OF ERIE, COLORADO, HELD ON

_____ _____, 2014.

_____
MAYOR

ATTEST _____
TOWN CLERK

CLERK AND RECORDER:

STATE OF COLORADO)
)SS
COUNTY OF _____)

I HEREBY CERTIFY THAT THIS ZONING MAP WAS FILED IN MY OFFICE ON THIS _____ DAY OF _____, 2014 A.D. AND WAS RECORDED AT RECEPTION NUMBER _____

_____
BOULDER COUNTY CLERK AND RECORDER

CVL CONSULTANTS
10333 E. Dry Creek Rd
Suite 240
Englewood, CO 80112
Tel (720) 482-9526
Fax (720) 482-9546

JASPER LAND INVESTMENTS, LLC
8181 E. KERWOOD COURT
HIGHLANDS RANCH, CO 80126

No	Revisions	Date	Init	Appr	Date
2	Address comments	8-22-14	MJP	WFH	8-22-14
1	Address comments	5-1-14	WFH		

SCALE AS NOTED	DRAWN BY BRC	SHEET NO 1 OF 4
FILE NO	CHECKED BY WFH	
	DATE 4/14/2014	

WISE FARMS ZONING MAP

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
TOTAL ZONING BOUNDARY = 178.40 ACRES
AG/OS ZONING = 20.38 ACRES / LR ZONING = 64.78 ACRES / RR ZONING = 93.24 ACRES
RZ 13-00070

LEGAL DESCRIPTION – AGRICULTURAL / OPEN SPACE ZONING

A PARCEL OF LAND BEING A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14 AND ASSUMING THE EAST LINE OF THE EAST LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14 BEARS SOUTH 00° 04' 01" EAST, WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;

THENCE NORTH 88° 17' 53" EAST ALONG THE NORTH LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER, A DISTANCE OF 599.53 FEET;
THENCE SOUTH 00° 09' 21" EAST, A DISTANCE OF 417.59 FEET;
THENCE NORTH 50° 52' 13" EAST, A DISTANCE OF 70.21 FEET;
THENCE SOUTH 00° 09' 21" EAST, A DISTANCE OF 893.98 FEET TO A POINT ON THE CENTERLINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY;
THENCE SOUTH 89° 42' 11" WEST ALONG SAID CENTERLINE, A DISTANCE OF 534.90 FEET;
THENCE NORTH 00° 15' 00" EAST, A DISTANCE OF 380.09 FEET;
THENCE SOUTH 89° 42' 11" WEST, A DISTANCE OF 140.01 FEET;
THENCE NORTH 00° 15' 00" EAST, A DISTANCE OF 102.04 FEET TO A POINT OF CURVATURE;
THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 380.00 FEET, A CENTRAL ANGLE OF 12° 48' 11", AN ARC LENGTH OF 84.91 FEET, THE CHORD OF WHICH BEARS NORTH 06° 09' 05" WEST, 84.74 FEET;
THENCE NORTH 79° 08' 54" EAST, A DISTANCE OF 82.07 FEET;
THENCE NORTH 86° 26' 06" EAST, A DISTANCE OF 70.39 FEET;
THENCE NORTH 77° 05' 19" EAST, A DISTANCE OF 81.72 FEET;
THENCE NORTH 58° 22' 53" EAST, A DISTANCE OF 106.81 FEET;
THENCE NORTH 55° 01' 09" EAST, A DISTANCE OF 83.65 FEET;
THENCE NORTH 37° 09' 58" WEST, A DISTANCE OF 107.34 FEET;
THENCE NORTH 18° 11' 43" WEST, A DISTANCE OF 64.39 FEET;
THENCE NORTH 42° 22' 46" WEST, A DISTANCE OF 126.09 FEET;
THENCE SOUTH 59° 44' 06" WEST, A DISTANCE OF 50.37 FEET;
THENCE SOUTH 82° 37' 27" WEST, A DISTANCE OF 36.92 FEET;
THENCE SOUTH 84° 48' 08" WEST, A DISTANCE OF 79.58 FEET;
THENCE SOUTH 77° 28' 44" WEST, A DISTANCE OF 153.02 FEET;
THENCE SOUTH 69° 33' 13" WEST, A DISTANCE OF 40.03 FEET;
THENCE SOUTH 69° 02' 37" WEST, A DISTANCE OF 153.38 FEET;
THENCE NORTH 68° 17' 02" WEST, A DISTANCE OF 157.17 FEET;
THENCE NORTH 88° 32' 42" WEST, A DISTANCE OF 64.74 FEET;
THENCE SOUTH 72° 54' 43" WEST, A DISTANCE OF 35.28 FEET;
THENCE NORTH 23° 28' 49" WEST, A DISTANCE OF 126.59 FEET;
THENCE NORTH 00° 59' 00" WEST, A DISTANCE OF 93.44 FEET;
THENCE NORTH 39° 02' 59" EAST, A DISTANCE OF 152.60 FEET;
THENCE NORTH 00° 59' 00" WEST, A DISTANCE OF 60.65 FEET TO A POINT ON THE NORTH LINE OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14;
THENCE NORTH 88° 17' 58" EAST ALONG SAID NORTH LINE, A DISTANCE OF 520.05 FEET TO THE POINT OF BEGINNING.

CONTAINING A CALCULATED AREA OF 887,584 SQUARE FEET OR 20.38 ACRES, MORE OR LESS

LEGAL DESCRIPTION – RURAL RESIDENTIAL ZONING SOUTH PARCEL

A PARCEL OF LAND BEING A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 68 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE EAST QUARTER CORNER OF SAID SECTION 14, AND ASSUMING THE EAST LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14 TO BEAR SOUTH 00°04'01" EAST WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;

THENCE SOUTH 00°04'01" EAST ALONG THE EAST LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 1316.88 FEET TO THE SOUTHEAST CORNER OF SAID NORTHEAST QUARTER OF THE SOUTHEAST QUARTER;

THENCE SOUTH 88°18'16" WEST ALONG THE SOUTH LINE OF SAID NORTHEAST QUARTER OF THE SOUTHEAST QUARTER, A DISTANCE OF 1312.40 FEET TO THE SOUTHWEST CORNER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 88°18'16" WEST ALONG THE SOUTH LINE OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 1312.40 FEET TO THE SOUTHWEST CORNER OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 88°18'21" WEST ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 14, A DISTANCE OF 60.98 FEET TO THE SOUTHEASTERLY CORNER OF THAT TRACT OF LAND CONVEYED TO RONALD SCOTT JASPER, RONALD LEE JASPER AND VICI ANN JASPER AS DESCRIBED IN WARRANTY DEED RECORDED MAY 3, 1976, ON FILM 922 AS RECEPTION NO. 175271, OF THE RECORDS OF BOULDER COUNTY, COLORADO;

THENCE NORTH 00°19'00" WEST ALONG THE EASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 1431.63 FEET TO A POINT ON THE CENTERLINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY;

THENCE NORTH 89°42'11" EAST ALONG SAID CENTERLINE, A DISTANCE OF 62.34 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 89°42'11" EAST ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1314.37 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 89°42'11" EAST ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 653.90 FEET;

THENCE NORTH 89°42'11" EAST ALONG SAID CENTERLINE, A DISTANCE OF 660.37 FEET TO A POINT ON THE EAST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 00°03'07" EAST ALONG SAID EAST LINE, A DISTANCE OF 40.15 FEET TO THE POINT OF BEGINNING.

SAID PARCEL CONTAINING A CALCULATED AREA OF 3,758,905 SQUARE FEET OR 86.32 ACRES, MORE OR LESS.

LEGAL DESCRIPTION – RURAL RESIDENTIAL ZONING NORTHEAST PARCEL

A PARCEL OF LAND BEING A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14 AND ASSUMING THE EAST LINE OF THE EAST LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14 BEARS SOUTH 00° 04' 01" EAST, WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;

THENCE NORTH 88° 17' 58" EAST ALONG THE NORTH LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14, A DISTANCE OF 338.80 FEET TO THE POINT OF BEGINNING;
THENCE CONTINUING NORTH 88° 17' 58" EAST ALONG SAID NORTH LINE, A DISTANCE OF 438.21 FEET;
THENCE SOUTH 00° 59' 00" EAST, A DISTANCE OF 60.65 FEET;
THENCE SOUTH 39° 02' 59" WEST, A DISTANCE OF 152.60 FEET;
THENCE SOUTH 00° 59' 00" EAST, A DISTANCE OF 68.46 FEET;
THENCE SOUTH 23° 28' 49" EAST, A DISTANCE OF 130.64 FEET;
THENCE SOUTH 60° 14' 26" WEST, A DISTANCE OF 232.89 FEET;
THENCE NORTH 29° 45' 34" WEST, A DISTANCE OF 141.29 FEET;
THENCE NORTH 16° 42' 28" WEST, A DISTANCE OF 52.28 FEET;
THENCE SOUTH 88° 17' 58" WEST, A DISTANCE OF 110.00 FEET;
THENCE NORTH 01° 42' 02" WEST, A DISTANCE OF 132.87 FEET;
THENCE NORTH 04° 12' 51" EAST, A DISTANCE OF 87.04 FEET;
THENCE NORTH 01° 42' 02" WEST, A DISTANCE OF 72.39 FEET TO THE POINT OF BEGINNING.

CONTAINING A CALCULATED AREA OF 147,794 SQUARE FEET OR 3.39 ACRES, MORE OR LESS.

LEGAL DESCRIPTION – RURAL RESIDENTIAL ZONING NORTHWEST PARCEL

A PARCEL OF LAND BEING A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWEST CORNER OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14 AND ASSUMING THE EAST LINE OF THE EAST LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14 BEARS SOUTH 00° 04' 01" EAST, WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;

THENCE NORTH 88° 21' 52" EAST ALONG THE NORTH LINE OF SAID SOUTHEAST QUARTER OF THE NORTHWEST QUARTER, A DISTANCE OF 556.77 FEET;
THENCE SOUTH 01° 38' 08" EAST, A DISTANCE OF 240.90 FEET;
THENCE SOUTH 88° 21' 52" WEST, A DISTANCE OF 310.88 FEET;
THENCE SOUTH 53° 30' 18" WEST, A DISTANCE OF 191.07 FEET;
THENCE SOUTH 89° 30' 27" WEST, A DISTANCE OF 98.07 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14;
THENCE NORTH 00° 29' 33" WEST ALONG SAID WEST LINE, A DISTANCE OF 348.28 FEET TO THE POINT OF BEGINNING,

CONTAINING A CALCULATED AREA OF 153,547 SQUARE FEET OR 3.53 ACRES, MORE OR LESS

LEGAL DESCRIPTION – LOW DENSITY RESIDENTIAL ZONING

A PARCEL OF LAND BEING A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14 AND ASSUMING THE EAST LINE OF THE EAST LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14 BEARS SOUTH 00° 04' 01" EAST, WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;

THENCE NORTH 88° 21' 52 EAST ALONG THE NORTH LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14, A DISTANCE OF 556.77 FEET TO THE POINT OF BEGINNING;

THENCE CONTINUING NORTH 88 21' 52" EAST ALONG SAID NORTH LINE, A DISTANCE OF 757.70 FEET TO THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14;

THENCE NORTH 88° 17' 58" EAST ALONG THE NORTH LINE OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14, A DISTANCE OF 338.80 FEET;
THENCE SOUTH 01° 42' 02" EAST, A DISTANCE OF 72.39 FEET;
THENCE SOUTH 04° 12' 51" WEST, A DISTANCE OF 87.04 FEET;
THENCE SOUTH 01° 42' 02" EAST, A DISTANCE OF 132.87 FEET;
THENCE NORTH 88° 17' 58" EAST, A DISTANCE OF 110.00 FEET;
THENCE SOUTH 16° 42' 28" EAST, A DISTANCE OF 52.28 FEET;
THENCE SOUTH 29° 45' 34" EAST, A DISTANCE OF 141.29 FEET;
THENCE NORTH 60° 14' 26" EAST, A DISTANCE OF 232.89 FEET;
THENCE SOUTH 23° 28' 49" EAST, A DISTANCE OF 9.05 FEET;
THENCE NORTH 72° 54' 43" EAST, A DISTANCE OF 35.28 FEET;
THENCE SOUTH 88° 32' 42" EAST, A DISTANCE OF 64.74 FEET;
THENCE SOUTH 68° 17' 02" EAST, A DISTANCE OF 157.17 FEET;
THENCE NORTH 69° 02' 37" EAST, A DISTANCE OF 153.38 FEET;
THENCE NORTH 69° 33' 13" EAST, A DISTANCE OF 40.03 FEET;
THENCE NORTH 77° 28' 44" EAST, A DISTANCE OF 153.02 FEET;
THENCE NORTH 84° 48' 08" EAST, A DISTANCE OF 79.58 FEET;
THENCE NORTH 82° 37' 27" EAST, A DISTANCE OF 36.92 FEET;
THENCE NORTH 59° 44' 06" EAST, A DISTANCE OF 50.37 FEET;
THENCE SOUTH 42° 22' 46" EAST, A DISTANCE OF 126.09 FEET;
THENCE SOUTH 18° 11' 43 EAST, A DISTANCE OF 64.39 FEET;
THENCE SOUTH 37° 09' 58" EAST, A DISTANCE OF 107.34 FEET;
THENCE SOUTH 55° 01' 09" WEST, A DISTANCE OF 83.65 FEET;
THENCE SOUTH 58° 22' 53" WEST, A DISTANCE OF 106.81 FEET;
THENCE SOUTH 77° 05' 19" WEST, A DISTANCE OF 81.72 FEET;
THENCE SOUTH 86° 26' 06" WEST, A DISTANCE OF 70.39 FEET;
THENCE SOUTH 79° 08' 54" WEST, A DISTANCE OF 82.07 FEET TO A POINT OF NON-TANGENT CURVATURE;
THENCE ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 380.00 FEET, A CENTRAL ANGLE OF 12° 48' 11", AN ARC LENGTH OF 84.91 FEET, THE CHORD OF WHICH BEARS SOUTH 06° 09' 05" EAST, 84.74 FEET;
THENCE SOUTH 00° 15' 00" WEST, A DISTANCE OF 102.04 FEET;
THENCE NORTH 89° 42' 11" EAST, A DISTANCE OF 140.01 FEET;
THENCE SOUTH 00° 15' 00" WEST, A DISTANCE OF 380.09 FEET TO A POINT ON THE CENTERLINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT OF WAY;

THENCE ALONG SAID CENTERLINE, THE FOLLOWING THREE (3) COURSES:
SOUTH 89° 42' 11" WEST, A DISTANCE OF 119.86 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;
SOUTH 89° 42' 11" WEST, A DISTANCE OF 1314.37 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14;
SOUTH 89° 42' 11" WEST, A DISTANCE OF 1309.28 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14;

THENCE NORTH 00° 29' 33" WEST ALONG SAID WEST LINE, A DISTANCE OF 841.62 FEET;
THENCE NORTH 89° 30' 27" EAST, A DISTANCE OF 98.07 FEET;
THENCE NORTH 53° 30' 18" EAST, A DISTANCE OF 191.07 FEET;
THENCE NORTH 88° 21' 52" EAST, A DISTANCE OF 310.88 FEET;
THENCE NORTH 01° 38' 08" WEST, A DISTANCE OF 240.90 FEET TO THE POINT OF BEGINNING.

CONTAINING A CALCULATED AREA OF 2,821,707 SQUARE FEET OR 64.78 ACRES, MORE OR LESS.

CVL CONSULTANTS
10333 E Dry Creek Rd
Suite 240
Englewood, CO 80112
Tel (720) 482-9526
Fax (720) 482-9546

No	Revisions	Date	Init	Appr	Date
2	Address comments	8-22-14	BMP	WFH	8-25-14
1	Address comments	8-1-14	WFH		

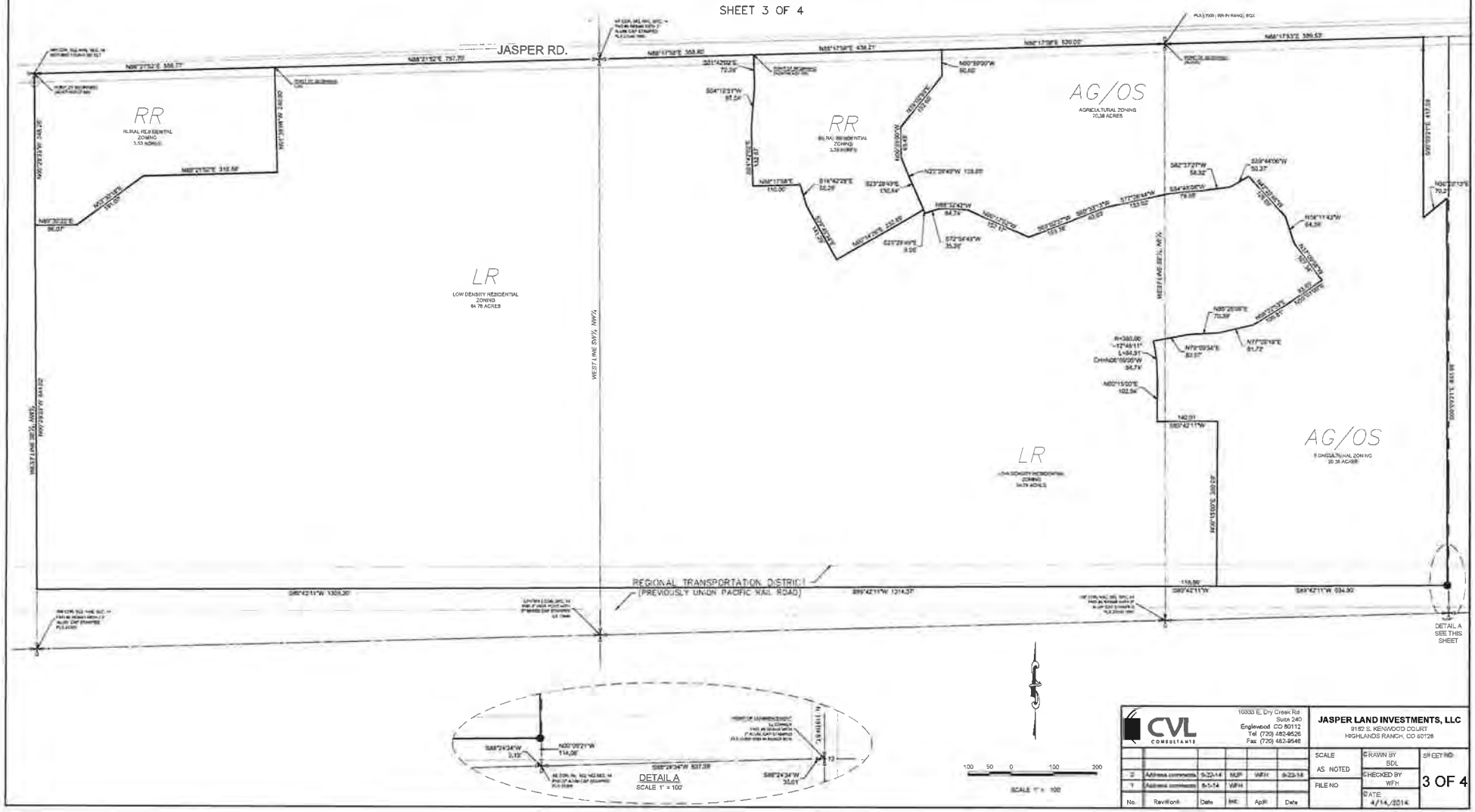
JASPER LAND INVESTMENTS, LLC
8162 S KENWOOD COURT
HIGHLANDS RANCH CO 80126

SCALE	DRAWN BY	SHEET NO
AS NOTED	BPC	2 OF 4
FILE NO:	CHECKED BY WFH	
	DATE 4/14/2014	

WISE FARMS ZONING MAP

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
TOTAL ZONING BOUNDARY = 178.40 ACRES
AG/OS ZONING = 20.38 ACRES / LR ZONING = 64.78 ACRES / RR ZONING = 93.24 ACRES
RZ 13-00070

SHEET 3 OF 4



CVL CONSULTANTS
10333 E. Dry Creek Rd
Suite 240
Englewood CO 80112
Tel (720) 482-9526
Fax (720) 482-9546

JASPER LAND INVESTMENTS, LLC
9182 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

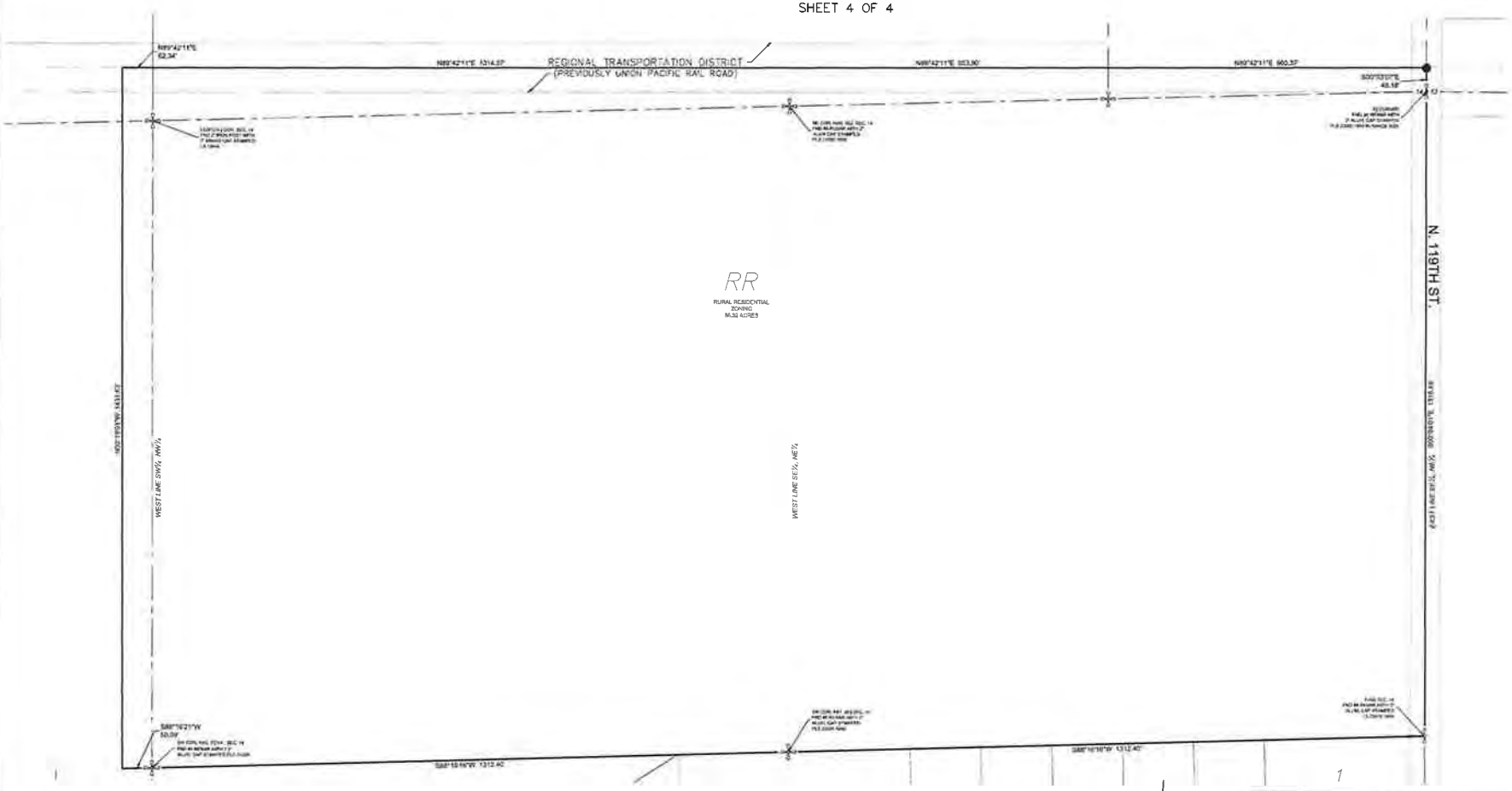
No.	Revisions	Date	Int.	Appr.	Date
2	Address comments	9-22-14	MJP	WFH	9-22-14
1	Address comments	8-1-14	WFH		

SCALE: AS NOTED
FILE NO:
DRAWN BY: BDL
CHECKED BY: WFH
DATE: 4/14/2014
SHEET NO: 3 OF 4

WISE FARMS ZONING MAP

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
TOTAL ZONING BOUNDARY = 178.40 ACRES
AG/OS ZONING = 20.38 ACRES / LR ZONING = 64.78 ACRES / RR ZONING = 93.24 ACRES
RZ 13-00070

SHEET 4 OF 4



100 50 0 100 200

SCALE 1" = 100

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel (720) 482-9526
Fax (720) 482-9546

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH CO 80126

No.	Reviews	Date	Init.	Appr.	Date
2	Address comments	5-23-14	MJP	WFH	5-23-14
1	Address comments	5-1-14	WFH		

SCALE AS NOTED	DRAWN BY BDL	SHEET NO 4 OF 4
FILE NO	CHECKED BY WFH	
	DATE 4/14/2014	

Print Form

TOWN OF ERIE
Community Development Department – Planning Division
645 Holbrook Street – PO Box 750 – Erie, CO 80516
Tel: 303.926.2770 – Fax: 303.926.2706 – Web: www.erieco.gov

LAND USE APPLICATION

Please fill in this form completely. Incomplete applications will not be processed.

STAFF USE ONLY		
FILE NAME:		
FILE NO:	DATE SUBMITTED:	FEES PAID:

PROJECT/BUSINESS NAME: Wise Farms

PROJECT ADDRESS: Located west of the intersection of 119th St and Jasper Rd.

PROJECT DESCRIPTION: 169 acre Residential community.

LEGAL DESCRIPTION *(attach legal description if Metes & Bounds)*

Subdivision Name: none

Filing #: Lot #: Block #: Section: 14 Township: 1 North Range: 69 West

OWNER *(attach separate sheets if multiple)*

Name/Company: Wise Homestead, LLC
Contact Person: Sarah Allene Wise
Address: 11497 Jasper Road
City/State/Zip: Lafayette, CO - 80026
Phone: 303.828.4561 Fax:
E-mail: sarws@aol.com

AUTHORIZED REPRESENTATIVE

Company/Firm: Jasper Land Investments, LLC
Contact Person: Jim Dullea
Address: 9162 S. Kenwood Court
City/State/Zip: Highlands Ranch, CO - 80126
Phone: 303.902.5400 Fax:
E-mail: j.dullea@comcast.net

MINERAL RIGHTS OWNER *(attach separate sheets if multiple)*

Name/Company: see attached
Address:
City/State/Zip:

MINERAL LEASE HOLDER *(attach separate sheets if multiple)*

Name/Company: see attached
Address:
City/State/Zip:

LAND-USE & SUMMARY INFORMATION

Present Zoning: Rural Residential
Proposed Zoning: Low Density Res. AG/OS, Rural Residential
Gross Acreage: 169
Gross Site Density (du/ac): 0.98 du/ac
Lots/Units Proposed: 166
Gross Floor Area: N/A

SERVICE PROVIDERS

Electric:
Metro District: none at this time
Water *(if other than Town)*:
Gas:
Fire District:
Sewer *(if other than Town)*:

PAGE TWO MUST BE SIGNED AND NOTARIZED

DEVELOPMENT REVIEW FEES			
ANNEXATION		**SUBDIVISION**	
☐ Major (10+ acres)	$ 4000.00	☐ Sketch Plan	$ 1000.00 + 10.00 per lot
☐ Minor (less than 10 acres)	$ 2000.00	☐ Preliminary Plat	$ 2000.00 + 40.00 per lot
☐ Deannexation	$ 1000.00	☐ Final Plat	$ 2000.00 + 20.00 per lot
COMPREHENSIVE PLAN AMENDMENT		☐ Minor Subdivision Plat	$ 2000.00
☐ Major	$ 3000.00	☐ Minor Amendment Plat	$ 1000.00 + 10.00 per lot
☐ Minor	$ 1200.00	☐ Road Vacation (constructed)	$ 1000.00
ZONING/REZONING		☐ Road Vacation (paper)	$ 100.00
☑ Rezoning	$ 1700.00 + 10.00 per acre	**SITE PLAN**	
☐ PUD Rezoning	$ 1700.00 + 10.00 per acre	☐ Residential	$ 1400.00 + 10.00 per unit
☐ PUD Amendment	$ 1700.00 + 10.00 per acre	☐ Non-Resi. (>10,000 sq. ft.)	$ 2200.00
☐ Major PD Amendment	$ 3700.00 + 10.00 per acre	☐ Non-Resi. (>2,000 sq. ft.)	$ 1000.00
☐ Minor PD Amendment	$ 500.00	☐ Non-Resi. (<2,000 sq. ft.)	$ 200.00
SPECIAL REVIEW USE		☐ Amendment (major)	$ 1100.00
☐ Major	$ 1000.00	☐ Amendment (minor)	$ 350.00
☐ Minor	$ 400.00	**VARIANCE**	$ 600.00
☐ Oil & Gas	$ 1200.00	**SERVICE PLAN**	$ 10,000.00

*All fees **include** both Town of Erie Planning & Engineering review. These fees **do not include** referral agency review fees, outside consultant review fees, or review fees incurred by consultants acting on behalf of staff. See Town of Erie Municipal Code, Title 2-10-5 for all COMMUNITY DEVELOPMENT FEES.*

The undersigned is fully aware of the request/proposal being made and the actions being initiated on the referenced property. The undersigned understand that the application must be found to be complete by the Town of Erie before the request can officially be accepted and the development review process initiated. The undersigned is aware that the applicant is fully responsible for all reasonable costs associated with the review of the application/request being made to the Town of Erie. Pursuant to Chapter 7 (Section 7.2.B.5) of the Unified Development Code (UDC) of the Town of Erie, applicants shall pay all costs billed by the Town for legal, engineering and planning costs incurred by staff, including consultants acting on behalf of staff, necessary for project review. By this acknowledgement, the undersigned hereby certify that the above information is true and correct.

Owner: Sarah Allen Wise — Date: 7-30-14

Owner: Alan C Wise — Date: 7-30-14

Applicant: James A. Dullea, Jasper Land Investments LLC — Date: 7/30/2014

STATE OF COLORADO)
) ss.
County of BOULDER)

The foregoing instrument was acknowledged before me this 30th day of JULY, 2014, by Sarah Allen Wise, Alan C. Wise & James A. Dullea

My commission expires: 10/24/2[illegible]
Witness my hand and official seal.

JON F. KOTTKE NOTARY PUBLIC STATE OF COLORADO

Notary Public

w i s e f a r m s

Z O N I N G
N A R R A T I V E

pcs group inc. www.pcsgroupco.com
#3 independence plaza, B-180 ,
1001 16th street , denver co 80265
t 303 531 4905

wise farms

ZONING NARRATIVE

-

NOVEMBER 2013
revised
APRIL 2014
JULY 2014
OCTOBER 2014

submitted to:

The Town of Erie

645 Holbrook Street, Erie, Colorado 805416

project team

applicant:

Jasper Land Investments, LLC
9162 S. Kenwood Court, Highlands Ranch, Colorado 80126
tel. 303.902.5400 - contact: Jim Dullea

planning consultant:

PCS Group, Inc.
#3-B180 1001 16th Street, Denver, Colorado 80265
tel. 720.259.8246 - contact: John Prestwich

engineering & surveyor consultant:

CVL Consultants, Inc.
10333 East Dry Creek Road, Suite 240, Englewood, Colorado 80112
tel. 720.249.3527 - contact: Karl Knapp

transportation consultant:

LSC Transportation Consultants, Inc.
1889 York Street, Denver, Colorado 80206
tel. 303.333.1105 - contact: Chris McGranahan

environmental consultant:

A.G Wassenaar, Inc.
2180 South Ivanhoe St, #5, Denver, Colorado 80222
tel. 303.759.8373 - contact: Brian Glade

forestry consultant:

Forestry Development, LLC.
7377 Osage Road, Larkspur, Colorado 80118
tel. 303.681.2492 - contact: Keith Worley

geologic & geotechnical consultant:

CTL Thompson, Inc.
1971 West 12th Avenue, Denver, Colorado 80204
tel. 303.825.0777 - contact: Dave Glater

mine subsidence:

Western Environment and Ecology, Inc.
2217 West Powers Avenue, Littleton, Colorado 80120
tel. 303.730.3452 - contact: Greg Sherman

CTL Thompson, Inc.
1971 West 12th Avenue, Denver, Colorado 80204
tel. 303.825.0777 - contact: Dave Glater

water resources:

Wright Water Engineers, Inc.
2490 W. 26th Avenue, Suite 100A, Denver, Colorado 80211
tel. 303.480.1700 - contact: David Foss

mineral rights:

Astrella Law, P.C.
1801 Broadway, Suite 1600 Denver, Colorado 80202
tel. 303.292.9021 - contact: Lance Astrella

contents

section a:

General project concept and purpose of the request.

section b:

Relationship to existing land use and adjacent properties.

section c:

Town’s Comprehensive Plan and Re-Zoning approval criteria.

section a:

GENERAL PROJECT CONCEPT AND PURPOSE OF THE REQUEST.

Project Concept

Jasper Land Investments LLC, (the 'Applicant') is pleased to present this written narrative as required for the Rezoning process, for a tract of land located in section 14, township 1 north, range 69 west of the sixth principal meridian, county of Boulder, State of Colorado, more commonly known as the Wise Farm. In this document we will discuss the property background, the proposed rezoning and rationale for the request.

We have been working with the Wise family since 2005 on this exceptional property. At this time we are requesting a Rezoning for a portion of the property from Rural Residential to Low Density Residential, and Agricultural/OS, with a PUD Zoning Overlay that will restrict the development in terms of density, and will increase the buffers and setbacks to our neighbors. In addition we are also requesting a Preliminary Plat. In total we believe that this proposal meets the spirit and intent of the comprehensive plan for the Town of Erie that was adopted in December of 2005.

We are very excited about the creation of a uniquely clustered and themed community. Based on the input that we received during the Sketch Plan process, and additional planning and engineering studies that we have completed,

we have reduced our proposed unit count from 345 units to 166 units. We have also proposed significant buffers adjacent to our surrounding neighbors. Along the existing neighbors to the east of Wise Farms we have proposed an open space area that ranges in width from approximately 300' to over 500'. We are also proposing various trail corridors to connect the open space areas, and have substantial setbacks from Jasper Road to maintain the rural theme for the project. All of these open space buffers create a true cluster concept that meets the Town criteria and furthers the goals of the Comprehensive Plan.

As requested by the Town of Erie staff we are proposing to dedicate the open space land that is adjacent to Jasper Rd, as well as the eastern buffer of the property. In addition, the Town of Erie staff has requested that we pay cash-in-lieu for both the Neighborhood Park and Community Park required acreages. The dedication amount is determined by the population being generated by the proposed number of households. In this case we have reduced the number of proposed households to the point that we are generating a very modest need for Neighborhood and Community Parks. The Town of Erie staff has determined that it would be in the best interest of the Town of Erie to collect cash-in-lieu fees, versus having dedicated park space on this property.

As stated in the Unified Development Code, 10.6.7-D.b.i.B - Diversification Standards shall not apply to Residential Zone District (RR). As required in the Unified Development Code's Housing Diversity requirement we are proposing one housing type and one variation. In general we are proposing housing type G - Single Family Detached, and the variation we are proposing is variation 4 - Lot Size 5,000-9,000 square feet, and 5 - Lot Size 10,000 to 39,999 square feet. In general there are larger lots are on the east side of the property as a method to provide a transition to our eastern neighbors, and the south portion of the property will have 40,000 square foot minimum lots as a complimentary residential use to the southern neighbors. Our proposal meets the requirements of the Housing Diversity requirement.

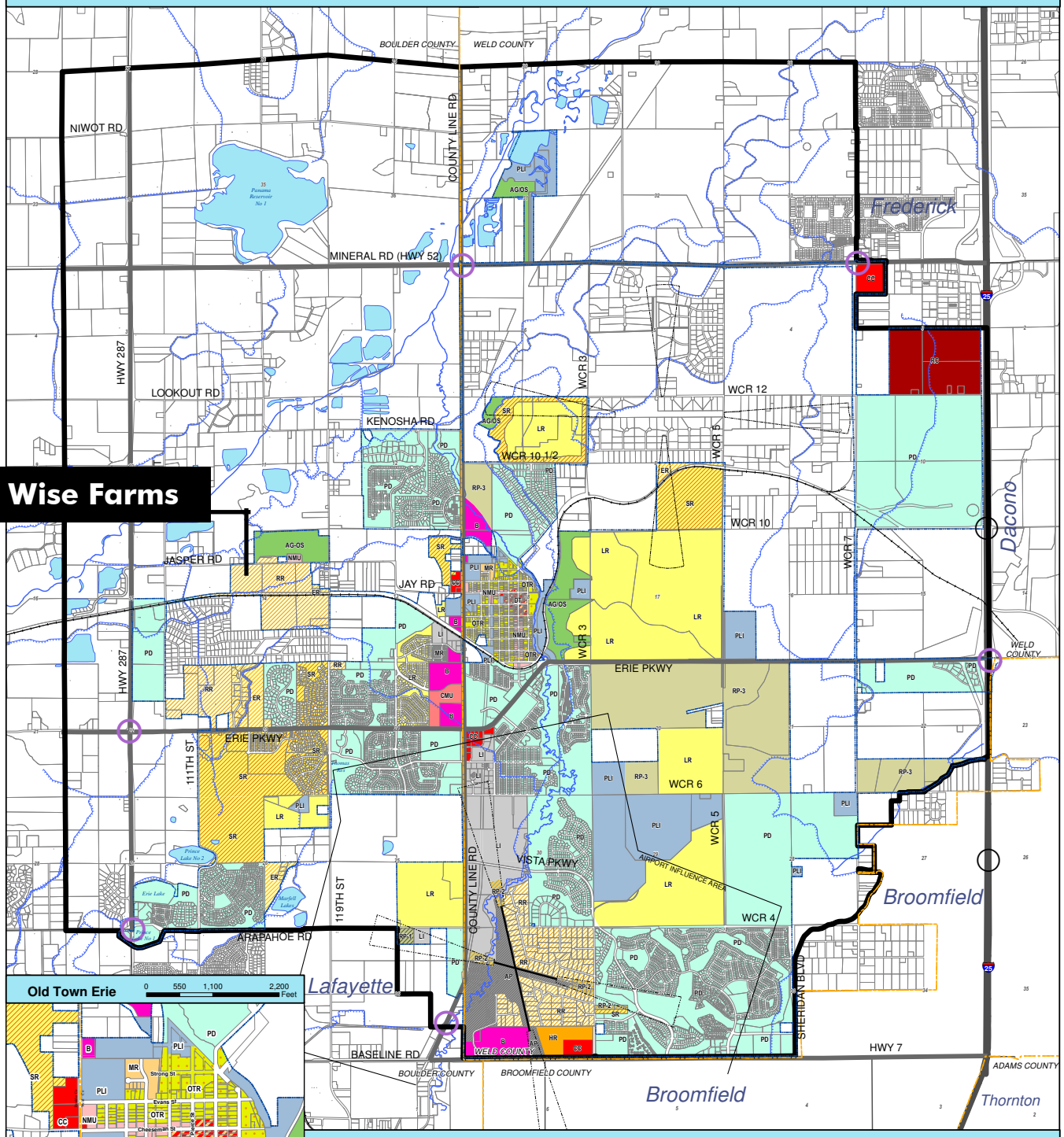
Purpose of the Request

Our proposal is for a portion of the property to be re-zoned Low Density Residential (LR) zoning, and a portion of the property to be re-zoned AG/OS, with a PUD Overlay on the full property to allow for a more creative approach for the clustering and planning of buffers on the overall development of the property. The property is currently designated as Rural Residential on the Town of Erie zoning map.

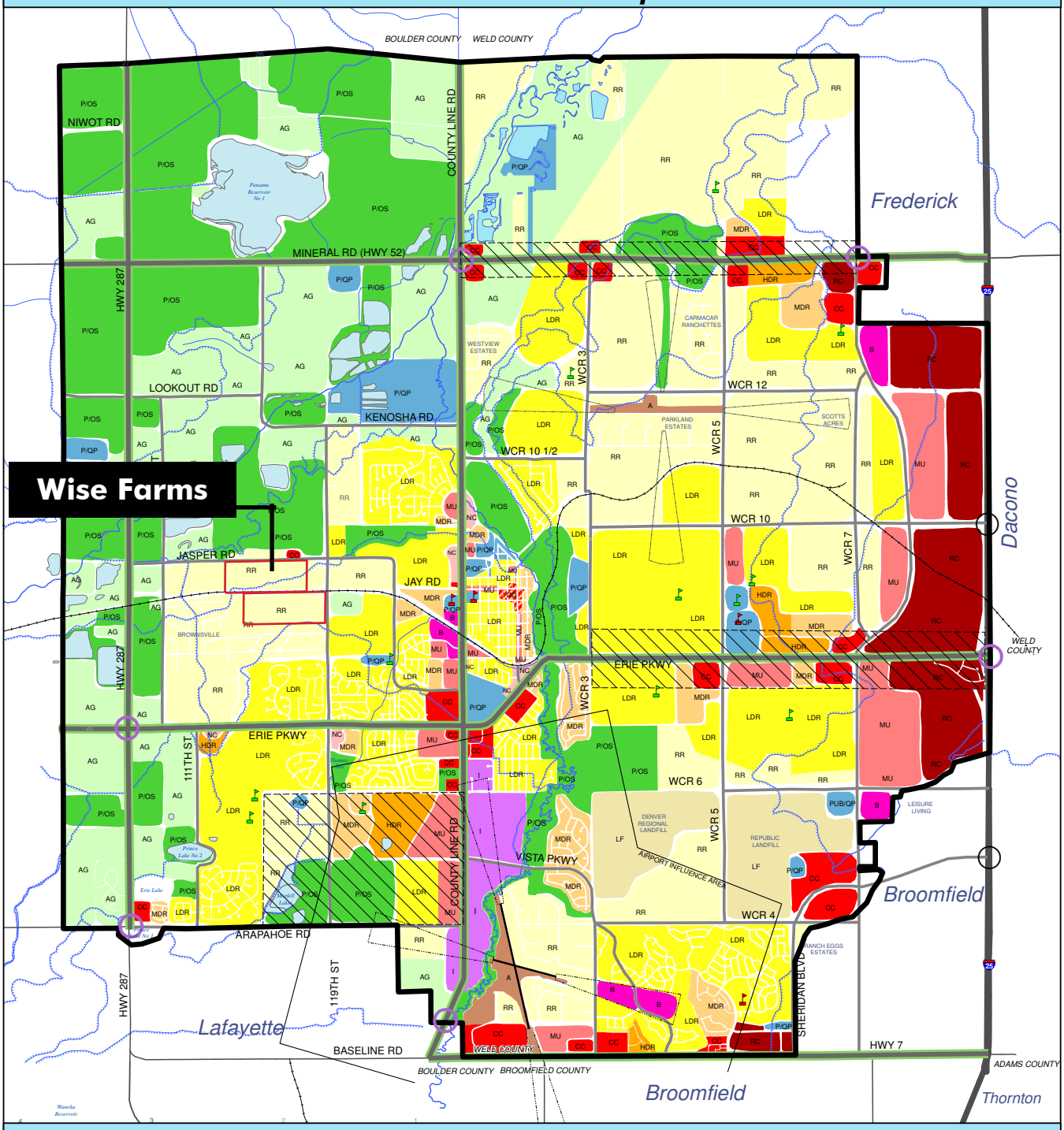
The current Town of Erie Comprehensive Plan, has designated the property as Rural Residential with a density range of 0-2 dwelling units per acre, with an average of 1 dwelling unit per acre. This designation would support 169 dwelling units on the 169 acre property. The Comprehensive Plan provides more focused guidance as the community continues to grow, and encourages a more flexible approach to future development that will promote a more balance mix of uses for the community. An update to the Town's Unified Development Code was prepared concurrent with the last Comprehensive Plan, updating many of the key ideas and policies to be codified and gives the Plan a solid foundation for implementation.

We are proposing a maximum number of 166 dwelling units on the property, or an overall density of approximately 0.9 dwelling units per acre. Our clustered design approach, housing diversity, and density is consistent with the spirit and intent of the Comprehensive Plan. The proposed development time line is dependent on project approvals and market conditions.

Town of Erie, Colorado
Zoning Map



Town of Erie, Colorado
2005 Comprehensive Plan
Land Use Plan Map



Land Use Plan Legend

AG	Agriculture	MDR	Medium Density Residential (6-12 du/ac)	B	Business		Canal/Ditch
P/OS	Parks/Public Open Space	HDR	High Density Residential (12-20 du/ac)	I	Industrial		Railroad
P/QP	Public/Quasi Public	CD	Downtown District		Reservoirs		Community Gateways
LF	Landfill	NC	Neighborhood Commercial		County Boundary		I-25 Interchange (Future)
A	Airport	CC	Community Commercial		Planning Area Boundary		Elementary School
RR	Rural Residential (0-2 du/ac)	RC	Regional Commercial		Areas of Special Consideration		Middle School
LDR	Low Density Residential (2-6 du/ac)	MU	Mixed Use				High School

0 0.25 0.5 1 Miles

Sources: Boulder CO GIS, Weld CO GIS, CDOT, Town of Erie

Note: This map is intended to serve as a guide for future land use patterns within the Town of Erie's Planning Area Boundary and is advisory in nature. Land Use patterns depicted on the map are generalized, recognizing that development proposals may contain a mixture of land uses and density levels which achieve the intent of the Town of Erie Comprehensive Plan. Adopted Date: Dec. 21, 2005.

The Comprehensive Plan contains guidelines for the refinement of the generalized areas depicted on the map. These guidelines should be referred to by applicants prior to the preparation of a development submittal and by Town staff, elected, and appointed officials as part of the development review process.

Town Boundary Not Shown - Refer to Zoning Map for Town Boundary

Map Revision Date: JULY 20, 2011

section b:

RELATIONSHIP TO EXISTING LAND USE AND ADJACENT PROPERTIES

Site Location

The property is approximately 169 acres and is located just west of the intersection of Jasper Road and 119th Street (See the Vicinity Map in this section). Existing Boulder County residential development is located along the property's western and eastern boundaries, existing homes are located across from the northern portion of the property on the opposite side of Jasper Road, and a portion of the existing Wise Homestead will remain as Rural Residential to the south of the RTD ROW. There are extensive views to the Front Range. The gentle topography is very conducive to the proposed mix of residential and recreational uses.

Most of the surrounding area is designated as a mix of Rural Residential, Low Density Residential, and Medium Density Residential in the Town of Erie Comprehensive Plan, or County residential.

The property was annexed to the town of Erie in 1995. Town services such as schools, administration, police, water and sewer have either been provided or anticipated since annexation.

We believe that there are many opportunities for this project to be designed to respect and provide a positive relationship to the adjacent properties.

- The zoning that we will be requesting will translate into a community with homes that are clustered to preserve open space areas and the surrounding rural character.

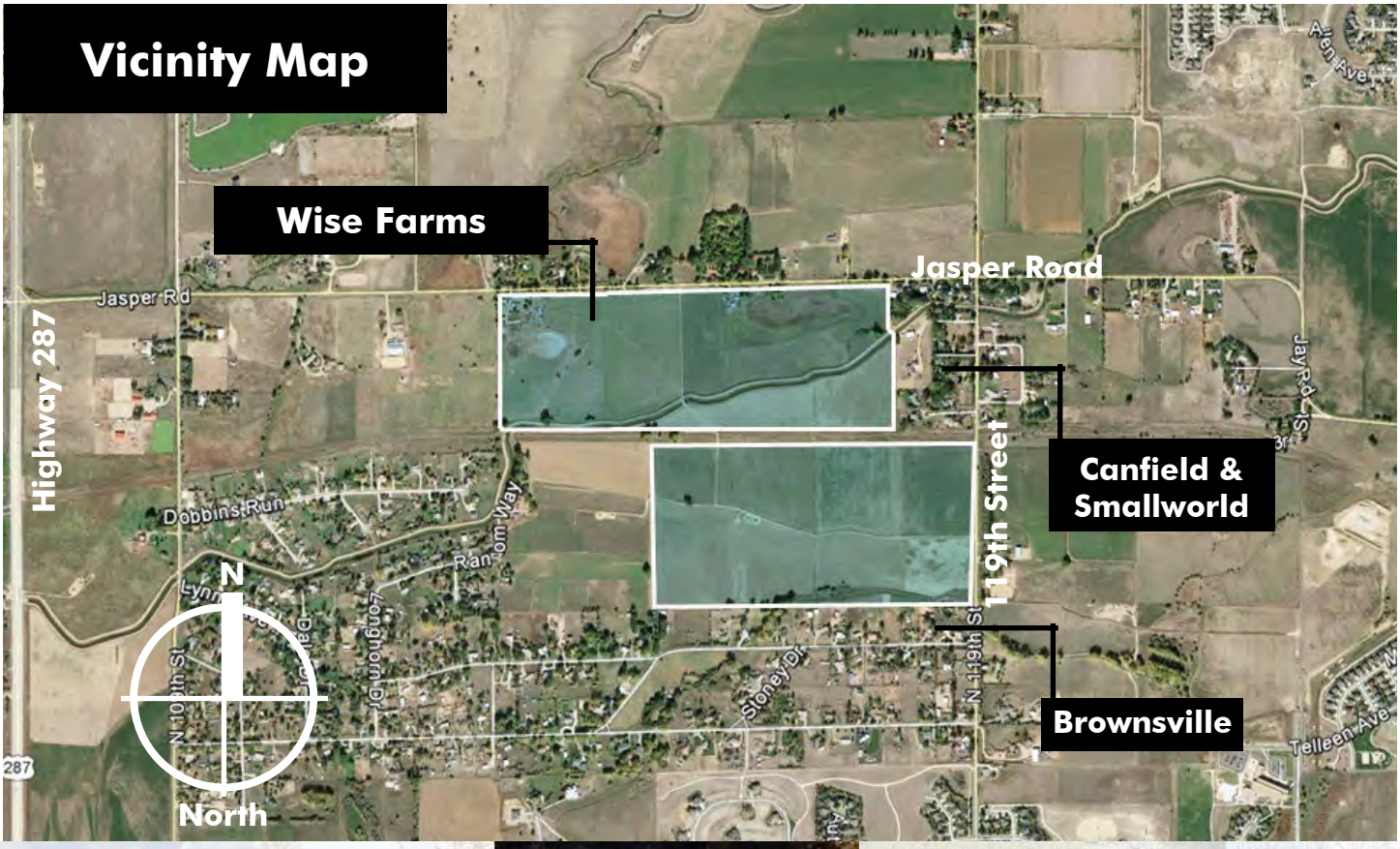
- The clustered design approach as depicted in the Concept Plan, PUD and Preliminary Plat will translate into significant open space buffer areas adjacent to the existing residential areas.

- As depicted in our Concept Plan, PUD and Preliminary Plat we have proposed the largest home sites, as well as a significant open space corridor, being adjacent to the existing eastern neighbors as a method of creating a transition from the Wise Farms community to the existing neighbors. In addition our plan shows a buffer area adjacent to the Canfield and Smallworld neighborhoods that ranges from approximately 300 feet to over 500 feet.

- We have proposed a looped trail system with integrated active and passive features, connected by the open space network provided in the proposed clustered development.

- Our proposal promotes a new neighborhood containing housing options to meet the varying needs of Erie's residents.

- As requested by the Town of Erie staff, we have modified the site layout in order to dedicate the open space along Jasper Rd , and adjacent to the eastern boundary of the property.



section c:

TOWN'S COMPREHENSIVE PLAN AND REZONING APPROVAL CRITERIA.

Comprehensive Plan

"Erie is a community which recognizes the importance of conserving and enhancing its historic small town character, the roots from which it grew, preserving the natural environment in which it resides; a caring community which offers its residents an environment in which to seek a high quality of life; a balanced community with a diverse range of housing, employment, educational, shopping and recreational opportunities; and a vital community which provides financial and social support for quality of life programs."

vision statement from the 2005 Comprehensive Plan

The Town of Erie's Comprehensive Plan provides a strong vision for the future of Erie, and has a set of Guiding Principles that help to ensure that the vision is carried out. We believe that our PUD Zoning and Preliminary Plat proposal is in compliance with the principles for the Town of Erie Comprehensive Plan, and have provided an analysis of this below.

1. A Coordinated and Efficient Pattern of Growth

The Town will have a compact pattern that encourages urban growth to locate within the Planning Area Boundary, fosters the efficient provision of infrastructure and services, and balances development and conservation of the natural environment.

The Wise Farms property is located within the Planning Area Boundary for the Town of Erie, and is an excellent example of taking advantage of efficient infrastructure. A 24" Sanitary Sewer line runs through the property, and the property drains to a low point with an easement for storm sewer discharge already negotiated with Boulder County. The level of development that is anticipated will not change the existing road designations, as confirmed by our Traffic study. The Comprehensive Plan identifies this property as having a residential use. Town services are close to, or as mentioned in the case of sewer, already on the property. The property was annexed to the town of Erie in 1995. Town services such as schools, administration, police, water and sewer have either been provided or anticipated since annexation, and our proposal will not negatively impact town services already anticipated.

2. Quality Design and Development

Erie will promote a high standard of design for all new development, renovation, and rehabilitation to reinforce and enhance its unique nature for residential neighborhoods, public places, and commercial businesses.

Our plan proposed an integrated pedestrian trail system, and connections to neighborhood amenities. We have provided a housing diversity within a quality plan that proposes significant buffers to our adjacent neighbors.

3. Overall Economic Vitality

The Town will promote a healthy, thriving economy that provides opportunities for quality employment with livable wages for its residents.

This principle goes hand in hand with the type of community that we envision for Wise Farms. Quality employment will bring residents to Erie, and a quality community like Wise Farms will provide a wonderful opportunity for those residents to enjoy living in the Town of Erie.

4. Downtown Vitality

The Town considers the maintenance and enhancement and expansion as appropriate of Old Town's vitality to be important to the health and well being of the community as a whole. The plan promotes development and continued enhancement of this core community area as the "center" of the community.

While this principle does not specifically relate to Wise Farms, we support this principle because it will foster a stronger community, and Wise Farms will be a part of that strong community. We hope that the Old Town will be supported by residents of Wise Farms, and will further the enjoyment of living in the Town of Erie.

5. A Comprehensive, Integrated Transportation System

Erie has a safe, efficient, and innovative transportation system that reduces neighborhood isolation and promotes a sense of community by connecting all areas of town, accommodates various modes of public and private transit, and facilitates travel to regional centers.

Our proposal supports the transportation system that the Town of Erie has in place, we have made a significant effort to verify that our proposed development will not adversely impact the existing transportation network. We have located two entrances into Wise Farms from Jasper Road, and have coordinated these access locations with the Town of Erie staff. At the final plat stage we will be required to dedicate additional ROW for the future, it is not our intention to modify Jasper Road, with the exception of additional turn lanes for our project. The Wise Farms property is also bisected by the RTD ROW, which in the future may become a regional trail, our anticipated trail system could tie into this potential future regional trail system.

6. Stewardship of the Natural Environment

The Town will identify and conserve its natural, scenic, and environmentally sensitive areas including important wildlife habitat, waterways, and visually sensitive areas. Erie will strive to be a clean, sustainable, environmentally-friendly town.

Our proposed zoning will allow for a clustered development approach that supports the stewardship of the natural environment on our property, and we anticipate that the potential wildlife habitat associated with the irrigation canal that runs through the property will remain. Significant buffering of the existing trees along portions of Jasper Road is being proposed, as well as significant open space areas. We have set development back from the existing roads to protect visually sensitive areas.

7. Trails, Parks and Recreation Opportunities

The Town will provide a diverse range of recreational opportunities to include facilities and programming for all ages and varying interests, both passive and active. Trails, parks, and recreation opportunities will be connected with and integrate open space into and between neighborhoods and other areas of the community.

At the request of the Town of Erie staff we are proposing to dedicate the area along Jasper Rd, and the eastern buffer as open space, in addition the overall property will include private open space. The full amount of open space exceeds 43% of the overall property. In addition the Town of Erie staff has requested that we make cash-in-lieu payments for both Neighborhood Parks and Community Parks.

8. Protected Lands Program

Lands that are permanently protected as open space will be used to maintain the small town atmosphere that has made Erie an attractive place.

Open space will serve a variety of functions, including:

Buffering Erie from other towns and cities and shaping growth;
Creating view corridors to enable residents to see mountains, plains, and agricultural areas rather than uninterrupted housing and commercial development;
Preserving agricultural lands, keeping them in agricultural production;

Restoring riparian areas and other areas of natural habitat;
Protecting significant archeological and cultural resources;
Preserving native plant and animal habitat and travel corridors for wildlife;
Providing areas for passive recreation that emphasizes enjoyment of nature; and
Distinguishing and linking neighborhoods and other activity areas within Erie through a system of continuous, connected open lands and trails.

The Wise Farms property can further several of these guiding principles. We are proposing a dedicated Open Space area including the non-jurisdictional wetland, this area a cultural resource, along Jasper Rd. The irrigation canal will remain intact which will preserve the native plant and animal habitat, as well as provide travel corridors for wildlife. We anticipate that our open space areas will be a combination of passive and active areas, which will be linked with a trail system, and therefore provide the possibility of enjoying the natural environment, and finally the future Regional Trail adjacent to the RTD Railroad ROW will link this community with other neighborhoods in Erie.

9. Balanced Land Use Mix

The Town will work to diversify and balance the mix of land uses as the Town grows. Particular emphasis will be placed on enhancing the local economic base to provide employment opportunities for residents, seeking to achieve a better balance as a place to work as well as live. In so doing, the community will seek a balance between the enhancement of Old Town's vitality and other existing areas of the community and the identification of opportunities for commercial and employment in outlying areas.

We support this principle, and hope to provide a quality choice of housing for residents of Erie that are also fortunate enough to be working in the local area. We have met the required housing diversity requirement.

10. Stable, Cohesive Neighborhoods Offering a Variety of Housing Types

The Town will promote new neighborhoods that contain a mix of land uses and diversified housing options that meet the varying needs of its residents, including single family, attached homes (duplexes, townhomes), multifamily dwellings, and housing included as part of mixed-use developments. The Town will work to maintain the quality and character of established neighborhoods and ensure that infill and redevelopment is designed in a manner that minimizes impacts on existing neighborhoods, including rural neighborhoods in the Planning Area. New housing and neighborhoods should be appropriate in size, scale, design and use. New housing areas should be located where residents will have access to the full range of infrastructure, facilities and services that are needed for healthy, livable neighborhoods.

The approximately 169 acre property is currently designated as Rural Residential (RR), we are proposing to re-zone approximately 60 acres of the property to Low Density Residential (LR), and approximately 20 acres to AG/OS. As stated in the Unified Development Code, 10.6.7-D.b.i.B - Diversification Standards shall not apply to Residential Zone District RR. As required in the Unified Development Code's Housing Diversity requirement we are proposing one housing

type and one variation. In general we are proposing housing type G - Single Family Detached, and the variation we are proposing is variation 4 - Lot Size 5,000-9,000 square feet, and 5 - Lot Size 10,000 to 39,999 square feet. In general, on the northern portion of the property, the larger lots are on the east side of the property as a method to provide a transition to our neighbors. Our proposal meets the requirements of the Housing Diversity requirement.

11. Provide Infrastructure and Public Services Efficiently and Equitably

Erie will coordinate future development and/or provision of capital facility projects and infrastructure, including water, wastewater, fire protection, emergency management services, police protection, schools, parks, and other utilities that affect the quality of life and economic stability of the community.

We anticipate providing the required dedications, or providing cash-in-lieu for dedications that either can not be met on site, or are not required on site. Most of the services required for this project are already in place at this time.

RURAL RESIDENTIAL POLICIES:

RR 1.1—CHARACTERISTICS

The Rural Residential designation provides a rural setting for large-lot, very low density single-family housing. Lot sizes and layouts will be dependent upon topographical constraints and hilly terrain located in some areas of the community.

In some cases, large portions of a lot may remain in an undeveloped state, reinforcing the rural character of this development pattern. Existing Rural Residential development in Boulder and Weld Counties typically relies on individual sewage treatment systems and either individual water wells or rural water districts. New Rural Residential developments located within the Town's incorporated area will be required to be served by municipal water and wastewater service. Single lot developments will be required to be served by municipal water and wastewater service if within 400 feet of a sewer line.

Wise Farms falls within the Rural Residential category in the Town of Erie Comprehensive Plan. Our proposed Concept Plan, PUD, and Preliminary Plat provides significant buffers from the adjacent neighbors to preserve the visual character of the area. We anticipate tieing into the municipal water and wastewater services.

RR 1.2—DENSITY RANGE

Homes will typically occur at densities of between 0-2 dwelling units per acre, with average densities of 1 dwelling unit/acre. However, lots in many existing rural subdivisions in the Planning Area exceed 1 acre.

Our plan anticipates a variety of housing variations for a range of residents. This mix of housing opportunities will encourage socio-economic diversification, and promote a cohesive neighborhood. We are proposing a maximum number of 166 residential units on the approximately 169 acre property, which translates into 0.9 dwelling units per acre, which is within the allowed density range for the Rural Residential designation. We have also provided significant buffers or larger lots adjacent to the existing neighborhoods

that are also within the Rural Residential designation.

RR 1.3—LOCATION

Rural Residential neighborhoods will typically be located at the fringe of urban development, near existing rural neighborhoods, or in areas with steeper terrain or other natural features unsuitable for urban residential development. In some cases, they will serve as a transition between more intense urban neighborhoods and natural features to be protected or existing rural neighborhoods.

We are located adjacent to existing Rural Residentially designated areas, and several of the site constraints would limit urban residential development.

RR 1.4—CLUSTER DEVELOPMENT

The Town will encourage the use of cluster development patterns as a means of preserving scenic view corridors, preserving natural features, creating transitions between areas of different development intensity, and providing open space for the common use and enjoyment of residents and the broader community. The use of cluster development patterns as a means of preserving cohesive blocks of agricultural land is also encouraged.

We are proposing a clustered development pattern, within the guidelines spelled out in the Town of Erie's UDC. Our Concept Plan, PUD, and Preliminary Pat shows our clustered development pattern, and as a result the preservation of natural features, and a buffering or transition between Wise Farms and the existing residential areas. The clustered plan also provides for a cohesive open space system including Open Space that can be enjoyed by the residents, and by the broader community.

RR 1.5—OPEN SPACE

Open space designated through clustering, dedication, or other means should provide strong visual and physical connections to the surrounding open space and trails network—both existing and planned.

Our proposed clustered development has approximately 43% of the property as either Park or Open Space (dedicated and non-dedicated). These areas exceed the required dedication for our proposed community. Our Concept Plan, PUD, and Preliminary Plat depicts how the proposed open space provides a significant visual connection and benefit to the broader community. We fully anticipate connecting to the future regional trail in the RTD Railroad ROW, and have provided the required area for the future Regional Trail Connection.

RR 1.6—ROADWAY DESIGN

Access road and driveway configurations should follow the natural contours of topographic features to minimize slope disturbances, maximize scenic views, and conserve natural features.

In general the site does not have topographic constraints that will limit the location of internal roads or drives.

Zoning

Approval Criteria

The Board of Trustees may approve Rezonings, and the Planning Commission may recommend approval, if the Rezoning corrects a technical mistake or the Rezoning meets all of the following criteria:

1. The Rezoning will promote the public health, safety, and general welfare;

We believe that we meet this criteria because our proposed rezoning will add the significant open space buffer areas which will provide for both passive and active recreation. A non-clustered approach would not likely provide this benefit. We are proposing a road system with multiple access points.

2. The Rezoning is consistent with the Town's Comprehensive Plan and the purposes of the Municipal Code;

We have analyzed the Comprehensive Plan and strongly believe that we are consistent with not only the Vision statement, but also the Guiding Principles. We have provided a narrative that details this, and also analyzes the specifics of the Rural Residential designation as it relates to our proposed rezoning.

We are excited about the prospect of moving forward with this community. The integrated trail system, Open Space areas, designated Pocket Park and connected trail network with passive and active recreation opportunities, combined with a mix of housing variations will create a diverse and vibrant addition to the Town of Erie.

3. Adequate facilities and services (including roads and transportation, water, gas, electric, police and fire protection, and sewage and waste disposal, as applicable) will be available to serve the subject property while maintaining adequate levels of service to existing development;

Many of the facilities and services required for the development of this property are already in place. Facilities and services are in place to support this project while maintaining adequate levels of service to existing development.

4. The Rezoning is not likely to result in significant adverse impacts upon the natural environment, including air, water, noise, storm water management, wildlife, and vegetation, or such impacts will be substantially mitigated;

We are proposing a significant amount of open space, much of which will be left in a natural state. The significant areas of vegetation along the irrigation canals will largely remain, and we are proposing to dedicate the area around the Mill site and associated low lying area as part of an open space dedication, this area will provide a significant cultural/historic asset to the community at large. The wildlife corridors along the canals will remain, and we have a negotiated agreement for the conveyance of storm water with Boulder County. Overall we strongly believe that our proposal will not result in any adverse impacts for the property or the Town.

5. The Rezoning is not likely to result in significant adverse impacts upon other property in the vicinity of

the subject property;

With the addition of a diverse mix of housing opportunities we believe that we are compatible with our adjacent properties, and will be a benefit to the overall community. We have proposed significant buffers or larger lots adjacent to our neighbors.

6. Future uses on the subject property will be compatible in scale with uses on other properties in the vicinity of the subject property.

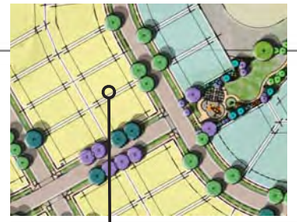
The primary use of the Wise Farms property will be residential. This is in keeping with the uses on other properties within the vicinity of Wise Farms. We are proposing a mix of housing, and fully anticipate that this will be consistent and compatible with the homes in the area. The size and price of homes in Wise Farms will be very comparable to the surrounding area.

CONCEPT PLAN EXHIBIT

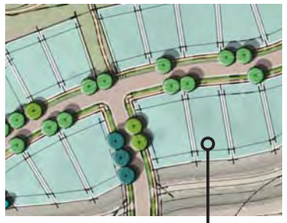
PROJECT SUMMARY

- THE PROJECT AREA IS APPROXIMATELY 169 ACRES
- THE CURRENT PROPOSAL IS FOR 166 UNITS ON THE 169 ACRES
- THE COMPREHENSIVE PLAN DESIGNATION IS RURAL RESIDENTIAL, WHICH ALLOWS FOR 0-2 DU/AC, WITH A RECOMMENDED AVERAGE DENSITY OF 1 DU/AC
- THE PROPOSAL COMPLIES WITH THE COMPREHENSIVE PLAN DESIGNATION

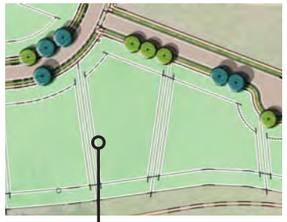
LEGEND



AREA WITH LOTS FROM 5,000 - 9,999 SF (60' MINIMUM WIDTH) - 98 UNITS



AREA WITH A PORTION OF LOTS OVER 10,000 SF (70' MINIMUM WIDTH) - 27 UNITS



AREA WITH LOTS OVER 40,000 SF (100' MINIMUM WIDTH) - 39 UNITS

TOTAL NUMBER OF HOMES PROPOSED IS 166 INCLUDING THE TWO EXISTING RESIDENCES.

200' 600'
100' 400'

CVL CONSULTANTS

WISE FARMS

PREPARED FOR:
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT, HIGHLANDS RANCH, CO - 80126 - 12/17/2014

pcs group inc. www.pcsgroupco.com
1001 16th street . B-180 . denver co 80265
t 303 531 4905 f 303 531 4908

ILLUSTRATIVE DEPICTION, SUBJECT TO CHANGE. 7-25-2014

WISE FARMS ZONING MAP

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
TOTAL ZONING BOUNDARY = 178.40 ACRES
AG/OS ZONING = 20.38 ACRES / LR ZONING = 64.78 ACRES / RR ZONING = 93.24 ACRES
RZ 13–00070

LEGAL DESCRIPTION – OVERALL BOUNDARY OF ZONING PARCEL

A PARCEL OF LAND BEING A PART OF THE SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE EAST QUARTER CORNER OF SAID SECTION 14, FROM WHICH THE EAST–SOUTH ONE SIXTEENTH CORNER OF SAID SECTION 14 BEARS SOUTH 00°04'01" EAST, A DISTANCE OF 1316.88 FEET SAID LINE FORMING THE BASIS OF BEARINGS WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;

THENCE SOUTH 00°04'01" EAST ALONG THE EAST LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 1316.88 FEET TO THE SOUTHEAST CORNER OF SAID NORTHEAST QUARTER OF THE SOUTHEAST QUARTER;

THENCE SOUTH 88°18'16" WEST ALONG THE SOUTH LINE OF SAID NORTHEAST QUARTER OF THE SOUTHEAST QUARTER, A DISTANCE OF 1312.40 FEET TO THE SOUTHWEST CORNER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 88°18'16" WEST ALONG THE SOUTH LINE OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 1312.40 FEET TO THE SOUTHWEST CORNER OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 88°16'21" WEST ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 14, A DISTANCE OF 60.98 FEET TO THE SOUTHEASTERLY CORNER OF THAT TRACT OF LAND CONVEYED TO RONALD SCOTT JASPER, RONALD LEE JASPER AND VEE ANN JASPER AS DESCRIBED IN WARRANTY DEED RECORDED MAY 3, 1976, ON FILM 922 AS RECEPTION NO. 175271, OF THE RECORDS OF BOULDER COUNTY, COLORADO:

THENCE NORTH 00°19'00" WEST ALONG THE EASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 1431.63 FEET TO A POINT ON THE CENTERLINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT–OF–WAY;

THENCE SOUTH 89°42'11" WEST ALONG SAID NORTHERLY RIGHT–OF–WAY LINE, A DISTANCE OF 1246.91 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14;

THENCE NORTH 00°29'33" WEST ALONG SAID WEST LINE, A DISTANCE OF 1189.88 FEET TO THE NORTHWEST CORNER OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14;

THENCE NORTH 88°21'52" EAST ALONG THE NORTH LINE OF SAID SOUTHEAST QUARTER OF THE NORTHWEST QUARTER, A DISTANCE OF 1314.47 FEET TO THE NORTHEAST CORNER OF SAID SOUTHEAST QUARTER OF THE NORTHWEST QUARTER;

THENCE NORTH 88°17'58" EAST ALONG THE NORTH LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER, A DISTANCE OF 1317.07 FEET THE NORTHEAST CORNER OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE NORTH 88°17'53" EAST ALONG THE NORTH LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 599.53 FEET TO THE NORTHWESTERLY CORNER OF THAT TRACT OF LAND AS DESCRIBED ON SAID FILM 1555, AT RECEPTION NO. 953348;

THENCE SOUTH 00°09'21" EAST ALONG THE WESTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 417.59 FEET TO THE MOST SOUTHERLY CORNER THEREOF;

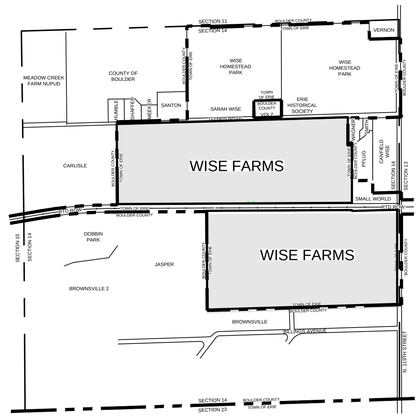
THENCE NORTH 50°52'13" EAST ALONG THE SOUTHEASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 70.21 FEET;

THENCE SOUTH 00°09'21" EAST, DISTANCE OF 893.98 FEET TO A POINT ON THE CENTERLINE OF THE POINT OF SAID UNION PACIFIC RAILROAD RIGHT–OF–WAY;

THENCE NORTH 89°42'11" EAST ALONG SAID CENTERLINE, A DISTANCE OF 660.37 FEET TO A POINT ON THE EAST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 00°03'07" EAST ALONG SAID EAST LINE, A DISTANCE OF 49.18 FEET TO THE POINT OF BEGINNING,

SAID PARCEL CONTAINING A CALCULATED AREA OF 7,770,538 SQUARE FEET OR 178.40 ACRES, MORE OR LESS.



VICINITY MAP

SCALE: 1" = 1000'

GENERAL NOTES

1. THE BEARINGS SHOWN HEREON ARE BASED UPON THE EAST LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 14 BEING BASED UPON THE TOWN OF ERIE HORIZONTAL CONTROL NETWORK IS ASSUMED TO BEAR SOUTH 00°04'01" EAST, A DISTANCE OF 1316.88 FEET.
2. THE LINEAL UNIT USED IN THE PREPARATION OF THIS ZONING MAP IS THE U.S. SURVEY FOOT AS DEFINED BY THE UNITED STATES DEPARTMENT OF COMMERCE, NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.
3. NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE (3) YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THEN TEN (10) YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.
4. THIS ZONING MAP IS NOT INTENDED TO BE AN IMPROVEMENT SURVEY PLAT, AN ALTA/ACSM LAND TITLE SURVEY NOR SUBDIVISION PLAT. IT IS INTENDED ONLY TO SHOW THE EXISTING AND PROPOSED ZONING OF THE DESCRIBED OVERALL WISE FARMS DEVELOPMENT.
5. THIS ZONING MAP DOES NOT CONSTITUTE A TITLE SEARCH BY CVL CONSULTANTS OF COLORADO, INC. TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. FOR ALL INFORMATION REGARDING EASEMENTS, RIGHTS–OF–WAY, AND TITLE OF RECORD, CVL CONSULTANTS OF COLORADO, INC. RELIED UPON LAND TITLE GUARANTEE COMPANY COMMITMENT NUMBER ABD70339758.1–2 EFFECTIVE DATE: OCTOBER 28, 2013 AT 5:00 P.M.

SURVEYOR'S CERTIFICATE:

I WILLIAM F. HESSELBACH, JR., A DULY REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS ZONING MAP TRULY AND CORRECTLY REPRESENTS THE ABOVE DESCRIBED LEGAL DESCRIPTIONS FOR EACH ZONE DISTRICT.

I ATTEST THE ABOVE ON THIS _____ DAY OF _____, 2014.

_____
WILLIAM F. HESSELBACH, JR., PLS NO. 25369
FOR AND ON BEHALF OF
CVL CONSULTANTS OF COLORADO, INC.

PLANNING COMMISSION CERTIFICATE:

THIS ZONING MAP WAS REVIEWED BY THE PLANNING COMMISSION ON

THE _____ DAY OF _____, 2014.

_____ _____
CHAIRPERSON DATE

BOARD OF TRUSTEES APPROVAL CERTIFICATE:

THIS ZONING MAP IS TO BE KNOWN AS THE "WISE FARMS ZONING MAP" AND IS APPROVED AND ACCEPTED BY ORDINANCE NO. _____, PASSED AND ADOPTED REGULAR (SPECIAL) MEETING OF THE BOARD OF TRUSTEES OF ERIE, COLORADO, HELD ON

_____ _____, 2014.

_____
MAYOR

ATTEST _____
TOWN CLERK

CLERK AND RECORDER:

STATE OF COLORADO)
)SS
COUNTY OF _____)

I HEREBY CERTIFY THAT THIS ZONING MAP WAS FILED IN MY OFFICE ON THIS _____ DAY OF _____, 2014 A.D. AND WAS RECORDED AT RECEPTION NUMBER _____.

_____
BOULDER COUNTY CLERK AND RECORDER

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

No.	Revisions	Date	Init.	Appr.	Date
2	Address comments	9-22-14	MJP	WFH	9-22-14
1	Address comments	8-1-14	WFH		

SCALE: AS NOTED
DRAWN BY: BPC
CHECKED BY: WFH
DATE: 4/14/2014
FILE NO:
SHEET NO: 1 OF 4

WISE FARMS ZONING MAP

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M., TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO

TOTAL ZONING BOUNDARY = 178.40 ACRES

AG/OS ZONING = 20.38 ACRES / LR ZONING = 64.78 ACRES / RR ZONING = 93.24 ACRES

RZ 13–00070

LEGAL DESCRIPTION – AGRICULTURAL / OPEN SPACE ZONING

A PARCEL OF LAND BEING A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14 AND ASSUMING THE EAST LINE OF THE EAST LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14 BEARS SOUTH 00° 04' 01" EAST, WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;

THENCE NORTH 88° 17' 53" EAST ALONG THE NORTH LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER, A DISTANCE OF 599.53 FEET;
THENCE SOUTH 00° 09' 21" EAST, A DISTANCE OF 417.59 FEET;
THENCE NORTH 50° 52' 13" EAST, A DISTANCE OF 70.21 FEET;
THENCE SOUTH 00° 09' 21" EAST, A DISTANCE OF 893.98 FEET TO A POINT ON THE CENTERLINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT–OF–WAY;
THENCE SOUTH 89° 42' 11" WEST ALONG SAID CENTERLINE, A DISTANCE OF 534.90 FEET;
THENCE NORTH 00° 15' 00" EAST, A DISTANCE OF 380.05 FEET;
THENCE SOUTH 89° 42' 11" WEST, A DISTANCE OF 140.01 FEET;
THENCE NORTH 00° 15' 00" EAST, A DISTANCE OF 102.04 FEET TO A POINT OF CURVATURE;
THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 380.00 FEET, A CENTRAL ANGLE OF 12° 48' 11", AN ARC LENGTH OF 84.91 FEET, THE CHORD OF WHICH BEARS NORTH 06° 09' 05" WEST, 84.74 FEET;
THENCE NORTH 79° 09' 54" EAST, A DISTANCE OF 82.07 FEET;
THENCE NORTH 86° 26' 06" EAST, A DISTANCE OF 70.39 FEET;
THENCE NORTH 77° 05' 19" EAST, A DISTANCE OF 81.72 FEET;
THENCE NORTH 58° 22' 53" EAST, A DISTANCE OF 106.81 FEET;
THENCE NORTH 55° 01' 09" EAST, A DISTANCE OF 83.85 FEET;
THENCE NORTH 37° 09' 58" WEST, A DISTANCE OF 107.34 FEET;
THENCE NORTH 18° 11' 43" WEST, A DISTANCE OF 64.39 FEET;
THENCE NORTH 42° 22' 46" WEST, A DISTANCE OF 126.09 FEET;
THENCE SOUTH 59° 44' 06" WEST, A DISTANCE OF 50.37 FEET;
THENCE SOUTH 82° 37' 27" WEST, A DISTANCE OF 58.92 FEET;
THENCE SOUTH 84° 48' 08" WEST, A DISTANCE OF 79.58 FEET;
THENCE SOUTH 77° 26' 44" WEST, A DISTANCE OF 153.02 FEET;
THENCE SOUTH 69° 33' 13" WEST, A DISTANCE OF 40.03 FEET;
THENCE SOUTH 69° 02' 37" WEST, A DISTANCE OF 153.38 FEET;
THENCE NORTH 66° 17' 02" WEST, A DISTANCE OF 157.17 FEET;
THENCE NORTH 88° 32' 42" WEST, A DISTANCE OF 64.74 FEET;
THENCE SOUTH 72° 54' 43" WEST, A DISTANCE OF 35.28 FEET;
THENCE NORTH 23° 28' 49" WEST, A DISTANCE OF 139.89 FEET;
THENCE NORTH 00° 59' 00" WEST, A DISTANCE OF 69.48 FEET;
THENCE NORTH 39° 02' 59" EAST, A DISTANCE OF 152.60 FEET;
THENCE NORTH 00° 59' 00" WEST, A DISTANCE OF 60.65 FEET TO A POINT ON THE NORTH LINE OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14;
THENCE NORTH 88° 17' 58" EAST ALONG SAID NORTH LINE, A DISTANCE OF 520.05 FEET TO THE POINT OF BEGINNING,

CONTAINING A CALCULATED AREA OF 887,584 SQUARE FEET OR 20.38 ACRES, MORE OR LESS

LEGAL DESCRIPTION – RURAL RESIDENTIAL ZONING SOUTH PARCEL

A PARCEL OF LAND BEING A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE EAST QUARTER CORNER OF SAID SECTION 14, AND ASSUMING THE EAST LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14 TO BEAR SOUTH 00°04'01" EAST WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;

THENCE SOUTH 00°04'01" EAST ALONG THE EAST LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 1316.88 FEET TO THE SOUTHEAST CORNER OF SAID NORTHEAST QUARTER OF THE SOUTHEAST QUARTER;

THENCE SOUTH 88°18'16" WEST ALONG THE SOUTH LINE OF SAID NORTHEAST QUARTER OF THE SOUTHEAST QUARTER, A DISTANCE OF 1312.40 FEET TO THE SOUTHWEST CORNER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 88°18'16" WEST ALONG THE SOUTH LINE OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 1312.40 FEET TO THE SOUTHWEST CORNER OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 88°16'21" WEST ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 14, A DISTANCE OF 60.98 FEET TO THE SOUTHEASTERLY CORNER OF THAT TRACT OF LAND CONVEYED TO RONALD SCOTT JASPER, RONALD LEE JASPER AND VEE ANN JASPER AS DESCRIBED IN WARRANTY DEED RECORDED MAY 3, 1976, ON FILM 922 AS RECEPTION NO. 175271, OF THE RECORDS OF BOULDER COUNTY, COLORADO:

THENCE NORTH 00°19'00" WEST ALONG THE EASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 1431.63 FEET TO A POINT ON THE CENTERLINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT–OF–WAY;

THENCE NORTH 89°42'11" EAST ALONG SAID CENTERLINE, A DISTANCE OF 62.34 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 89°42'11" EAST ALONG SAID NORTHERLY RIGHT–OF–WAY LINE, A DISTANCE OF 1314.37 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 89°42'11" EAST ALONG SAID NORTHERLY RIGHT–OF–WAY LINE, A DISTANCE OF 653.90 FEET;

THENCE NORTH 89°42'11" EAST ALONG SAID CENTERLINE, A DISTANCE OF 660.37 FEET TO A POINT ON THE EAST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 00°03'07" EAST ALONG SAID EAST LINE, A DISTANCE OF 49.18 FEET TO THE POINT OF BEGINNING,

SAID PARCEL CONTAINING A CALCULATED AREA OF 3,759,905 SQUARE FEET OR 86.32 ACRES, MORE OR LESS.

LEGAL DESCRIPTION – RURAL RESIDENTIAL ZONING NORTHEAST PARCEL

A PARCEL OF LAND BEING A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14 AND ASSUMING THE EAST LINE OF THE EAST LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14 BEARS SOUTH 00° 04' 01" EAST, WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;

THENCE NORTH 88° 17' 58" EAST ALONG THE NORTH LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14, A DISTANCE OF 358.80 FEET TO THE POINT OF BEGINNING;
THENCE CONTINUING NORTH 88° 17' 58" EAST ALONG SAID NORTH LINE, A DISTANCE OF 438.21 FEET;
THENCE SOUTH 00° 59' 00" EAST, A DISTANCE OF 60.65 FEET;
THENCE SOUTH 39° 02' 59" WEST, A DISTANCE OF 152.60 FEET;
THENCE SOUTH 00° 59' 00" EAST, A DISTANCE OF 69.48 FEET;
THENCE SOUTH 23° 28' 49" EAST, A DISTANCE OF 130.84 FEET;
THENCE SOUTH 60° 14' 26" WEST, A DISTANCE OF 232.89 FEET;
THENCE NORTH 29° 45' 34" WEST, A DISTANCE OF 141.29 FEET;
THENCE NORTH 16° 42' 28" WEST, A DISTANCE OF 52.28 FEET;
THENCE SOUTH 88° 17' 58" WEST, A DISTANCE OF 110.00 FEET;
THENCE NORTH 01° 42' 02" WEST, A DISTANCE OF 132.67 FEET;
THENCE NORTH 04° 12' 51" EAST, A DISTANCE OF 97.04 FEET;
THENCE NORTH 01° 42' 02" WEST, A DISTANCE OF 72.39 FEET TO THE POINT OF BEGINNING,

CONTAINING A CALCULATED AREA OF 147,794 SQUARE FEET OR 3.39 ACRES, MORE OR LESS.

LEGAL DESCRIPTION – RURAL RESIDENTIAL ZONING NORTHWEST PARCEL

A PARCEL OF LAND BEING A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWEST CORNER OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14 AND ASSUMING THE EAST LINE OF THE EAST LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14 BEARS SOUTH 00° 04' 01" EAST, WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;

THENCE NORTH 88° 21' 52" EAST ALONG THE NORTH LINE OF SAID SOUTHEAST QUARTER OF THE NORTHWEST QUARTER, A DISTANCE OF 556.77 FEET;
THENCE SOUTH 01° 38' 08" EAST, A DISTANCE OF 240.90 FEET;
THENCE SOUTH 88° 21' 52" WEST, A DISTANCE OF 310.88 FEET;
THENCE SOUTH 53° 30' 18" WEST, A DISTANCE OF 191.07 FEET;
THENCE SOUTH 89° 30' 27" WEST, A DISTANCE OF 96.07 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14 ;
THENCE NORTH 00° 29' 33" WEST ALONG SAID WEST LINE, A DISTANCE OF 348.26 FEET TO THE POINT OF BEGINNING,

CONTAINING A CALCULATED AREA OF 153,547 SQUARE FEET OR 3.53 ACRES, MORE OR LESS

LEGAL DESCRIPTION – LOW DENSITY RESIDENTIAL ZONING

A PARCEL OF LAND BEING A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14 AND ASSUMING THE EAST LINE OF THE EAST LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14 BEARS SOUTH 00° 04' 01" EAST, WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;

THENCE NORTH 88° 21' 52" EAST ALONG THE NORTH LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14, A DISTANCE OF 556.77 FEET TO THE POINT OF BEGINNING;

THENCE CONTINUING NORTH 88° 21' 52" EAST ALONG SAID NORTH LINE, A DISTANCE OF 757.70 FEET TO THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14;

THENCE NORTH 88° 17' 58" EAST ALONG THE NORTH LINE OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14, A DISTANCE OF 358.80 FEET;
THENCE SOUTH 01° 42' 02" EAST, A DISTANCE OF 72.39 FEET;
THENCE SOUTH 04° 12' 51" WEST, A DISTANCE OF 97.04 FEET;
THENCE SOUTH 01° 42' 02" EAST, A DISTANCE OF 132.67 FEET;
THENCE NORTH 88° 17' 58" EAST, A DISTANCE OF 110.00 FEET;
THENCE SOUTH 16° 42' 28" EAST, A DISTANCE OF 52.28 FEET;
THENCE SOUTH 29° 45' 34" EAST, A DISTANCE OF 141.29 FEET;
THENCE NORTH 60° 14' 26" EAST, A DISTANCE OF 232.89 FEET;
THENCE SOUTH 23° 28' 49" EAST, A DISTANCE OF 9.05 FEET;
THENCE NORTH 72° 54' 43" EAST, A DISTANCE OF 35.28 FEET;
THENCE SOUTH 88° 32' 42" EAST, A DISTANCE OF 64.74 FEET;
THENCE SOUTH 66° 17' 02" EAST, A DISTANCE OF 157.17 FEET;
THENCE NORTH 69° 02' 37" EAST, A DISTANCE OF 153.38 FEET;
THENCE NORTH 69° 33' 13" EAST, A DISTANCE OF 40.03 FEET;
THENCE NORTH 77° 26' 44" EAST, A DISTANCE OF 153.02 FEET;
THENCE NORTH 84° 48' 08" EAST, A DISTANCE OF 79.58 FEET;
THENCE NORTH 82° 37' 27" EAST, A DISTANCE OF 58.92 FEET;
THENCE NORTH 59° 44' 06" EAST, A DISTANCE OF 50.37 FEET;
THENCE SOUTH 42° 22' 46" EAST, A DISTANCE OF 126.09 FEET;
THENCE SOUTH 18° 11' 43 EAST, A DISTANCE OF 64.39 FEET;
THENCE SOUTH 37° 09' 58" EAST, A DISTANCE OF 107.34 FEET;
THENCE SOUTH 55° 01' 09" WEST, A DISTANCE OF 83.85 FEET;
THENCE SOUTH 58° 22' 53" WEST, A DISTANCE OF 106.81 FEET;
THENCE SOUTH 77° 05' 19" WEST, A DISTANCE OF 81.72 FEET;
THENCE SOUTH 86° 26' 06" WEST, A DISTANCE OF 70.39 FEET;
THENCE SOUTH 79° 09' 54" WEST, A DISTANCE OF 82.07 FEET TO A POINT OF NON–TANGENT CURVATURE;
THENCE ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 380.00 FEET, A CENTRAL ANGLE OF 12° 48' 11", AN ARC LENGTH OF 84.91 FEET, THE CHORD OF WHICH BEARS SOUTH 06° 09' 05" EAST, 84.74 FEET;
THENCE SOUTH 00° 15' 00" WEST, A DISTANCE OF 102.04 FEET;
THENCE NORTH 89° 42' 11" EAST, A DISTANCE OF 140.01 FEET;
THENCE SOUTH 00° 15' 00" WEST, A DISTANCE OF 380.09 FEET TO A POINT ON THE CENTERLINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT OF WAY;

THENCE ALONG SAID CENTERLINE, THE FOLLOWING THREE (3) COURSES:
SOUTH 89° 42' 11" WEST, A DISTANCE OF 119.88 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;
SOUTH 89° 42' 11" WEST, A DISTANCE OF 1314.37 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14;
SOUTH 89° 42' 11" WEST, A DISTANCE OF 1309.26 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14;

THENCE NORTH 00° 29' 33" WEST ALONG SAID WEST LINE, A DISTANCE OF 841.62 FEET;
THENCE NORTH 89° 30' 27" EAST, A DISTANCE OF 96.07 FEET;
THENCE NORTH 53° 30' 18" EAST, A DISTANCE OF 191.07 FEET;
THENCE NORTH 88° 21' 52" EAST, A DISTANCE OF 310.88 FEET;
THENCE NORTH 01° 38' 08" WEST, A DISTANCE OF 240.90 FEET TO THE POINT OF BEGINNING,

CONTAINING A CALCULATED AREA OF 2,821,707 SQUARE FEET OR 64.78 ACRES, MORE OR LESS.

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

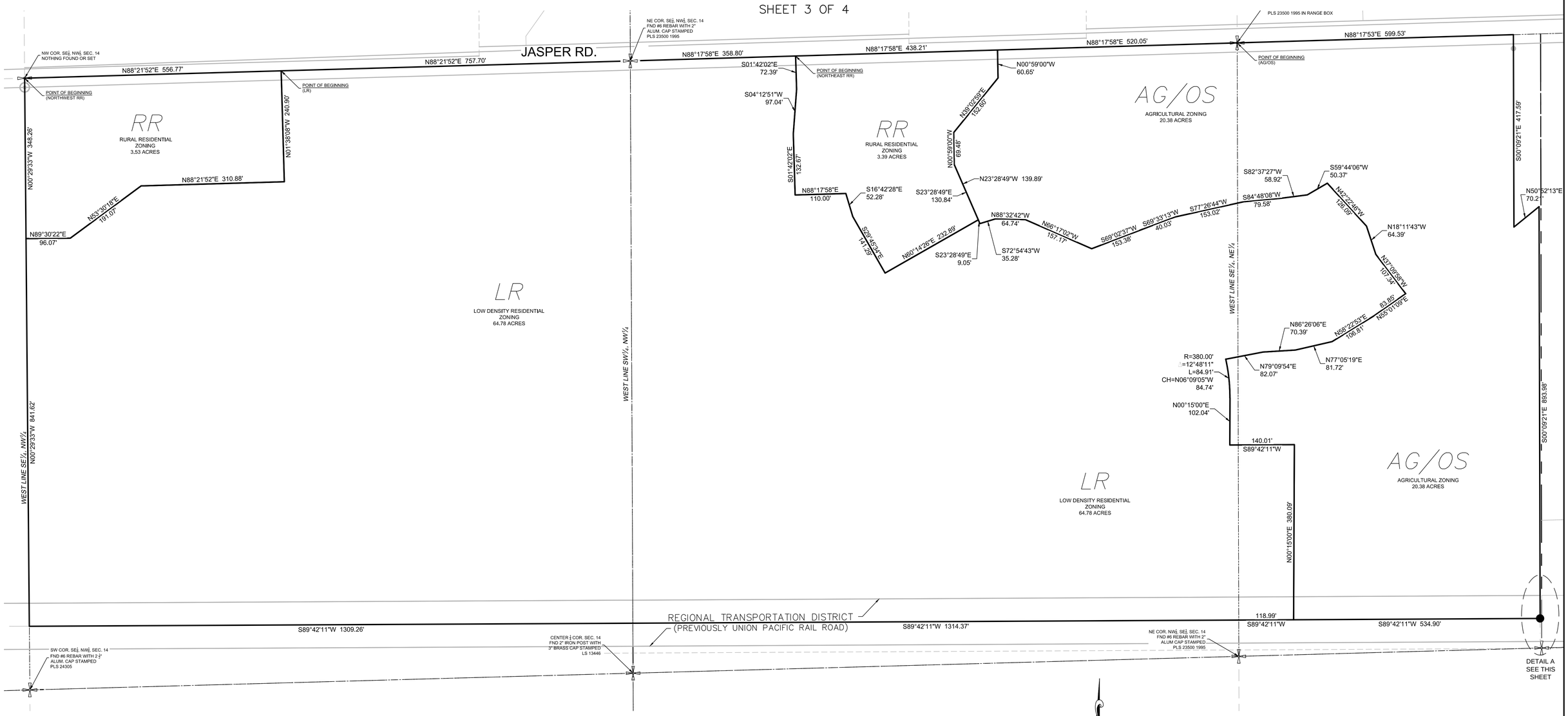
No.	Revisions	Date	Init.	Appr.	Date
2	Address comments	9-22-14	MJP	WFH	9-22-14
1	Address comments	8-1-14	WFH		

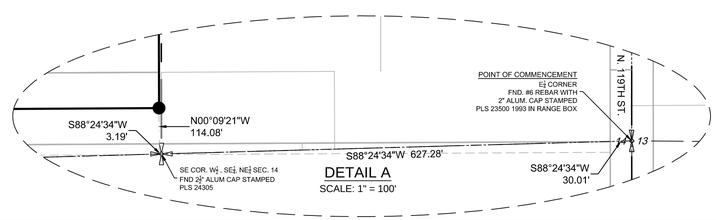
SCALE: AS NOTED	DRAWN BY: BPC	SHEET NO: 2 OF 4
FILE NO:	CHECKED BY: WFH	
	DATE: 4/14/2014	

WISE FARMS ZONING MAP

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
TOTAL ZONING BOUNDARY = 178.40 ACRES
AG/OS ZONING = 20.38 ACRES / LR ZONING = 64.78 ACRES / RR ZONING = 93.24 ACRES
RZ 13–00070

SHEET 3 OF 4





DETAIL A
SCALE: 1" = 100'

100 50 0 100 200
SCALE: 1" = 100'

2	Address comments	9-22-14	MJP	WFH	9-22-14
1	Address comments	8-1-14	WFH		
No.	Revisions	Date	Init.	Appr.	Date

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

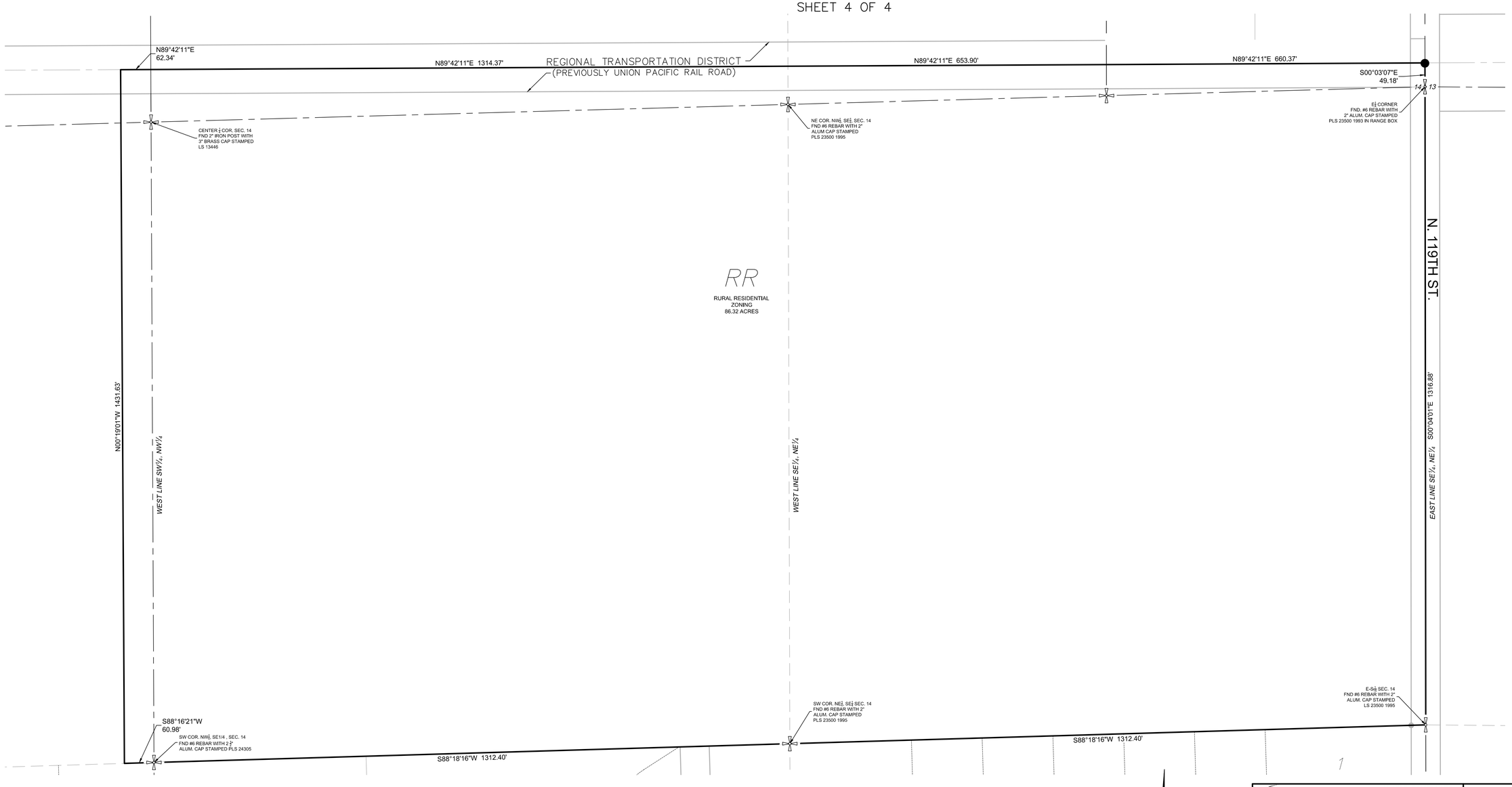
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

SCALE: AS NOTED
FILE NO:
DRAWN BY: BDL
CHECKED BY: WFH
DATE: 4/14/2014
SHEET NO: 3 OF 4

WISE FARMS ZONING MAP

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
TOTAL ZONING BOUNDARY = 178.40 ACRES
AG/OS ZONING = 20.38 ACRES / LR ZONING = 64.78 ACRES / RR ZONING = 93.24 ACRES
RZ 13–00070

SHEET 4 OF 4



CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

No.	Revisions	Date	Init.	Appr.	Date
2	Address comments	9-22-14	MJP	WFH	9-22-14
1	Address comments	8-1-14	WFH		

SCALE: AS NOTED
FILE NO:
DRAWN BY: BDL
CHECKED BY: WFH
DATE: 4/14/2014
SHEET NO: 4 OF 4

TOWN OF ERIE
PLANNING COMMISSION MEETING
January 21, 2015

SUBJECT:	**PUBLIC HEARING:**
	Consideration of Resolution P15-08: A Resolution Regarding The Wise Farms PUD Zoning Map, Adopting Certain Findings Of Fact And Conclusions Favorable To The PUD Overlay Rezoning.
PURPOSE:	The applicant is proposing a PUD Overlay on the Wise Farms Rezoning Map to modify single family lot sizes, setbacks and architectural standards.
PROJECT FILE NO:	PUD-13-00071
CODE:	Erie Municipal Code, Title 10
DEPARTMENT:	Community Development
PRESENTER:	Deborah Bachelder AICP, Senior Planner

STAFF RECOMMENDATION

Staff recommends that the Planning Commission recommend approval to the Board of Trustees for the Wise Farms PUD Zoning Map by approving Resolution No. P15-08, with the following conditions:

a. The approval of the Wise Farms PUD Zoning Map shall not come into effect until the Wise Farms Zoning Map is approved and recorded for the property. The PUD Zoning Map shall not be recorded until after the Wise Farms Zoning Map is recorded.

b. The approval of the Wise Farms PUD Zoning Map shall not come into effect until a Final Plat is approved and recorded for the property. The Wise Farms PUD Zoning Map shall not be recorded until after a Wise Farms Final Plat is recorded.

c. Technical corrections to the Wise Farms PUD Zoning Map shall be made to the Town's satisfaction.

SUMMARY AND BACKGROUND OF SUBJECT MATTER

Applicant	Jasper Land Investments, LLC 9162 S. Kenwood Court Highlands Ranch, CO 80126
Owners	Wise Homestead, LLC; and, Elizabeth Kissell

Location The Wise Farms property is located south of Jasper Road and west of 119th Street. The property is separated by the RTD railroad right of way.

Existing Conditions

Zoning — Current zoning is RR – Rural Residential; however, the applicant is processing a concurrent rezoning application.

PUD Size — 169 Acres

Existing Use — On the property are two existing single family houses and associated accessory structures; historic farm structures; one oil/gas facility; with the majority of the property being used for agriculture.

Adjacent Land-Use/Zoning

	ZONING	LAND USE
NORTH	Rural Residential Neighborhood Mixed Use AG-OS Agricultural – Open Space A-Agricultural: Boulder County	Single Family Residential Erie Historical Museum Boulder County/Town Open Space Single Family Residential
EAST	A-Agricultural: Boulder County ER-Estate Residential	Single Family Residential Single Family Residential
SOUTH	A-Agricultural: Boulder County	Single Family Residential
WEST	A-Agricultural: Boulder County	Farm/Agricultural

Purpose of PUD Overlay

Below is the "Purpose" for the Planned Unit Development Overlay District as described in the Municipal Code (10.2.7.D).

The PUD Overlay District is generally used when there is special public interest that doesn't coincide with the traditional zoning in a geographic area. The PUD Overlay District may only be used when an application is not able to meet the requirements of a standard zone classification. The PUD is a mapped area with restrictions in addition to, or less than, those in the underlying traditional zone. Rather than attempt to create a new zoning category, an overlay zone is superimposed over the traditional zone and establishes additional regulations, or reduces or extends the existing uses. The underlying zoning identifies permitted land uses, the overlay zone may provide design restrictions, additional setbacks, or other exceptions to the base district regulations.

General purposes of a PUD are as follows:

a. Establish a procedure for the development of larger parcels of land in order to reduce or eliminate the rigidity, delays, and inequities that otherwise would result from application of zoning standards and procedures designed primarily for small parcels.

b. Ensure orderly and thorough planning and review procedures that will result in high-quality urban design.

c. Encourage variety and avoid monotony in large developments by allowing greater freedom in selecting the means to provide access, light, open space, and amenity.

d. Provide a mechanism for considering mixes of uses that can be made compatible by application of careful and imaginative treatment of interrelationships of activity.

e. Encourage allocation and improvement of common open space in residential areas, and provide for maintenance of the open space at the expense of those who will directly benefit from it.

f. To convert land so poorly developed as to be a public liability.

g. Encourage the preservation of serviceable existing structures of historic value or artistic merit by providing the opportunity to use them imaginatively for purposes other than that for which they were originally intended.

h. Encourage the assembly of properties that might otherwise be developed in unrelated increments to the detriment of surrounding neighborhoods.

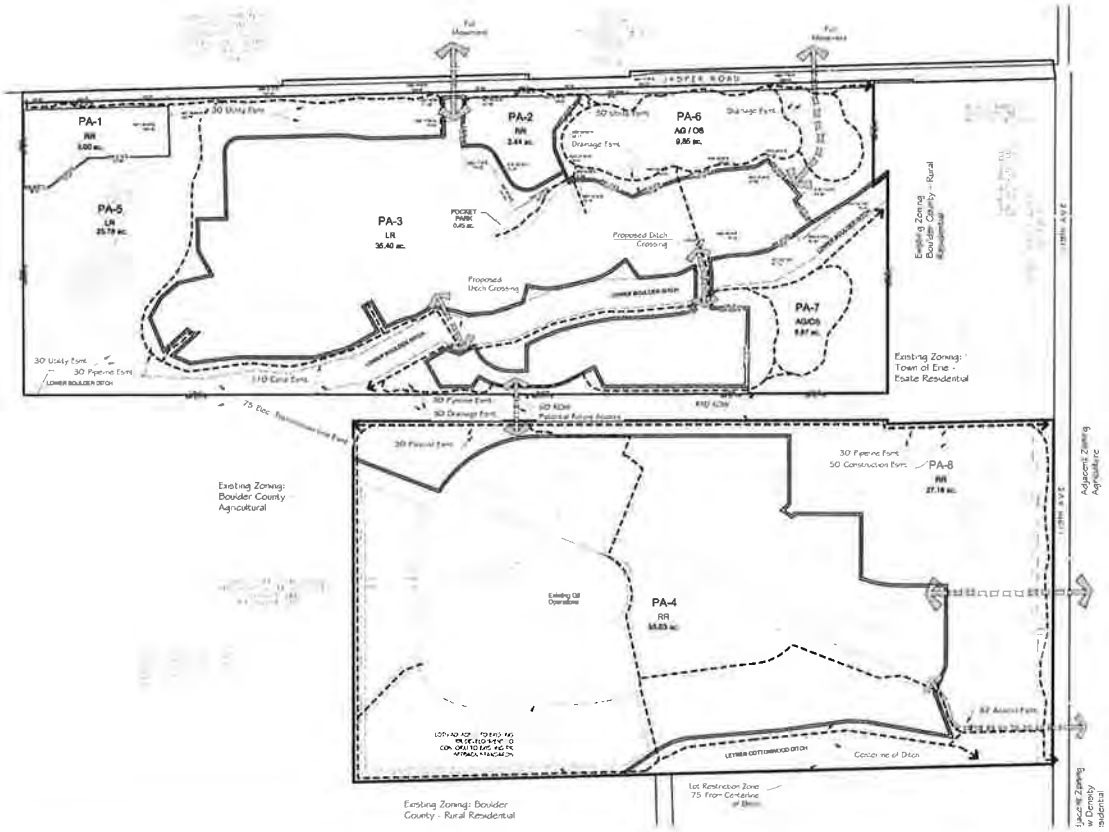
i. To simplify processing of development proposals for developers and the Planning Commission by providing for concurrent review of land use, subdivision, public improvements and siting considerations.

Wise Farms PUD Proposal

The Wise Farms PUD Zoning Map (PUD) sets the maximum number of dwelling units at 166. The applicant is committing to dedicate a public pocket park and open space to meet the Town requirements. The applicant will pay a fee in lieu for their required neighborhood park dedication of 1.39 acres and for their community park dedication of 2.32 acres.

The PUD Map identifies 8 overlay planning areas; 6 residential planning areas, and 2 agricultural/ open space areas. Although the PUD overlays the entire Wise Farms property, only two Planning Areas (PA-3 and PA-4), where the proposed single family development will occur, are proposed to modify the lot requirements. The two existing farms/single family homes in PA-1 and PA-2 will meet the RR-Rural Residential zone district requirements.

Wise Farms PUD Zoning Map



Minimum Lot Size and Width

The Wise Farms PUD proposes new, minimum lot sizes and minimum lot widths for the single family development areas. Planning Area – 3 (PA-3) overlays the LR-Low Density Residential zone district in the north half of the Wise Farms property. Planning Area – 4 (PA-4) overlays the RR-Rural Residential zone district in the south half of the Wise Farms property. The table below shows the proposed PUD Planning Area standards in comparison with the requirements of the underlying zone district.

Standard Underlying Zone District	Proposed Planning Area Overlay	Standard Zone District - Minimum Lot Area	Proposed Planning Area Overlay – Minimum Lot Area	Standard Zone District - Minimum Lot Width	Proposed Planning Area Overlay – Min. Lot Width
LR – Low Density Residential	PA-3	5,000 square feet	5,750 square feet	50 feet 60 feet - corner lot	55 feet
RR – Rural Residential	PA-4	80,000 square feet	40,000 square feet	150 feet	100 feet

The proposed Wise Farms PUD modifications to the LR-Low Density Residential zone district include:

- An increase in the minimum lot size from 5,000 square feet to 5,750 square feet.
- An increase in the minimum lot width from 50 feet to 55 feet. They have however, eliminated the specific increased width for a corner lot, which is 60 feet, and replaced the specific increased width with a statement that "The minimum lot width … shall be increased on corner lots to accommodate the street setback."

The proposed Wise Farms PUD modifications to the RR-Rural Residential zone district include:

- A decrease in the minimum lot size from 80,000 square feet to 40,000 square feet.

- A decrease in the minimum lot width from 150 feet to 100 feet.

Minimum Setbacks and Maximum Height

The Wise Farms PUD proposes new minimum setbacks and maximum height standards for the proposed land uses. The table below shows the proposed minimum setbacks and maximum height in comparison with the requirements of the underlying zone district.

Standard Underlying Zone District	Proposed Planning Area Overlay	Standard Zone District - Front Setback	Proposed Planning Area Overlay – Front Setback	Standard Zone District - Front Setback to Porch	Proposed Planning Area Overlay – Front Setback to Porch
LR – Low Density Residential	PA-3	20 feet	20 feet	20 feet *	15 feet
RR – Rural Residential	PA-4	40 feet	30 feet	30 feet*	30 feet

*MC 10.4.2 A.1.b.v.: Roofs over porches may project up to 6 feet into a front setback, provided that the roof projections shall comprise no more than 50 percent of the total length of the building's façade.

The proposed Wise Farms PUD modifications to the LR-Low Density Residential zone district include:

- The front setback remains at 20 feet; however a porch is allowed to encroach 5 feet without any restrictions on the width of the porch. The Town standard is allows a front porch to encroach 6 feet into the 20 foot front setback when the porch does not exceed a maximum width of 50 percent of the front façade.

The proposed Wise Farms PUD modifications to the RR-Rural Residential zone district include:

- The front setback is decreased from 40 feet to 30 feet.
- The front porch setback is 30 feet; the Town encroachment language for porches would not apply.

Standard Underlying Zone District	Proposed Planning Area Overlay	Standard Zone District - Side Yard Interior Lot Line	Proposed Planning Area Overlay – Side Yard Interior Lot Line	Standard Zone District - Side Yard to Street	Proposed Planning Area Overlay – Side Yard to Street
LR – Low Density Residential	PA-3	5 feet	5 feet	20 feet	10 feet
RR – Rural Residential	PA-4	15 feet	10 feet	40 feet	30 feet

The proposed Wise Farms PUD modifications to the LR-Low Density Residential zone district include:

- The interior side yard setback remains at 5 feet.
- The side yard setback to a street is reduced from 20 feet to 10 feet.

The proposed Wise Farms PUD modifications to the RR-Rural Residential zone district include:

- The interior side yard is decreased from 15 feet to 10 feet.
- The side yard setback to a street is reduced from 40 feet to 30 feet.

Standard Underlying Zone District	Proposed Planning Area Overlay	Standard Zone District - Rear Setback	Proposed Planning Area Overlay – Rear Setback	Standard Zone District - Maximum Height	Proposed Planning Area Overlay – Maximum Height
LR – Low Density Residential	PA-3	20 feet	20 feet	35 feet	35 feet
RR – Rural Residential	PA-4	40 feet	30 feet	40 feet	35 feet

The proposed Wise Farms PUD modifications to the LR-Low Density Residential zone district include:

- The rear yard setback remains at 20 feet.
- The maximum building height remains at 35 feet.

The proposed Wise Farms PUD modifications to the RR-Rural Residential zone district include:

- The rear yard is decreased from 40 feet to 30 feet. However, those lots on the PUD map on the southwest portion of site will need to meet the 40 foot rear lot setback of the RR zone district.
- The maximum building height is reduced from 40 feet to 35 feet.

Single Family Architectural Standards

Modification of the UDC requirements for single family architectural standards is being requested in the Wise Farms PUD. The applicant is proposing to generally use the same architectural standards that have been adopted in the Erie Highlands and Bridgewater PUD.

Accessory Dwelling Units

The Town Municipal Code (MC 10.3.3.G) allows owners of all single family residential lots on minimum lot sizes of 6,000 square feet or more to apply for a Special Review Use application for a single accessory dwelling unit if they can meet the size, parking and design standards. The Special Review Use application process requires an applicant to hold a neighborhood meeting and be reviewed by the Planning Commission and Board of Trustees at public hearings.

The Wise Farms PUD proposes that all of the lots on the south half of the Wise Farms property be allowed to have an accessory dwelling unit as a Use by Right if they meet the size, parking and design standards in the Municipal Code. The lots in the southern half of the Wise Farms property are a minimum of 40,000 square feet. If the PUD modification is approved, a property owner in this area would simply need to submit a building permit application in order to construct an accessory dwelling unit.

The single family residential lots, on the north half of the Wise Farms property that are on minimum lot sizes of 6,000 square feet or more can apply for an accessory dwelling unit through the Town's standard Special Review Use application procedure.

STAFF REVIEW AND ANALYSIS

The Wise Farms PUD (Planned Unit Development) was reviewed for conformance with Municipal Code 10.7.6 D.9. Approval Criteria. Staff finds the Wise Farms PUD in compliance with the PUD Approval Criteria as listed below.

Staff finds the application is consistent with the Approval Criteria of Title 10, Section 7.6 D.9 PUD Overlay Rezoning:

a. The PUD Rezoning is generally consistent with the purpose of the PUD Overlay District in Section 2.7.D.1;

Staff: The applicant has met the requirements of Section 2.7.D.1.

b. The PUD Rezoning will promote the public health, safety, and general welfare;

Staff: The Wise Farms PUD promotes the public health, safety, and general welfare.

c. The PUD Rezoning is consistent with the Town's Comprehensive Master Plan and the purposes of this UDC;

Staff: The Wise Farms PUD sets the maximum number of dwelling units allowed on the property. The gross density proposed is within the 0 to 2 dwelling units per acre density range for the Rural Residential Land Use in the Comprehensive Plan.

d. The PUD Rezoning is generally consistent with the PUD standards in Subsection 2.7.D.2;

Staff: The Wise Farms PUD is generally consistent with the PUD standards.

e. Adequate facilities and services (including roads and transportation, water, gas, electric, police and fire protection, and sewage and waste disposal, as applicable) will be available to serve the subject property while maintaining adequate levels of service to existing development;

Staff: The Wise Farms development will need to bring Town water to the site. All other facilities and services are available.

f. The PUD Rezoning is not likely to result in significant adverse impacts upon the natural environment, including air, water, noise, storm water management, wildlife, and vegetation, or such impacts will be substantially mitigated;

Staff: The Town and applicant have worked to preserve healthy trees and the non-jurisdictional wetland on the east side of the property as public open space.

g. The PUD Rezoning is not likely to result in significant adverse impacts to significant scenic and historic features as identified in plans adopted by the Town;

Staff: The Town, applicant and property owner have agreed that at Final Plat a plan to move the current historic farm/mill buildings that encroach into the current Jasper Road and future Jasper Road right of way to the Wise Museum property. If the property owner is not able to move the buildings the Town will work with the owner on timing of removal of the structures.

h. The PUD Rezoning is not likely to result in significant adverse impacts upon other property in the vicinity of the subject property;

Staff: The Wise Farms PUD identifies buffers on all sides of the proposed development. Additionally, the applicant has increased the size of the residential lots, from the original Sketch Plan application, on the south half of the property to lot sizes that are compatible to the adjacent neighborhood.

i. Proposed uses on the subject property will be compatible in scale with uses on other properties in the vicinity of the subject property;

Staff: The applicant has increased the size of the residential lots, from the original Sketch Plan application, on the south half of the property to lot sizes that are compatible to the adjacent neighborhood.

j. The proposed phasing of the development is appropriate and the development can be substantially completed within the time period specified in the schedule of the development or Development Agreement submitted by the applicant; and

Staff: The applicant has not proposed phasing of the property.

k. The PUD Plan provides public benefit(s).

Staff: The applicant will be providing approximately 43% of the property in public and private open space and parks.

NEIGHBORHOOD MEETING

As required by the Municipal Code a Neighborhood Meeting was held:

Neighborhood Meeting Date:	January 7, 2015
Neighborhood Meeting Location:	Erie Community Center

The required posted and mailed notice of the Neighborhood Meeting was provided as required.

PUBLIC NOTICE

Notice of this Public Hearing has been provided as follows:

Published in the Colorado Hometown Weekly:	December 31, 2014
Property Posted:	January 2, 2015
Letters to adjacent property owners within 300':	January 2, 2015

STAFF RECOMMENDATION

Staff recommends that the Planning Commission recommend approval to the Board of Trustees for the Wise Farms PUD Zoning Map by approving Resolution No. P15-08, with the following conditions:

a. The approval of the Wise Farms PUD Zoning Map shall not come into effect until the Wise Farms Zoning Map is approved and recorded for the property. The PUD Zoning Map shall not be recorded until after the Wise Farms Zoning Map is recorded.

b. The approval of the Wise Farms PUD Zoning Map shall not come into effect until a Final Plat is approved and recorded for the property. The Wise Farms PUD Zoning Map shall not be recorded until after a Wise Farms Final Plat is recorded.

c. Technical corrections to the Wise Farms PUD Zoning Map shall be made to the Town's satisfaction.

Approved by:

R. Martin Ostholthoff
Community Development Director

Attachments:

1. Resolution P15-08
2. Applicant submittal materials

RESOLUTION NO. P15-08

A RESOLUTION REGARDING THE WISE FARMS PUD ZONING MAP, ADOPTING CERTAIN FINDINGS OF FACT AND CONCLUSIONS FAVORABLE TO THE PUD OVERLAY REZONING.

WHEREAS, the Planning Commission of the Town of Erie Colorado has received and considered the Wise Farms PUD Zoning Map Rezoning on January 21, 2015 on the application of Elizabeth W. Kissell, and Wise Homestead, LLC, 11497 Jasper Road, Lafayette, CO, for Rezoning of the of the following described real property:

See Exhibit "A," attached hereto and incorporated herein, and

WHEREAS, the application for Rezoning is detailed on the attached PUD Overlay Zoning Map titled Wise Farms PUD Zoning Map, attached hereto and incorporated herein as Exhibit "B," and

WHEREAS, said Wise Farms PUD Overlay Zoning Map is incorporated herein and made a part hereof by this reference.

NOW, THEREFORE, BE IT RESOLVED BY THE PLANNING COMMISSION OF THE TOWN OF ERIE, COLORADO, as follows:

Section 1. Findings of Fact

1. The application for PUD Overlay Rezoning and supporting documents were submitted in accordance with Municipal Code, Title 10, Section 7.6.
2. Following a duly noticed and conducted public hearing, the Planning Commission determined that the application meets the approval criteria as specified in Title 10, Section 7.6 D.9 of the Town of Erie Municipal Code. Specifically that,
   a. The PUD Rezoning is generally consistent with the purpose of the PUD Overlay District in Section 2.7.D.1;
   b. The PUD Rezoning will promote the public health, safety, and general welfare;
   c. The PUD Rezoning is consistent with the Town's Comprehensive Master Plan and the purposes of this UDC;
   d. The PUD Rezoning is generally consistent with the PUD standards in Subsection 2.7.D.2;
   e. Adequate facilities and services (including roads and transportation, water, gas, electric, police and fire protection, and sewage and waste disposal, as applicable) will be available to serve the subject property while maintaining adequate levels of service to existing development;
   f. The PUD Rezoning is not likely to result in significant adverse impacts upon the natural environment, including air, water, noise, storm water management, wildlife, and vegetation, or such impacts will be substantially mitigated;
   g. The PUD Rezoning is not likely to result in significant adverse impacts to significant scenic and historic features as identified in plans adopted by the Town;

h. The PUD Rezoning is not likely to result in significant adverse impacts upon other property in the vicinity of the subject property;

i. Proposed uses on the subject property will be compatible in scale with uses on other properties in the vicinity of the subject property;

j. The proposed phasing of the development is appropriate and the development can be substantially completed within the time period specified in the schedule of the development or Development Agreement submitted by the applicant; and

k. The PUD Plan provides public benefit(s).

Section 2. Conclusion and Order

Based on the above Findings of Fact, the Planning Commission hereby forwards the Wise Farms PUD Zoning Map, Rezoning application to the Board of Trustees with the Planning Commission's recommendation for approval, with the following conditions:

a. The approval of the Wise Farms PUD Zoning Map shall not come into effect until the Wise Farms Zoning Map is approved and recorded for the property. The PUD Zoning Map shall not be recorded until after the Wise Farms Zoning Map is recorded.

b. The approval of the Wise Farms PUD Zoning Map shall not come into effect until a Final Plat is approved and recorded for the property. The Wise Farms PUD Zoning Map shall not be recorded until after a Wise Farms Final Plat is recorded.

c. Technical corrections to the Wise Farms PUD Zoning Map shall be made to the Town's satisfaction.

INTRODUCED, READ, SIGNED AND APPROVED this 21st day of January 2015.

TOWN OF ERIE, PLANNING COMMISSION

By: _____
J. Eric Bottenhorn, Chair

ATTEST:

By: _____
Hallie S. Sawyer, Secretary

EXHIBIT A

(Wise Farms Legal Description)

NORTH PARCEL:

A PARCEL OF LAND BEING A PART OF THE NORTH HALF OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE EAST QUARTER CORNER OF SAID SECTION 14, FROM WHICH THE EAST-SOUTH ONE SIXTEENTH CORNER OF SAID SECTION 14 BEARS S00°04'01"E, A DISTANCE OF 1,316.88 FEET SAID LINE FORMING THE BASIS OF BEARINGS WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;

THENCE S88°24'34"W, ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 30.01 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF NORTH 119TH STREET;

THENCE S88°24'34"W ALONG SAID SOUTH LINE, A DISTANCE OF 627.28 FEET; TO THE SOUTHEAST CORNER OF THE WEST HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING S88°24'34"W ALONG SAID SOUTH LINE , A DISTANCE OF 3.19 FEET;

THENCE NORTH 00°09'24"W, A DISTANCE OF 114.08 FEET TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY, SAID RIGHT-OF-WAY LINE BEING 50 FEET, BY PERPENDICULAR MEASUREMENT NORTHERLY OF THE CENTERLINE OF THE EXISTING TRACK, SAID POINT BEING THE POINT OF BEGINNING;

THENCE S89°42'11"W ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 653.74 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING S89°42'11"W ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1,314.16 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING S89°42'11"W ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1,309.61 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEEST QUARTER OF SAID SECTION 14;

THENCE N00°29'33"W ALONG SAID WEST LINE, A DISTANCE OF 1,119.88 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF JASPER ROAD;

THENCE ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE THE FOLLOWING THREE (3) COURSES:

1. N88°21'52"E, A DISTANCEE OF 1,314.39 FEET
2. N88°17'28"E, A DISTANCE OF 1,317.03 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;
3. CONTINUING N88°17'28"E, A DISTANCE OF 599.53 FEET TO THE NORTHWESTERLY CORNER OF THAT TRACT OF LAND AS DESCRIBED ON SAID FILM 1555, AT RECEPTION NO. 953348;

THENCE S00°09'21"E ALONG THE WESTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 397.57 FEET TO THE MOST SOUTHERLY CORNER THEREOF;

THENCE N50º52'13"E ALONG THE SOUTHEASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 70.21 FEET;

THENCE S00º09'21"E, A DISTANCE OF 843.98 FEET TO THE POINT OF BEGINNING.

SOUTH PARCEL:

A PARCEL OF LAND BEING A PART OF THE NORTH HALF AND A PART OF THE SOUTHEAST QUARTER OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE EAST QUARTER CORNER OF SAID SECTION 14, FROM WHICH THE EAST-SOUTH ONE SIXTEENTH CORNER OF SAID SECTION 14 BEARS SOUTH 00°04'01" EAST, A DISTANCE OF 1316.88 FEET, SAID LINE FORMING THE BASIS OF BEARINGS WITH ALL BEARINGS CONTAINED HEREWITH BEING RELATIVE THERETO;

THENCE SOUTH 88°24'34" WEST, A DISTANCE OF 30.01 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF NORTH 119TH STREET, SAID POINT BEING THE POINT OF BEGINNING;

THENCE SOUTH 00°04'10" EAST ALONG SAID WESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1316.93 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 88°18'16" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 1282.45 FEET TO THE SOUTHWEST CORNER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 88°18'16" WEST ALONG THE SOUTH LINE OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 1312.40 FEET TO THE SOUTHWEST CORNER OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 88°16'21" WEST ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 14, A DISTANCE OF 60.98 FEET TO THE SOUTHEASTERLY CORNER OF THAT TRACT OF LAND CONVEYED TO RONALD SCOTT JASPER, RONALD LEE JASPER AND VEE ANN JASPER AS DESCRIBED IN WARRANTY DEED RECORDED MAY 3, 1976, ON FILM 922 AS RECEPTION NO. 175271, OF THE RECORDS OF BOULDER COUNTY, COLORADO;

THENCE NORTH 00°19'00" WEST ALONG THE EASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 1381.63 FEET TO THE SOUTHERLY RIGHT-OF-WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY, SAID RIGHT-OF-WAY LINE BEING 50 FEET, BY PERPENDICULAR MEASUREMENT, SOUTHERLY OF THE EXISTING TRACK;

THENCE NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 62.45 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1314.28 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, A

DISTANCE OF 653.74 FEET;

THENCE SOUTH 00°09'21" EAST, A DISTANCE OF 14.08 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE NORTH 88°24'34" EAST ALONG SAID SOUTH LINE, A DISTANCE OF 3.19 FEET TO THE SOUTHEAST CORNER OF THE WEST HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 88°24'34" EAST ALONG SAID SOUTH LINE, A DISTANCE OF 627.28 FEET TO THE POINT OF BEGINNING.

SAID NORTH, SOUTH AND JASPER ROAD RIGHT-OF-WAY PARCELS CONTAINING A CALCULATED AREA OF 7,576,344 SQUARE FEET, OR 173.929 ACRES, MORE OR LESS.

EXHIBIT B
(Wise Farms PUD Zoning Map)

Wise Farms PUD Zoning Map

a part of section 14, township 1 north, range 69 west of the 6th p.m.
town of erie, county of boulder, state of colorado
169.05 acres
PUD-13-00071

OVERALL BOUNDARY DESCRIPTION

NORTH PARCEL:

COMMENCING AT THE EAST QUARTER CORNER OF SAID SECTION 14, FROM WHICH THE EAST SOUTH ONE SIXTEENTH CORNER OF SAID SECTION 14 BEARS SOUTH 00°04'01" EAST, A DISTANCE OF 1316 88 FEET SAID LINE FORMING THE BASIS OF BEARINGS WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;

THENCE SOUTH 88°24'34" WEST, ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 30 01 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF NORTH 119TH STREET;

THENCE CONTINUING SOUTH 88°24'34" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 627 28 FEET, TO THE SOUTHEAST CORNER OF THE WEST HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 88°24'34" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 3 19 FEET;

THENCE NORTH 00°09'21" WEST, A DISTANCE OF 114 08 FEET TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY, SAID RIGHT-OF-WAY LINE BEING 50 FEET, BY PERPENDICULAR MEASUREMENT NORTHERLY OF THE CENTERLINE OF THE EXISTING TRACK, SAID POINT BEING THE POINT OF BEGINNING;

THENCE SOUTH 89°42'11" WEST ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 653 74 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 89°42'11" WEST ALONG SAID NORTHERLY RIGHT-OF-WAY LINE , A DISTANCE OF 1314 46 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 89°42'11" WEST ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1309 61 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14;

THENCE NORTH 00°29'33" WEST ALONG SAID WEST LINE, A DISTANCE OF 1119 88 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF JASPER ROAD;

THENCE ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE THE FOLLOWING THREE (3) COURSES:

1 NORTH 88°21'52" EAST, A DISTANCE OF 1314 39 FEET;
2 NORTH 88°17'58" EAST, A DISTANCE OF 1317 03 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;
3 CONTINUING NORTH 88°17'58" EAST, A DISTANCE OF 599 53 FEET TO THE NORTHWESTERLY CORNER OF THAT TRACT OF LAND AS DESCRIBED ON SAID FILM 1555, AT RECEPTION NO 953348;

THENCE SOUTH 00°09'21" EAST ALONG THE WESTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 397 57 FEET TO THE MOST SOUTHERLY CORNER THEREOF;

THENCE NORTH 50°52'13" EAST ALONG THE SOUTHEASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 70 21 FEET;

THENCE SOUTH 00°09'21" EAST, DISTANCE OF 843 98 FEET TO THE POINT OF BEGINNING,

SAID PARCEL CONTAINING A CALCULATED AREA OF 3,782,135 SQUARE FEET OR 86 826 ACRES, MORE OR LESS

SOUTH PARCEL:

A PARCEL OF LAND BEING A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE EAST QUARTER CORNER OF SAID SECTION 14, FROM WHICH THE EAST-SOUTH ONE SIXTEENTH CORNER OF SAID SECTION 14 BEARS SOUTH 00°04'01" EAST, A DISTANCE OF 1316 88 FEET, SAID LINE FORMING THE BASIS OF BEARINGS WITH ALL BEARINGS CONTAINED HEREWITH BEING RELATIVE THERETO;

THENCE SOUTH 88°24'34" WEST, A DISTANCE OF 30 01 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE TO NORTH 119TH STREET;

THENCE SOUTH 00°04'01" EAST, ALONG SAID WESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 0 14 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY, SAID RIGHT-OF-WAY LINE BEING 50 FEET, BY PERPENDICULAR MEASUREMENT, SOUTHERLY OF THE EXISTING TRACK, SAID POINT BEING THE POINT OF BEGINNING;

THENCE CONTINUING SOUTH 00°04'01" EAST ALONG SAID WESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1316 79 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 88°18'16" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 1282 39 FEET TO THE SOUTHWEST CORNER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 88°18'16" WEST ALONG THE SOUTH LINE OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 1312 40 FEET TO THE SOUTHWEST CORNER OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 88°16'21" WEST ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 14, A DISTANCE OF 60.98 FEET TO THE SOUTHEASTERLY CORNER OF THAT TRACT OF LAND CONVEYED TO RONALD SCOTT JASPER, RONALD LEE JASPER AND VEE ANN JASPER AS DESCRIBED IN WARRANTY DEED RECORDED MAY 3, 1976, ON FILM 922 AS RECEPTION NO 175271, OF THE RECORDS OF BOULDER COUNTY, COLORADO:

THENCE NORTH 00°19'00" WEST ALONG THE EASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 1381 63 FEET TO THE SOUTHERLY RIGHT-OF-WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY, SAID RIGHT-OF-WAY BEING 50 FEET, BY PERPENDICULAR MEASUREMENT, SOUTHERLY OF THE EXISTING TRACK;

THENCE NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 62 45 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1314 28 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 653 74 FEET;

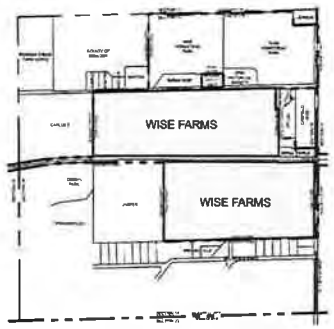
THENCE SOUTH 00°09'21" EAST, A DISTANCE OF 14 09 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE NORTH 88°24'34" EAST ALONG SAID SOUTH LINE, A DISTANCE OF 3 19 FEET TO THE SOUTHEAST CORNER OF THE WEST HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 88°24'34" EAST ALONG SAID SOUTH LINE, A DISTANCE OF 620 87 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF SAID PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY;

THENCE NORTH 89°42'11" EAST, ALONG SAID SOUTHERLY RAILROAD RIGHT-OF-WAY LINE, A DISTANCE OF 6 40 FEET TO THE POINT OF BEGINNING,

SAID SOUTH PARCEL CONTAINING A CALCULATED ARE OF 3,581,472 SQUARE FEET OR 82 219 ACRES, MORE OR LESS



VICINITY MAP
SCALE: 1" = 1000'

PUD NOTES:

1. THIS PUD ZONING MAP MODIFIES STANDARDS FOUND IN MUNICIPAL CODE TITLE 10. IN THE EVENT THAT THERE IS A DISCREPANCY BETWEEN THE MUNICIPAL CODE AND THIS PUD, THE PUD SHALL CONTROL. ANY PROVISIONS THAT ARE NOT SPECIFICALLY ADDRESSED IN THIS PUD ZONING MAP SHALL COMPLY WITH THE MUNICIPAL CODE

2. THE MAXIMUM NUMBER OF UNITS ALLOWED IN THIS PUD IS 166

SURVEYOR'S CERTIFICATE

I, _____, A DULY REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PUD ZONING MAP TRULY AND CORRECTLY REPRESENTS THE ABOVE DESCRIBED LEGAL DESCRIPTIONS FOR EACH PUD OVERLAY ZONE DISTRICT.

I ATTEST THE ABOVE ON THIS _____DAY OF _____, 2014

_____

COLORADO REGISTERED PROFESSIONAL LAND SURVEYOR #

PLANNING COMMISSION CERTIFICATION

THIS PUD ZONING MAP WAS REVIEWED BY THE PLANNING COMMISSION ON THE____DAY OF _____, 2014.

_____ _____
CHAIRPERSON DATE

BOARD OF TRUSTEES APPROVAL CERTIFICATE

THIS PUD ZONING MAP IS TO BE KNOWN AS THE "WISE FARMS PUD ZONING MAP" AND IS APPROVED AND ACCEPTED BY ORDINANCE NO._____, PASSED AND ADOPTED AT THE REGULAR (SPECIAL) MEETING OF THE BOARD OF TRUSTEES OF ERIE, COLORADO, HELD ON_____, 2014.

_____ _____
MAYOR

ATTEST

_____
TOWN CLERK

CLERK & RECORDER CERTIFICATE

STATE OF COLORADO }
COUNTY OF BOULDER } SS

I HEREBY CERTIFY THAT THIS PUD ZONING MAP WAS FILED IN MY OFFICE ON THIS DAY OF____, 2014 A.D., AND WAS RECORDED AT RECEPTION NUMBER_____.

_____
COUNTY CLERK AND RECORDER

SHEET INDEX
1.....Cover
2.....PUD Plan
3.....PUD Notes

planning & la
people creating spaces
pcs group, inc
1001 16th street, 38-180
Denver, Co 80265
tel (303) 531-4905
www.pcsgroupco.com

engineering
CVL
Contact: Melinda Lundquist, P.E.
10333 E. Dry Creek Road Suite 240
Englewood, CO 80112
ph(720)249-3539

applicant
Jasper Land Investments, LLC
Contact Person: Jim Dulles
9162 S. Kenwood Court
Highlands Ranch, CO 80126
303 902 5400

project name

Wise Farms
PUD Zoning Map
Town of Erie, Colorado

sheet title

Cover Sheet

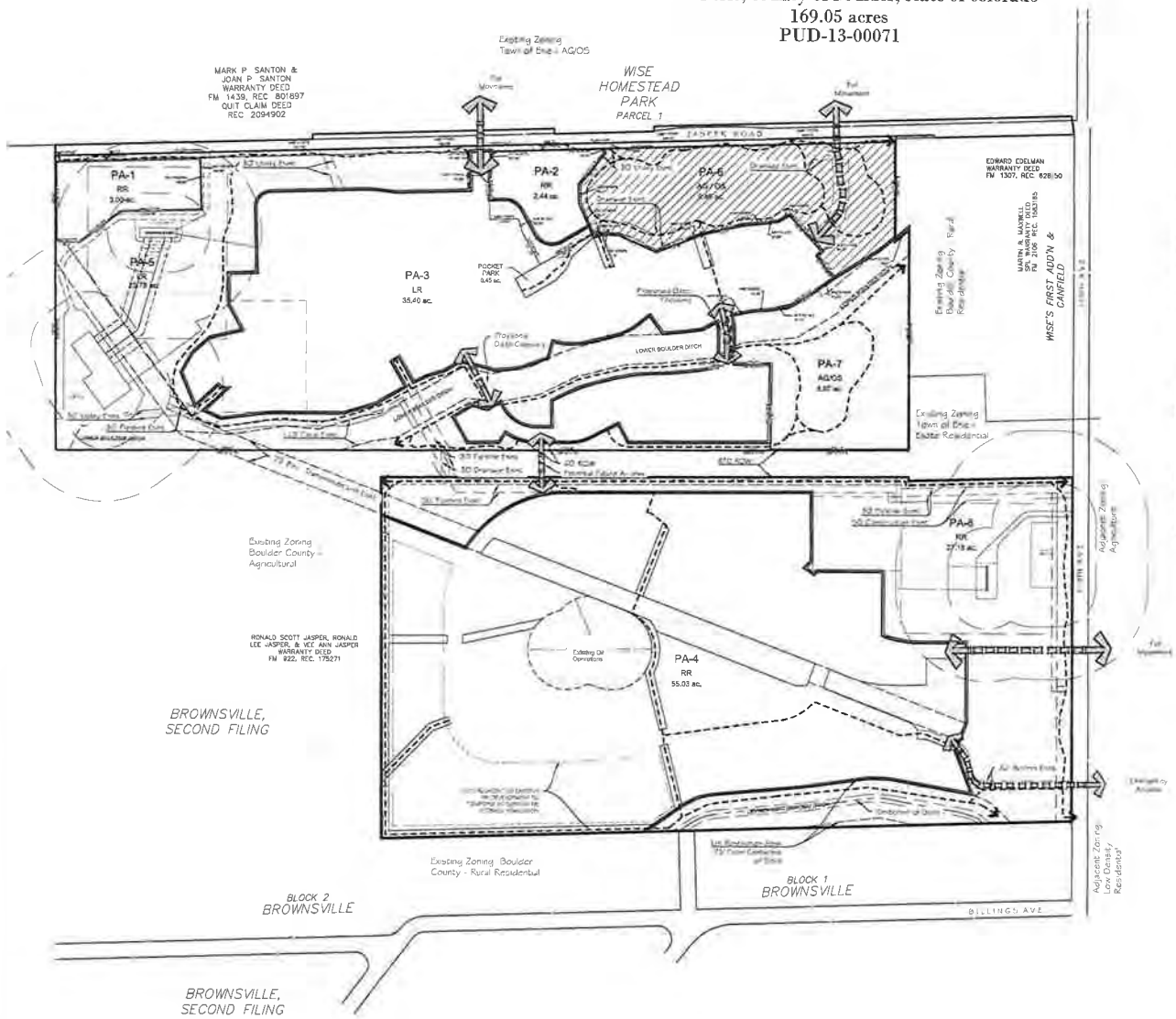
sheet number

1 of 3

No.	Revisions	Date
5	Address Town Comments	12/22/2014
4	Address Town Comments	10/27/2014
3	Address Town Comments	8/1/2014
2	Address Town Comments	4/25/2014
1	Initial Submittal	11/8/2013

Wise Farms PUD Zoning Map

a part of section 14, township 1 north, range 69 west of the 6th p.m.
town of erie, county of boulder, state of colorado
169.05 acres
PUD-13-00071



Development Summary

LAND USE	ACRES	% of TOTAL
Residential	95.87	56.71%
Dedicated Parks & Open Space	9.28	5.49%
Non-Dedicated Open Space	62.40	36.91%
R.O.W	1.50	0.89%
Total:	169.05	100.00%

Parks & Open Space

Park Area	Dedication Requirement (Acres)	Dedicated Open Space and Park Provided (Acres)
Open Space	7.87	9.28
Pocket Park	0.23	0.45
Neighborhood Park	1.39	Fee in Lieu
Community Park	2.32	Fee in Lieu

LEGEND

- DEDICATED PUBLIC OPEN SPACE
- PRIVATE OPEN SPACE
- TRAIL CONNECTIONS
- OIL & GAS SETBACKS
- EASEMENT
- ACCESS

SCALE: 1" = 200'

planning & la

people creating spaces
pcs group inc
1001 16th street 38-180
Denver Co 80265
tel (303) 531-4905
www.pcsgroupco.com

engineering

CVL CONSULTANTS
Contact: Melinda Lundquist, P.E.
10333 E. Dry Creek Road Suite 240
Englewood, CO 80112
ph (720)240-3539

applicant

Jasper Land Investments, LLC
Contact Person: Jim Dalba
9162 S. Kenwood Court,
Highlands Ranch, CO 80126
303 902 5400

project name

Wise Farms
PUD Zoning Map
Town of Erie, Colorado

sheet title

PUD Plan

sheet number

2 of 3

No.	Revisions	Date
5	Address Town Comments	12/22/2014
4	Address Town Comments	10/27/2014
3	Address Town Comments	8/1/2014
2	Address Town Comments	4/25/2014
1	Initial Submittal	11/8/2013

Wise Farms PUD Zoning Map

a part of section 14, township 1 north, range 69 west of the 6th p.m.
town of erie, county of boulder, state of colorado
169.05 acres
PUD-13-00071

ARCHITECTURAL STANDARDS - LR ZONING SINGLE FAMILY RESIDENTIAL

1. Architectural Variety and Character

a. Architectural Variety

i. Design Standards

(A) No identical model plan elevation shall be repeated directly across any street from the same model plan and elevation.

(B) No identical model plan elevation shall be repeated more than once within every 4 lots on the same side of any street

(C) A minimum of 3 alternative elevations for each model plan shall be submitted to the Town for review

b. Architectural Character

Each single family detached model plan and elevation shall demonstrate the following design attributes:

i. Design Standards

(A) Each elevation shall include a minimum of two windows (or one window and one door) per floor.

(B) Each front and rear elevation shall include more than one wall plane. Articulation that adds shadow and visual interest is encouraged.

(C) A variety of roof forms should be used. Single unbroken roof pitches should be avoided, except where a single roof treatment is an essential element of the Architectural Style.

(D) The main roof should extend beyond the primary facade by a minimum of one foot.

(E) An elevation of the home that faces a street, park, trail corridor or open space area shall provide an "Enhanced Elevation". An "Enhanced Elevation" shall provide three or more of the following design enhancements listed in (1) through (3) below. Application of the design enhancement shall be applied in a manner that is consistent with the style of the home. Side and rear elevation design enhancements shall be consistent with the design elements of the front elevations.

(1) The addition of one window unit.
(2) A change in wall plane by providing one or more of the following options:
- An additional wall plane change. Minimum six feet in width and one foot projection.
- A projecting or cantilevered living space.
- A bay or boxed window.
(3) A covered porch or deck.
(4) The addition of architectural detail elements such as: shutters, eave brackets, exposed rafter tails, corbels, lintels, trellises, columns or pilasters.
(5) The use of a minimum of two exterior cladding materials that can include materials such as masonry (cultured stone, stone, brick, stucco, or tile), lap siding, shingles, board and batten, or other decorative siding treatment.

(F) Columns or posts extending more than 36 inches above the ground which support structural elements such as porches, decks, or roofs should appear to be of adequate mass to support the structure above. (No exposed 4"x4" posts shall be allowed more than 36 inches above the ground). Columns supporting upper story decks should be 8"x8" minimum finished.

ii. Materials

(A) All exterior materials shall be of high quality, used in applications and treated appropriately to provide an attractive and long lasting appearance.

(B) When masonry cladding is used in locations where its mass is logical and appropriate. In instances where masonry wraps the exterior corner of the home the masonry should continue to a natural transition point such as an inside corner of a projecting wall, a column, a door or window or other logical point. In cases where no such feature exists near the corner, the masonry wrap shall extend at least six feet from the corner.

2. Orientation of Dwellings to the Street

Each residence shall have at least one primary pedestrian doorway for access to the dwelling unit facing and generally visible from the front lot line of the property, and within twelve feet of the most forward plane of the ground level living space. On corner lots, the pedestrian doorway may face any adjacent street.

3. Garages

These regulations for garages shall be applied to non-living space or storage areas within garages whether used for storage of automobiles or other items.

a. Diversity of Garage Orientation:

(A) All single family homes shall provide garages that meet one of the requirements below, and a variety in garage orientation by providing a minimum of two of the following garage orientations on any subdivision filing.
- Recessed garage; where the primary garage door generally faces the front lot line and the garage is recessed a minimum of two feet behind the most forward plane of the main floor living space or a front porch.
- Projecting garages; where the primary garage door generally faces the front lot line and the garage projects no more than fifteen feet from the front door.
- Side loaded garages.
- Garages recessed a minimum of two feet beneath a second floor living space.

b. Width/Facade Ratio

The width of a front loaded garage shall not exceed 65% of the width of the front elevation.

c. Three or More Car Garage Orientation

The third bay of of any three bay or more garage shall either:
I. Have a different orientation from the first two; or
II. Shall be recessed behind the first two by at least two feet when having the same orientation; or
III. Shall be tandem to the first two.

4. Front Stoop

For model plans with a front stoop; the front stoop shall include the platform and stairs that are generally in front of a door that can be covered or uncovered. The maximum width of a covered front stoop shall be three feet in width from the side of the front door. Covered platforms that exceed three feet in width from the side of the front door shall be considered a front porch.

5. Front Porches

For model plans with a front porch; the front porch shall be a minimum size of fifty square feet, excluding the stoop with a minimum depth of five feet.

Wise Farms Dimensional Standards Summary Chart

PLANNING AREA	ZONE DISTRICT	MIN LOT WIDTH	MIN LOT NET AREA (SF)	FRONT SETBACK	FRONT SETBACK (PORCH)	STREET SETBACK (SIDE OF HOME)	INTERIOR LOT LINE SETBACK	REAR SETBACK	MAX. HEIGHT
PA-1 - SFD Home	LR	55' (2)	5,750	20'	15'	10'	5'	20' (1)	35'
PA-4 - SFD Home	RR	100' (2)	40,000	30' (3)(4)	30' (3)	30' (3)	10' (3)	30' (3)(4)	35'

1. Unenclosed covered patios may project up to eight (8) feet into a rear setback. The projection shall be at least five (5) feet from the property line.
2. The minimum lot width shall be measured from the front setback line and shall be increased on corner lots to accommodate the street setback
3. PA-1, PA-2, and PA-4 lots that are adjacent to the exterior boundary of Wise Farms shall conform to the underlying RR-Rural zoning setbacks.
4. Accessory Dwelling Units (ADU) shall be a Permitted Use by Right in PA-4. For a detached ADU, the minimum front setback shall be 40 feet; and, the minimum rear setback shall be 30 feet. Side setbacks shall follow setbacks listed in the table above. ADUs on PA-4 lots that are adjacent to the exterior boundary of Wise Farms shall conform to the underlying RR-Rural zoning setbacks. All ADUs shall conform to the Standards found in the Municipal Code.

PUD Land Use Summary

TRACT	ZONE DISTRICT	AREA (ACRES)	PRIMARY USE	DWELLING UNITS	DEDICATED OPEN SPACE
RESIDENTIAL					
PA-1	RR	3.00	SFD	1	0
PA-2	RR	2.44	SFD	1	0
PA-3	LR	35.40	SFD	125	0
PA-4	RR	55.03	SFD	39	0
SUBTOTAL:		95.87		166	0
NON-RESIDENTIAL					
RIGHT OF WAY		1.50			0
SUBTOTAL:		1.50			0
PA-5	LR	25.78	OPEN SPACE		0
PA-6	AG/OS	9.85	OPEN SPACE		9.28
PA-7	AG/OS	8.87	OPEN SPACE		0
PA-8	RR	27.18	OPEN SPACE		0
SUBTOTAL:		71.68			9.28
TOTAL:		169.05		166	9.28

planning & la
people creating spaces
pcs group, inc
1001 16th street 38-180
Denver Co 80265
tel (303) 531-4905
www.pcsgroupcos.com

engineering
CVL consultants
Contact: Melinda Lundquist, P.E.
10333 E. Dry Creek Road Suite 240
Englewood, CO 80112
ph:(720)249-3539

applicant
Jasper Land Investments LLC
Contact Person: Jim Dulla
9162 S. Keawood Court
Highlands Ranch, CO 80126
303 902 5400

project name

Wise Farms
PUD Zoning Map
Town of Erie, Colorado

sheet title

PUD Notes

sheet number

3 of 3

No.	Revisions	Date
5	Address Town Comments	12/20/2014
4	Address Town Comments	10/27/2014
3	Address Town Comments	8/1/2014
2	Address Town Comments	4/25/2014
1	Initial Submittal	11/8/2013

Print Form

TOWN OF ERIE
Community Development Department – Planning Division
645 Holbrook Street – PO Box 750 – Erie, CO 80516
Tel: 303.926.2770 – Fax: 303.926.2706 – Web: www.erieco.gov

LAND USE APPLICATION

Please fill in this form completely. Incomplete applications will not be processed.

STAFF USE ONLY		
FILE NAME:		
FILE NO:	DATE SUBMITTED:	FEES PAID:

PROJECT/BUSINESS NAME: Wise Farms

PROJECT ADDRESS: Located west of the intersection of 119th St and Jasper Rd.

PROJECT DESCRIPTION: 169 acre Residential community.

LEGAL DESCRIPTION *(attach legal description if Metes & Bounds)*

Subdivision Name: none

Filing #: Lot #: Block #: Section: 14 Township: 1 North Range: 69 West

OWNER *(attach separate sheets if multiple)*

Name/Company: Wise Homestead, LLC
Contact Person: Sarah Allene Wise
Address: 11497 Jasper Road
City/State/Zip: Lafayette, CO - 80026
Phone: 303.828.4561 Fax:
E-mail: sarws@aol.com

AUTHORIZED REPRESENTATIVE

Company/Firm: Jasper Land Investments, LLC
Contact Person: Jim Dullea
Address: 9162 S. Kenwood Court
City/State/Zip: Highlands Ranch, CO - 80126
Phone: 303.902.5400 Fax:
E-mail: j.dullea@comcast.net

MINERAL RIGHTS OWNER *(attach separate sheets if multiple)*

Name/Company: see attached
Address:
City/State/Zip:

MINERAL LEASE HOLDER *(attach separate sheets if multiple)*

Name/Company: see attached
Address:
City/State/Zip:

LAND-USE & SUMMARY INFORMATION

Present Zoning: Rural Residential
Proposed Zoning: Low Density Res. AG/OS, Rural Residential
Gross Acreage: 169
Gross Site Density (du/ac): 0.98 du/ac
Lots/Units Proposed: 166
Gross Floor Area: N/A

SERVICE PROVIDERS

Electric:
Metro District: none at this time
Water *(if other than Town)*:
Gas:
Fire District:
Sewer *(if other than Town)*:

PAGE TWO MUST BE SIGNED AND NOTARIZED

DEVELOPMENT REVIEW FEES			
ANNEXATION		**SUBDIVISION**	
☐ Major (10+ acres)	$ 4000.00	☐ Sketch Plan	$ 1000.00 + 10.00 per lot
☐ Minor (less than 10 acres)	$ 2000.00	☐ Preliminary Plat	$ 2000.00 + 40.00 per lot
☐ Deannexation	$ 1000.00	☐ Final Plat	$ 2000.00 + 20.00 per lot
COMPREHENSIVE PLAN AMENDMENT		☐ Minor Subdivision Plat	$ 2000.00
☐ Major	$ 3000.00	☐ Minor Amendment Plat	$ 1000.00 + 10.00 per lot
☐ Minor	$ 1200.00	☐ Road Vacation (constructed)	$ 1000.00
ZONING/REZONING		☐ Road Vacation (paper)	$ 100.00
☐ Rezoning	$ 1700.00 + 10.00 per acre	**SITE PLAN**	
☑ PUD Rezoning	$ 1700.00 + 10.00 per acre	☐ Residential	$ 1400.00 + 10.00 per unit
☐ PUD Amendment	$ 1700.00 + 10.00 per acre	☐ Non-Resi. (>10,000 sq. ft.)	$ 2200.00
☐ Major PD Amendment	$ 3700.00 + 10.00 per acre	☐ Non-Resi. (>2,000 sq. ft.)	$ 1000.00
☐ Minor PD Amendment	$ 500.00	☐ Non-Resi. (<2,000 sq. ft.)	$ 200.00
SPECIAL REVIEW USE		☐ Amendment (major)	$ 1100.00
☐ Major	$ 1000.00	☐ Amendment (minor)	$ 350.00
☐ Minor	$ 400.00	**VARIANCE**	$ 600.00
☐ Oil & Gas	$ 1200.00	**SERVICE PLAN**	$ 10,000.00

*All fees **include** both Town of Erie Planning & Engineering review. These fees **do not include** referral agency review fees, outside consultant review fees, or review fees incurred by consultants acting on behalf of staff. See Town of Erie Municipal Code, Title 2-10-5 for all COMMUNITY DEVELOPMENT FEES.*

The undersigned is fully aware of the request/proposal being made and the actions being initiated on the referenced property. The undersigned understand that the application must be found to be complete by the Town of Erie before the request can officially be accepted and the development review process initiated. The undersigned is aware that the applicant is fully responsible for all reasonable costs associated with the review of the application/request being made to the Town of Erie. Pursuant to Chapter 7 (Section 7.2.B.5) of the Unified Development Code (UDC) of the Town of Erie, applicants shall pay all costs billed by the Town for legal, engineering and planning costs incurred by staff, including consultants acting on behalf of staff, necessary for project review. By this acknowledgement, the undersigned hereby certify that the above information is true and correct.

Owner: Sarah Allene Wise Date: 7-30-14

Owner: Allan C Wise Date: 7-30-14

Applicant: James A. Dullea Date: 7/30/2014
Jasper Land Investments LLC

STATE OF COLORADO)
) ss.
County of BOULDER)

The foregoing instrument was acknowledged before me this 30th day of JULY, 2014 by Sarah Allene Wise, Allan C Wise and James A. Dullea

My commission expires: 10/24/2015
Witness my hand and official seal.

JON F. KOTTKE NOTARY PUBLIC STATE OF COLORADO

Notary Public

w i s e f a r m s

P U D
Z O N I N G
N A R R A T I V E

pcs group inc. www.pcsgroupco.com
#3 independence plaza, B-180 ,
1001 16th street , denver co 80265
t 303 531 4905

wise farms

PUD NARRATIVE

-

NOVEMBER 2013
revised
APRIL 2014
JULY 2014
OCTOBER 2014

submitted to:

The Town of Erie

645 Holbrook Street, Erie, Colorado 805416

project team

applicant:

Jasper Land Investments, LLC
9162 S. Kenwood Court, Highlands Ranch, Colorado 80126
tel. 303.902.5400 - contact: Jim Dullea

planning consultant:

PCS Group, Inc.
#3-B180 1001 16th Street, Denver, Colorado 80265
tel. 720.259.8246 - contact: John Prestwich

engineering & surveyor consultant:

CVL Consultants, Inc.
10333 East Dry Creek Road, Suite 240, Englewood, Colorado 80112
tel. 720.249.3527 - contact: Karl Knapp

transportation consultant:

LSC Transportation Consultants, Inc.
1889 York Street, Denver, Colorado 80206
tel. 303.333.1105 - contact: Chris McGranahan

environmental consultant:

A.G Wassenaar, Inc.
2180 South Ivanhoe St, #5, Denver, Colorado 80222
tel. 303.759.8373 - contact: Brian Glade

forestry consultant:

Forestry Development, LLC.
7377 Osage Road, Larkspur, Colorado 80118
tel. 303.681.2492 - contact: Keith Worley

geologic & geotechnical consultant:

CTL Thompson, Inc.
1971 West 12th Avenue, Denver, Colorado 80204
tel. 303.825.0777 - contact: Dave Glater

mine subsidence:

Western Environment and Ecology, Inc.
2217 West Powers Avenue, Littleton, Colorado 80120
tel. 303.730.3452 - contact: Greg Sherman

CTL Thompson, Inc.
1971 West 12th Avenue, Denver, Colorado 80204
tel. 303.825.0777 - contact: Dave Glater

water resources:

Wright Water Engineers, Inc.
2490 W. 26th Avenue, Suite 100A, Denver, Colorado 80211
tel. 303.480.1700 - contact: David Foss

mineral rights:

Astrella Law, P.C.
1801 Broadway, Suite 1600 Denver, Colorado 80202
tel. 303.292.9021 - contact: Lance Astrella

contents

section a:

General project concept and purpose of the request.

section b:

Relationship to existing land use and adjacent properties.

section c:

Property Analysis.

section d:

Town’s Comprehensive Plan and Approval criteria.

section a:

GENERAL PROJECT CONCEPT AND PURPOSE OF THE REQUEST.

Project Concept

Jasper Land Investments LLC, (the 'Applicant') is pleased to present this written narrative as required for the Rezoning process, for a tract of land located in section 14, township 1 north, range 69 west of the sixth principal meridian, county of Boulder, State of Colorado, more commonly known as the Wise Farm. In this document we will discuss the property background, the proposed rezoning and rationale for the request.

We have been working with the Wise family since 2005 on this exceptional property. At this time we are requesting a Rezoning for a portion of the property from Rural Residential to Low Density Residential, and Agricultural/OS, with a PUD Zoning Overlay that will restrict the development in terms of density, and will increase the buffers and setbacks to our neighbors. In addition we are also requesting a Preliminary Plat. In total we believe that this proposal meets the spirit and intent of the comprehensive plan for the Town of Erie that was adopted in December of 2005.

We are very excited about the creation of a uniquely clustered and themed community. Based on the input that we received during the Sketch Plan process, and additional planning and engineering studies that we have completed,

we have reduced our proposed unit count from 345 units to 166 units. We have also proposed significant buffers adjacent to our surrounding neighbors. Along the existing neighbors to the east of Wise Farms we have proposed an open space area that ranges in width from approximately 300' to over 500'. We are also proposing various trail corridors to connect the open space areas, and have substantial setbacks from Jasper Road to maintain the rural theme for the project. All of these open space buffers create a true cluster concept that meets the Town criteria and furthers the goals of the Comprehensive Plan.

As requested by the Town of Erie staff we are proposing to dedicate the open space land that is adjacent to Jasper Rd, as well as the eastern buffer of the property. In addition, the Town of Erie staff has requested that we pay cash-in-lieu for both the Neighborhood Park and Community Park required acreages. The dedication amount is determined by the population being generated by the proposed number of households. In this case we have reduced the number of proposed households to the point that we are generating a very modest need for Neighborhood and Community Parks. The Town of Erie staff has determined that it would be in the best interest of the Town of Erie to collect cash-in-lieu fees, versus having dedicated park space on this property.

As stated in the Unified Development Code, 10.6.7-D.b.i.B - Diversification Standards shall not apply to Residential Zone District (RR). As required in the Unified Development Code's Housing Diversity requirement we are proposing one housing type and one variation. In general we are proposing housing type G - Single Family Detached, and the variation we are proposing is variation 4 - Lot Size 5,000-9,000 square feet, and 5 - Lot Size 10,000 to 39,999 square feet. In general there are larger lots are on the east side of the property as a method to provide a transition to our eastern neighbors, and the south portion of the property will have 40,000 square foot minimum lots as a complimentary residential use to the southern neighbors. Our proposal meets the requirements of the Housing Diversity requirement.

Purpose of the Request

Our proposal is for a portion of the property to be re-zoned Low Density Residential (LR) zoning, and a portion of the property to be re-zoned AG/OS, with a PUD Overlay on the full property to allow for a more creative approach for the clustering and planning of buffers on the overall development of the property. The property is currently designated as Rural Residential on the Town of Erie zoning map.

The current Town of Erie Comprehensive Plan, has designated the property as Rural Residential with a density range of 0-2 dwelling units per acre, with an average of 1 dwelling unit per acre. This designation would support 169 dwelling units on the 169 acre property. The Comprehensive Plan provides more focused guidance as the community continues to grow, and encourages a more flexible approach to future development that will promote a more balance mix of uses for the community. An update to the Town's Unified Development Code was prepared concurrent with the last Comprehensive Plan, updating many of the key ideas and policies to be codified and gives the Plan a solid foundation for implementation.

We are proposing a maximum number of 166 dwelling units on the property, or an overall density of approximately 0.9 dwelling units per acre. Our clustered design approach, housing diversity, and density is consistent with the spirit and intent of the Comprehensive Plan. The proposed development time line is dependent on project approvals and market conditions.

Proposed Variations from the LR Zone District

Our proposal is for Low Density Residential (LR) zoning with a PD Overlay to accommodate our required housing diversity, and to allow for a more creative approach to the clustering and planning of buffers for the overall development of the property. In addition the PUD Overlay will limit the number of units allowed within the property to 166. In order to ensure compatibility with our surrounding neighbors the PUD will also establish buffer areas, and transitional lot sizes. Another reason for the PUD Overlay is to allow for dimensional standards that support the housing variations to facilitate the Town of Erie Housing Diversity requirement.

Public Benefits

As requested by the Town of Erie staff we are proposing to dedicate the open space area along Jasper Rd., that will include the low lying area adjacent to Jasper Rd, as well as some of the buffer area along the eastern portion of the property. Over 43% of the total property will remain as either dedicated or non-dedicated Open Space uses with a connected trail network. In addition we will be adding a mix of quality housing within the neighborhood, and will be providing a trail corridor to connect the open space throughout the community.

Density of Uses proposed

The zoning being requested for the property is a combination of leaving approximately 88 acres of the property as Rural Residential, and then rezoning approximately 60 acres as Low Density Residential, and approximately 20 acres as Agricultural/OS. The overall project density is approximately 0.9 dwelling units per acre, which is within the Comprehensive Planning designation of 0-2 dwelling units per acre for this area.

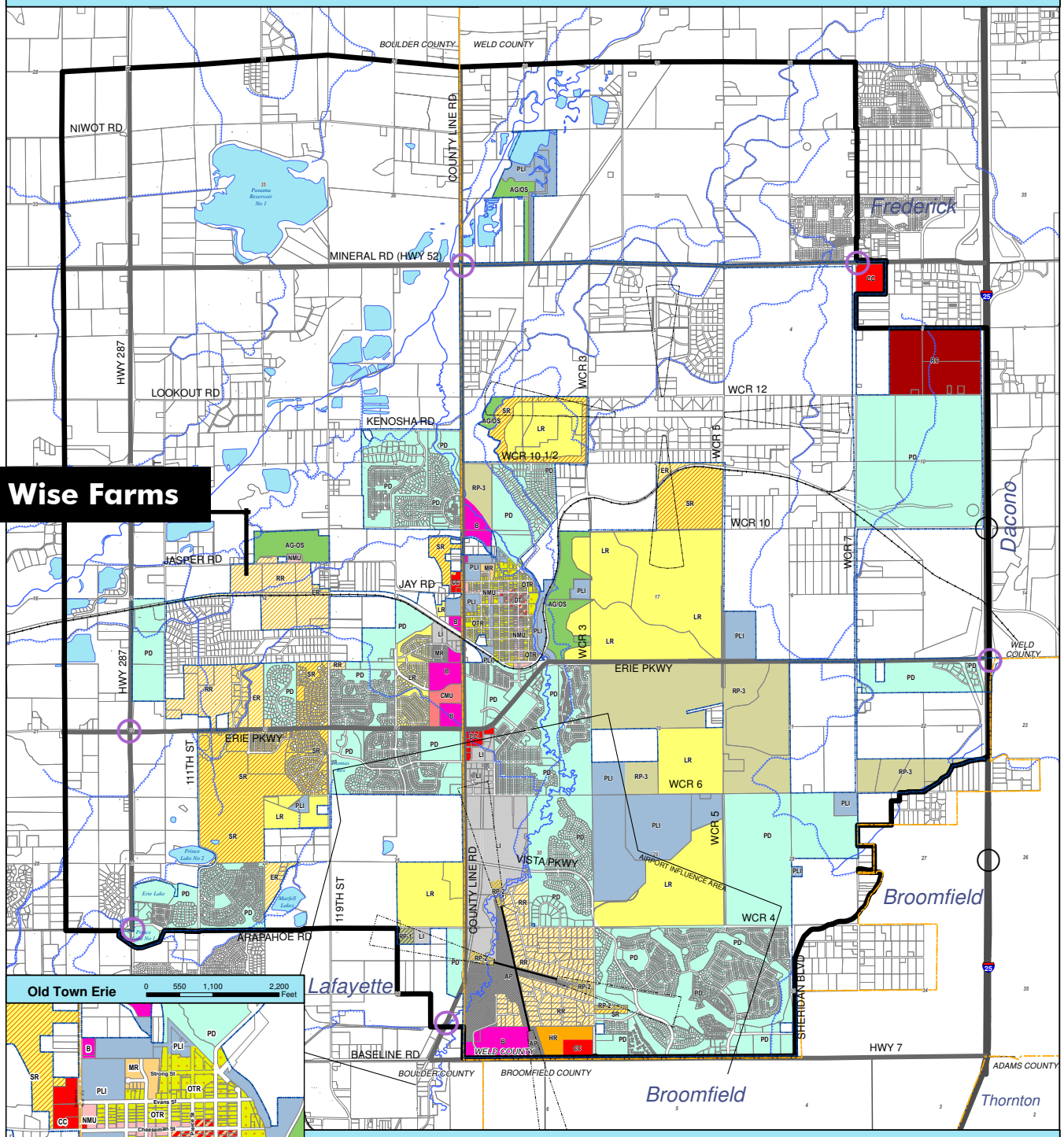
Proposed Development Timeline

The proposed development time line is dependent on project approvals and market conditions.

Status of Mineral Rights

The Wise Farms property has established a surface use agreement with Encana, and that SUA is included with this application. We are continuing to work with Encana to modify the agreement to minimize the future impacts. In addition we have provided a draft SUA for the south portion of the property with this submittal.

Town of Erie, Colorado
Zoning Map



Zoning Legend

- Rural Preservation 1 (RP-1)
- Rural Preservation 2 (RP-2)
- Rural Preservation 3 (RP-3)
- Rural Residential (RR)
- Estate Residential (ER)
- Suburban Residential (SR)
- Low Density Residential (LR)
- Medium Density Residential (MR)
- High Density Residential (HR)
- Old Town Residential (OTR)
- Planned Development (PD)
- Regional Commercial (RC)
- Community Commercial (CC)
- Business (B)
- Downtown District (DT)
- Neighborhood Mixed-Use (NMU)
- Community Mixed-Use (CMU)
- Light Industrial (LI)
- Public Lands & Institutions (PLI)
- Airport (AP)
- Agriculture/Open Space (AG/OS)

0 0.15 0.3 0.6 0.9 Miles

- Planning Area Boundary
- Town Boundary
- Community Gateways
- I-25 Interchange (Future)
- County Boundary

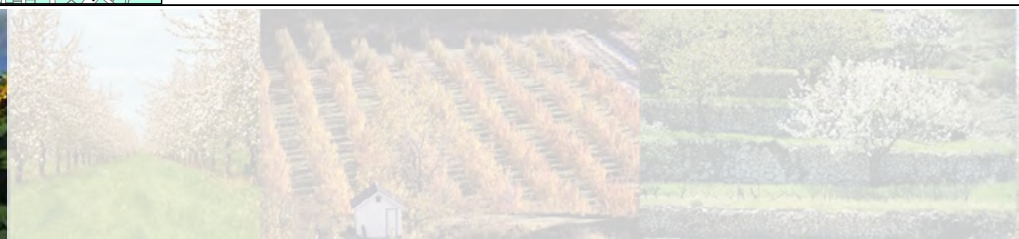
Sources: Boulder Co GIS, Weld Co GIS, CDOT, Town of Erie

Note: This map is intended to serve as a guide for future land use patterns within the Town of Erie's Planning Area Boundary and is advisory in nature. Land Use patterns depicted on the map are generalized, recognizing that development proposals may contain a mixture of land uses and density levels which achieve the intent of the Town of Erie Comprehensive Plan. Adopted Date: Dec. 21, 2005.

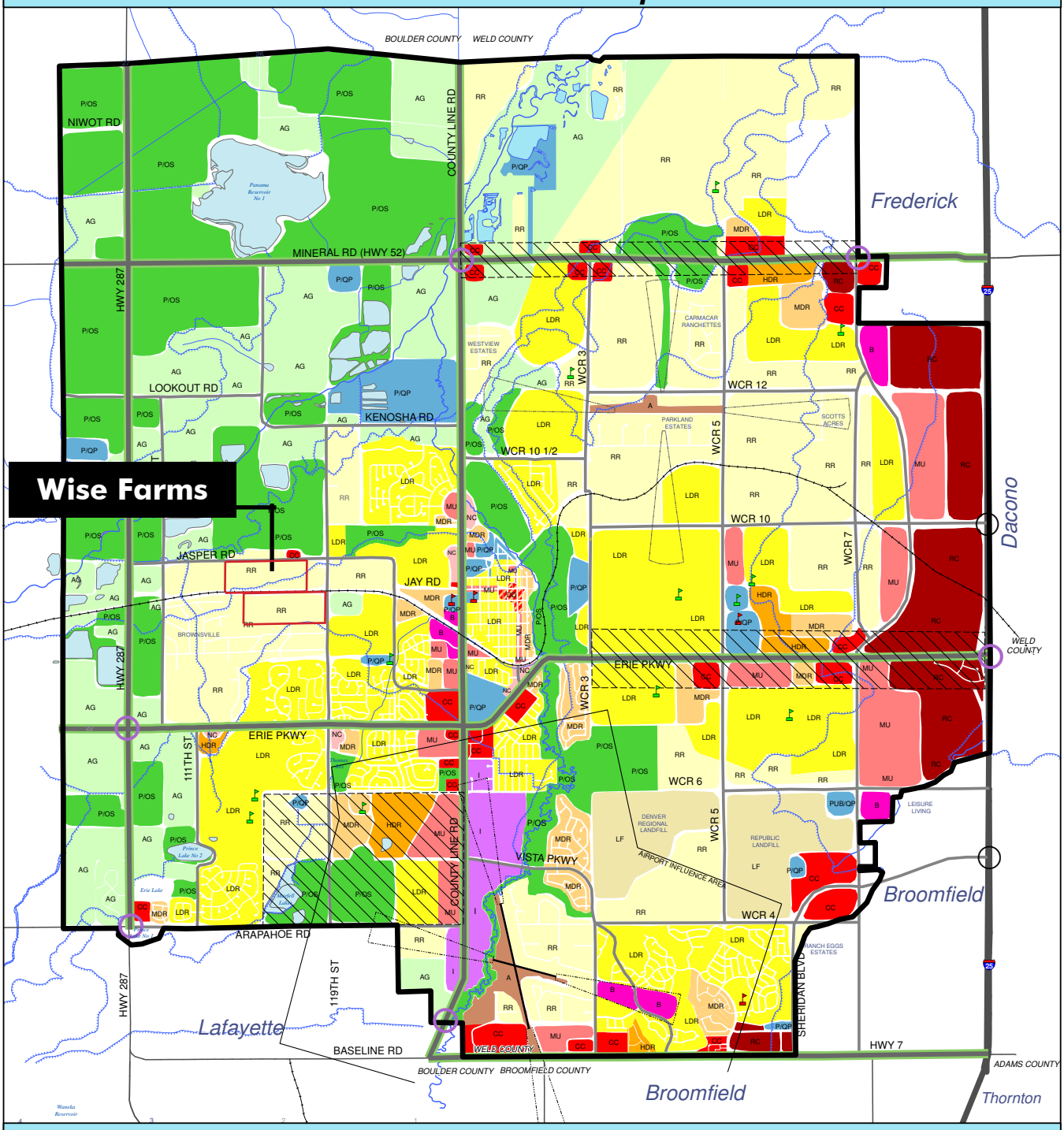
The Comprehensive Plan contains guidelines for the refinement of the generalized areas depicted on the map. These guidelines should be referred to by applicants prior to the preparation of a development submittal and by Town staff, elected, and appointed officials as part of the development review process.

Map Revision Date: November 16, 2012

X:\GIS\MXD\Zoning map 11 16 2012.MXD



Town of Erie, Colorado
2005 Comprehensive Plan
Land Use Plan Map



Land Use Plan Legend

AG	Agriculture	MDR	Medium Density Residential (6-12 du/ac)	B	Business		Canal/Ditch
P/OS	Parks/Public Open Space	HDR	High Density Residential (12-20 du/ac)	I	Industrial		Railroad
P/QP	Public/Quasi Public	CD	Downtown District		Reservoirs		Community Gateways
LF	Landfill	NC	Neighborhood Commercial		County Boundary		I-25 Interchange (Future)
A	Airport	CC	Community Commercial		Planning Area Boundary		Elementary School
RR	Rural Residential (0-2 du/ac)	RC	Regional Commercial		Areas of Special Consideration		Middle School
LDR	Low Density Residential (2-6 du/ac)	MU	Mixed Use				High School

0 0.25 0.5 1 Miles

Sources: Boulder CO GIS, Weld CO GIS, CDOT, Town of Erie

Note: This map is intended to serve as a guide for future land use patterns within the Town of Erie's Planning Area Boundary and is advisory in nature. Land Use patterns depicted on the map are generalized, recognizing that development proposals may contain a mixture of land uses and density levels which achieve the intent of the Town of Erie Comprehensive Plan. Adopted Date: Dec. 21, 2005.

The Comprehensive Plan contains guidelines for the refinement of the generalized areas depicted on the map. These guidelines should be referred to by applicants prior to the preparation of a development submittal and by Town staff, elected, and appointed officials as part of the development review process.

Town Boundary Not Shown - Refer to Zoning Map for Town Boundary

Map Revision Date: JULY 20, 2011

section b:

RELATIONSHIP TO EXISTING LAND USE AND ADJACENT PROPERTIES

Site Location

The property is approximately 169 acres and is located just west of the intersection of Jasper Road and 119th Street (See the Vicinity Map in this section). Existing Boulder County residential development is located along the property's western and eastern boundaries, existing homes are located across from the northern portion of the property on the opposite side of Jasper Road, and a portion of the existing Wise Homestead will remain as Rural Residential to the south of the RTD ROW. There are extensive views to the Front Range. The gentle topography is very conducive to the proposed mix of residential and recreational uses.

Most of the surrounding area is designated as a mix of Rural Residential, Low Density Residential, and Medium Density Residential in the Town of Erie Comprehensive Plan, or County residential.

The property was annexed to the town of Erie in 1995. Town services such as schools, administration, police, water and sewer have either been provided or anticipated since annexation.

We believe that there are many opportunities for this project to be designed to respect and provide a positive relationship to the adjacent properties.

- The zoning that we will be requesting will translate into a community with homes that are clustered to preserve open space areas and the surrounding rural character.

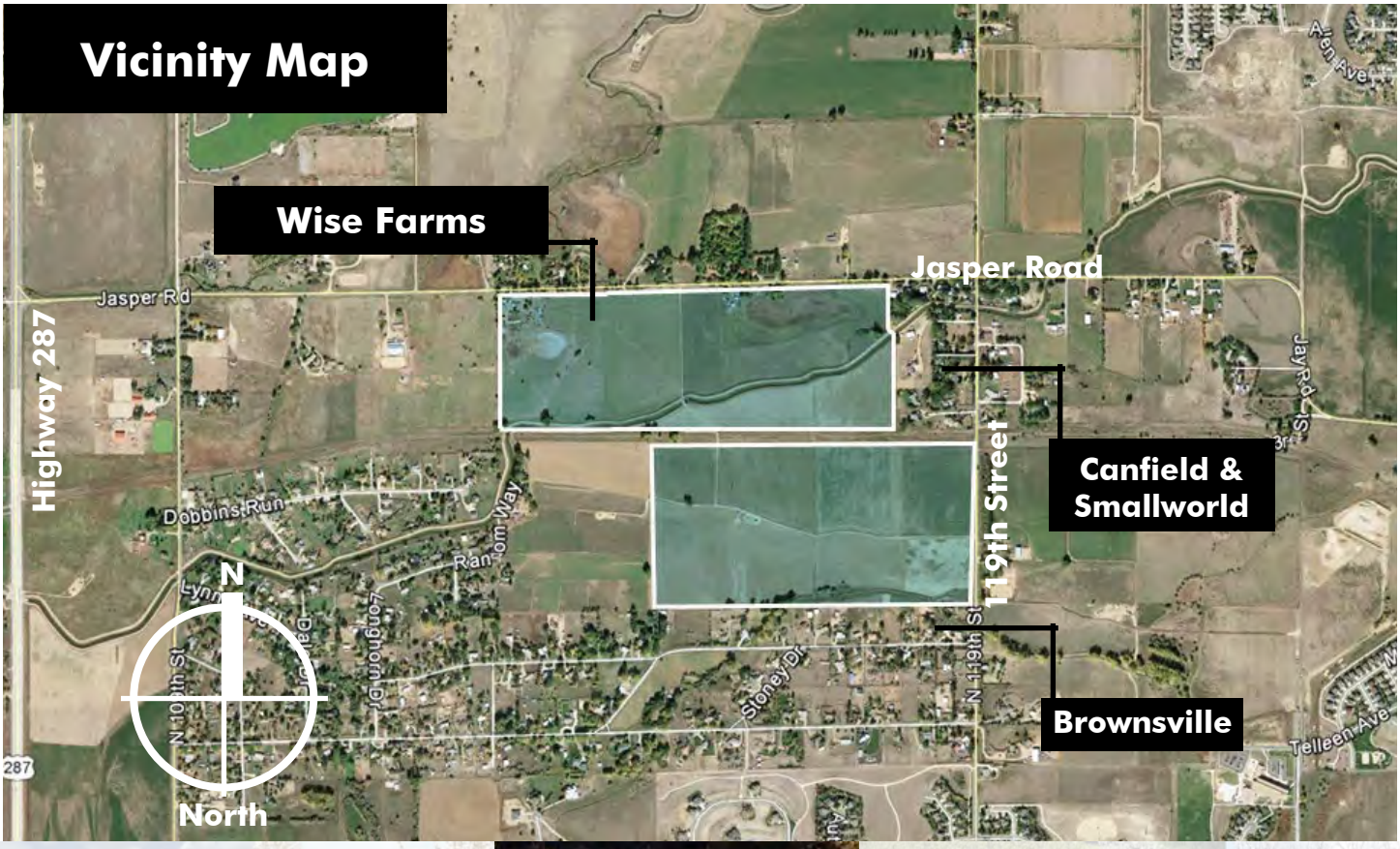
- The clustered design approach as depicted in the Concept Plan, PUD and Preliminary Plat will translate into significant open space buffer areas adjacent to the existing residential areas.

- As depicted in our Concept Plan, PUD and Preliminary Plat we have proposed the largest home sites, as well as a significant open space corridor, being adjacent to the existing eastern neighbors as a method of creating a transition from the Wise Farms community to the existing neighbors. In addition our plan shows a buffer area adjacent to the Canfield and Smallworld neighborhoods that ranges from approximately 300 feet to over 500 feet.

- We have proposed a looped trail system with integrated active and passive features, connected by the open space network provided in the proposed clustered development.

- Our proposal promotes a new neighborhood containing housing options to meet the varying needs of Erie's residents.

- As requested by the Town of Erie staff, we have modified the site layout in order to dedicate the open space along Jasper Rd , and adjacent to the eastern boundary of the property.



section c:

PROPERTY CONSTRAINTS ANALYSIS

Site Analysis

The property has several site limitations that have effected the physical planning efforts.

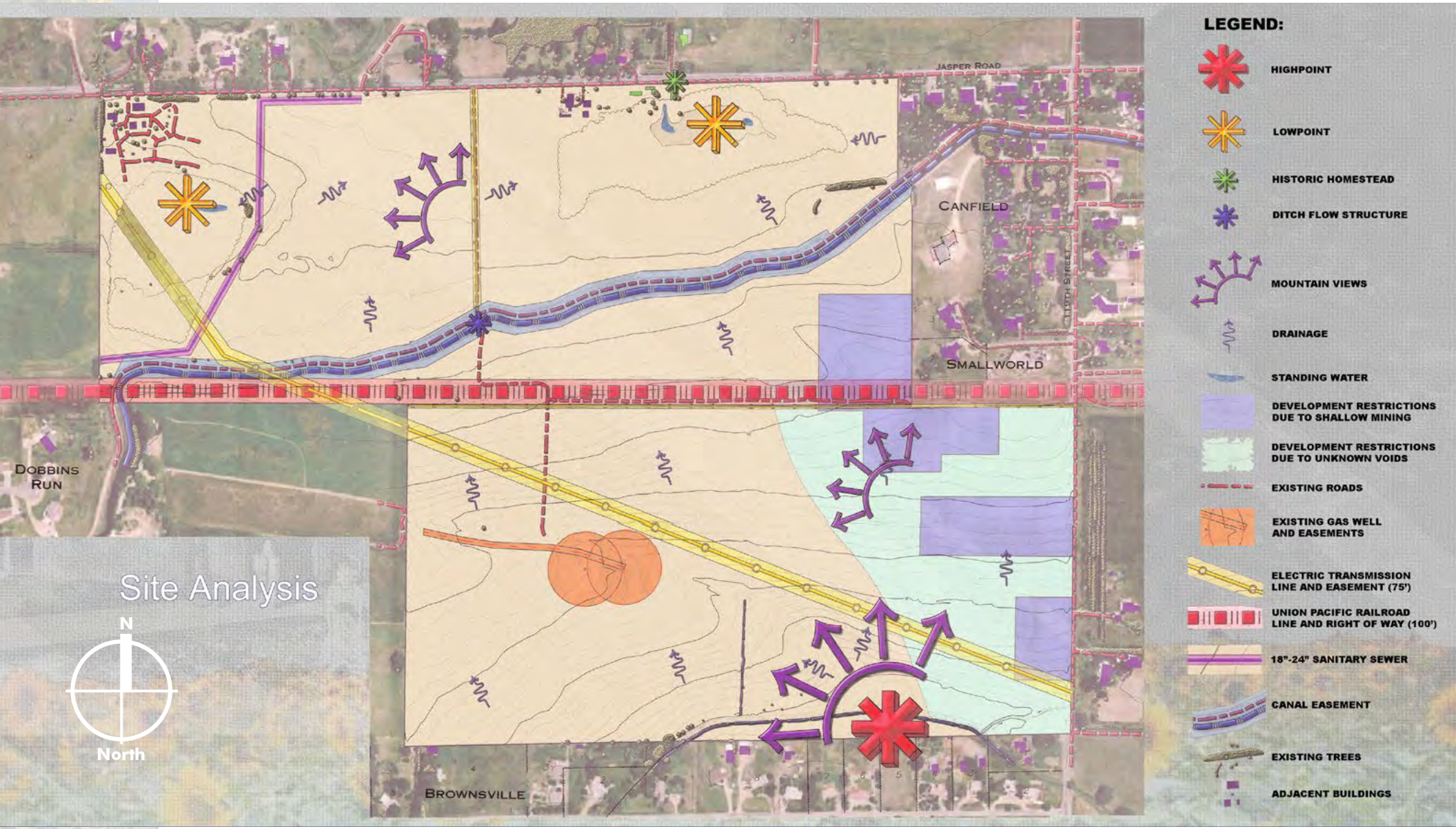
There is an existing RTD ROW running through the property, and adjacent to that ROW a Town regional trail corridor has been identified, and provided for with this application. There are also some areas of subsurface mining depicted in purple on the site analysis exhibit, which we have avoided for development but can utilize these as open space areas, and to provide a significant buffer transition to our neighbors.

The existing power lines have been taken into account in the community design. We have provided setbacks to the Lower Boulder Ditch. A future oil and gas area has been identified in the northwest portion of the property, and a surface use agreement with the operator has been completed. All of these physical conditions suggest that we need to cluster our development.

We believe that Wise Farms provides an opportunity to preserve an important cultural resource in the non-

jurisdictional wetland across the street from the Wise Homestead Museum. We are proposing to dedicate the land including the non-jurisdictional wetland to the Town of Erie, as identified in our PUD and Preliminary Plat documents. We have provided preliminary landscape plans for these areas, and will work with the Town of Erie Parks department to refine these plans as specific programming needs are identified for this area.

The plan identifies a mix of residential and recreational uses, we are anticipating clustering homes to preserve open space areas and the surrounding rural character, as well as buffering the existing residences. We have proposed an integrated trail system with active and passive open space and pocket park area, as identified on our Concept Plan, PUD and Preliminary Plat documents.



Site Analysis

section d:

TOWN'S COMPREHENSIVE PLAN AND REZONING APPROVAL CRITERIA.

Comprehensive Plan

"Erie is a community which recognizes the importance of conserving and enhancing its historic small town character, the roots from which it grew, preserving the natural environment in which it resides; a caring community which offers its residents an environment in which to seek a high quality of life; a balanced community with a diverse range of housing, employment, educational, shopping and recreational opportunities; and a vital community which provides financial and social support for quality of life programs."

vision statement from the 2005 Comprehensive Plan

The Town of Erie's Comprehensive Plan provides a strong vision for the future of Erie, and has a set of Guiding Principles that help to ensure that the vision is carried out. We believe that our PUD Zoning and Preliminary Plat proposal is in compliance with the principles for the Town of Erie Comprehensive Plan, and have provided an analysis of this below.

1. A Coordinated and Efficient Pattern of Growth

The Town will have a compact pattern that encourages urban growth to locate within the Planning Area Boundary, fosters the efficient provision of infrastructure and services, and balances development and conservation of the natural environment.

The Wise Farms property is located within the Planning Area Boundary for the Town of Erie, and is an excellent example of taking advantage of efficient infrastructure. A 24" Sanitary Sewer line runs through the property, and the property drains to a low point with an easement for storm sewer discharge already negotiated with Boulder County. The level of development that is anticipated will not change the existing road designations, as confirmed by our Traffic study. The Comprehensive Plan identifies this property as having a residential use. Town services are close to, or as mentioned in the case of sewer, already on the property. The property was annexed to the town of Erie in 1995. Town services such as schools, administration, police, water and sewer have either been provided or anticipated since annexation, and our proposal will not negatively impact town services already anticipated.

2. Quality Design and Development

Erie will promote a high standard of design for all new development, renovation, and rehabilitation to reinforce and enhance its unique nature for residential neighborhoods, public places, and commercial businesses.

Our plan proposed an integrated pedestrian trail system, and connections to neighborhood amenities. We have provided a housing diversity within a quality plan that proposes significant buffers to our adjacent neighbors.

3. Overall Economic Vitality

The Town will promote a healthy, thriving economy that provides opportunities for quality employment with livable wages for its residents.

This principle goes hand in hand with the type of community that we envision for Wise Farms. Quality employment will bring residents to Erie, and a quality community like Wise Farms will provide a wonderful opportunity for those residents to enjoy living in the Town of Erie.

4. Downtown Vitality

The Town considers the maintenance and enhancement and expansion as appropriate of Old Town's vitality to be important to the health and well being of the community as a whole. The plan promotes development and continued enhancement of this core community area as the "center" of the community.

While this principle does not specifically relate to Wise Farms, we support this principle because it will foster a stronger community, and Wise Farms will be a part of that strong community. We hope that the Old Town will be supported by residents of Wise Farms, and will further the enjoyment of living in the Town of Erie.

5. A Comprehensive, Integrated Transportation System

Erie has a safe, efficient, and innovative transportation system that reduces neighborhood isolation and promotes a sense of community by connecting all areas of town, accommodates various modes of public and private transit, and facilitates travel to regional centers.

Our proposal supports the transportation system that the Town of Erie has in place, we have made a significant effort to verify that our proposed development will not adversely impact the existing transportation network. We have located two entrances into Wise Farms from Jasper Road, and have coordinated these access locations with the Town of Erie staff. At the final plat stage we will be required to dedicate additional ROW for the future, it is not our intention to modify Jasper Road, with the exception of additional turn lanes for our project. The Wise Farms property is also bisected by the RTD ROW, which in the future may become a regional trail, our anticipated trail system could tie into this potential future regional trail system.

6. Stewardship of the Natural Environment

The Town will identify and conserve its natural, scenic, and environmentally sensitive areas including important wildlife habitat, waterways, and visually sensitive areas. Erie will strive to be a clean, sustainable, environmentally-friendly town.

Our proposed zoning will allow for a clustered development approach that supports the stewardship of the natural environment on our property, and we anticipate that the potential wildlife habitat associated with the irrigation canal that runs through the property will remain. Significant buffering of the existing trees along portions of Jasper Road is being proposed, as well as significant open space areas. We have set development back from the existing roads to protect visually sensitive areas.

7. Trails, Parks and Recreation Opportunities

The Town will provide a diverse range of recreational opportunities to include facilities and programming for all ages and varying interests, both passive and active. Trails, parks, and recreation opportunities will be connected with and integrate open space into and between neighborhoods and other areas of the community.

At the request of the Town of Erie staff we are proposing to dedicate the area along Jasper Rd, and the eastern buffer as open space, in addition the overall property will include private open space. The full amount of open space exceeds 43% of the overall property. In addition the Town of Erie staff has requested that we make cash-in-lieu payments for both Neighborhood Parks and Community Parks.

8. Protected Lands Program

Lands that are permanently protected as open space will be used to maintain the small town atmosphere that has made Erie an attractive place.

Open space will serve a variety of functions, including:

Buffering Erie from other towns and cities and shaping growth;
Creating view corridors to enable residents to see mountains, plains, and agricultural areas rather than uninterrupted housing and commercial development;
Preserving agricultural lands, keeping them in agricultural production;
Restoring riparian areas and other areas of natural habitat;
Protecting significant archeological and cultural

resources;

Preserving native plant and animal habitat and travel corridors for wildlife;

Providing areas for passive recreation that emphasizes enjoyment of nature; and

Distinguishing and linking neighborhoods and other activity areas within Erie through a system of continuous, connected open lands and trails.

The Wise Farms property can further several of these guiding principles. We are proposing a dedicated Open Space area including the non-jurisdictional wetland, this area a cultural resource, along Jasper Rd. The irrigation canal will remain intact which will preserve the native plant and animal habitat, as well as provide travel corridors for wildlife. We anticipate that our open space areas will be a combination of passive and active areas, which will be linked with a trail system, and therefore provide the possibility of enjoying the natural environment, and finally the future Regional Trail adjacent to the RTD Railroad ROW will link this community with other neighborhoods in Erie.

9. Balanced Land Use Mix

The Town will work to diversify and balance the mix of land uses as the Town grows. Particular emphasis will be placed on enhancing the local economic base to provide employment opportunities for residents, seeking to achieve a better balance as a place to work as well as live. In so doing, the community will seek a balance between the enhancement of Old Town's vitality and other existing areas of the community and the identification of opportunities for commercial and employment in outlying areas.

We support this principle, and hope to provide a quality choice of housing for residents of Erie that are also fortunate enough to be working in the local area. We have met the required housing diversity requirement.

10. Stable, Cohesive Neighborhoods Offering a Variety of Housing Types

The Town will promote new neighborhoods that contain a mix of land uses and diversified housing options that meet the varying needs of its residents, including single family, attached homes (duplexes, townhomes), multifamily dwellings, and housing included as part of mixed-use developments. The Town will work to maintain the quality and character of established neighborhoods and ensure that infill and redevelopment is designed in a manner that minimizes impacts on existing neighborhoods, including rural neighborhoods in the Planning Area. New housing and neighborhoods should be appropriate in size, scale, design and use. New housing areas should be located where residents will have access to the full range of infrastructure, facilities and services that are needed for healthy, livable neighborhoods.

The approximately 169 acre property is currently designated as Rural Residential (RR), we are proposing to re-zone approximately 60 acres of the property to Low Density Residential (LR), and approximately 20 acres to AG/OS. As stated in the Unified Development Code, 10.6.7-D.b.i.B - Diversification Standards shall not apply to Residential Zone District RR. As required in the Unified Development Code's Housing Diversity requirement we are proposing one housing type and one variation. In general we are proposing housing type G - Single Family Detached, and the variation we are proposing is variation 4 - Lot Size 5,000-9,000 square feet,

and 5 - Lot Size 10,000 to 39,999 square feet. In general, on the northern portion of the property, the larger lots are on the east side of the property as a method to provide a transition to our neighbors. Our proposal meets the requirements of the Housing Diversity requirement.

11. Provide Infrastructure and Public Services Efficiently and Equitably

Erie will coordinate future development and/or provision of capital facility projects and infrastructure, including water, wastewater, fire protection, emergency management services, police protection, schools, parks, and other utilities that affect the quality of life and economic stability of the community.

We anticipate providing the required dedications, or providing cash-in-lieu for dedications that either can not be met on site, or are not required on site. Most of the services required for this project are already in place at this time.

RURAL RESIDENTIAL POLICIES:

RR 1.1—CHARACTERISTICS

The Rural Residential designation provides a rural setting for large-lot, very low density single-family housing. Lot sizes and layouts will be dependent upon topographical constraints and hilly terrain located in some areas of the community.

In some cases, large portions of a lot may remain in an undeveloped state, reinforcing the rural character of this development pattern. Existing Rural Residential development in Boulder and Weld Counties typically relies on individual sewage treatment systems and either individual water wells or rural water districts. New Rural Residential developments located within the Town's incorporated area will be required to be served by municipal water and wastewater service. Single lot developments will be required to be served by municipal water and wastewater service if within 400 feet of a sewer line.

Wise Farms falls within the Rural Residential category in the Town of Erie Comprehensive Plan. Our proposed Concept Plan, PUD, and Preliminary Plat provides significant buffers from the adjacent neighbors to preserve the visual character of the area. We anticipate tieing into the municipal water and wastewater services.

RR 1.2—DENSITY RANGE

Homes will typically occur at densities of between 0-2 dwelling units per acre, with average densities of 1 dwelling unit/acre. However, lots in many existing rural subdivisions in the Planning Area exceed 1 acre.

Our plan anticipates a variety of housing variations for a range of residents. This mix of housing opportunities will encourage socio-economic diversification, and promote a cohesive neighborhood. We are proposing a maximum number of 166 residential units on the approximately 169 acre property, which translates into 0.9 dwelling units per acre, which is within the allowed density range for the Rural Residential designation. We have also provided significant buffers or larger lots adjacent to the existing neighborhoods that are also within the Rural Residential designation.

RR 1.3—LOCATION

Rural Residential neighborhoods will typically be located at the fringe of urban development, near existing rural neighborhoods, or in areas with steeper terrain or other natural features unsuitable for urban residential development. In some cases, they will serve as a transition between more intense urban neighborhoods and natural features to be protected or existing rural neighborhoods.

We are located adjacent to existing Rural Residentially designated areas, and several of the site constraints would limit urban residential development.

RR 1.4—CLUSTER DEVELOPMENT

The Town will encourage the use of cluster development patterns as a means of preserving scenic view corridors, preserving natural features, creating transitions between areas of different development intensity, and providing open space for the common use and enjoyment of residents and the broader community. The use of cluster development patterns as a means of preserving cohesive blocks of agricultural land is also encouraged.

We are proposing a clustered development pattern, within the guidelines spelled out in the Town of Erie's UDC. Our Concept Plan, PUD, and Preliminary Pat shows our clustered development pattern, and as a result the preservation of natural features, and a buffering or transition between Wise Farms and the existing residential areas. The clustered plan also provides for a cohesive open space system including Open Space that can be enjoyed by the residents, and by the broader community.

RR 1.5—OPEN SPACE

Open space designated through clustering, dedication, or other means should provide strong visual and physical connections to the surrounding open space and trails network—both existing and planned.

Our proposed clustered development has approximately 43% of the property as either Park or Open Space (dedicated and non-dedicated). These areas exceed the required dedication for our proposed community. Our Concept Plan, PUD, and Preliminary Plat depicts how the proposed open space provides a significant visual connection and benefit to the broader community. We fully anticipate connecting to the future regional trail in the RTD Railroad ROW, and have provided the required area for the future Regional Trail Connection.

RR 1.6—ROADWAY DESIGN

Access road and driveway configurations should follow the natural contours of topographic features to minimize slope disturbances, maximize scenic views, and conserve natural features.

In general the site does not have topographic constraints that will limit the location of internal roads or drives.

PUD Rezoning

Approval Criteria

The Board of Trustees may approve a PUD development plan and Rezoning to the PUD overlay district, and the Planning Commission may recommend approval, if the Rezoning to the PUD overlay district and the associated PUD development plan meets all of the following criteria::

1. The PUD Rezoning is consistent with the purpose of the PUD overlay district in Section 2.7.D.2 of Municipal Code, Title 10, Unified Development Code;

The proposal for the Wise Farms PUD is consistent with Section 2.7.D.2 of the Municipal Code. We have requested an underlying zoning of LR (Low Density Residential) for a portion of the property, and Agricultural/OS for a portion of the property, and are utilizing the PUD Overlay to accommodate our required housing diversity, and to allow for a more creative approach to the clustering and planning of buffers for the overall development of the property. In addition the PUD Overlay will limit the number of units allowed within the property to 166. In order to ensure compatibility with our surrounding neighbors the PUD will also establish buffer areas, and transitional lot sizes.

2. The PUD Rezoning will promote the public health, safety, and general welfare;

The PUD Overlay identifies significant setbacks from the adjacent residential neighborhoods, and provides a new neighborhood park on the west side of Erie. We are proposing about 43% of the site as a combination of a pocket park parks, trail corridors, and natural open space areas that will promote a walkable community, meeting the PUD rezoning criteria promoting public health, safety, and general welfare.

3. The PUD Rezoning is consistent with the Town's Comprehensive Plan and the purposes of the Municipal Code, Title 10, Unified Development Code;

This narrative includes a full section outlining our compliance with the Comprehensive Plan and Unified Development Code. In general we are proposing a clustered residential community with a maximum of 166 units, which equates to 0.9 dwelling units per acre. This is line with the Comprehensive Plan designation of 0-2 dwelling units per acre, and we believe is consistent with both the Comprehensive Plan and Municipal Code.

4. Adequate facilities and services (including roads and transportation, water, gas, electric, police and fire protection, and sewage and waste disposal, as applicable) will be available to serve the subject property while maintaining adequate levels of service to existing development;

As a part of the application materials we have provided a significant amount of information that shows how facilities and services will be provided for this proposal. The property was annexed in 1995 with the expectation of being developed as a residential community.

5. The PUD Rezoning is not likely to result in significant adverse impacts upon the natural environment, including air, water, noise, storm water management, wildlife, and vegetation, or such impacts will be substantially mitigated;

We are proposing a significant amount of open space, much of which will be left in a natural state. The significant areas of vegetation along the irrigation canals will largely remain, and we are proposing to dedicate the area around the Mill site and associated low lying area as part of an open space dedication, this area will provide a significant cultural/historic asset to the community at large. The wildlife corridors along the canals will remain, and we have a negotiated agreement for the conveyance of storm water with Boulder County. Overall we strongly believe that our proposal will not result in any adverse impacts for the property or the Town.

6. The PUD Rezoning is not likely to result in significant adverse impacts to significant scenic and historic features as identified in plans adopted by the Town;

We have commissioned a Cultural and Historical study for the property, and we have not identified any significant features on the property that are not being maintained. We have proposed significant setbacks from Jasper Road to maintain the visual character of that corridor to the greatest extent practical, and similarly our proposed community is set back a significant distance from 119th Ave which will maintain the westerly views from 119th Ave.

7. The PUD Rezoning is not likely to result in significant adverse impacts upon other property in the vicinity of the subject property;

Our proposal is for a high quality clustered residential neighborhood with approximately 43% of the property remaining as open space, or being developed as park amenities. Our Concept Plan, PUD, and Preliminary Plat depict the significant buffers that are being provided to the neighboring properties. We believe that our proposal is compatible in nature and will not result in adverse impacts upon other property in with the vicinity of the Wise property.

8. Proposed uses on the subject property will be compatible in scale with uses on other properties in the vicinity of the subject;

The primary use of the Wise Farms property will be residential. This is in keeping with the uses on other properties within the vicinity of Wise Farms. We are proposing a mix of housing, and fully anticipate that this will be consistent and compatible with the homes in the area. The size and price of homes in Wise Farms will be very comparable to the surrounding area.

9. The proposed phasing of the development is appropriate and the development can be substantially completed within the time period specified in the schedule of development or Development Agreement submitted by the applicant;

The proposed development time line is dependent on project approvals and market conditions. Planning staff has directed the applicant to not submit a draft Development Agreement as the Town prefers to draft that agreement.

10. The PUD Plan provides public benefit(s).

Approximately 43% of the total property will remain as Open Space, or be developed as a Pocket Park use with a connected trail network. In addition we will be adding a diverse mix of quality housing types within the neighborhood, and will be dedicating a trail corridor for a future regional trail.

Wise Farms PUD Zoning Map

a part of section 14, township 1 north, range 69 west of the 6th p.m.
town of erie, county of boulder, state of colorado
169.05 acres
PUD-13-00071

OVERALL BOUNDARY DESCRIPTION

NORTH PARCEL:

COMMENCING AT THE EAST QUARTER CORNER OF SAID SECTION 14, FROM WHICH THE EAST-SOUTH ONE SIXTEENTH CORNER OF SAID SECTION 14 BEARS SOUTH 00°04'01" EAST, A DISTANCE OF 1316.88 FEET SAID LINE FORMING THE BASIS OF BEARINGS WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;

THENCE SOUTH 88°24'34" WEST, ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 30.01 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF NORTH 119TH STREET;

THENCE CONTINUING SOUTH 88°24'34" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 627.28 FEET, TO THE SOUTHEAST CORNER OF THE WEST HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 88°24'34" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 3.19 FEET;

THENCE NORTH 00°09'21" WEST, A DISTANCE OF 114.08 FEET TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY, SAID RIGHT-OF-WAY LINE BEING 50 FEET, BY PERPENDICULAR MEASUREMENT NORTHERLY OF THE CENTERLINE OF THE EXISTING TRACK, SAID POINT BEING THE POINT OF BEGINNING;

THENCE SOUTH 89°42'11" WEST ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 653.74 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 89°42'11" WEST ALONG SAID NORTHERLY RIGHT-OF-WAY LINE , A DISTANCE OF 1314.46 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 89°42'11" WEST ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1309.61 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14;

THENCE NORTH 00°29'33" WEST ALONG SAID WEST LINE, A DISTANCE OF 1119.88 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF JASPER ROAD;

THENCE ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE THE FOLLOWING THREE (3) COURSES:

1. NORTH 88°21'52" EAST, A DISTANCE OF 1314.39 FEET;
2. NORTH 88°17'58" EAST, A DISTANCE OF 1317.03 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;
3. CONTINUING NORTH 88°17'58" EAST, A DISTANCE OF 599.53 FEET TO THE NORTHWESTERLY CORNER OF THAT TRACT OF LAND AS DESCRIBED ON SAID FILM 1555, AT RECEPTION NO. 953348;

THENCE SOUTH 00°09'21" EAST ALONG THE WESTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 397.57 FEET TO THE MOST SOUTHERLY CORNER THEREOF;

THENCE NORTH 50°52'13" EAST ALONG THE SOUTHEASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 70.21 FEET;

THENCE SOUTH 00°09'21" EAST, DISTANCE OF 843.98 FEET TO THE POINT OF BEGINNING,

SAID PARCEL CONTAINING A CALCULATED AREA OF 3,782,135 SQUARE FEET OR 86.826 ACRES, MORE OR LESS.

SOUTH PARCEL:

A PARCEL OF LAND BEING A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE EAST QUARTER CORNER OF SAID SECTION 14, FROM WHICH THE EAST-SOUTH ONE SIXTEENTH CORNER OF SAID SECTION 14 BEARS SOUTH 00°04'01" EAST, A DISTANCE OF 1316.88 FEET, SAID LINE FORMING THE BASIS OF BEARINGS WITH ALL BEARINGS CONTAINED HEREWITH BEING RELATIVE THERETO;

THENCE SOUTH 88°24'34" WEST, A DISTANCE OF 30.01 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE TO NORTH 119TH STREET;

THENCE SOUTH 00°04'01" EAST, ALONG SAID WESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 0.14 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY, SAID RIGHT-OF-WAY LINE BEING 50 FEET, BY PERPENDICULAR MEASUREMENT, SOUTHERLY OF THE EXISTING TRACK, SAID POINT BEING THE POINT OF BEGINNING;

THENCE CONTINUING SOUTH 00°04'01" EAST ALONG SAID WESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1316.79 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 88°18'16" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 1282.39 FEET TO THE SOUTHWEST CORNER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 88°18'16" WEST ALONG THE SOUTH LINE OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 1312.40 FEET TO THE SOUTHWEST CORNER OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 88°16'21" WEST ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 14, A DISTANCE OF 60.98 FEET TO THE SOUTHEASTERLY CORNER OF THAT TRACT OF LAND CONVEYED TO RONALD SCOTT JASPER, RONALD LEE JASPER AND VEE ANN JASPER AS DESCRIBED IN WARRANTY DEED RECORDED MAY 3, 1976, ON FILM 922 AS RECEPTION NO. 175271, OF THE RECORDS OF BOULDER COUNTY, COLORADO:

THENCE NORTH 00°19'00" WEST ALONG THE EASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 1381.63 FEET TO THE SOUTHERLY RIGHT-OF-WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY, SAID RIGHT-OF-WAY BEING 50 FEET, BY PERPENDICULAR MEASUREMENT, SOUTHERLY OF THE EXISTING TRACK;

THENCE NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 62.45 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1314.28 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 653.74 FEET;

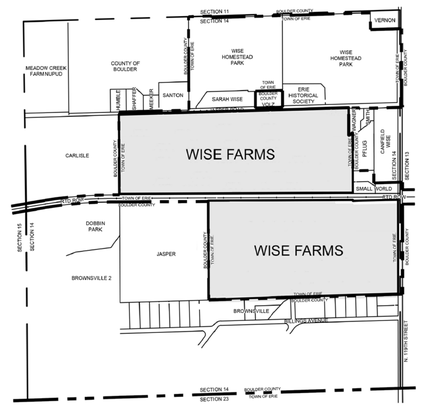
THENCE SOUTH 00°09'21" EAST, A DISTANCE OF 14.09 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE NORTH 88°24'34" EAST ALONG SAID SOUTH LINE, A DISTANCE OF 3.19 FEET TO THE SOUTHEAST CORNER OF THE WEST HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 88°24'34" EAST ALONG SAID SOUTH LINE, A DISTANCE OF 620.87 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF SAID PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY;

THENCE NORTH 89°42'11" EAST, ALONG SAID SOUTHERLY RAILROAD RIGHT-OF-WAY LINE, A DISTANCE OF 6.40 FEET TO THE POINT OF BEGINNING,

SAID SOUTH PARCEL CONTAINING A CALCULATED ARE OF 3,581,472 SQUARE FEET OR 82.219 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1" = 1000'

PUD NOTES:

1. THIS PUD ZONING MAP MODIFIES STANDARDS FOUND IN MUNICIPAL CODE TITLE 10. IN THE EVENT THAT THERE IS A DISCREPANCY BETWEEN THE MUNICIPAL CODE AND THIS PUD, THE PUD SHALL CONTROL. ANY PROVISIONS THAT ARE NOT SPECIFICALLY ADDRESSED IN THIS PUD ZONING MAP SHALL COMPLY WITH THE MUNICIPAL CODE.

2. THE MAXIMUM NUMBER OF UNITS ALLOWED IN THIS PUD IS 166.

SURVEYOR'S CERTIFICATE

I, _____, A DULY REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PUD ZONING MAP TRULY AND CORRECTLY REPRESENTS THE ABOVE DESCRIBED LEGAL DESCRIPTIONS FOR EACH PUD OVERLAY ZONE DISTRICT.

I ATTEST THE ABOVE ON THIS _____DAY OF _____, 2014.

_____

COLORADO REGISTERED PROFESSIONAL LAND SURVEYOR #

PLANNING COMMISSION CERTIFICATION

THIS PUD ZONING MAP WAS REVIEWED BY THE PLANNING COMMISSION ON THE____DAY OF _____, 2014.

_____ _____ _____
CHAIRPERSON DATE

BOARD OF TRUSTEES APPROVAL CERTIFICATE

THIS PUD ZONING MAP IS TO BE KNOWN AS THE "WISE FARMS PUD ZONING MAP" AND IS APPROVED AND ACCEPTED BY ORDINANCE NO._____, PASSED AND ADOPTED AT THE REGULAR (SPECIAL) MEETING OF THE BOARD OF TRUSTEES OF ERIE, COLORADO, HELD ON_____, 2014.

_____ _____
MAYOR

ATTEST

_____
TOWN CLERK

CLERK & RECORDER CERTIFICATE

STATE OF COLORADO)
) SS.
COUNTY OF BOULDER)

I HEREBY CERTIFY THAT THIS PUD ZONING MAP WAS FILED IN MY OFFICE ON THIS DAY OF_____, 2014 A.D. AND WAS RECORDED AT RECEPTION NUMBER_____.

_____
COUNTY CLERK AND RECORDER

SHEET INDEX

1.....Cover
2.....PUD Plan
3.....PUD Notes

planning & la
people creating spaces
pcs group, inc.
1001 16th street, 3B-180
Denver, Co 80265
tel (303) 531-4905
www.pcsgroupco.com

engineering
CVL CONSULTANTS
Contact: Melinda Lundquist, P.E.
10333 E. Dry Creek Road Suite 240
Englewood, CO 80112
ph:(720)249-3539

applicant
Jasper Land Investments, LLC
Contact Person: Jim Dullea
9162 S. Kenwood Court,
Highlands Ranch, CO 80126
303.902.5400

project name

Wise Farms
PUD Zoning Map
Town of Erie, Colorado

sheet title

Cover Sheet

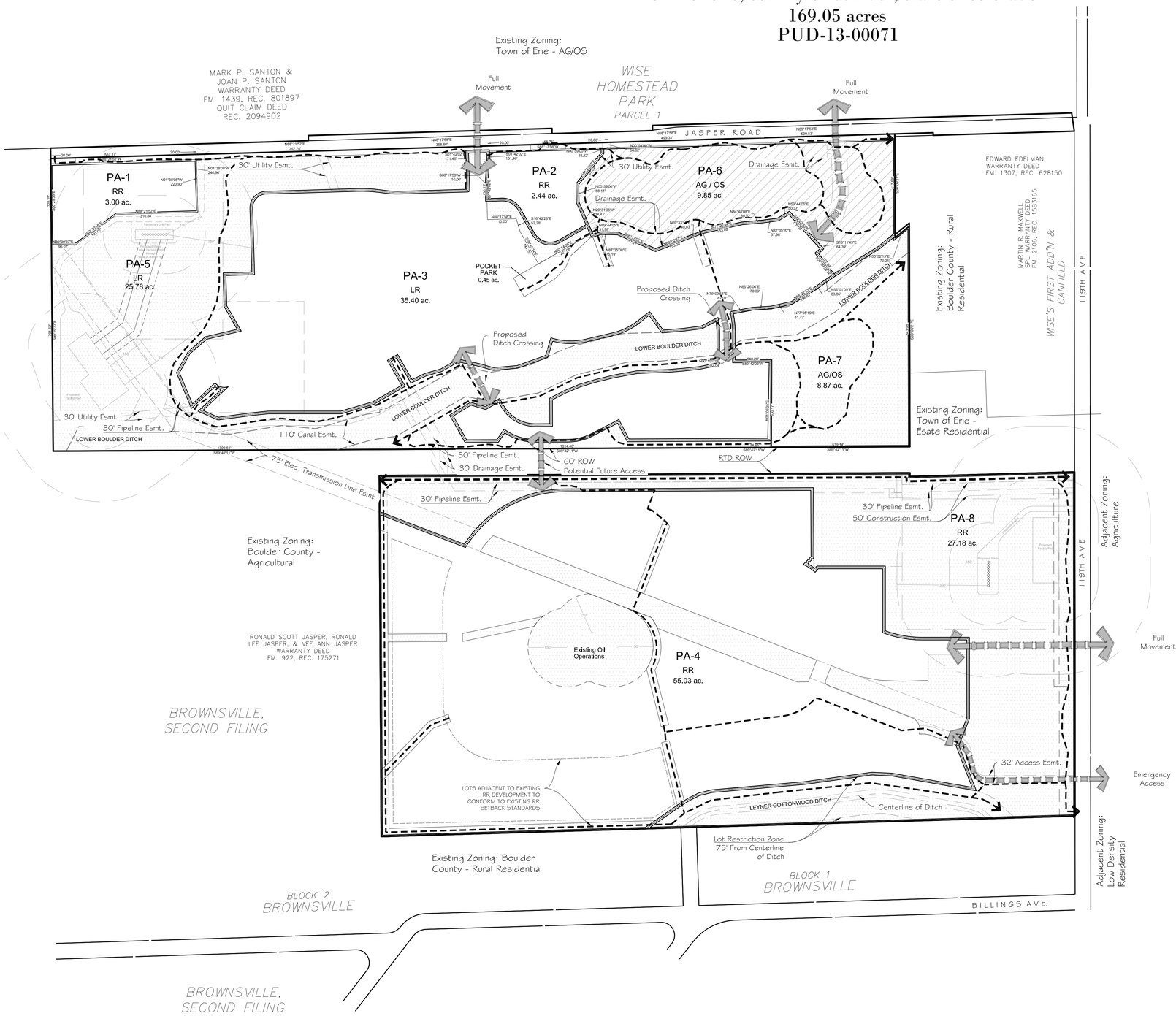
sheet number

1 of 3

No.	Revisions	Date
5	Address Town Comments	12/22/2014
4	Address Town Comments	10/27/2014
3	Address Town Comments	8/1/2014
2	Address Town Comments	4/25/2014
1	Initial Submittal	11/8/2013

Wise Farms PUD Zoning Map

a part of section 14, township 1 north, range 69 west of the 6th p.m.
town of erie, county of boulder, state of colorado
169.05 acres
PUD-13-00071



Development Summary

LAND USE	ACRES	% of TOTAL
Residential	95.87	56.71%
Dedicated Parks & Open Space	9.28	5.49%
Non-Dedicated Open Space	62.40	36.91%
R.O.W	1.50	0.89%
Total:	169.05	100.00%

Parks & Open Space

Park Area	Dedication Requirement (Acres)	Dedicated Open Space and Park Provided (Acres)
Open Space	7.87	9.28
Pocket Park	0.23	0.45
Neighborhood Park	1.39	Fee in Lieu
Community Park	2.32	Fee in Lieu

LEGEND

- DEDICATED PUBLIC OPEN SPACE
- PRIVATE OPEN SPACE
- TRAIL CONNECTIONS
- OIL & GAS SETBACKS
- EASEMENT
- ACCESS

0' 100' 200' 400'
SCALE: 1" = 200'

planning & la
people creating spaces
pcs group, inc.
1001 16th street, 3B-180
Denver, Co 80265
tel (303) 531-4905
www.pcsgroupco.com

engineering
CVL CONSULTANTS
Contact: Melinda Lundquist, P.E.
10333 E. Dry Creek Road Suite 240
Englewood, CO 80112
ph:(720)249-3539

applicant
Jasper Land Investments, LLC
Contact Person: Jim Dullea
9162 S. Kenwood Court,
Highlands Ranch, CO 80126
303.902.5400

project name

Wise Farms
PUD Zoning Map
Town of Erie, Colorado

sheet title

PUD Plan

sheet number

2 of 3

No.	Revisions	Date
5	Address Town Comments	12/22/2014
4	Address Town Comments	10/27/2014
3	Address Town Comments	8/1/2014
2	Address Town Comments	4/25/2014
1	Initial Submittal	11/8/2013

Wise Farms PUD Zoning Map

a part of section 14, township 1 north, range 69 west of the 6th p.m.
town of erie, county of boulder, state of colorado
169.05 acres
PUD-13-00071

ARCHITECTURAL STANDARDS - LR ZONING SINGLE FAMILY RESIDENTIAL

1. Architectural Variety and Character

a. Architectural Variety

i. Design Standards

(A) No identical model plan elevation shall be repeated directly across any street from the same model plan and elevation.

(B) No identical model plan elevation shall be repeated more than once within every 4 lots on the same side of any street.

(C) A minimum of 3 alternative elevations for each model plan shall be submitted to the Town for review.

b. Architectural Character

Each single family detached model plan and elevation shall demonstrate the following design attributes:

i. Design Standards

(A) Each elevation shall include a minimum of two windows (or one window and one door) per floor.

(B) Each front and rear elevation shall include more than one wall plane. Articulation that adds shadow and visual interest is encouraged.

(C) A variety of roof forms should be used. Single unbroken roof pitches should be avoided, except where a single roof treatment is an essential element of the Architectural Style.

(D) The main roof should extend beyond the primary facade by a minimum of one foot.

(E) An elevation of the home that faces a street, park, trail corridor or open space area shall provide an "Enhanced Elevation". An "Enhanced Elevation" shall provide three or more of the following design enhancements listed in (1) through (5) below. Application of the design enhancement shall be applied in a manner that is consistent with the style of the home. Side and rear elevation design enhancements shall be consistent with the design elements of the front elevations.

(1) The addition of one window unit.
(2) A change in wall plane by providing one or more of the following options:
- An additional wall plane change. Minimum six feet in width and one foot projection.
- A projecting or cantilevered living space.
- A bay or boxed window.
(3) A covered porch or deck.
(4) The addition of architectural detail elements such as: shutters, eave brackets, exposed rafter tails, corbels, lintels, trellises, columns or pilasters.
(5) The use of a minimum of two exterior cladding materials that can include materials such as masonry (cultured stone, stone, brick, stucco, or tile), lap siding, shingles, board and batten, or other decorative siding treatment.

(F) Columns or posts extending more than 36 inches above the ground which support structural elements such as porches, decks, or roofs should appear to be of adequate mass to support the structure above. (No exposed 4"x4" posts shall be allowed more than 36 inches above the ground). Columns supporting upper story decks should be 8"x8" minimum finished.

ii. Materials

(A) All exterior materials shall be of high quality, used in applications and treated appropriately to provide an attractive and long lasting appearance.

(B) When masonry cladding is used in locations where its mass is logical and appropriate. In instances where masonry wraps the exterior corner of the home the masonry should continue to a natural transition point such as an inside corner of a projecting wall, a column, a door or window or other logical point. In cases where no such feature exists near the corner, the masonry wrap shall extend at least six feet from the corner.

2. Orientation of Dwellings to the Street

Each residence shall have at least one primary pedestrian doorway for access to the dwelling unit facing and generally visible from the front lot line of the property, and within twelve feet of the most forward plane of the ground level living space. On corner lots, the pedestrian doorway may face any adjacent street.

3. Garages

These regulations for garages shall be applied to non-living space or storage areas within garages whether used for storage of automobiles or other items.

a. Diversity of Garage Orientation:

(A) All single family homes shall provide garages that meet one of the requirements below, and a variety in garage orientation by providing a minimum of two of the following garage orientations on any subdivision filing.
- Recessed garage; where the primary garage door generally faces the front lot line and the garage is recessed a minimum of two feet behind the most forward plane of the main floor living space or a front porch.
- Projecting garages; where the primary garage door generally faces the front lot line and the garage projects no more than fifteen feet from the front door.
- Side loaded garages.
- Garages recessed a minimum of two feet beneath a second floor living space.

b. Width/Facade Ratio

The width of a front loaded garage shall not exceed 65% of the width of the front elevation.

c. Three or More Car Garage Orientation

The third bay of of any three bay or more garage shall either:
i. Have a different orientation from the first two; or
ii. Shall be recessed behind the first two by at least two feet when having the same orientation; or
iii. Shall be tandem to the first two.

4. Front Stoop

For model plans with a front stoop; the front stoop shall include the platform and stairs that are generally in front of a door that can be covered or uncovered. The maximum width of a covered front stoop shall be three feet in width from the side of the front door. Covered platforms that exceed three feet in width from the side of the front door shall be considered a front porch.

5. Front Porches

For model plans with a front porch; the front porch shall be a minimum size of fifty square feet, excluding the stoop with a minimum depth of five feet.

Wise Farms Dimensional Standards Summary Chart

PLANNING AREA	ZONE DISTRICT	MIN LOT WIDTH	MIN LOT NET AREA (SF)	FRONT SETBACK	FRONT SETBACK (PORCH)	STREET SETBACK (SIDE OF HOME)	INTERIOR LOT LINE SETBACK	REAR SETBACK	MAX. HEIGHT
PA-3 - SFD Homes	LR	55' (2)	5,750	20'	15'	10'	5'	20' (1)	35'
PA-4 - SFD Homes	RR	100' (2)	40,000	30' (3)(4)	30' (3)	30' (3)	10' (3)	30' (3)(4)	35'

1. Unenclosed covered patios may project up to eight (8) feet into a rear setback. The projection shall be at least five (5) feet from the property line.

2. The minimum lot width shall be measured from the front setback line and shall be increased on corner lots to accommodate the street setback

3. PA-1, PA-2, and PA-4 lots that are adjacent to the exterior boundary of Wise Farms shall conform to the underlying RR-Rural zoning setbacks.

4. Accessory Dwelling Units (ADU) shall be a Permitted Use by Right in PA-4. For a detached ADU, the minimum front setback shall be 40 feet; and, the minimum rear setback shall be 30 feet. Side setbacks shall follow setbacks listed in the table above. ADUs on PA-4 lots that are adjacent to the exterior boundary of Wise Farms shall conform to the underlying RR-Rural zoning setbacks. All ADUs shall conform to the Standards found in the Municipal Code.

PUD Land Use Summary

TRACT	ZONE DISTRICT	AREA (ACRES)	PRIMARY USE	DWELLING UNITS	DEDICATED OPEN SPACE
RESIDENTIAL					
PA-1	RR	3.00	SFD	1	0
PA-2	RR	2.44	SFD	1	0
PA-3	LR	35.40	SFD	125	0
PA-4	RR	55.03	SFD	39	0
SUBTOTAL:		95.87		166	0
NON-RESIDENTIAL					
RIGHT OF WAY		1.50			0
SUBTOTAL:		1.50			0
PA-5	LR	25.78	OPEN SPACE		0
PA-6	AG/OS	9.85	OPEN SPACE		9.28
PA-7	AG/OS	8.87	OPEN SPACE		0
PA-8	RR	27.18	OPEN SPACE		0
SUBTOTAL:		71.68			9.28
TOTAL:		169.05		166	9.28

planning & la

people creating spaces

pcs group, inc.
1001 16th street, 3B-180
Denver, Co 80265
tel (303) 531-4905
www.pcsgroupco.com

engineering

CVL CONSULTANTS

Contact: Melinda Lundquist, P.E.
10333 E. Dry Creek Road Suite 240
Englewood, CO 80112
ph:(720)249-3539

applicant

Jasper Land Investments, LLC
Contact Person: Jim Dullea
9162 S. Kenwood Court,
Highlands Ranch, CO 80126
303.902.5400

project name

Wise Farms
PUD Zoning Map
Town of Erie, Colorado

sheet title

PUD Notes

sheet number

3 of 3

No.	Revisions	Date
5	Address Town Comments	12/22/2014
4	Address Town Comments	10/27/2014
3	Address Town Comments	8/1/2014
2	Address Town Comments	4/25/2014
1	Initial Submittal	11/8/2013

Existing Town of Erie Dimensional Standards & Wise Farms Dimensional Standards										
	PLANNING AREA	*ZONE DISTRICT*	*MIN LOT WIDTH*	*MIN LOT NET AREA (SF)*	*FRONT SETBACK*	*FRONT SETBACK (PORCH)*	*STREET SETBACK (SIDE OF HOME)*	*INTERIOR LOT LINE SETBACK*	*REAR SETBACK*	*MAX. HEIGHT*
Wise Farms Dimensional Standards	PA-3 - SFD Homes	LR	55' (2)	5,750	20'	15'	10'	5'	20' (1)	35'
	PA-4 - SFD Homes	RR	100' (2)	40,000	30' (3)(4)	30' (3)	30' (3)	10' (3)	30' (3)(4)	35'
Existing Town of Erie Dimensional Standards	SFD	LR	50'	5,000	20'	NA	20'	5'	20'	35'
	SFD	RR	150' (3)	80,000	40'	NA	40'	15'	40'	40'

1. Unenclosed covered patios may project up to eight (8) feet into a rear setback. The projection shall be at least five (5) feet from the property line.
2. The minimum lot width shall be measured from the front setback line and shall be increased on corner lots to accommodate the street setback
3. PA-1, PA-2, and PA-4 lots that are adjacent to the exterior boundary of Wise Farms shall conform to the underlying RR-Rural zoning setbacks.
4. Accessory Dwelling Units (ADU)s shall be a Permitted Use by Right in PA-4. For a detached ADU, the minimum front setback shall be 40 feet; and, the minimum rear setback shall be 30 feet. Side setbacks shall follow setbacks listed in the table above. ADUs on PA-4 lots that are adjacent to the exterior boundary of Wie Farms shall conform to the underlying RR-Rural zoning setbacks. All ADUs shall conform to the Standards found in the Municipal Code.

The above exhibit has been provided to illustrate how the underlying zone disctrict is being varied in the Wise Farms PUD Zoning Map.

TOWN OF ERIE
PLANNING COMMISSION MEETING
January 21, 2015

SUBJECT:	**PUBLIC HEARING:**
	Consideration of Resolution P15-09: A Resolution Regarding The Preliminary Plat For Wise Farms Preliminary Plat, Adopting Certain Findings Of Fact And Conclusions Favorable To The Preliminary Plat.
PURPOSE:	The applicant proposes to plat approximately 174 acres into 166 single-family lots, and 25 tracts for pocket park, open space, landscaping, drainage, utility, oil/gas facilities and ditch purposes.
PROJECT NO:	PP-13-00012
CODE:	Erie Municipal Code, Title 10
DEPARTMENT:	Community Development
PRESENTER:	Deborah Bachelder AICP, Senior Planner

STAFF RECOMMENDATION

Staff finds the application consistent with the Preliminary Plat approval criteria in Municipal Code, Section 10.7.7.C.10, and recommends approval of the Wise Farms Preliminary Plat application. Staff has provided Resolution P15-09, for the Planning Commission consideration, recommending approval of the application to the Board of Trustees with the following conditions:

a. Executed Surface Use Agreements, with the mineral owners or leaseholders, shall be in place before a Wise Farms Final Plat, for the areas affected, is approved by the Town.

b. Realignment of the existing Noble Energy pipeline and vacation of portions of the existing easement will need to be completed before the Town approves a Wise Farms Final Plat in the areas where proposed single family lots are encumbered by the existing facility.

c. Within the applicant's Environmental Site Assessment Report (Phase I), the existing Noble Energy oil and gas well and associated tank battery was recognized as an environmental condition. The well site was identified due to the age of the well and the concrete tank used to store the condensate. The applicant is required to submit a Phase II Environmental Assessment Report of this well site with the Final Plat application of this area of Wise Farms.

d. The abandoned oil and gas well, within a Wise Farms Final Plat for development, shall be located, monumented and identified on the final plat, as specified in the Municipal Code.

e. The Northern Colorado Water Conservancy District access and utility easement from Jasper Road to the Lower Boulder Ditch shall be vacated before a final plat for a development is recorded in this area.

f. If the applicant does not obtain permission for the proposed street crossing of the RTD railroad right of way, the applicant shall provide a second pocket park in the location of Block 2, Lot 1 which is 0.96 acres in size.

g. At Final Plat, the applicant shall provide adequate information regarding the hydraulics and proposed construction of the site to ensure the continued health of the wetland area in the

proposed dedication of Town open space.

h. If site development and disturbance of trees occurs between April 1 and August 15, a survey for active nests should be conducted. Trees with an active nest shall not be removed until the nest is abandoned for the season.

i. Within the proposed development, the historic mill structures, along Jasper Road and south of the Wise Museum, are located in existing Jasper Road right of way, in future Jasper Road right of way dedication, and adjacent to future open space dedication to the Town of Erie. The owner and developer have agreed to either move or remove the structures from the right of way and open space. The timing for moving or removing the structures shall be defined in the development agreement for the Wise Farms Final Plat.

j. Within the proposed development, the existing farm on the west end of the property adjacent to the future Jasper Road right of way has an accessory building that encroaches into the future Jasper Road right of way. The owners have agreed to have the structure either moved or removed from the future right of way. The timing for moving or removing the structure shall be defined in the development agreement for the Wise Farms Final Plat.

k. Within the proposed development, the existing house, on the east end of the property, adjacent to Jasper Road, will encroach into the future Jasper Road right of way dedication. The Town has agreed to enter into a license agreement for that portion of the dwelling unit that encroaches into the future right of way at the time of Final Plat.

l. The approval of the Wise Farms Preliminary Plat shall not come into effect until the Wise Farms Zoning Map and Wise Farms PUD Zoning Map is approved and recorded for the property.

m. Technical corrections to Wise Preliminary Plat shall be made to the Town's satisfaction.

SUMMARY AND BACKGROUND OF SUBJECT MATTER

Applicant Jasper Land Investments, LLC
9162 S. Kenwood Court
Highlands Ranch, CO 80126

Owners Wise Homestead, LLC; and,
Elizabeth Kissell

Location The Wise Farms property is located south of Jasper Road and west of 119th Street. The property is separated by the RTD railroad right of way.

Existing Conditions

Zoning — Current zoning is RR – Rural Residential; however, the applicant is processing a concurrent rezoning application and PUD overlay application.

Project Size — 174 Acres

Existing Use — On the property are two existing single family houses and associated accessory structures; historic farm structures; one oil/gas facility; with the majority of the property being used for agriculture.

Adjacent Land-Use/Zoning

	ZONING	LAND USE
NORTH	Rural Residential Neighborhood Mixed Use AG-OS Agricultural – Open Space A-Agricultural: Boulder County	Single Family Residential Erie Historical Museum Boulder County/Town Open Space Single Family Residential
EAST	A-Agricultural: Boulder County ER-Estate Residential	Single Family Residential Single Family Residential
SOUTH	A-Agricultural: Boulder County	Single Family Residential
WEST	A-Agricultural: Boulder County	Farm/Agricultural

Compliance with Town of Erie Comprehensive Plan

The Comprehensive Plan Land Use designation for the Wise property is RR-Rural Residential. The gross density for the RR Land Use designation is typically up to 1 dwelling unit per acre. The acreage of the Wise property is approximately 169 acres. At one dwelling unit per acre that would be a maximum of 169 dwelling units; the applicant is proposing 166 dwelling units. The proposed Preliminary Plat is in compliance with the RR Land Use designation.

Compliance with Zoning

The applicant has a Rezoning and PUD Overlay Land Use applications in concurrent review with the Preliminary Plat. The proposed Rezoning and PUD Overlay will bring the proposed Preliminary Plat into general compliance with the regulations.

SITE SPECIFIC DEVELOPMENT INFORMATION

The applicant proposal includes 166 single family homes. The majority of the property north of the RTD railroad right-of-way is zoned LR-Low Density Residential. The LR zone district contains 125 single family lots that have a minimum lot size of 5,750 square feet. North of RTD also contains 2 lots for the two existing farmhouses that are zoned RR-Rural Residential and have a minimum lot size of 40,000 square feet. South of the RTD railroad right-of-way is zoned RR-Rural Residential and this area includes 39 lots with a minimum lots size of 40,000 square feet.

Development Data

- Preliminary Plat Size — 174 acres
- Total Lots 5,750 to 9,999 square feet — 104 lots
- Total Lots 10,000 to 17,000 square feet — 21 lots

- Total Lots over 40,000 square feet 41 lots
- Total Dwelling Units 166 dwelling units
- Number of Tracts 25 tracts
- 1 Pocket Park 0.45 acres
- Open Space Dedication to Town 9.27 acres
- Gross Residential Density Proposed: 0.95 dwelling units per acre

Housing Diversity

The Town of Erie has a housing diversity requirement that is based on the 65 acres of LR-Low Density Residential zoned on the Wise Farms Zoning Map. The RR-Rural Residential and AG-OS Agricultural-Open Space zoned property is exempt from the housing diversity requirement. Housing diversity is required in the Municipal Code to ensure that as the Town grows, a variation in housing choices are available to potential consumers looking for housing in Erie. The Wise Farms developers housing diversity requirement is to provide either:

- 2 housing types, or,
- 1 housing type and 1 housing type variation.

Below is a listing of what is considered a housing type and what is considered a housing type variation:

Housing Type	Housing Type Variation
Duplex	Front Loaded
	Alley Loaded
Stacked Tri-plex / Quad-plex	Three Dwelling Units per Building
	Four Dwelling Units per Building
Manor Home	Variation in Building Length 30% or More
	Variation in Building Footprint 30% or More
Townhouse (Single-Family Attached)	Front Loaded
	Alley Loaded
Apartment (Multi-family)	Variation in Building Length 30% or More
	Variation in Building Footprint 30% or More
Live-Work Units	Front Loaded
	Alley Loaded
Single Family Detached	Front Loaded
	Alley Loaded
	Lot Size Under 5,000 Square Feet
	Lot Size 5,000 – 9,999 Square Feet
	Lot Size 10,000 – 39,999 Square Feet
	Lot Size 40,000 Square Feet or More

The Wise Farms Preliminary Plat contains 1 Housing Type (Single Family Detached – lots in the 5,000 to 9,999 square foot range) with 1 Housing Type Variation (Single Family Detached – lots in the 10,000 to 39,999 square foot range). There are 104 lots in the 5,000 to 9,999 square foot range; and, 21 lots in the 10,000 to 39,999 square foot range that have an average lots size near 11,400 square feet.

Natural Areas Inventory

The Town of Erie Natural Areas Inventory identifies Natural Area Site #42 within the Wise Farms Preliminary Plat. The Natural Area Site Survey Form is attached to this memo; as well

as, Chapter 2 of the Natural Areas Inventory report that is a user's guide on how to read the results of the survey.

Natural Areas Inventory Site #42 is located on the Wise property, just south of Jasper Road near the historic mill buildings. The Site includes a non-jurisdictional wetland and extends south to the Lower Boulder ditch.

Survey #42 makes the following findings for the site on Wise Farms:

- The effort needed to enhance the natural area is "Low"; this is the level of least effort ranking. The survey states that the enhancement effort would involve eradication of noxious weeds.
- The wetland area is ranked functionally as "small ponding area with some vegetation." The wetland value to wildlife is ranked at "3", on a scale of 1-5.
- The vegetation rankings listed the plant diversity as fairly high with a "4" (51-70 plan species), on a scale of 1-5, with a low percentage (6-10%) of noxious weed cover and very little disturbed bare ground (0-5%).
- The overall wildlife habitat quality ranking was "3" on a scale of 0 to 5. In the Site Comments, it is reported that residents reported having observed yellow-headed blackbirds in the wetland; this is noteworthy as they are a species of special concern.

Non-Jurisdictional Wetlands

The locational map below illustrates the general location of the two non-jurisdictional wetlands.

Northeast Site

Based on the Town of Erie Natural Areas Inventory Site Survey #42, staff requested that the applicant dedicate the wetland area in Site #42 and the tree and vegetation near the ditch to the Town as open space. As illustrated in the applicants site concept map below, the applicant has worked to preserve those areas, for dedication to the Town, that are within the dashed redlines. The development proposal does put a road access between the two features. A large portion of the shrub area, where the new lots and road will be constructed, will be removed by the proposed development; however the large tree and shrubs closest to the ditch will be preserved.

Northwest Site

The smaller wetland area, in the northwest portion of the site, is designated on the Wise Farms Preliminary Plat as a part of Tract L that is designated as a future EnCana oil and gas operations area.

Natural and Cultural Resources Assessment

A site specific Natural and Cultural Resources Assessment report was submitted to assess the property for wetlands and waters of the U.S., threatened and endangered species, wildlife habitats, and properties listed on the National and Colorado registers of historic places. Additionally, the U.S. Army Corps of Engineer provided jurisdictional determination of water features on the property. A referral response was also received from the State Historic Preservation Office.

In summary, the reports and referral response found that:

- The U.S. Army Corps of Engineers determined the two depressional wetlands, Lower Boulder Ditch, and Leyner Cottonwood Ditch are non-jurisdictional. They do not require federal permitting for proposed development alterations.
- Suitable habitat for federally listed threatened or endangered species is not present on the property.
- At the time of the Natural and Cultural Resources Assessment, migratory bird nests were not found on the property. The report stated that there are a number of large trees on the property that provide suitable nesting habitat for migratory birds. If site development and disturbance of trees occurs between April 1 and August 15, a survey for active nests should be conducted. Trees with an active nest cannot be removed until the nest is abandoned for the season.
- The Natural and Cultural Resources Assessment report states that the Wise property, structures and ditches are not listed on the National or State registers of historic places.
- The State Historic Preservation Office (SHPO) referral response letter notified the Town that SHPO operates in an advisory capacity only on projects that do not have state or federal involvement; development of the Wise Farms property does not include state or federal involvement. The SHPO letter identifies the Wise Farm as potentially eligible for listing on the National Register of Historic Places; and, that they consider the Lower Boulder Ditch and RTD railroad right-of-way as historic properties. They encourage occupation of the Wise Farm buildings to prevent decay through neglect and vandalism. SHPO also encourages preservation of the Lower Boulder Ditch by not straightening, lining or piping the ditch.

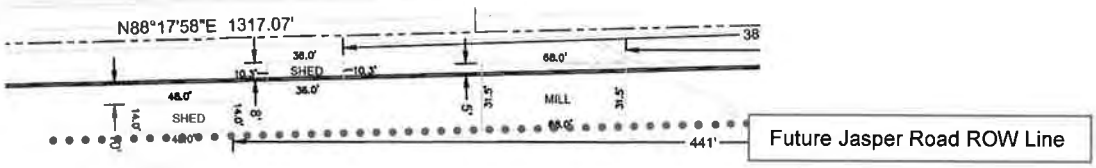
As stated in the Natural Areas Inventory section above, staff requested that the applicant dedicate the wetland area and the tree and vegetation near the ditch to the Town as open space.

Based on the information above, staff has added to the draft resolution, language with requirements for development or tree disturbance between April 1 and August 15 to protect migratory bird nests.

Historic Mill/Farm Structures

There are several historic mill/farm structures along the Jasper Road right of way; as illustrated below from the ALTA survey. Some of these structures encroach into the existing road right of way (heavy black line defines the edge of the existing right of way) and others encroach into the

additional right of way (red line defines the edge of the future right of way) that would be dedicated with a final plat of Wise Farms. Additionally, all of the structures are adjacent to land that the applicant has designated as open space dedication to the Town. The structures have not been maintained and are in a hazardous condition. Throughout development review of the application, staff has stated to the developer and Wise family that Town staff does not want to take on the restoration, maintenance and liability associated with the structures. We have discussed several options for the structures with the developer and owners. The most recent conversations with the owner and developer have been focused on the Wise family looking into potentially moving the historic buildings from their current location to the north side of Jasper Road to become part of the Wise Museum site. Staff supports this option and will continue to work with the owner and developer on timing for the transfer of the structures onto the museum site during the final plat application process.



Proposed Open Space Dedication

Trees

The Wise Farms property contains a large number of trees along the Lower Boulder Ditch, Leyner Cottonwood Ditch and Jasper Road. Within the Landscape Construction Plans (Sheet L8 and L9) the applicant has identified which trees will be removed and which trees will be preserved. The Town's Forester has visited the site and will continue to work with the applicant through the Final Plat construction document application process to evaluate and finalize the tree removal and protection plans.

Parks, Open Space and Trails

Public Dedication Requirements:

The public parks and open space dedication requirements, for the Wise Farms property, are based on the proposed development of 166 dwelling units. The required dedications for parks and open space can be found on the Wise Farms PUD Zoning Map and on the table below.

Public Dedications	Required Dedication	Proposed Dedication
Pocket Park	0.23	0.45*
Neighborhood Park	1.39	Fee in Lieu
Community Park	2.32	Fee in Lieu
Open Space	7.87	9.28

*Applicant proposal includes a second Pocket Park, south of the RTD railroad right of way, if a road crossing is not obtained.

Pocket Park

The applicant is proposing a Pocket Park, north of the RTD railroad right of way that is larger than required for the public Pocket Park dedication. In the Town of Erie Parks, Recreation, Open Space, and Trails Master Plan (PROST), Pocket Parks are typically located within ¼ mile of the residents they serve. Because the Wise Farms property is divided by RTD and there is no current crossing for direct access between the north and south half of the Wise Farms property, the residents on the south half of the property are not within a ¼ mile of the proposed pocket park. If the applicant does not obtain permission for the proposed street crossing of RTD, the

applicant has proposed, in the Landscape Construction Plans, an alternative second pocket park that would replace Block 2, Lot 1 which is 0.96 acres in size.

Neighborhood Park and Community Park

The PROST Master Plan does not identify a neighborhood park or community park in this location. The applicant has proposed paying a fee-in-lieu for the neighborhood park and community park dedication. The developers required dedication for these parks (1.39 acres – Neighborhood Park; 2.32 acres – Community Park) does not come close to meeting the minimum size requirements for the neighborhood park (7 acres) and community park (30 acres) dedication requirements.

Open Space

As stated above, staff requested that the applicant dedicate the wetland area and the tree and vegetation near the ditch to the Town as open space. The applicant has proposed a 9.28 acre open space dedication to the Town, which is above the dedication requirement of 7.87 acres. Staff supports the dedication of this area, as we do not currently have a wetland of this type in our open space inventory. Staff is recommending, in the draft Resolution, that the applicant be required to provide, at Final Plat, adequate information regarding the hydraulics and proposed construction of the site to ensure the continued health of the wetland area within the proposed dedication of Town open space.

Pedestrian Trails

Wise Farms Preliminary Plat provides pedestrian connections throughout the proposed development. The trails provide a buffer open space between the lots in Wise Farms and the adjacent, existing homes. The PROST Master Plan identifies a spine trail along the RTD railroad right of way. The applicant is proposing a trail in this location.

Private Open Space

Approximately 62 acres of private open space is distributed throughout the proposed preliminary plat and includes areas such as landscape buffers along roadways, detention facilities, ditch corridors, extensive oil and gas well sites, WAPA above ground power lines, significantly undermined ground, and trail corridors.

RTD Railroad Right-of-Way

The RTD Railroad right of way separates the two parcels of land that make up the Wise Farms Preliminary Plat. The right of way is a barrier between the two parts of the development. The applicant has proposed a street crossing of the right of way; however, this crossing may be difficult to obtain. Staff and the applicant would like direction on whether or not you would like to pursue the proposed street crossing of the right of way with the Final Plat application.

The applicant has also proposed utility crossings of the RTD right of way; these crossings will need to be reviewed and permitted by RTD before they can be constructed.

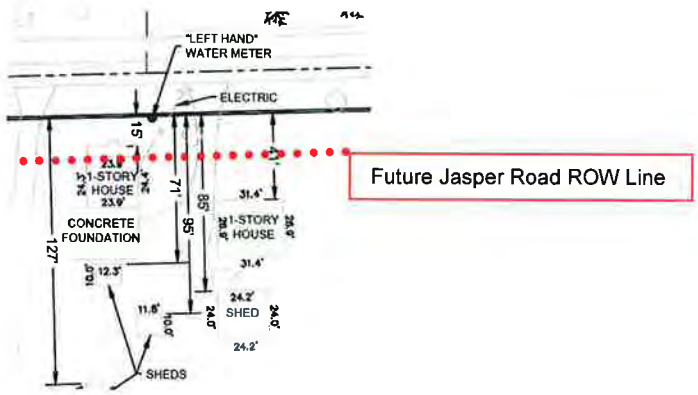
Streets

Jasper Road

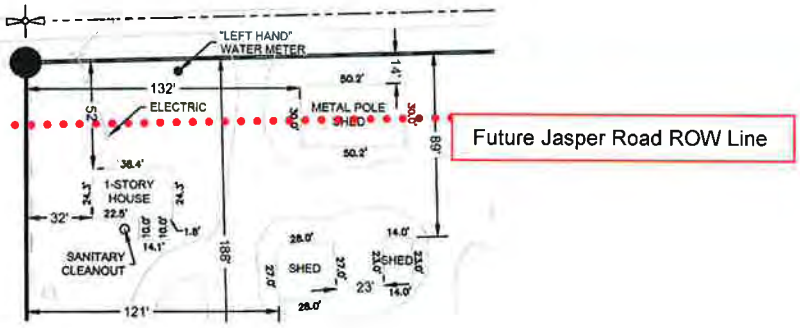
The Wise Farms development will have two access points onto Jasper Road. The access roads have been located to minimize conflicts of headlights with homes on the north side of Jasper Road and to avoid the existing wetland on the east side of the property. In general, Jasper Road will be increased in width to add a 4 foot paved shoulder/bike lane on the south side of the street. The main entry into the Wise Farms development from Jasper Road is the western entry. The main entry will include a center left turn lane for westbound drivers.

Jasper Road Encroachments

Within the proposed development, the existing house, on the east end of the property adjacent to Jasper Road, will encroach into the future Jasper Road right of way dedication. The Town has agreed to enter into a license agreement for that portion of the dwelling unit that encroaches into the future right of way at the time of Final Plat.



Within the proposed development, the existing farm on the west end of the property adjacent to Jasper Road has an accessory building (metal pole shed in diagram below) that encroaches into the future Jasper Road right of way. The owners have agreed to have the structure either moved or removed from the future right of way. The timing for moving or removing the structures shall be defined in the development agreement for the Wise Farms Final Plat.



119th Street

The Wise Farms development will have one access point onto 119th Street. The access road has been located to minimize subsidence risks associated with undermining on this portion of the property. In general, 119th will be increased in width to add a 4 foot paved shoulder/bike lane on the west side of the street. The entry into the Wise Farms development from 119th Street will include a center left turn lane for northbound drivers.

Because there is only one access road into the south half of the Wise Farms development from 119th Street, the applicant is proposing an emergency access from the end of the cul-de-sac from Street Z to 119th Street.

Internal Streets

A Traffic Report was submitted for the Wise Farms Preliminary Plat. All of the streets proposed are public roads. The streets and improvements proposed are in compliance with the Towns Specifications and Standards.

Access to Property to the West:

To the west of the southern half of the Wise Farms development is a parcel of land that is not developed and eligible for future annexation into the Town. The Wise Farms Preliminary Plat has provided one street access (Street Y) and a secondary emergency access point (Tract F) to this property.

Utilities

The Town of Erie will provide both water and wastewater services to the Wise Farms property. The West Side Interceptor (wastewater) runs through the northwest portion of the Wise Farms property; however, water lines are not located near the Wise Farms property. The developer will need to loop the proposed Wise Farms development to existing water lines in the Kenosha Farms Subdivision area to the north and to the Canyon Creek and Meadowsweet Farm Subdivision area to the south. Portions of the future water line may need to cross through areas within Boulder County; which will require permitting with Boulder County.

At the time of building permit, raw water fee's are collected that allow the Town to purchase water rights ensuring an adequate water supply for potable water and wastewater services. In addition, raw water fees are collected at final plat approval for parks and open space areas.

Utility service providers for the property are Xcel Energy for electric and natural gas, Century Link Communications for telephone services and Comcast for cable television. Utility easements for these providers will be finalized at the time of final plat.

All local, above ground power lines within and adjacent to the Wise Farms Preliminary Plat will be undergrounded with development.

Western Area Power Association (WAPA) Power Distribution Lines

The Western Area Power Association (WAPA) power distribution lines cut across the southern half of the Wise Farms property. The easement for the WAPA lines is 75 feet wide. Residential lots do not encroach into the easement. There are proposed street and pedestrian trail crossings of the easement and grading and utility work that will need to occur within the easement. Any development related activity within the WAPA easement will need to be reviewed and permitted through WAPA.

Ditches

Lower Boulder Ditch

The Lower Boulder Ditch is located within the northern half of the Wise Farms Preliminary Plat. The applicant has shown the Town required 75 foot setback from the centerline of the ditch to the residential lots. The applicant is not proposing to alter the ditch other than to cross it with streets and utilities and add safety improvements. Due to the size of this ditch, safety improvements will be required from the ditch company. The applicant has proposed installation of a 5 foot iron ornamental fence along the full length of both sides of the ditch; the fencing will include access gates at the road crossings. A pedestrian trail will be located on the south side of the ditch, outside of the fenced area.

The Northern Colorado Water Conservancy District (NCWCD) has an existing access and utility easement from Jasper Road to the Lower Boulder Ditch. This easement is located in areas the applicant is proposing to plat with single family lots. The NCWCD easement will need to be vacated before a final plat is recorded.

During the referral process the Lower Boulder Ditch Company has requested the Town discuss maintenance issues related to the ditch that are inclusive of the entire ditch through the Town

and not just associated with the Wise Farms development proposal. The Town will continue to work with the Ditch Company to come to resolution during the Final Plat process.

All work within the Lower Boulder Ditch easement will require review and approval by the appropriate ditch entity. Both Northern Colorado Water Conservancy District and Lower Boulder Ditch Company have rights associated with the ditch.

Leyner Cottonwood Ditch

The Leyner Cottonwood Ditch is located on the very southern edge of the south half of the Wise Farms development. The applicant has shown the required 75 foot setback from the centerline of the ditch to the residential lots. The applicant is not proposing to alter the ditch. The Wise Farms owners have two ditch laterals that will be abandoned; and, there is one ditch lateral and access drive that serves an off-site user to the east that will not be altered. The applicant is proposing to construct a pedestrian trail along the north side of the ditch.

Drainage and Erosion

A Drainage Study was submitted and reviewed. The development is proposing two detention ponds in Tract A and Tract M.

Oil/Gas Facilities

The Wise Farms property has one existing oil/gas facility that is owned by Noble Energy that is located in the southern half of the proposed development. EnCana holds the mineral rights in the north half of the Wise Farms property, and Kerr-McGee holds the mineral rights for the east half of the south half of the Wise Farms property. The property owner has a Surface Use Agreement (SUA) with EnCana that is proposed to be amended with an exhibit. There is not an executed Surface Use Agreement with Noble Energy or Kerr-McGee; only draft SUAs. The setbacks illustrated on the Preliminary Plat documents represent the setbacks in the draft documents, for EnCana, Noble Energy, and Kerr-McGee submitted in the applicant materials. The information presented below is based on those "draft" Surface Use Agreements.

Northern Half of Property - EnCana Future Wells

The Wise Farms Preliminary Plat identifies the draft EnCana SUA setback requirements on the plat. The full executed Surface Use Agreement and draft Exhibit that is to amend the executed SUA is a part of the applicant materials. The Preliminary Plat shows 10 EnCana wells being drilled in the northwest part of the site. Additionally, a pipeline and associated easement is proposed from the well site that travels east along the RTD railroad right of way to 119th Street. The temporary completions area and the permanent setbacks for the well site, as defined in the draft SUA Exhibit, encumber proposed Tract S, Tract L, Tract M, Street D and Street E, and single family lots in Block 15. Because the SUA encumbers these areas, a Final Plat, in the areas encumbered, cannot be approved until the wells have been drilled.

South Half of the Property - Noble Energy Existing Well

It is the applicant's responsibility to ensure that existing well facilities, access roads and fencing meet the Municipal Code requirements at the time of final plat. The draft Surface Use Agreement is a part of the applicant materials. The Noble well site is located in Tract D. The applicant proposes to create a new access to the well site by having well site access come off of Street X at Tract W. Additionally, the applicant proposes to realign the existing well pipeline that comes from the property to the west and travels to 119th Street. Realignment of the pipeline will be through Tract V, Tract W, Tract D, Tract U, Tract X to Tract E. Realignment of the pipeline and vacation of portions of the existing easement will need to come completed before the Town can approve a Wise Farms Final Plat in the area encumbered.

As a part of the Environment Site Assessment Report (Phase I), the existing Noble Energy oil and gas well and associated tank battery was recognized as an environmental condition. The well site was identified due to the age of the well and the concrete tank used to store the condensate. Staff is recommending that a Phase II Environmental Assessment Report be completed for Final Plat application of this area of Wise Farms.

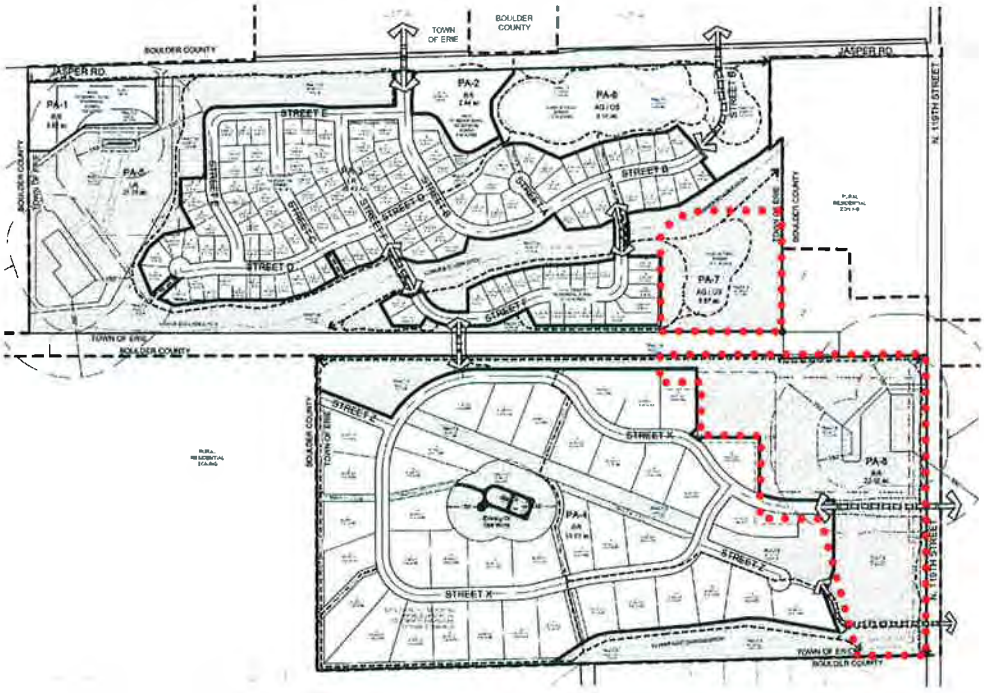
South Half of the Property - Kerr McGee - Future Wells

The Wise Farms Preliminary Plat identifies the draft Kerr-McGee SUA setback requirements on the plat. The draft Surface Use Agreement is a part of the applicant materials. The Preliminary Plat shows 10 Kerr-McGee wells being drilled in Tract R. Because the SUA is not clear on the area that will be encumbered for the future Kerr-McGee well site, a Final Plat, in the southern half of the property, cannot be approved until a SUA is finalized and encumbered areas are clearly defined.

South Half of the Property - Abandoned Well

There is one abandoned oil and gas well site identified on the preliminary plat. It is located in Street X. The abandoned well site is shown in its approximate location on the preliminary plat. Before a Final Plat is approved, the applicant will need to locate and monument the exact location of the abandoned well and show the required monument and setback on the Final Plat, to be in compliance with the Municipal Code.

Undermining



The mines that operated below the Wise Farms property are referred to in the Mine Subsidence Investigation report as the Banner, Standard, Star and Jackson Mines. The Colorado Division of Mines has records that indicate the mines were mapped in 1888; no map occurs for the Banner Shaft. The report stated that there were "significant inaccuracies on the original mine maps" and that "the average depth to the top of the main seam is approximately 100 feet." After drilling the Wise Property, the report concluded that:

- No mine subsidence related development restrictions are required on those portions of the property as not affected by mining. They recommend that no structures be built in the restricted areas; which are outlined on the map in red.
- If development of the "restricted" portions of the Wise Property is anticipated, additional studies, including drilling, will be required.
- Infrastructure, including roads and utilities, should utilize areas unaffected by mining, or be constructed to withstand the 0.74% strain.

On the north half of Wise Farms Preliminary Plat, the "restricted" portion of the site is proposed to be Metro District or HOA owned and maintained open space. Residential lots are located outside of the "restricted" area.

On the south half of the Wise Farms Preliminary Plat, the applicant proposes to cross the "restricted" area with a street access from 119th Street and to cross the "restricted" area with a secondary emergency access. Additionally, two of the residential lots have a portion of the "restricted" area within the lot. Lot 3, Block 1 includes a 90 foot setback from the rear property line due to the subsidence risk on that lot. Lot 1, Block 3 includes a subsidence setback along the Street X frontage that is between 45 feet and 75 feet in depth.

If a subsidence event were to occur in Street X, or in the emergency access to 119th Street, or on either residential lot; the Town and homeowner would not be eligible for assistance in remediation of the event from the State of Colorado.

The State Geologic Survey reviewed the reports and did not have any conflicts with the report findings.

Schools

The Wise Farms proposed development is located in the St. Vrain Valley School District. During the referral process the School District supported the development of the property and did not request dedication of land for a school site in this location.

Police Services

The Erie Police Department will provide service to the property.

Fire Protection

The Mountain View Fire Protection District will provide fire and emergency medical services. A proposed fire station location was dedicated in the Flatiron Meadows Subdivision on the southwest corner of Erie Parkway and Meadow View Parkway which is approximately 1 mile from the Wise Farms property.

STAFF REVIEW AND ANALYSIS

The Wise Farms Preliminary Plat was reviewed for conformance with Municipal Code 10.7.7 C.10. Approval Criteria. Staff finds the Wise Farms Preliminary Plat in compliance with the Preliminary Plat Approval Criteria as listed below.

a. The subdivision is generally consistent with the Town's Comprehensive Master Plan.

   Staff: The subdivision is generally consistent with the Comprehensive Plan.

b. The subdivision is generally consistent with and implements the intent of the specific zoning district in which it is located.

   Staff: The subdivision is in general compliance with the proposed Rezoning and Wise Farms PUD.

c. The general layout of lots, streets, driveways, utilities, drainage facilities, and other services within the proposed subdivision is designed to meet the Town's standards related to health and safety and in a way that minimizes the amount of land disturbance, maximizes the amount of open space in the development, preserves existing trees/vegetation and riparian areas, protects critical wildlife habitat, and otherwise accomplishes the purposes and intent of this UDC.

   Staff: The subdivision meets the Town's standards.

d. The subdivision complies with all applicable use, development, and design standards set forth in Chapters 3, 5 and 6 of this UDC that have not otherwise been modified or waived pursuant to this Chapter or this UDC. Applicants shall refer to the Development Standards in Chapter 5 of this UDC and shall consider them in the layout of the subdivision in order to avoid creating lots or patterns of lots in the subdivision that will make compliance with such development and design standards difficult or infeasible.

   Staff: The subdivision has modified Town standards found in Chapter 6 of the UDC. All modifications are in the Wise Farms PUD and include modifications to the single family residential architectural standards, lot size and setback variations. Additionally, accessory dwelling units will be a use by right in the southern half of the property; and, will not require a Special Review Use public hearing process.

e. The subdivision complies with all applicable regulations, standards, requirements, or plans of the Federal or State governments and other relevant jurisdictions, including but not limited to wetlands, water quality, erosion control, and wastewater regulations.

   Staff: The subdivision will meet the standards.

f. The subdivision will not result in significant adverse impacts on the natural environment, including air, water, noise, storm water management, wildlife, and vegetation, or such impacts will be substantially mitigated.

   Staff: Significant adverse impacts are not anticipated.

g. The subdivision shall be integrated and connected, where appropriate, with adjacent development through street connections, sidewalks, trails, and similar features.

   Staff: Pedestrian access is adequately provided.

h. The subdivision will not result in significant adverse impacts on adjacent properties, or such impacts will be substantially mitigated.

   Staff: Significant adverse impacts are not anticipated.

i. Adequate and sufficient public safety, transportation, utility facilities and services, recreation facilities, parks, and schools are available to serve the subject property, while maintaining sufficient levels of service to existing development.

   Staff: Adequate facilities are available to serve the property.

j. As applicable, the proposed phasing plan for development of the subdivision is rational in terms of available infrastructure capacity.

   Staff: Adequate infrastructure is available. The applicant will be responsible for looping future waterlines from the Kenosha Farms subdivision area to the Canyon Creek and Meadowsweet Farms subdivision area.

NEIGHBORHOOD MEETING

As required by the Municipal Code a Neighborhood Meeting was held:

Neighborhood Meeting Date:	January 7, 2015
Neighborhood Meeting Location:	Erie Community Center

The required posted and mailed notice of the Neighborhood Meeting was provided as required.

PUBLIC NOTICE

Notice of this Public Hearing has been provided as follows:

Published in the Colorado Hometown Weekly:	December 31, 2014
Property Posted:	January 2, 2015
Letters to adjacent property owners within 300':	January 2, 2015

Staff has received a few written comments and has attached them to this memo.

STAFF RECOMMENDATION

Staff finds the application consistent with the Preliminary Plat approval criteria in Municipal Code, Section 10.7.7.C.10, and recommends approval of the Wise Farms Preliminary Plat application. Staff has provided Resolution P15-09, for the Planning Commission consideration, recommending approval of the application to the Board of Trustees with the following conditions:

a. Executed Surface Use Agreements, with the mineral owners or leaseholders, shall be in place before a Wise Farms Final Plat, for the areas affected, is approved by the Town.

b. Realignment of the existing Noble Energy pipeline and vacation of portions of the existing easement will need to be completed before the Town approves a Wise Farms Final Plat in the areas where proposed single family lots are encumbered by the existing facility.

c. Within the applicant's Environmental Site Assessment Report (Phase I), the existing Noble Energy oil and gas well and associated tank battery was recognized as an environmental condition. The well site was identified due to the age of the well and the concrete tank used to store the condensate. The applicant is required to submit a Phase II Environmental Assessment Report of this well site with the Final Plat application of this area of Wise Farms.

d. The abandoned oil and gas well, within a Wise Farms Final Plat for development, shall be located, monumented and identified on the final plat, as specified in the Municipal Code.

e. The Northern Colorado Water Conservancy District access and utility easement from Jasper Road to the Lower Boulder Ditch shall be vacated before a final plat for a development is recorded in this area.

f. If the applicant does not obtain permission for the proposed street crossing of the RTD railroad right of way, the applicant shall provide a second pocket park in the location of Block 2, Lot 1 which is 0.96 acres in size.

g. At Final Plat, the applicant shall provide adequate information regarding the hydraulics and proposed construction of the site to ensure the continued health of the wetland area in the proposed dedication of Town open space.

h. If site development and disturbance of trees occurs between April 1 and August 15, a survey for active nests should be conducted. Trees with an active nest shall not be removed until

the nest is abandoned for the season.

i. Within the proposed development, the historic mill structures, along Jasper Road and south of the Wise Museum, are located in existing Jasper Road right of way, in future Jasper Road right of way dedication, and adjacent to future open space dedication to the Town of Erie. The owner and developer have agreed to either move or remove the structures from the right of way and open space. The timing for moving or removing the structures shall be defined in the development agreement for the Wise Farms Final Plat.

j. Within the proposed development, the existing farm on the west end of the property adjacent to the future Jasper Road right of way has an accessory building that encroaches into the future Jasper Road right of way. The owners have agreed to have the structure either moved or removed from the future right of way. The timing for moving or removing the structure shall be defined in the development agreement for the Wise Farms Final Plat.

k. Within the proposed development, the existing house, on the east end of the property, adjacent to Jasper Road, will encroach into the future Jasper Road right of way dedication. The Town has agreed to enter into a license agreement for that portion of the dwelling unit that encroaches into the future right of way at the time of Final Plat.

l. The approval of the Wise Farms Preliminary Plat shall not come into effect until the Wise Farms Zoning Map and Wise Farms PUD Zoning Map is approved and recorded for the property.

m. Technical corrections to Wise Preliminary Plat shall be made to the Town's satisfaction.

Approved by:

R. Martin Ostholthoff
Community Development Director

ATTACHMENTS:

A. Resolution No. P15-09
B. Natural Areas Inventory – Natural Area 42
C. Public Comments
D. Referral Comments
E. Wise Farms Preliminary Plat Application Materials

RESOLUTION NO. P15-09

A RESOLUTION REGARDING THE PRELIMINARY PLAT FOR WISE FARMS PRELIMINARY PLAT, ADOPTING CERTAIN FINDINGS OF FACT AND CONCLUSIONS FAVORABLE TO THE PRELIMINARY PLAT.

WHEREAS, the Planning Commission of the Town of Erie, Colorado, considered the Preliminary Plat of Wise Farms Preliminary Plat on Wednesday, January 21, 2015 on the application of Elizabeth W. Kissell, and Wise Homestead, LLC, 11497 Jasper Road, Lafayette, CO, such Preliminary Plat being a plat of the following real property; to wit:

See Exhibit "A," attached hereto and incorporated herein, and

WHEREAS, the application for Preliminary Plat is detailed on the attached Exhibit "B" Wise Farms Preliminary Plat, dated December 29, 2014.

WHEREAS, said Wise Farms Preliminary Plat is incorporated herein and made part hereof by this reference.

NOW, THEREFORE, BE IT RESOLVED BY THE PLANNING COMMISSION OF THE TOWN OF ERIE, COLORADO, as follows:

Section 1. Findings of Fact.

1. The applicant's application and supporting documents are in substantial compliance with Section 7.7.C of Title 10, Town of Erie Municipal Code.
2. The Town of Erie Municipal Code shall be followed in the development of the property.
3. A Detailed Development Agreement (DA) will be required at such time as the property is approved for the final plat.
4. The Preliminary Plat as proposed, subject to the following conditions, will preserve the health, safety, welfare and interest of the citizens of the Town of Erie, Colorado.
    a. Executed Surface Use Agreements, with the mineral owners or leaseholders, shall be in place before a Wise Farms Final Plat, for the areas affected, is approved by the Town.
    b. Realignment of the existing Noble Energy pipeline and vacation of portions of the existing easement will need to be completed before the Town approves a Wise Farms Final Plat in the areas where proposed single family lots are encumbered by the existing facility.
    c. Within the applicant's Environmental Site Assessment Report (Phase I), the existing Noble Energy oil and gas well and associated tank battery was recognized as an environmental condition. The well site was identified due to the age of the well and the concrete tank used to store the condensate. The applicant is required to submit a Phase II Environmental Assessment Report of this well site with the Final Plat application of this area of Wise Farms.

d. The abandoned oil and gas well, within a Wise Farms Final Plat for development, shall be located, monumented and identified on the final plat, as specified in the Municipal Code.

e. The Northern Colorado Water Conservancy District access and utility easement from Jasper Road to the Lower Boulder Ditch shall be vacated before a final plat for a development is recorded in this area.

f. If the applicant does not obtain permission for the proposed street crossing of the RTD railroad right of way, the applicant shall provide a second pocket park in the location of Block 2, Lot 1 which is 0.96 acres in size.

g. At Final Plat, the applicant shall provide adequate information regarding the hydraulics and proposed construction of the site to ensure the continued health of the wetland area in the proposed dedication of Town open space.

h. If site development and disturbance of trees occurs between April 1 and August 15, a survey for active nests should be conducted. Trees with an active nest shall not be removed until the nest is abandoned for the season.

i. Within the proposed development, the historic mill structures, along Jasper Road and south of the Wise Museum, are located in existing Jasper Road right of way, in future Jasper Road right of way dedication, and adjacent to future open space dedication to the Town of Erie. The owner and developer have agreed to either move or remove the structures from the right of way and open space. The timing for moving or removing the structures shall be defined in the development agreement for the Wise Farms Final Plat.

j. Within the proposed development, the existing farm on the west end of the property adjacent to the future Jasper Road right of way has an accessory building that encroaches into the future Jasper Road right of way. The owners have agreed to have the structure either moved or removed from the future right of way. The timing for moving or removing the structure shall be defined in the development agreement for the Wise Farms Final Plat.

k. Within the proposed development, the existing house, on the east end of the property, adjacent to Jasper Road, will encroach into the future Jasper Road right of way dedication. The Town has agreed to enter into a license agreement for that portion of the dwelling unit that encroaches into the future right of way at the time of Final Plat.

l. The approval of the Wise Farms Preliminary Plat shall not come into effect until the Wise Farms Zoning Map and Wise Farms PUD Zoning Map is approved and recorded for the property.

m. Technical corrections to Wise Preliminary Plat shall be made to the Town's satisfaction.

Section 2. Conclusions and Order Recommending Approval of the Preliminary Plat of Wise Farms Preliminary Plat to the Board of Trustees.

1. Based on the above Findings of Fact, the Planning Commission hereby forwards the Wise Farms Preliminary Plat application to the Board of Trustees with the Planning Commission's recommendation for approval with the conditions of approval listed above.

INTRODUCED, READ, SIGNED AND APPROVED this 21st day of January 2015.

TOWN OF ERIE, PLANNING COMMISSION

By: _____
J. Eric Bottenhorn, Chair

ATTEST:

By: _____
Hallie S. Sawyer, Secretary

EXHIBIT A

(Wise Farms Legal Description)

NORTH PARCEL:

A PARCEL OF LAND BEING A PART OF THE NORTH HALF OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE EAST QUARTER CORNER OF SAID SECTION 14, FROM WHICH THE EAST-SOUTH ONE SIXTEENTH CORNER OF SAID SECTION 14 BEARS S00°04'01"E, A DISTANCE OF 1,316.88 FEET SAID LINE FORMING THE BASIS OF BEARINGS WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;

THENCE S88°24'34"W, ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 30.01 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF NORTH 119TH STREET;

THENCE S88°24'34"W ALONG SAID SOUTH LINE, A DISTANCE OF 627.28 FEET; TO THE SOUTHEAST CORNER OF THE WEST HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING S88°24'34"W ALONG SAID SOUTH LINE , A DISTANCE OF 3.19 FEET;

THENCE NORTH 00°09'24"W, A DISTANCE OF 114.08 FEET TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY, SAID RIGHT-OF-WAY LINE BEING 50 FEET, BY PERPENDICULAR MEASUREMENT NORTHERLY OF THE CENTERLINE OF THE EXISTING TRACK, SAID POINT BEING THE POINT OF BEGINNING;

THENCE S89°42'11"W ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 653.74 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING S89°42'11"W ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1,314.16 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING S89°42'11"W ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1,309.61 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEEST QUARTER OF SAID SECTION 14;

THENCE N00°29'33"W ALONG SAID WEST LINE, A DISTANCE OF 1,119.88 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF JASPER ROAD;

THENCE ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE THE FOLLOWING THREE (3) COURSES:

1. N88°21'52"E, A DISTANCEE OF 1,314.39 FEET
2. N88°17'28"E, A DISTANCE OF 1,317.03 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;
3. CONTINUING N88°17'28"E, A DISTANCE OF 599.53 FEET TO THE NORTHWESTERLY CORNER OF THAT TRACT OF LAND AS DESCRIBED ON SAID FILM 1555, AT RECEPTION NO. 953348;

THENCE S00°09'21"E ALONG THE WESTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 397.57 FEET TO THE MOST SOUTHERLY CORNER THEREOF;

THENCE N50°52'13"E ALONG THE SOUTHEASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 70.21 FEET;

THENCE S00°09'21"E, A DISTANCE OF 843.98 FEET TO THE POINT OF BEGINNING.

SOUTH PARCEL:

A PARCEL OF LAND BEING A PART OF THE NORTH HALF AND A PART OF THE SOUTHEAST QUARTER OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE EAST QUARTER CORNER OF SAID SECTION 14, FROM WHICH THE EAST-SOUTH ONE SIXTEENTH CORNER OF SAID SECTION 14 BEARS SOUTH 00°04'01" EAST, A DISTANCE OF 1316.88 FEET, SAID LINE FORMING THE BASIS OF BEARINGS WITH ALL BEARINGS CONTAINED HEREWITH BEING RELATIVE THERETO;

THENCE SOUTH 88°24'34" WEST, A DISTANCE OF 30.01 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF NORTH 119TH STREET, SAID POINT BEING THE POINT OF BEGINNING;

THENCE SOUTH 00°04'10" EAST ALONG SAID WESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1316.93 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 88°18'16" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 1282.45 FEET TO THE SOUTHWEST CORNER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 88°18'16" WEST ALONG THE SOUTH LINE OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 1312.40 FEET TO THE SOUTHWEST CORNER OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 88°16'21" WEST ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 14, A DISTANCE OF 60.98 FEET TO THE SOUTHEASTERLY CORNER OF THAT TRACT OF LAND CONVEYED TO RONALD SCOTT JASPER, RONALD LEE JASPER AND VEE ANN JASPER AS DESCRIBED IN WARRANTY DEED RECORDED MAY 3, 1976, ON FILM 922 AS RECEPTION NO. 175271, OF THE RECORDS OF BOULDER COUNTY, COLORADO;

THENCE NORTH 00°19'00" WEST ALONG THE EASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 1381.63 FEET TO THE SOUTHERLY RIGHT-OF-WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY, SAID RIGHT-OF-WAY LINE BEING 50 FEET, BY PERPENDICULAR MEASUREMENT, SOUTHERLY OF THE EXISTING TRACK;

THENCE NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 62.45 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, A

DISTANCE OF 1314.28 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 653.74 FEET;

THENCE SOUTH 00°09'21" EAST, A DISTANCE OF 14.08 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE NORTH 88°24'34" EAST ALONG SAID SOUTH LINE, A DISTANCE OF 3.19 FEET TO THE SOUTHEAST CORNER OF THE WEST HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 88°24'34" EAST ALONG SAID SOUTH LINE, A DISTANCE OF 627.28 FEET TO THE POINT OF BEGINNING.

SAID NORTH, SOUTH AND JASPER ROAD RIGHT-OF-WAY PARCELS CONTAINING A CALCULATED AREA OF 7,576,344 SQUARE FEET, OR 173.929 ACRES, MORE OR LESS.

EXHIBIT B

(Wise Farms Preliminary Plat)

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M., TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO

173.929 ACRES – 166 LOTS/25 TRACTS

PP 13–00012

SHEET 1 OF 14

LAND SUMMARY CHART		
TYPE	AREA	% OF TOTAL AREA
RESIDENTIAL	65.864 AC.	37.87%
TRACTS	81.581 AC.	46.90%
PUBLIC ROW	26.484 AC.	15.23%
TOTAL	173.929 AC.	100%

LEGAL DESCRIPTION

KNOW ALL PEOPLE BY THESE PRESENTS, THAT THE UNDERSIGNED WARRANT THAT THEY ARE OWNERS OF A PARCEL OF LAND BEING A PART OF THE NORTH HALF OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

NORTH PARCEL:

COMMENCING AT THE EAST QUARTER CORNER OF SAID SECTION 14, FROM WHICH THE EAST–SOUTH ONE SIXTEENTH CORNER OF SAID SECTION 14 BEARS SOUTH 00°04'01" EAST, A DISTANCE OF 1316.88 FEET SAID LINE FORMING THE BASIS OF BEARINGS WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;

THENCE SOUTH 88°24'34" WEST, ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 30.01 FEET TO A POINT ON THE WESTERLY RIGHT–OF–WAY LINE OF NORTH 119TH STREET;

THENCE CONTINUING SOUTH 88°24'34" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 627.28 FEET, TO THE SOUTHEAST CORNER OF THE WEST HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 88°24'34" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 3.19 FEET;

THENCE NORTH 00°09'21" WEST, A DISTANCE OF 114.08 FEET TO A POINT ON THE NORTHERLY RIGHT–OF–WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT–OF–WAY, SAID RIGHT–OF–WAY LINE BEING 50 FEET, BY PERPENDICULAR MEASUREMENT NORTHERLY OF THE CENTERLINE OF THE EXISTING TRACK, SAID POINT BEING THE POINT OF BEGINNING;

THENCE SOUTH 89°42'11" WEST ALONG SAID NORTHERLY RIGHT–OF–WAY LINE, A DISTANCE OF 653.74 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 89°42'11" WEST ALONG SAID NORTHERLY RIGHT–OF–WAY LINE , A DISTANCE OF 1314.46 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 89°42'11" WEST ALONG SAID NORTHERLY RIGHT–OF–WAY LINE, A DISTANCE OF 1309.61 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14;

THENCE NORTH 00°29'33" WEST ALONG SAID WEST LINE, A DISTANCE OF 1119.88 FEET TO A POINT ON THE SOUTHERLY RIGHT–OF–WAY LINE OF JASPER ROAD;

THENCE ALONG SAID SOUTHERLY RIGHT–OF–WAY LINE THE FOLLOWING THREE (3) COURSES:

1. NORTH 88°21'52" EAST, A DISTANCE OF 1314.39 FEET;
2. NORTH 88°17'58" EAST, A DISTANCE OF 1317.03 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;
3. CONTINUING NORTH 88°17'58" EAST, A DISTANCE OF 599.53 FEET TO THE NORTHWESTERLY CORNER OF THAT TRACT OF LAND AS DESCRIBED ON SAID FILM 1555, AT RECEPTION NO. 953348;

THENCE SOUTH 00°09'21" EAST ALONG THE WESTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 397.57 FEET TO THE MOST SOUTHERLY CORNER THEREOF;

THENCE NORTH 36°52'13" EAST ALONG THE SOUTHEASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 70.21 FEET;

THENCE SOUTH 00°09'21" EAST, DISTANCE OF 843.98 FEET TO THE POINT OF BEGINNING,

SAID PARCEL CONTAINING A CALCULATED AREA OF 3,782,135 SQUARE FEET OR 86.826 ACRES, MORE OR LESS

TOGETHER WITH:

SOUTH PARCEL:

A PARCEL OF LAND BEING A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE EAST QUARTER CORNER OF SAID SECTION 14, FROM WHICH THE EAST–SOUTH ONE SIXTEENTH CORNER OF SAID SECTION 14 BEARS SOUTH 00°04'01" EAST, A DISTANCE OF 1316.88 FEET, SAID LINE FORMING THE BASIS OF BEARINGS WITH ALL BEARINGS CONTAINED HEREWITH BEING RELATIVE THERETO;

THENCE SOUTH 88°24'34" WEST, A DISTANCE OF 30.01 FEET TO A POINT ON THE WESTERLY RIGHT–OF–WAY LINE TO NORTH 119TH STREET;

THENCE SOUTH 00°04'01" EAST, ALONG SAID WESTERLY RIGHT–OF–WAY LINE, A DISTANCE OF 0.14 FEET TO A POINT ON THE SOUTHERLY RIGHT–OF–WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT–OF–WAY, SAID RIGHT–OF–WAY LINE BEING 50 FEET, BY PERPENDICULAR MEASUREMENT, SOUTHERLY OF THE EXISTING TRACK, SAID POINT BEING THE POINT OF BEGINNING;

THENCE CONTINUING SOUTH 00°04'01" EAST ALONG SAID WESTERLY RIGHT–OF–WAY LINE, A DISTANCE OF 1316.79 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 88°18'16" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 1282.39 FEET TO THE SOUTHWEST CORNER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 88°18'16" WEST ALONG THE SOUTH LINE OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 1312.40 FEET TO THE SOUTHWEST CORNER OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 88°16'21" WEST ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 14, A DISTANCE OF 60.98 FEET TO THE SOUTHEASTERLY CORNER OF THAT TRACT OF LAND CONVEYED TO RONALD SCOTT JASPER, RONALD LEE JASPER AND VEE ANN JASPER AS DESCRIBED IN WARRANTY DEED RECORDED MAY 3, 1976, ON FILM 922 AS RECEPTION NO. 175271, OF THE RECORDS OF BOULDER COUNTY, COLORADO;

THENCE NORTH 00°19'00" WEST ALONG THE EASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 1381.63 FEET TO THE SOUTHERLY RIGHT–OF–WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT–OF–WAY, SAID RIGHT–OF–WAY BEING 50 FEET, BY PERPENDICULAR MEASUREMENT, SOUTHERLY OF THE EXISTING TRACK;

THENCE NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT–OF–WAY LINE, A DISTANCE OF 62.45 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT–OF–WAY LINE, A DISTANCE OF 1314.28 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT–OF–WAY LINE, A DISTANCE OF 653.74 FEET;

THENCE SOUTH 00°09'21" EAST, A DISTANCE OF 14.09 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 14;

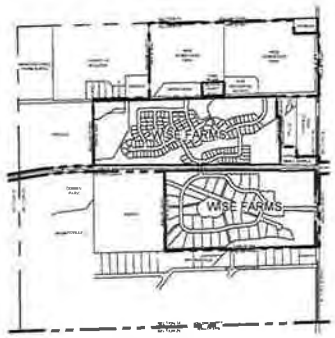
THENCE NORTH 88°24'34" EAST ALONG SAID SOUTH LINE, A DISTANCE OF 3.19 FEET TO THE SOUTHEAST CORNER OF THE WEST HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 88°24'34" EAST ALONG SAID SOUTH LINE, A DISTANCE OF 620.87 FEET TO A POINT ON THE SOUTHERLY RIGHT–OF–WAY LINE OF SAID PREVIOUS UNION PACIFIC RAILROAD RIGHT–OF–WAY;

THENCE NORTH 89°42'11" EAST, ALONG SAID SOUTHERLY RAILROAD RIGHT–OF–WAY LINE, A DISTANCE OF 5.40 FEET TO THE POINT OF BEGINNING,

SAID SOUTH PARCEL CONTAINING A CALCULATED ARE OF 3,581,472 SQUARE FEET OR 82.219 ACRES, MORE OR LESS.

TOGETHER WITH:



VICINITY MAP

SCALE: 1" = 1000'

LEGAL DESCRIPTION (CONTINUED)

JASPER ROAD RIGHT OF WAY PARCEL:

A PARCEL OF LAND BEING A PART OF THE NORTH HALF OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWEST CORNER OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14, AND ASSUMING THE EAST LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14 TO BEAR SOUTH 00°04'01" EAST, 1316.88 FEET WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;

THENCE NORTH 00°29'33" WEST, A DISTANCE OF 20.00 FEET TO A POINT ON THE NORTHERLY RIGHT OF WAY LINE OF JASPER ROAD;

THENCE ALONG SAID NORTHERLY RIGHT OF WAY LINE THE FOLLOWING EIGHT (8) COURSES:

1. NORTH 88°21'52" EAST, A DISTANCE OF 988.68 FEET;
2. NORTH 00°15'36" WEST, A DISTANCE OF 20.01 FEET;
3. NORTH 88°21'52" EAST, A DISTANCE OF 327.88 FEET;
4. NORTH 88°17'58" EAST, A DISTANCE OF 604.84 FEET;
5. SOUTH 00°09'21" EAST, A DISTANCE OF 20.01 FEET;
6. NORTH 88°17'58" EAST, A DISTANCE OF 385.00 FEET;
7. NORTH 00°09'21" WEST, A DISTANCE OF 20.01 FEET;
8. NORTH 88°17'58" EAST, A DISTANCE OF 1604.42 FEET;

THENCE SOUTH 08°12'42" EAST, A DISTANCE OF 70.45 FEET TO A POINT ON THE SOUTHERLY RIGHT OF WAY LINE OF JASPER ROAD;

THENCE ALONG SAID SOUTHERLY RIGHT OF WAY LINE THE FOLLOWING FOUR (4) COURSES:

1. SOUTH 88°17'58" WEST, A DISTANCE OF 540.23 FEET;
2. NORTH 00°04'41" WEST, A DISTANCE OF 10.00 FEET;
3. SOUTH 88°17'58" WEST, A DISTANCE OF 2063.81 FEET;
4. SOUTH 88°21'52" WEST, A DISTANCE OF 1314.39 FEET;

THENCE NORTH 00°29'33" WEST, A DISTANCE OF 20.00 FEET TO THE POINT OF BEGINNING,

SAID JASPER ROAD RIGHT OF WAY PARCEL CONTAINING A CALCULATED AREA OF 212,737 SQUARE FEET OR 4.884 ACRES, MORE OR LESS.

SAID NORTH, SOUTH AND JASPER ROAD RIGHT OF WAY PARCELS CONTAINING A CALCULATED AREA OF 7,576,344 SQUARE FEET, OR 173.929 ACRES, MORE OR LESS

HAVE LAID OUT, PLATTED, AND SUBDIVIDED THE SAME INTO LOTS, BLOCKS, TRACTS AND RIGHT–OF–WAY AS SHOWN ON THIS PLAT, UNDER THE NAME AND STYLE OF WISE FARMS PRELIMINARY PLAT AND BY THESE PRESENTS DO HEREBY DEDICATE TO THE TOWN OF ERIE, COLORADO, FOR THE PERPETUAL USE OF THE PUBLIC, THE STREETS, AND EASEMENTS FOR PUBLIC PURPOSES SHOWN HEREON AND NOT PREVIOUSLY DEDICATED TO THE PUBLIC.

NOTES:

1. BASIS OF BEARINGS: BEARINGS ARE BASED ON THE EAST LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, ASSUMED TO BEAR SOUTH 00°04'01" EAST AND MONUMENTED AS SHOWN HEREON.

2. ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT OR LAND BOUNDARY MONUMENT OR ACCESSORY, COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUTE 18–4–508, C.R.S.

TRACT SUMMARY TABLE				
TRACT	AREA	USE	OWNERSHIP	MAINTENANCE
A	2.45 AC.	DRAINAGE / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
B	2.31 AC.	UTILITY / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
C	0.55 AC.	DRAINAGE / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
D	3.03 AC.	OIL & GAS OPERATIONS / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
E	12.56 AC.	IRRIGATION DITCH / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
F	0.24 AC.	EMERGENCY ACCESS / TRAIL CORRIDOR	METRO DIST/HOA	METRO DIST/HOA
G	8.87 AC.	IRRIGATION DITCH / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
H	3.64 AC.	IRRIGATION DITCH / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
I	7.15 AC.	OPEN SPACE	TOWN OF ERIE	TOWN OF ERIE
J	0.08 AC.	OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
K	0.45 AC.	POCKET PARK	METRO DIST/HOA	METRO DIST/HOA
L	9.70 AC.	OIL & GAS OPERATIONS	METRO DIST/HOA	METRO DIST/HOA
M	11.40 AC.	OIL & GAS, DRAINAGE, UTILITY, IRRIGATION DITCH, OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
N	0.10 AC.	DRAINAGE & UTILITY / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
O	0.12 AC.	DRAINAGE & UTILITY / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
P	2.12 AC.	IRRIGATION DITCH / OPEN SPACE	TOWN OF ERIE	TOWN OF ERIE
Q	0.74 AC.	OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
R	13.71 AC.	OIL & GAS OPERATIONS / OPEN SPACE	WISE HOMESTEAD	WISE HOMESTEAD
S	0.44 AC.	OIL & GAS OPERATIONS	WISE HOMESTEAD	WISE HOMESTEAD
T	0.20 AC.	OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
U	0.32 AC.	OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
V	0.18 AC.	PIPELINE & ACCESS / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
W	0.20 AC.	PIPELINE & ACCESS / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
X	0.43 AC.	PIPELINE & ACCESS / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
Y	0.26 AC.	OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
Z	0.33 AC.	OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA

NOTES: (CONT'D)

3. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY CVL CONSULTANTS OF COLORADO, INC. TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. FOR ALL INFORMATION REGARDING EASEMENTS, RIGHTS–OF–WAY, AND TITLE OF RECORD, CVL CONSULTANTS OF COLORADO, INC. RELIED UPON LAND TITLE GUARANTEE COMPANY COMMITMENT NUMBER ABD70339758.1–2 EFFECTIVE DATE: OCTOBER 28, 2013 AT 5:00 P.M AS TO THE NORTH PARCEL AND LAND TITLE GUARANTEE COMPANY COMMITMENT NUMBER ABD70339758.2–5 EFFECTIVE DATE: APRIL 08, 2014 AT 5:00 P.M. AS TO THE SOUTH PARCEL.

4. ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON

5. THE LINEAL UNIT USED IN THE PREPARATION OF THIS PLAT IS THE U.S. SURVEY FOOT AS DEFINED BY THE UNITED STATES DEPARTMENT OF COMMERCE, NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.

6. THE FOLLOWING RECORDED EASEMENTS WILL BE VACATED BY SEPARATE DOCUMENT:
   BLANKET ACCESS EASEMENT, RECORDED UNDER REC. NO. 707261
   30' ELECTRIC AND ACCESS EASEMENT, RECORDED UNDER REC. NO. 1011773
   25' PIPELINE RIGHT–OF–WAY, RECORDED UNDER REC. NO. 1454161 & REC. NO 1454162
   50' PIPELINE RIGHT–OF–WAY, RECORDED UNDER REC. NO. 707261 & REC 707266

7. EXISTING ACCESS FROM JASPER ROAD TO LOT 1, BLOCK 17 SHALL REMAIN.

8. THE UNITED STATES EASEMENTS ARE RESTRICTED AREAS AND ALL CONSTRUCTION ACTIVITIES WITHIN SAID EASEMENTS SHOULD BE COORDINATED WITH WESTERN AREA POWER ADMINISTRATION, P.O. BOX 3700, LOVELAND, COLORADO, 80539–3003, (970–461–7200). NO BUILDINGS, STRUCTURES, OR TREES ARE ALLOWED WITHIN THE EASEMENT, ONLY LOW GROWING PLANTS NOT EXCEEDING 10 FEET IN MAXIMUM MATURE HEIGHT. NO FENCES SHALL BE CONSTRUCTED WITHIN OR ACROSS THE EASEMENT WITHOUT WRITTEN APPROVAL BY WESTERN AREA POWER ADMINISTRATION. EXCAVATION IS NOT PERMITTED WITHIN 50 FEET OF ANY TRANSMISSION LINE STRUCTURE. THE EASEMENT WIDTH IS 75 FEET, 37.5 FEET EACH SIDE OF THE CENTERLINE.

9. NON–EXCLUSIVE BLANKET EASEMENTS ARE HEREBY DEDICATED THROUGH ALL OF TRACTS V, W, AND X FOR OIL AND GAS PIPELINE USES.

CVL CONSULTANTS
10033 E. Dry Creek Rd
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482 9546

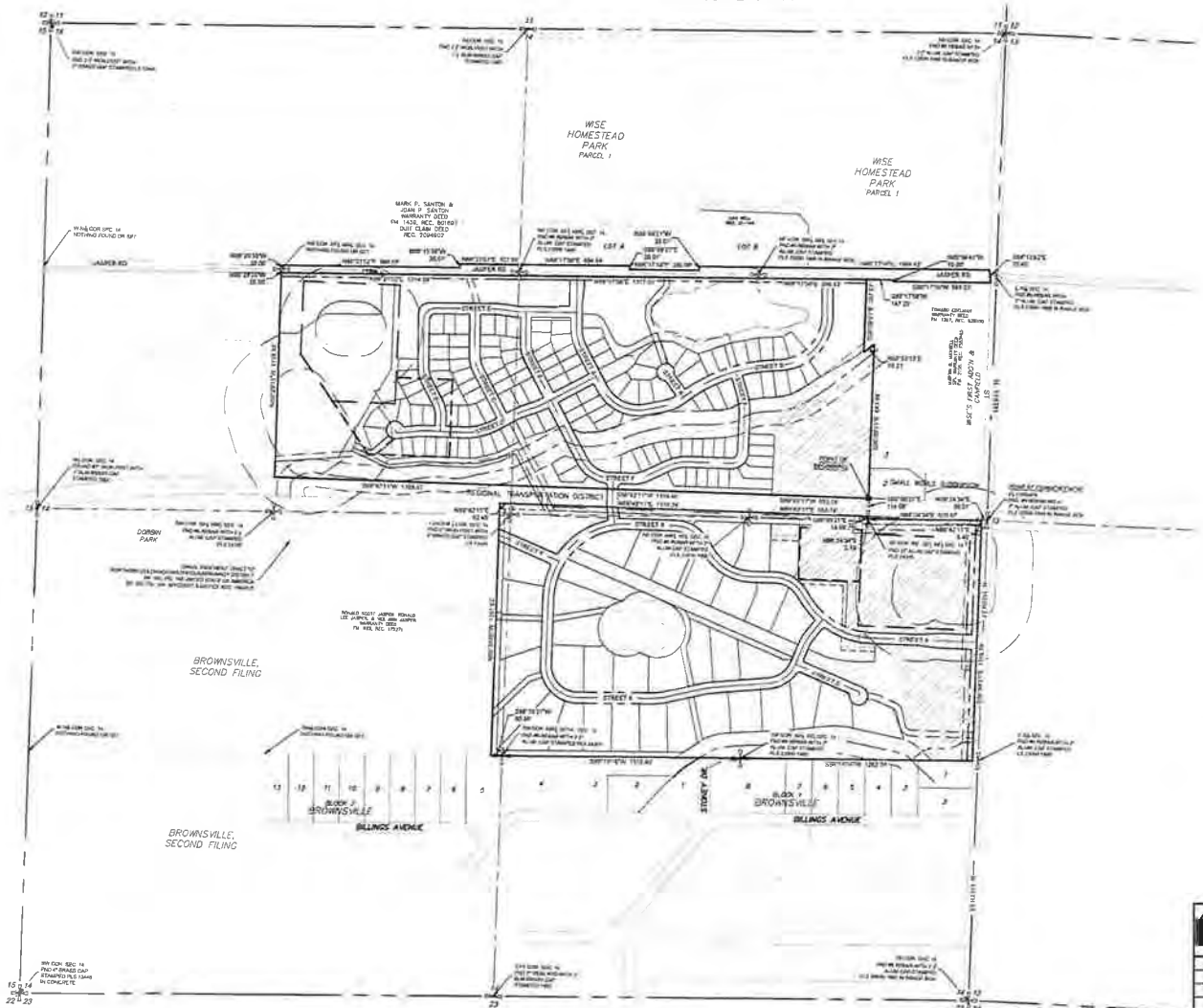
JASPER LAND INVESTMENTS, LLC
9162 E. KENWOOD COURT
HIGHLAND RANCH, CO 80126

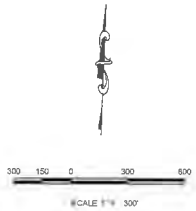
No	Revisions	Date	Int	Appr	Date

SCALE: AS NOTED
FILE NO
DRAWN BY: BDL/JLR/MJP
CHECKED BY: WFH
DATE: 12/29/2014
SHEET NO: 1 OF 14

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012
SHEET 2 OF 14



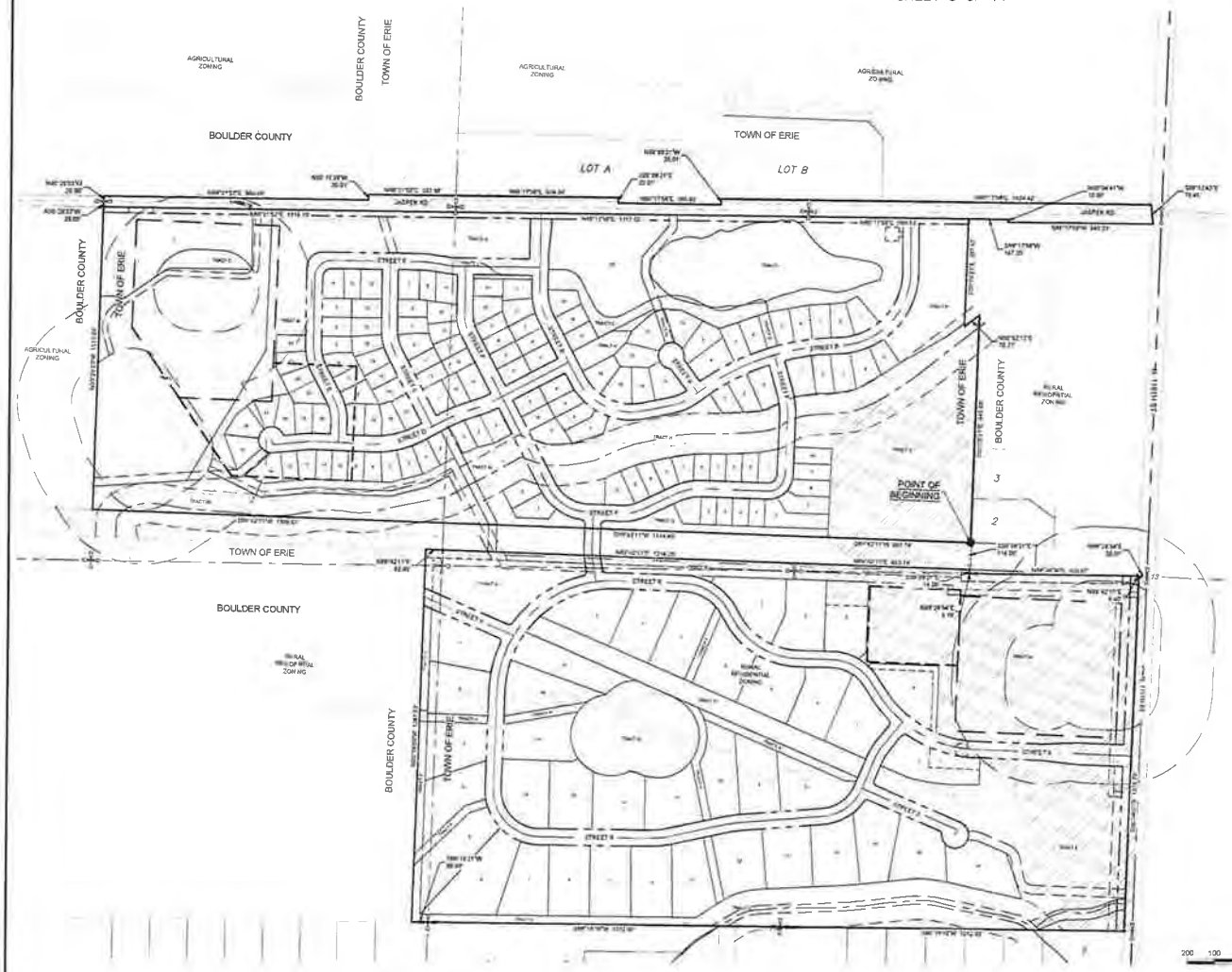


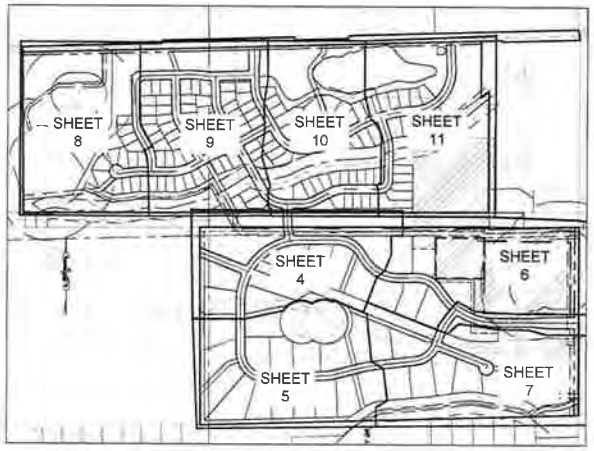
LOW RISK SUBSIDENCE AREA

CVL CONSULTANTS						10333 E. Dry Creek Rd. Suite 240 Englewood, CO 80112 Tel (720) 482-9526 Fax (720) 482-9546	JASPER LAND INVESTMENTS, LLC 5152 S. KENWOOD COURT HIGHLANDS RANCH CO 80126		
							SCALE AS NOTED	DRAWN BY BDL/JLR/MJP	SHEET NO 2 of 14
							FILE NO	CHECKED BY WFH	
No	Revisions	Date	Init	Appl	Date			DATE 12/29/2014	

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012





SHEET LAYOUT
SCALE 1" = 400'

LOW RISK SUBSIDENCE AREA

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel (720) 482-9526
Fax (720) 482-9546

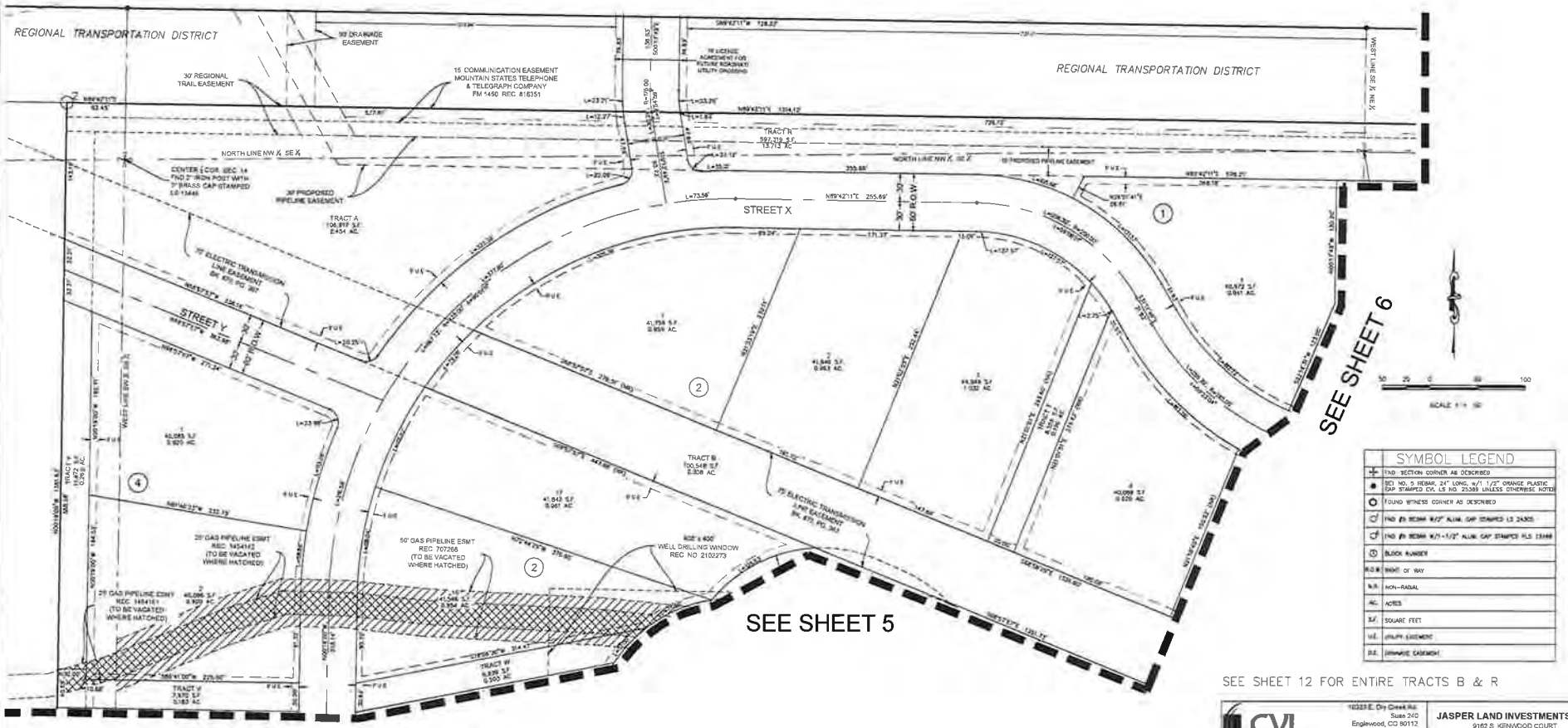
JASPER LAND INVESTMENTS, LLC
8162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

No.	Revisions	Date	Int.	Appr.	Date

SCALE: AS NOTED
FILE NO:
DRAWN BY: BDL/JLR/MJP
CHECKED BY: WFH
DATE: 12/29/2014
SHEET NO: 3 of 14

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13-00012
SHEET 4 OF 14



SYMBOL LEGEND	
	FND. SECTION CORNER AS DESCRIBED
	SET NO. 5 REBAR, 24" LONG, w/1 1/2" ORANGE PLASTIC CAP STAMPED CVL LS NO. 25389 UNLESS OTHERWISE NOTED
	FOUND WITNESS CORNER AS DESCRIBED
	FND Ø REBAR W/2" ALUM. CAP STAMPED LS 24305
	FND Ø REBAR W/1-1/2" ALUM. CAP STAMPED PLS 13448
	BLOCK NUMBER
R.O.W.	RIGHT OF WAY
N.R.	NON-RADIAL
AC.	ACRES
S.F.	SQUARE FEET
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT

SEE SHEET 12 FOR ENTIRE TRACTS B & R

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel (720) 482-9526
Fax (720) 482-9546

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

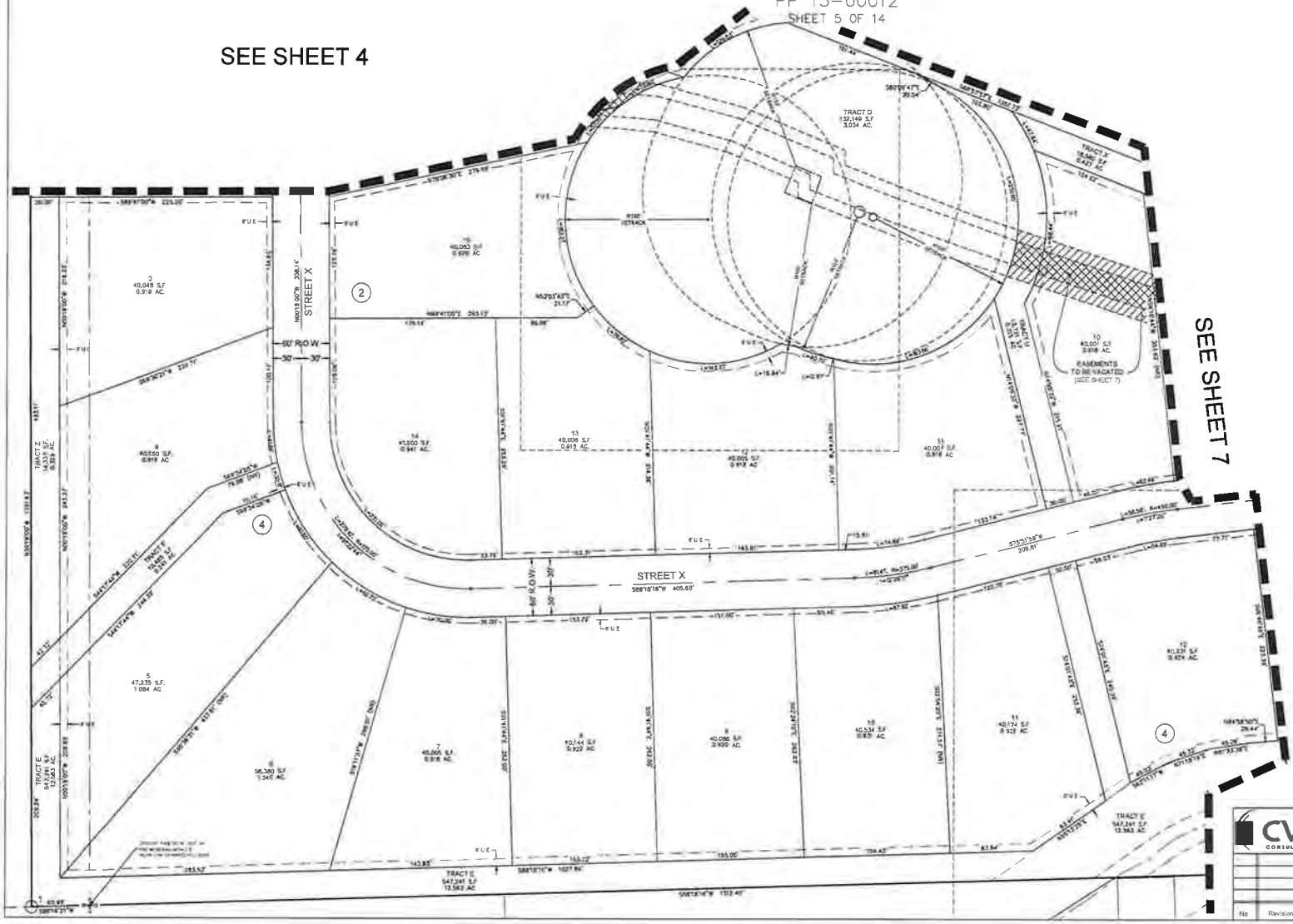
No.	Revisions	Date	Int.	Appr.	Date

SCALE: AS NOTED
FILE NO.
DRAWN BY: BDL/JLR/MJP
CHECKED BY: WFH
DATE: 12/29/2014
SHEET NO. 4 OF 14

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012
SHEET 5 OF 14

SEE SHEET 4



SEE SHEET 7

SCALE: 1" = 50'

SYMBOL LEGEND	
	FND. SECTION CORNER AS DESCRIBED
	SET NO. 5 REBAR, 24" LONG, w/1 1/2" ORANGE PLASTIC CAP STAMPED CVL LS NO. 25369 UNLESS OTHERWISE NOTED
	FOUND WIRGSS CORNER AS DESCRIBED
	FND #5 REBAR 5/8" ALUM. CAP STAMPED LS 24305
	FND #5 REBAR 5/8"+1 1/2" ALUM. CAP STAMPED PLS 13488
	BLOCK NUMBER
R.O.W.	RIGHT OF WAY
N.R.	NON-RADIAL
AC	ACRES
S.F.	SQUARE FEET
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT

SEE SHEET 12 FOR ENTIRE TRACTS E & X

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel (720) 482-9526
Fax (720) 482-9546

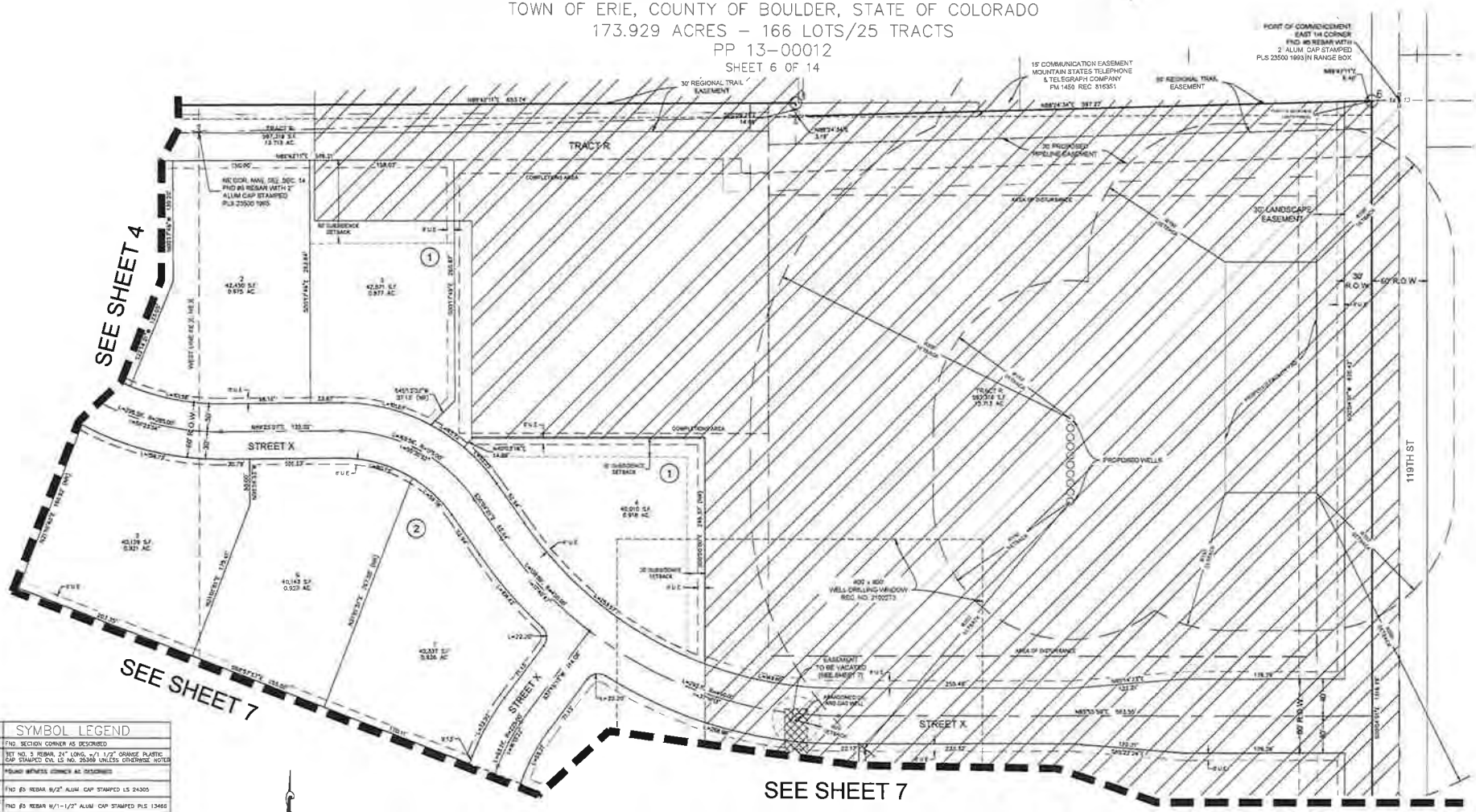
JASPER LAND INVESTMENTS, LLC
9182 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

No	Revisions	Date	Init	Appr	Date

SCALE: AS NOTED
FB E/M3
DRAWN BY: BDL/JLD/MJP
CHECKED BY: WFH
DATE: 12/29/2014
SHEET NO: 5 OF 14

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012
SHEET 6 OF 14



SYMBOL LEGEND	
+	FND. SECTION CORNER AS DESCRIBED
●	SET NO. 5 REBAR, 24" LONG, w/1 1/2" ORANGE PLASTIC CAP STAMPED CVL LS NO. 25369 UNLESS OTHERWISE NOTED
O	FOUND WITNESS CORNER AS DESCRIBED
○	FND #5 REBAR W/2" ALUM. CAP STAMPED LS 24305
○	FND #5 REBAR W/1-1/2" ALUM. CAP STAMPED PLS 13466
(1)	BLOCK NUMBER
R.O.W.	RIGHT OF WAY
N.R.	NON-RADIAL
AC	ACRES
S.F.	SQUARE FEET
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT

50 25 0 50 100
SCALE 1" = 50'

LOW RISK SUBSIDENCE AREA

NOTES:
1. ALLOWABLE BUILDING AREAS FOR LOTS 3 & 4 BLOCK 1 HAVE BEEN ESTABLISHED WITH REGARD TO UNDERMINING IN CONSIDERATION OF CTL/THOMPSON "SUPPLEMENTAL MINE SUBSIDENCE RISK INVESTIGATION" LETTER DATED 10/25/2013 IN SOME CASES, MINIMUM ALLOWABLE SETBACKS PER ZONING REQUIREMENTS MIGHT DICTATE

CVL Consultants
15333 E. Dry Creek Rd., Suite 240
Englewood, CO 80112
Tel (720) 482-9526
Fax (720) 482-9546

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80129

No.	Revisions	Date	Rev.	Apvd.	Date

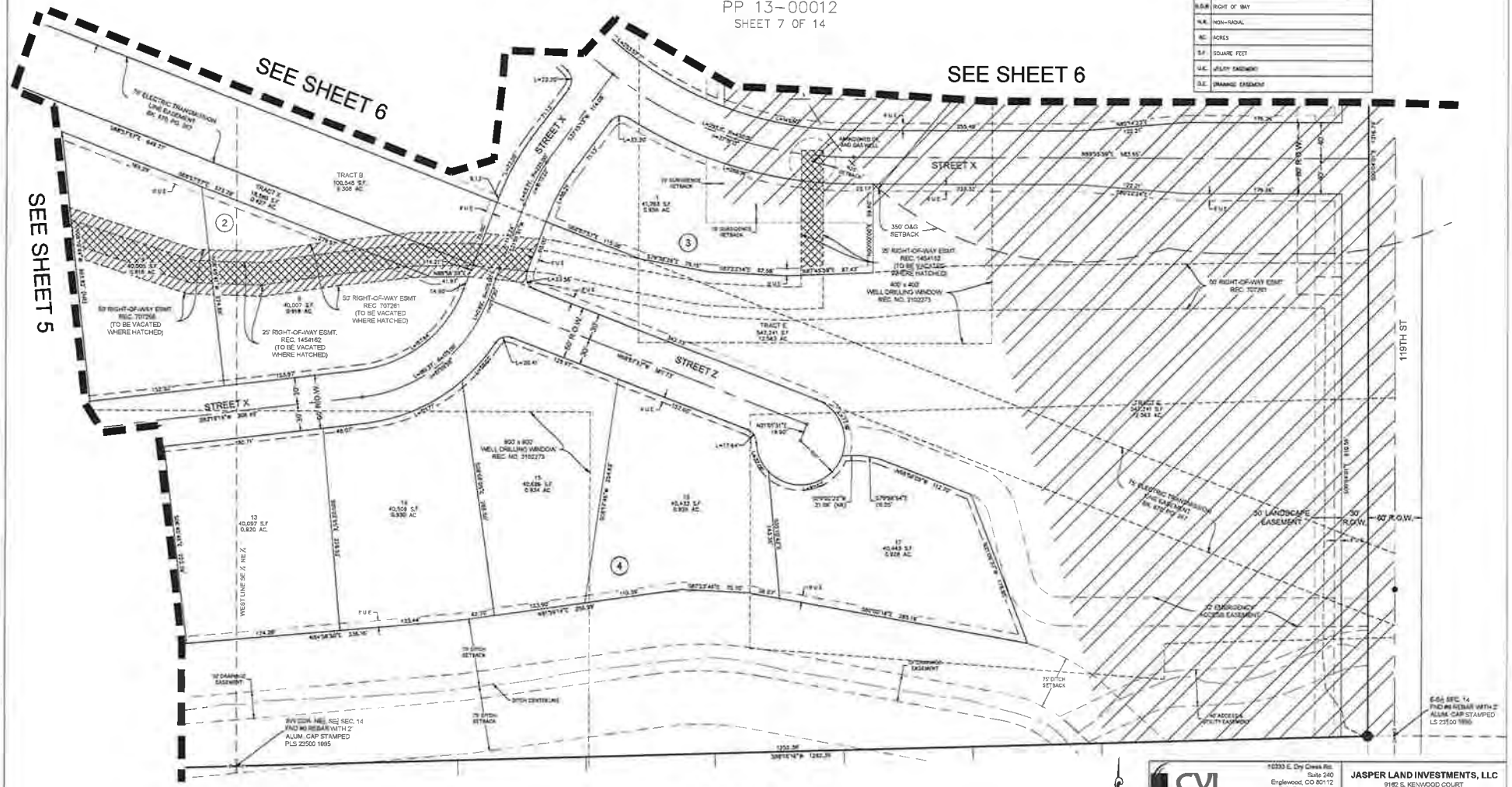
SCALE: AS NOTED
FILENO:
DRAWN BY: BDL/JLR/MJP
CHECKED BY: WFH
DATE: 12/29/2014
SHEET NO. 6 OF 14

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13-00012
SHEET 7 OF 14

NOTES:
1 ALLOWABLE BUILDING AREA FOR LOT 1, BLOCK 3 HAS BEEN ESTABLISHED WITH REGARD TO UNDERMINING IN CONSIDERATION OF CTL/THOMPSON "SUPPLEMENTAL MINE SUBSIDENCE RISK INVESTIGATION" LETTER DATED 10/25/2013 IN SOME CASES, MINIMUM ALLOWABLE SETBACKS PER ZONING REQUIREMENTS MIGHT DICTATE

SYMBOL LEGEND	
	FND. SECTION CORNER AS DESCRIBED
●	SET NO. 5 REBAR, 24" LONG, w/1 1/2" ORANGE PLASTIC CAP STAMPED CVL LS NO. 25368 UNLESS OTHERWISE NOTED
O	FOUND WITNESS CORNER AS DESCRIBED
	FND #5 REBAR W/2" ALUM. CAP STAMPED LS 24303
	FND #5 REBAR W/1-1/2" ALUM. CAP STAMPED PLS 13466
	BLOCK NUMBER
R.O.W.	RIGHT OF WAY
N.R.	NON-RADIAL
AC.	ACRES
S.F.	SQUARE FEET
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT



SEE SHEET 12 FOR ENTIRE TRACTS B, E, & X

LOW RISK SUBSIDENCE AREA

50 25 0 50 100

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel (720) 482-9526
Fax (720) 482-9546

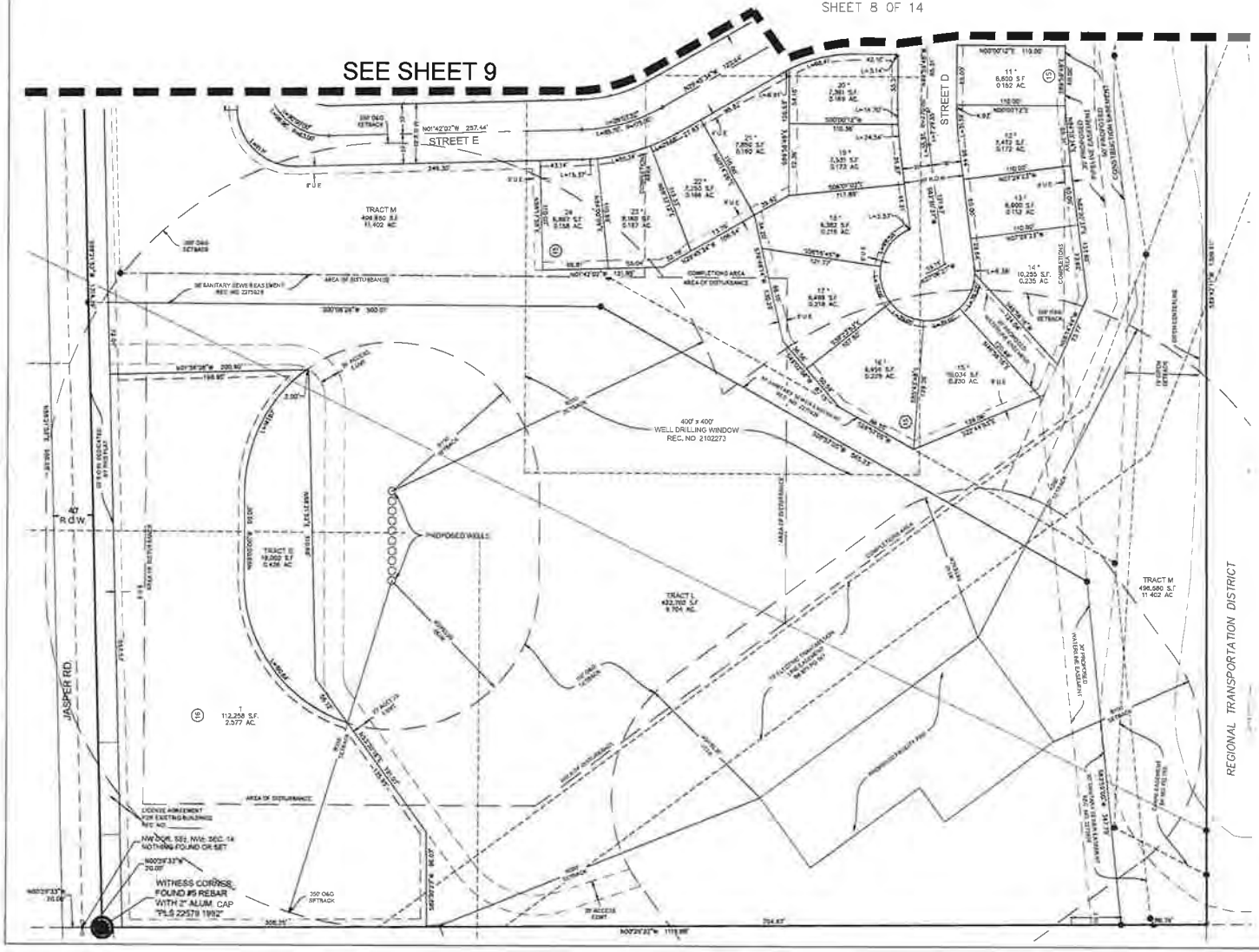
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH CO 80126

No.	Revision	Date	Int.	Appr.	Date

SCALE: AS NOTED
FILE NO:
DRAWN BY: BDL/JLR/MJP
CHECKED BY: WFH
DATE: 12/29/2014
SHEET NO: 7 OF 14

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012
SHEET 8 OF 14



NOTES:
1 LOTS DENOTED WITH "*" ARE RESTRICTED LOTS NO TEMPORARY OR PERMANENT BUILDINGS, STRUCTURES, OR OTHER IMPROVEMENTS SHALL BE LOCATED, CONSTRUCTED OR INSTALLED WITHIN THE OIL AND GAS OPERATIONS AREAS UNTIL AFTER CONSTRUCTION OF ALL PERMANENT FACILITIES

SYMBOL LEGEND	
	FND SECTION CORNER AS DESCRIBED
●	SET NO. 5 REBAR 24" LONG, #/8 1/2" ORANGE PLASTIC CAP STAMPED CVL LS NO. 25369 UNLESS OTHERWISE NOTED
O	FOUND WITNESS CORNER AS DESCRIBED
O1	FND #5 REBAR W/2" ALUM. CAP STAMPED LS 24305
O5	FND #5 REBAR W/1-1/2" ALUM. CAP STAMPED PLS 13466
①	BLOCK NUMBER
R.O.W.	RIGHT OF WAY
N.R.	NON-RADIAL
AC.	ACRES
S.F.	SQUARE FEET
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT

50 25 0 50 100
SCALE 1" = 50'

SEE SHEET 13 FOR ENTIRE TRACT M

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel (720) 482-9526
Fax (720) 882-9546

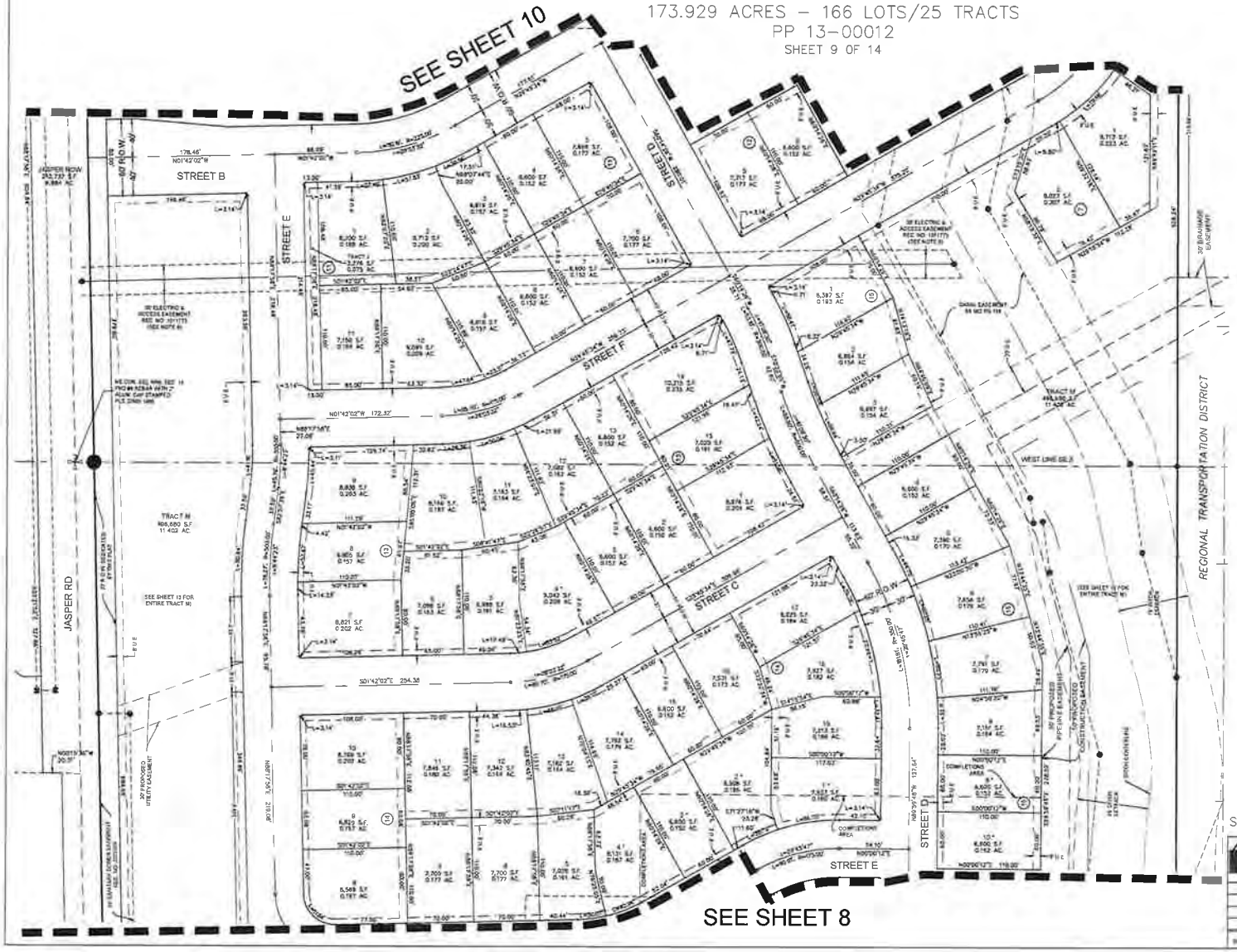
JASPER LAND INVESTMENTS, LLC
5182 S. KENWOOD COURT
HIGHLANDS RANCH CO 80126

No.	Revision	Date	Rvk	Apbl	Date

SCALE: AS NOTED
FILE NO
DRAWN BY: BDL/JLR/MJP
CHECKED BY: WFH
DATE: 12/29/2014
SHEET NO: 8 OF 14

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012
SHEET 9 OF 14



NOTES:
1 LOTS DENOTED WITH "*" ARE RESTRICTED LOTS. NO TEMPORARY OR PERMANENT BUILDINGS, STRUCTURES, OR OTHER IMPROVEMENTS SHALL BE LOCATED, CONSTRUCTED OR INSTALLED WITHIN THE OIL AND GAS OPERATIONS AREAS UNTIL AFTER CONSTRUCTION OF ALL PERMANENT O&G FACILITIES.

SYMBOL LEGEND	
	FND SECTION CORNER AS DESCRIBED
●	SET NO. 5 REBAR, 24" LONG, w/1 1/2" ORANGE PLASTIC CAP STAMPED CVL LS NO. 25368 UNLESS OTHERWISE NOTED
O	FOUND WITNESS CORNER AS DESCRIBED
O'	FND #5 REBAR W/2" ALUM. CAP STAMPED LS 24305
O^S	FND #5 REBAR W/1-1/2" ALUM. CAP STAMPED PLS 13466
①	BLOCK NUMBER
R.O.W.	RIGHT OF WAY
N.R.	NON-RADIAL
AC.	ACRES
S.F.	SQUARE FEET
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT

50 25 0 50 100
SCALE: 1" = 50'

SEE SHEET 13 FOR ENTIRE TRACT M AND JASPER R.O.W.

CVL CONSULTANTS
10333 E. Dry Creek Rd. Suite 240 Englewood, CO 80112 Tel (720) 482-9526 Fax (720) 482-9546

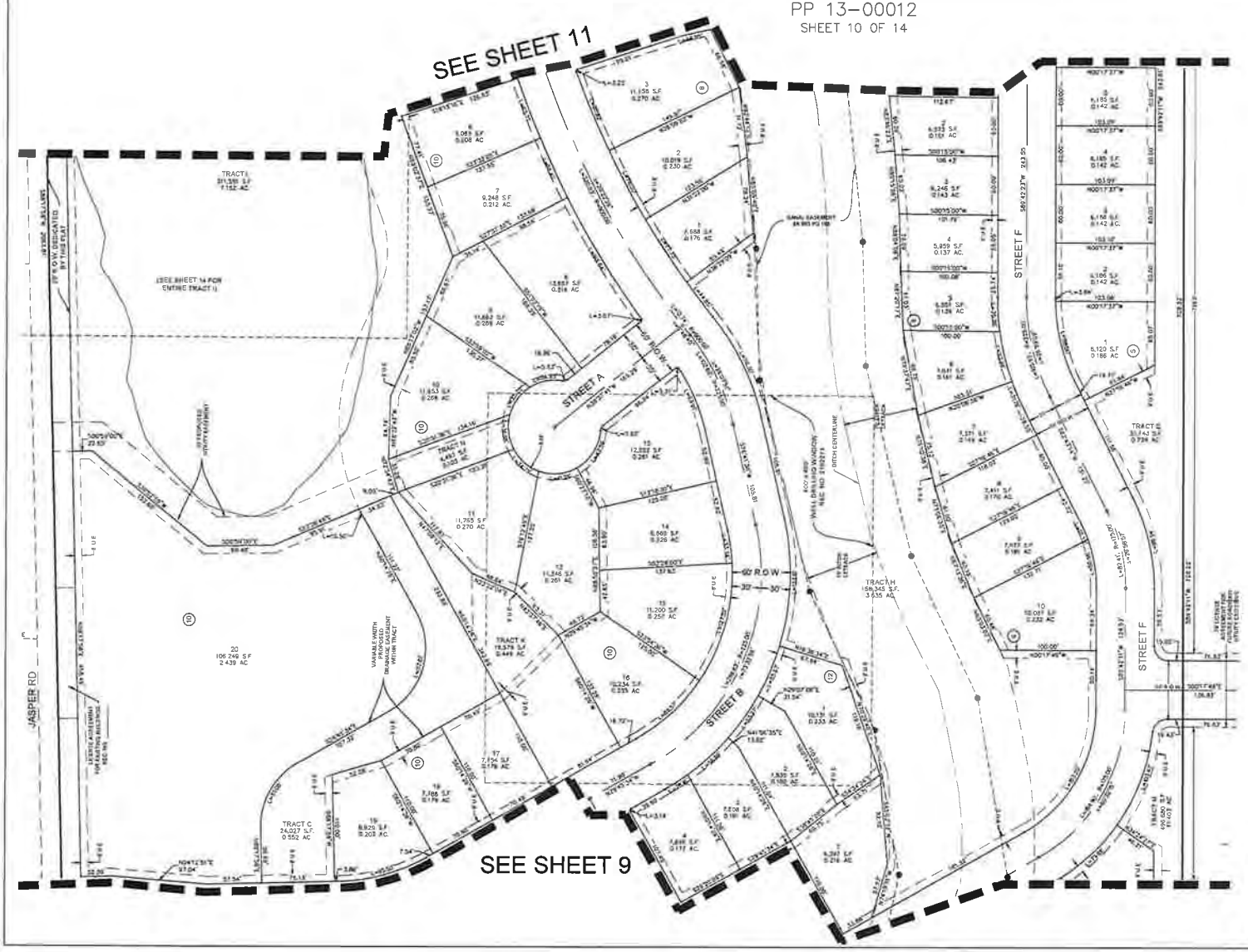
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

No.	Revisions	Date	Init.	Appr.	Date

SCALE	DRAWN BY	SHEET NO
AS NOTED	BDL/JLR/MJP	9 OF 14
FILE NO	CHECKED BY WFR	
	DATE 12/29/2014	

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012
SHEET 10 OF 14



SYMBOL LEGEND	
	FND. SECTION CORNER AS DESCRIBED
●	SET NO. 5 REBAR, 24" LONG, w/1 1/2" ORANGE PLASTIC CAP STAMPED CVL LS NO 25369 UNLESS OTHERWISE NOTED
O	FOUND WITNESS CORNER AS DESCRIBED
O¹	FND #5 REBAR W/2" ALUM. CAP STAMPED LS 24305
O⁶	FND #5 REBAR W/1-1/2" ALUM. CAP STAMPED PLS 13466
①	BLOCK NUMBER
R.O.W.	RIGHT OF WAY
N.R.	NON–RADIAL
AC	ACRES
S.F.	SQUARE FEET
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT

SCALE = 1: 50

SEE SHEET 13 FOR ENTIRE TRACTS M, O, & JASPER R.O.W.
SEE SHEET 14 FOR ENTIRE TRACTS H & I

CVL CONSULTANTS
16338 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel (720) 482-9526
Fax (720) 482-9546

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

No	Revisions	Date	Init	Appr	Date

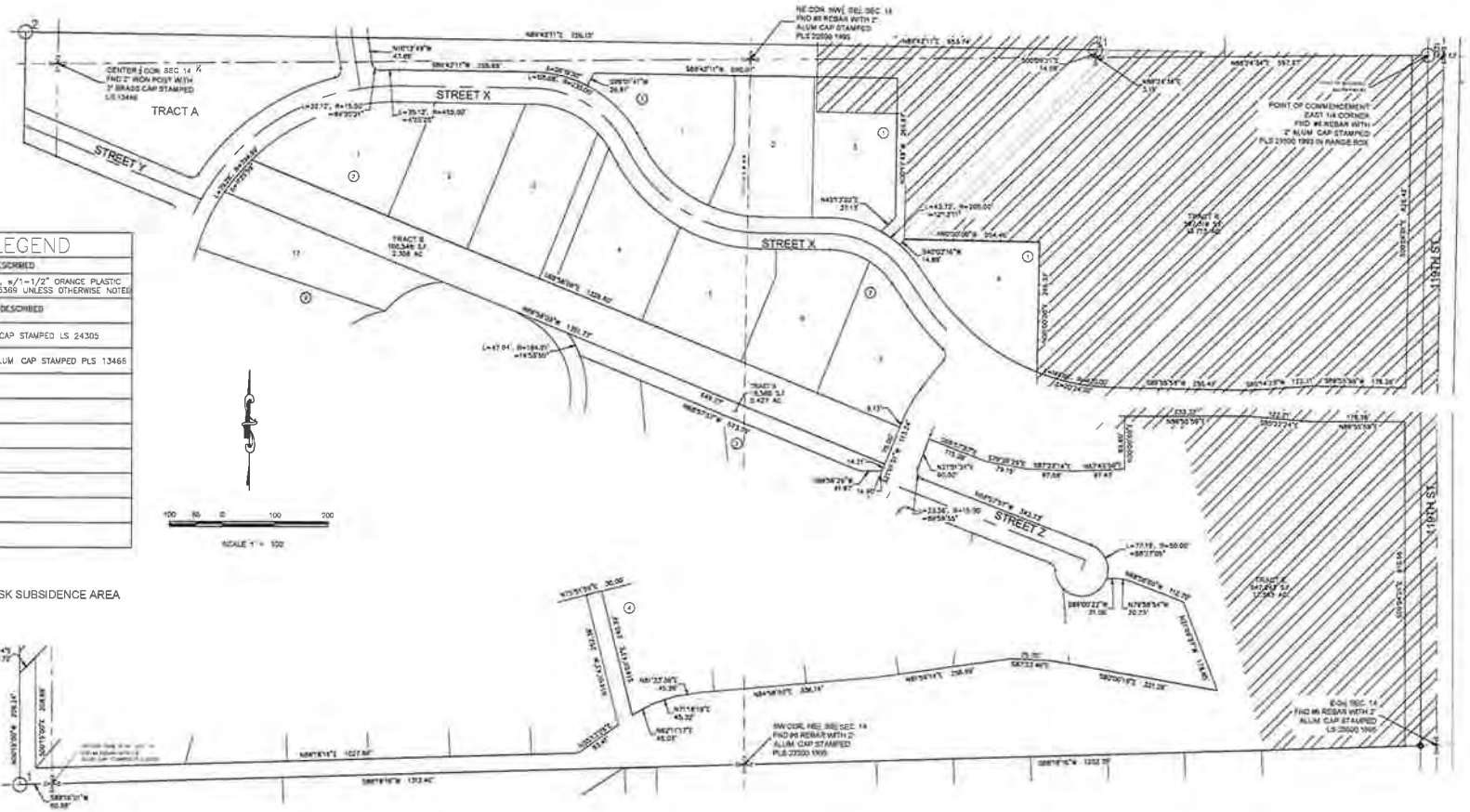
SCALE AS NOTED	DRAWN BY BDL/JLR/MJP	SHEET NO. 10 OF 14
FILE NO	CHECKED BY WFH	
	DATE 12/29/2014	

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012
SHEET 12 OF 14



SYMBOL	LEGEND
	FND SECTION CORNER AS DESCRIBED
	SET NO. 6 REBAR, 30" LONG, w/1-1/2" ORANGE PLASTIC CAP STAMPED CVL LS NO. 25369 UNLESS OTHERWISE NOTED
	FOUND WITNESS CORNER AS DESCRIBED
	FND #5 REBAR W/2" ALUM. CAP STAMPED LS 24305
	FND #5 REBAR W/1-1/2" ALUM. CAP STAMPED PLS 13466
1	BLOCK NUMBER
R.O.W.	RIGHT OF WAY
N.R.	NON-RADIAL
AC.	ACRES
S.F.	SQUARE FEET
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT

LOW RISK SUBSIDENCE AREA

DETAIL TRACTS B, R, E, & X

CVL Consultants
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

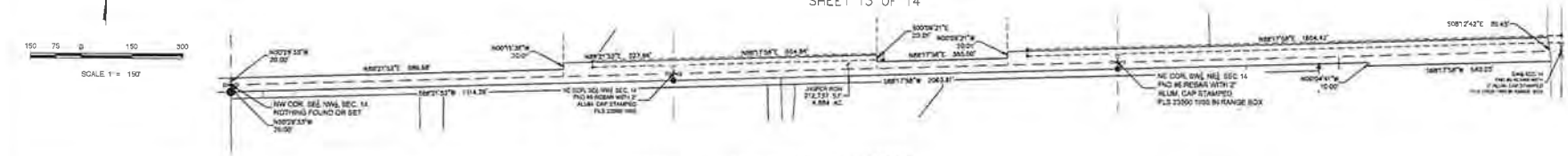
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

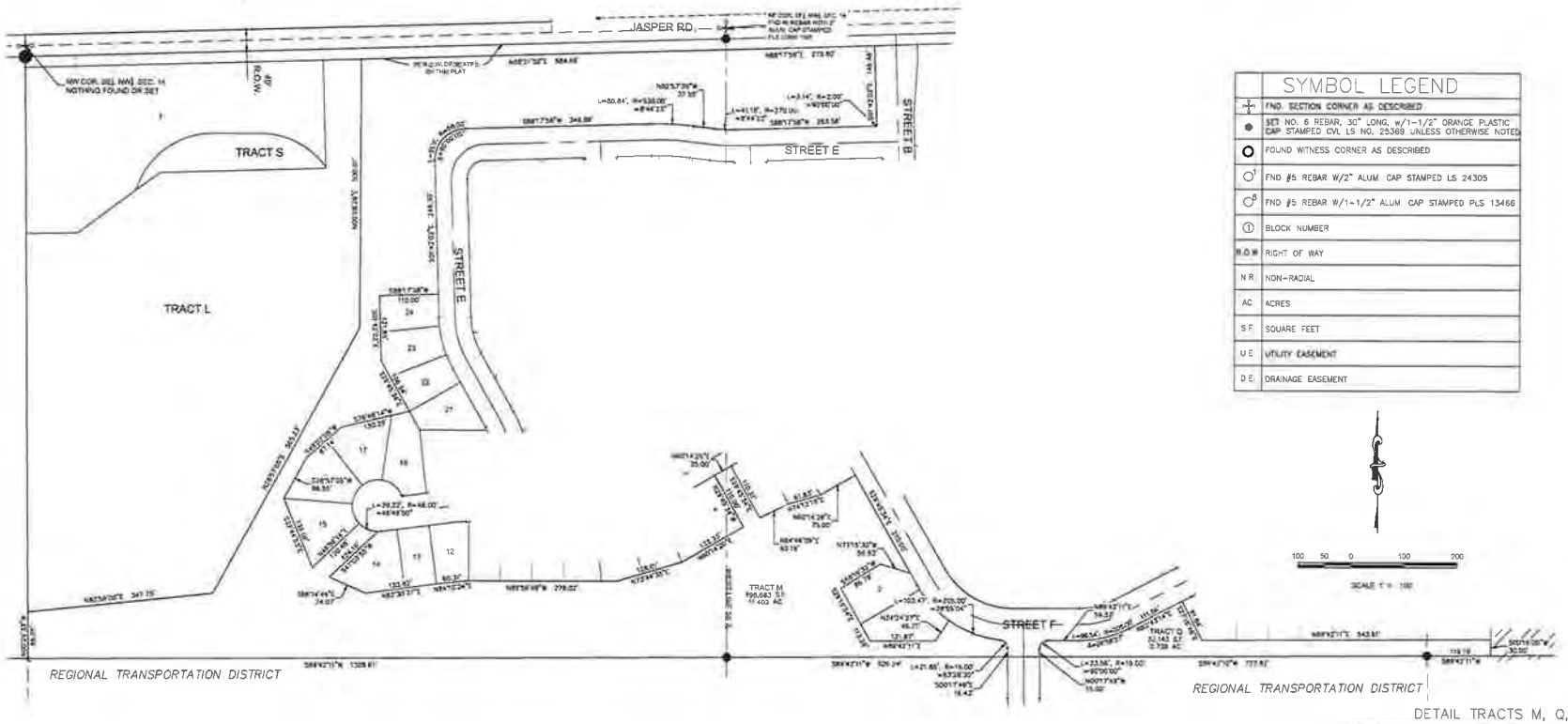
No.	Revisions	Date	Init.	Appr.	Date

SCALE: AS NOTED	DRAWN BY: BDL/JLR/MJP	SHEET NO. 12 OF 14
FILE NO.	CHECKED BY: RFH	
	DATE: 12/29/2014	

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012
SHEET 13 OF 14





DETAIL TRACTS M, Q, & JASPER ROAD

SYMBOL LEGEND	
	FND. SECTION CORNER AS DESCRIBED
●	SET NO. 6 REBAR, 30" LONG, w/1-1/2" ORANGE PLASTIC CAP STAMPED CVL LS NO. 25369 UNLESS OTHERWISE NOTED
O	FOUND WITNESS CORNER AS DESCRIBED
O¹	FND #5 REBAR W/2" ALUM. CAP STAMPED LS 24305
O⁶	FND #5 REBAR W/1-1/2" ALUM. CAP STAMPED PLS 13466
①	BLOCK NUMBER
R.O.W.	RIGHT OF WAY
N.R.	NON-RADIAL
AC	ACRES
S.F.	SQUARE FEET
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT

CVL CONSULTANTS
10333 E. Dry Creek Rd. Suite 240 Englewood, CO 80112 Tel (720) 482-9526 Fax (720) 482-9546

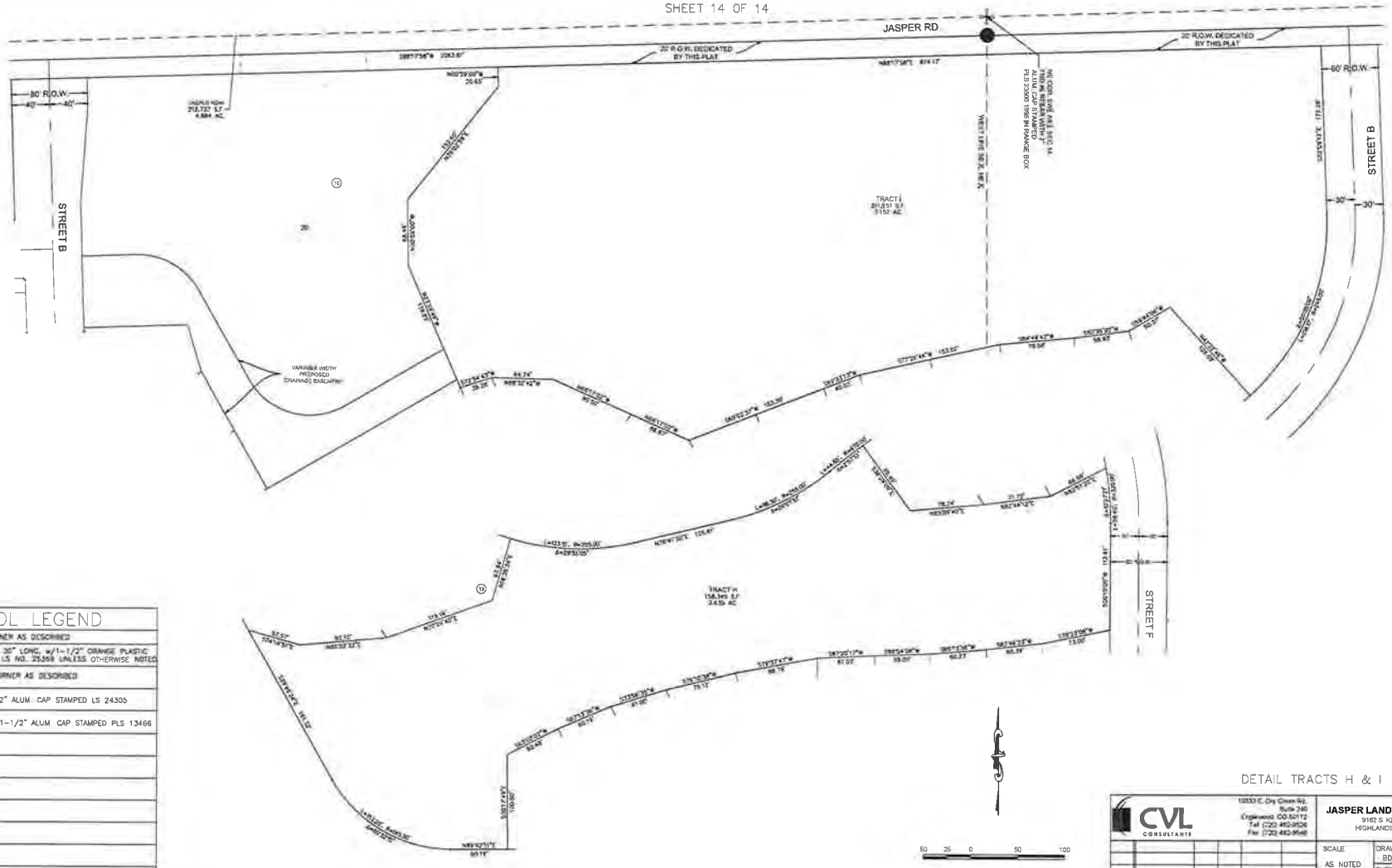
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

No.	Revisions	Date	Init.	Appr.	Date

SCALE	DRAWN BY	SHEET NO
AS NOTED	BD/JLR/MJP	13 OF 14
FILE NO	CHECKED BY BTH	
	DATE 12/29/2014	

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012
SHEET 14 OF 14



SYMBOL LEGEND	
	FND. SECTION CORNER AS DESCRIBED
●	SET NO. 5 REBAR, 36" LONG, w/1-1/2" ORANGE PLASTIC CAP STAMPED CVL LS NO. 25369 UNLESS OTHERWISE NOTED
O	FOUND WITNESS CORNER AS DESCRIBED
O¹	FND #5 REBAR W/2" ALUM. CAP STAMPED LS 24305
O⁵	FND #5 REBAR W/1-1/2" ALUM. CAP STAMPED PLS 13466
①	BLOCK NUMBER
R.O.W.	RIGHT OF WAY
N.R.	NON-RADIAL
AC	ACRES
S.F.	SQUARE FEET
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT

DETAIL TRACTS H & I

50 25 0 50 100
SCALE 1" = 50'

CVL CONSULTANTS
12533 E. Dry Creek Rd. Suite 240 Englewood, CO 80112 Tel: (720) 482-9526 Fax: (720) 482-9546

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

No.	Revisions	Date	Init.	Apl#	Date

SCALE: AS NOTED
FILE NO.
DRAWN BY: BDL/JLR/MJP
CHECKED BY: WFH
DATE: 12/29/2014
SHEET NO: 14 OF 14

CHAPTER 2
THE APPROACH

"A thing is right only when it tends to preserve the integrity, stability and beauty of the community; and the community includes the soil, water, fauna and flora, as well as the people."
-Aldo Leopold, A Sand County Almanac, 1949.

This study served to delineate and field-survey 113 natural areas in the Erie planning area. Six large (2 feet x 3 feet) maps were generated of the 50-square-mile planning area based on rectified aerial photographs. Natural areas were delineated by drawing polygons around relatively undeveloped areas that visually appeared to have ecological significance, such as bodies of water, wetlands, creeks, draws, sections of ditches that had dense vegetation, unplowed fields and pastures, fields with prairie dog burrows, and areas with notable changes in vegetation. Property boundaries were inconsequential to this effort. Subsequently, additional natural areas suggested to us by Town of Erie staff, Claire Solohub of the Colorado Division of Wildlife, and residents of the planning area were included. The nine ditches that traverse the Erie planning area were all surveyed and rated. However, polygons were not drawn around them.

Parcel layers were superimposed on the delineated polygons. The names and addresses of all ownership parcels that 1) overlapped with the natural area polygons, and 2) were more than 20 acres in size, were highlighted. This resulted in 46 ownership parcels. Letters were sent to these landowners requesting access to the parcels. An additional five letters were subsequently sent out for some smaller parcels.

From September 24 through November 20, 2007, a team of two Walsh ecologists conducted field surveys of the delineated natural areas. A survey data form was developed to rate the natural areas on multiple ecological categories, described below. Data were entered onto an electronic tablet for direct download to a database, and comment notes were made on hard-copy data sheets. Visits at each site lasted 20 minutes to 1 hour or more, depending on the size and complexity of a site.

Survey Form

A number of criteria were developed to rate the surveyed natural areas. These include wetlands value, ecological condition, vegetation component, and potential value to wildlife. Most categories were assigned a rating of 1 to 5, with 1 indicating a low rating and 5 indicating the highest rating possible. Ratings for the extent of weed cover and ground disturbance were reversed such that a rating of 5 represented the least amount of weediness and ground disturbance. This allowed for a straightforward summing of ratings across all categories to develop a summary rating.

The following section presents the definitions of the terms and evaluation criteria used to rate each natural area. The survey was divided into the general categories of basics, wetlands, landscape context, vegetation, wildlife habitat, enhancement potential, and site comments, each of which is represented by several fields in the project database.

Basics

Site #: Each natural area was identified with a site number that was assigned as the natural area polygons were drawn. It serves as an identifier for locating a site on the maps and linking all site data.

Site Name: Each natural area was named according to its natural attributes visible on an aerial photograph. These names were not affected by property ownership or property lines.

Acres: The size of each natural area (in acres) was determined by the ArcGIS Calculate Geometry program.

Map: Refers to the map sheet number. The sheets are alphanumerically labeled west to east and north to south and begin with Sheet A1 (far northwest quadrant) and end with Sheet C2 (far southeast quadrant).

Site Description: This field contains a description of the natural area.

Wetlands

Wetland Functionality: Wetland functionality was evaluated in terms of hydrology, presence and quality of wetland vegetation, and soils. Functionality was rated on a scale of 0 to 5, as follows:

0 = No open water

1 = Concrete or riprap-lined ditch or a ditch with no vegetation

2 = Small farm or detention pond with little to no vegetation, turbid, over-nutrified, and incapable of draining, filtering, or flushing except by intermittent flow; very degraded creek or ditch with little to no vegetation

3 = Small lake or pond that is somewhat vegetated and provides some residence time for water; ditch or canal that is well-vegetated, perhaps with some terracing but water moves through quickly; natural or intermittent swale, draw, or gully that is somewhat to well-vegetated with very permeable soils that can recharge groundwater regularly; natural perennial or intermittent stream that is somewhat vegetated, straight, and downcut, with water that moves through quickly, and it is not well connected with the floodplain

4 = Large pond or lake with somewhat vegetated or narrow wetland fringe; natural perennial stream that is sinuous, well-vegetated, and physically connected with the floodplain

5 = Large pond or lake with well-vegetated and broad wetland fringe; large well-vegetated wetland

TOWN OF ERIE NATURAL AREAS INVENTORY

Site #: 71 Map: B2
Tracked Field Acres 55

This site is a large field between the cemetery and Coal Creek.

Wetlands:
Wetland Functionality: 3 Wetland Value: 3

Landscape Context
Nearby Land Use:
- Field without Crops
- Creek
- Ditch
- Natural Area
- Residential

Habitat Types Present: 3
- Grassland
- Wetland
- Other

Viewshed: From Site

Vegetation
Plant Communities: ADUD, CSL, RCSH, SDH

Vegetation Structure:
- Forbs
- Grass

County-listed Noxious Weeds:
- Musk Thistle
- Canada Thistle

Noxious Weed Cover 5
Ground Disturbance: 5
Plant Diversity: 3
Grassland Value: 4

Wildlife Habitat
Prairie Dog Habitat: 0% Wildlife Species of Concern:
Overall Wildlife Habitat Quality: 3

Primary Factors Present	Secondary Factors Present
Water or wetland is present	Site is larger than 3 acres Site is adjacent to another natural area One of the three vegetation structure types is in good condition

Wildlife Species Seen eastern cottontail, coyote

Enhancement Effort: Medium
Summary Rating: 22
Site Comments
This site is a large field below the cemetery and near Coal Creek. Ryegrass and cheat grass dominate. Cottonwood Extension Ditch runs along the bottom of the sloping field. Overall species diversity is low in this relatively homogenous site because it is dominated by escaped cultivated rye. However, a large number of natives such as salsify, sand sage, sand dropseed, buffalo grass, and sagewort are present. The presence of a good number of upland native species is noteworthy, and efforts should be made to protect them. This site is unique in this regard. The rolling topography presents a feature of interest. With Cottonwood Extension Ditch on the site and Coal Creek adjacent, this area has value to wildlife as an open but uncultivated field. Grass and forb seeds are plentiful for small mammals and seed eating birds. Meadowlarks surely nest here in spring. This site presents a unique opportunity for restoration or enhancement in upland habitat with the removal of non-natives and planting or seeding with natives. This site presents the best site in the planning area for native grassland restoration.

Wetland Value (to wildlife): The wetland value to wildlife was evaluated for its ability to provide habitat to wildlife. This value takes into account water body size, water movement, and quality of surrounding vegetation. The value is rated on a scale of 1 to 5 as follows:

1 = No open water

2 = Poor-quality ditch, creek, or pond; vegetation virtually absent; small pond

3 = Some vegetation at the edge, even weedy; includes ephemeral pools; medium-sized pond

4 = More vegetation at the edge; larger pond

5 = Excellent wildlife habitat, sinuosity present in creek, vegetation well developed; large pond, reservoir, or creek

Landscape Context

Nearby Land Use: Multiple land use types were listed for each natural area. This category includes all land uses observed in the surrounding area, including agricultural lands (with crops), field (without crops), subdivision, farm, creek, ditch, natural area, residential, oil well, and gravel mining.

***Habitat** is the natural environment – including the physical and biotic environment – in which a species lives.*

Habitat Types Present: This category lists the habitat types present on a site. This refers to the six habitat types determined to represent the range of habitat seen in the Erie planning area: agricultural, aquatic, grassland, wetland, woodland, and other. These habitat types are described in Chapter 2. The rating for this category is the sum of the number of different habitat types present.

Viewshed: Viewshed is a qualitative measure determined by viewing the natural environment visible to and from the site being assessed. If there is a good view from the site (most frequently a mountain view), then "From Site" was entered. If the site itself appeared to provide a pleasing view as viewed from the surrounding area, then "To Site" was entered. A blank entry indicated there was no notable view from or to the site.

Vegetation

Plant Communities: Plant communities are groups of plants that occur together. The plant community classification system used here, also called a system of plant alliances, is adopted from the U.S. National Vegetation Classification (Maybury 1999). Plant alliances for the Erie planning area are listed in Table 1 at the end of the chapter. For example, Creek Shelter

Belt/Riparian Forest (CSB) is a plant community comprising plains cottonwood, crack willow, coyote willow, and Russian-olive. Although a particular alliance usually contains 10 or more species, only 1 to 4 dominant species are listed. This classification system is being used throughout the United States, including Boulder County and City of Boulder. Exact and technical in nature, it will be very useful in the future to know the plant communities that populated each natural area in 2007.

Vegetation Structure: This category lists the various plant structure types present, and includes tree, shrub, forb (broad-leaved plant), grass or grass-like plant, and litter. The rating is the sum of the structure types present.

*You know it's a **tree** if you can walk under it and it's a **shrub** if you can't. **Forbs** are nonwoody flowering plants. **Grasses** are easy to recognize and have long blades.*

County-listed Noxious Weeds: This category refers to the 13 noxious species listed by Boulder County Parks and Open Space, and includes diffuse knapweed, spotted knapweed, Russian knapweed, leafy spurge, musk thistle, Canada thistle, Scotch thistle, bull thistle, dalmatian toadflax, yellow toadflax, houndstongue, common teasel, and tamarisk. This field lists all of these species that were found on the site.

Noxious Weed Cover: This category refers to the percentage of each site that is covered by county-listed noxious weeds. Ratings used to evaluate weed cover are as follows, with the highest rating applied to the lowest amount of weed cover:

5 = 0-5 percent
4 = 6-10 percent
3 = 11-25 percent
2 = 26-50 percent
1 = 51-100 percent

Ground Disturbance: The extent of ground disturbance is an estimated measure of bare ground. Factors taken into account include bare soil, roads (paved and unpaved), construction areas, and areas with vegetation removed. Ratings used to evaluate ground disturbance are as follows, with the highest rating applied to the lowest amount of ground disturbance:

5 = 0-5 percent
4 = 6-10 percent
3 = 11-25 percent
2 = 26-50 percent
1 = 51-100 percent

Plant Diversity: Plant diversity lists the number of different species on each site. This category was related to the number of plant communities (alliances) found on each site. It was given a rating of 1 to 5 as follows:

1 = 1-10 species
2 = 11-30 species
3 = 31-50 species
4 = 51-70 species
5 = 71-100 species

Grassland Value: The evaluation system generally favored sites with water, largely as a consequence of the two wetlands categories described above, which could contribute 10 points to the summary rating. As a consequence, open grassland sites were under-valued in the rating system. In an attempt to better reflect the value that grasslands impart to natural areas, this rating category was added. It assigned 2 points for the presence of grassland as a habitat type, 2 points for the observed presence of native grass species, and 2 points for the presence of prairie dog habitat.

Wildlife Habitat

Prairie Dog Habitat: For those sites with prairie dog habitat (burrows visible), an estimate was made of the percentage of the site containing black-tailed prairie dogs and/or their burrows.

Wildlife Species of Concern: This field addresses wildlife species of concern that could potentially use the site for migration, breeding, nesting, or movement. The list of species of special concern adopted here is the one that was developed by Boulder County Parks and Open Space.

Overall Wildlife Habitat Quality: This rating of wildlife habitat was obtained by evaluating a number of primary and secondary factors, listed in the table below. These factors were weighted depending on their importance to wildlife. Higher values indicate more significant habitat features, such as the presence of water or inclusion in a movement corridor. Occasionally, the wildlife rating from the table did not match the field team's perceived wildlife value of the site. In cases such as this, the ratings from the table were overridden and altered to agree with the field team's observations.

Wildlife Species Seen: This category lists wildlife species observed, identified by scat and/or tracks, or mentioned as present by resident(s).

Primary Factors			***Secondary Factors***		
Factor	***Yes***	***No***	***Factor***	***Yes***	***No***
Is water or wetland present on property (perennial or seasonal)?			*Is the site larger than 3 acres?*		
Are any state- or federally-listed species potentially present, other than prairie dogs?			*Is the site adjacent to another natural area?*		
Could or does the area serve as a migration or movement corridor?			*Is one of the three habitat structure types represented in good condition?*		
Does the area serve an irreplaceable source of food or cover, or as a site for reproduction for any desirable species of wildlife?			*Does the site have three or more habitat types?*		
Are prairie dogs present?			*Is the site potentially part of a corridor habitat, or does it represent a poor component of such?*		
3 or more primary Yes = 5					
2 or more primary Yes = 4					
1 primary or 2 or more secondary factors Yes = 3					
No primary and 1 or fewer secondary factors Yes = 2					
None of these = 1					

Enhancement Effort

Natural areas were rated on the amount of effort that would be required to enhance the site. Enhancement effort was categorized as low, medium, or high.

Low enhancement effort typically refers to sites that require weed control. At some sites, a change in mowing regimen may be indicated. This could be cessation of mowing to allow vegetation to grow. However, sometimes mowing is used as a weed control effort, which also serves an important function.

Medium enhancement effort typically refers to sites that would be enhanced by seeding and/or tree removal. Seeding typically involves

broadcast or drill seeding over existing (typically sparse) vegetation. Tree removal, specifically of Russian-olive, Siberian elm, and tamarisk, and removal of trash, are also included. This category may include limited tree and shrub planting to increase habitat value and the installation of erosion control blankets or other hand placed bio-engineering materials that can be used to stabilize soils and/or prevent stream bank failure.

High enhancement effort refers to activities that require earth moving, structural changes, and subsequent revegetation efforts. It may include grading, slope reduction, grade control installation, and tilling, such as occur in creek restoration and prairie restoration projects. It also includes controlled burning, extensive seeding, and plantings of plugs or containerized plants. In some cases this may involve removal of riprap or concrete rubble and replacement with natural bank stabilization materials such as plantings and/or root wads.

Summary Rating

A summary rating was developed (see Chapter 4) that summed all the ratings categories. Because most sites had relatively little noxious weed or ground disturbance cover, these two categories had consistent ratings of 4 and 5 and added disproportionately to the summary rating. To compensate, their value was downweighted by dividing the original value by 4. Summary ratings were ranked as follows:

Low	10-17
Medium	18-22
High	23-31

Site Comments

This field includes a written description of the natural area and its special features. It is meant to give the reader a feel for the site. It addresses possible use by wildlife species, plant communities present, and enhancement potential.

Table 1: Plant Communities (Alliances) Present in the Erie Planning Area

Alliance Acronym	Plant Alliance Common Name	Scientific Names
Agricultural		
ASBH	Cultivated alfalfa/smooth brome/cultivated hay	*Medicago sativa/ Bromopsis inermis/ Poa* spp., *Phleum* spp., *Dactylis glomerata*
CAH	Cultivated alfalfa hay	*Medicago sativa*
CC	Cultivated corn	*Zea mays*
ISAP	Introduced species agricultural pasture	*Triticum aestivum, Medicago sativa*

Grasslands (Graminoids)		
BGH	Blue grama herbaceous	*Bouteloua gracilis*
CWH	Crested wheatgrass seminatural herbaceous	*Agropyron desertorum*
KBH	Kentucky bluegrass seminatural herbaceous	*Poa pratensis*
PPOF	Planted prairie old field	*Bouteloua gracilis, Dalea* spp., *Liatris punctata*
SBH	Smooth brome seminatural herbaceous	*Bromopsis inermis*
SBWU	Smooth brome/wheatgrass understory	*Bromopsis inermis, Agropyron desertorum, Pascopyrum smithii, Thinopyrum intermedium*
SDH	Sand dropseed herbaceous alliance	*Sporobolus cryptandrus*
WTFH	Western wheatgrass temporarily flooded herbaceous	*Pascopyrum smithii*
WWH	Western wheatgrass herbaceous	*Pascopyrum smithii*
Other/Nonagricultural Weedy		
ADUD	Annual dominated upland disturbance	*Alyssum spp., Anisantha tectorum, Bassia sieversiana, Breea arvensis, Convolvulus arvensis, Rumex crispus, Sisymbrium altissimum*
BTPH	Black-tailed prairie dog grassland complex	*Convolvulus arvensis, Gutierrezia sarothrae, Yucca glauca*
CSL	Chenopodium, Russian thistle, prickly lettuce	*Chenopodium* spp., *Salsola australis, Lactuca serriola*
GFWM	Grass-forb weedy mesic alliance	*Breea arvensis, Bromopsis inermis, Lactuca serriola, Helianthus annuus, Persecaria* spp., *Phalaroides arundinacea, Rumex crispus, Scirpus* spp., *Typha latifolia*

LWDA	Lowland weedy ditch alliance	*Alyssum* spp., *Anisantha tectorum, Bassia sieversiana, Breea arvensis, Carduus nutans, Dipsacus fullonum, Rumex crispus, Sisymbrium altissimum*
MF	Mown field	*Poa* spp.
Other/Agricultural Weedy		
CGH	Cultivated grass hay	*Dactylis glomerata, Phleum* spp., *Poa* spp., *Medicago sativa*
DCAP	Disturbed cultivated agricultural pasture	*Medicago sativa, Elymus spp.*
ECCS	Escaped cultivated crop species	*Elymus* spp., *Medicago sativa, Triticum aestivum*
Wetland		
CBSH	Cattail bulrush semipermanently flooded herbaceous	*Typha (angustifolia, latifolia), Scirpus* spp.
CDMA	Carex dominated mesic	*Carex* spp.
CHSH	Cattail herbaceous semipermanently flooded	*Typha (angustifolia, latifolia), Schoenoplectus* spp.
EW	Emergent wetland herbaceous vegetation	*Eleocharis palustris, Typha* spp., *Scirpus* spp.
NSH	Nebraska sedge seasonally flooded herbaceous	*Carex nebrascensis*
RCSH	Reed canarygrass seasonally flooded herbaceous	*Phalaroides arundinacea*
SFB	Seasonally flooded bank	*Typha* spp., *Phalaris* spp., *Bromopsis inermis*
WM	Wet meadows	*Carex nebrascensis*
Woodland (Trees and Shrubs)		
APS	American plum shrubland	*Prunus americana*
BETW	Box-elder temporarily flooded woodland	*Acer negundo*
CCS	Choke cherry shrubland	*Prunus virginiana*
CSB	Creek shelterbelt/riparian forest	*Populus deltoides, Salix fragilis, Salix exigua, Elaeagnus angustifolia*
CWS	Crack willow scattered	*Salix fragilis*

CWTS	Coyote willow temporarily flooded shrubland	*Salix exigua*
GATF	Green ash/American elm temporarily flooded forest	*Fraxinus pennsylvanica/ Ulmus americana*
OR	Orchard	*Dactylis glomerata, Bouteloua dactyloides, Poa spp.*
PCSI	Plains cottonwoods scattered individuals w/mesic understory	*Populus deltoides*
PCSIX	Plains cottonwoods scattered individuals w/xeric understory	*Populus deltoides*
PWTW	Peach-leaf willow temporarily flooded	*Salix amygdaloides*
ROS	Russian-olive scattered	*Elaeagnus angustifolia*
ROW	Russian-olive seminatural woodland	*Elaeagnus angustifolia*
SB	Shelterbelt	*Elaeagnus angustifolia, Populus deltoides, Salix fragilis*
WRSH	Wood's rose shrub herbaceous	*Rosa woodsii*
WSTS	Western snowberry temporarily flooded shrubland	*Symphoricarpos occidentalis*

TOWN OF ERIE NATURAL AREAS INVENTORY

Site #: 42 Map: B1
Wetlands near Wise Woods Acres 11

This site is a wetland bounded on the southeast by the Lower Boulder Ditch.

Wetlands:
Wetland Functionality: 3 Wetland Value: 3

Landscape Context
Nearby Land Use:
- Field without Crops
- Farm
- Ditch
- Residential
- Oil Well

Habitat Types Present: 4
- Agriculture
- Wetland
- Woodland
- Other

Viewshed: From Site

Vegetation
Plant Communities: ASBH, PCSI, CWTS, ADUD, CHSH

Vegetation Structure:
- Tree
- Shrubs
- Forbs
- Grass
- Litter

County-listed Noxious Weeds:
- Canada Thistle

Noxious Weed Cover 4
Ground Disturbance: 5
Plant Diversity: 4
Grassland Value: 0

Wildlife Habitat
Prairie Dog Habitat: 0%
Overall Wildlife Habitat Quality: 3

Wildlife Species of Concern:
meadow vole, yellow-headed blackbird

Primary Factors Present	Secondary Factors Present
Water or wetland is present	One of the three vegetation structure types is in good condition Three or more habitat types are present Site is potentially part of a corridor, or a lower quality corridor

Wildlife Species Seen

Enhancement Effort: Low
Summary Rating: 19
Site Comments
This site contains a wetland and is bounded to the southeast by Lower Boulder Ditch. No standing water was visible at the site visit in October. The site contains alfalfa, weedy upland species, a stand of coyote willows, scattered cottonwoods, a cattail wetland (in poor condition), and a line of shrubs (chokecherry and plum) along the road. The mature cottonwoods and coyote willows provide habitat for songbirds and small mammals. No wildlife was observed on the site, but residents report yellow-headed blackbirds and red-winged blackbirds. The presence of yellow-headed blackbirds is noteworthy in that they require larger expanses of cattails than do red-winged blackbirds, and they are a species of special concern. Enhancement efforts would be low and would involve the eradication of noxious weeds.

Deb Bachelder

From: Anita Schuneman <savanita@gmail.com>
Sent: Tuesday, January 06, 2015 1:20 PM
To: Deb Bachelder
Subject: Wise Farms Development

Dear Ms. Bachelder,

I am writing to express my concerns about the Wise Farm development just north of the long-standing rural subdivision of Brownsville. I am a resident of Brownsville, and live at 11848 Billings Ave.

I urge you to require a zoning for the Wise Farms development that is more in character with the neighboring area, ideally rural residential. I know they have already reduced the number of houses proposed, but the density is still too high for this area. I've read some of the documents produced last year and see that the developer has also requested the option of making changes to the zoning once it is adopted--effectively allowing them to increase the density even more. (I don't remember the term for that process, but I'm sure you're aware of it).

Traffic on 119th is already a problem and walking along 119th is taking your life into your hands. Adding the proposed number of homes south of Brownville will just exacerbate that problem and will also affect the residents of Meadow Sweet Farms and Country Fields, who may not even be aware of the Wise Farms development

Since I'm sure the Wise Farms area will be developed, please require the developer to reduce the number of homes. I also believe the development would be better received by neighbors if there was more of a buffer between it and Brownsville directly to the south.

I plan to attend the meetings planned about this development, but wanted to be sure and send my thoughts in writing as well.

Thank you for your consideration.

Anita Schuneman
11848 Billings Ave
Lafayette CO 80026

Deborah Bachelder, Senior Planner
Town of Erie
645 Holbrook Street
PO Box 750
Erie, Colorado 80516

December 31, 2014

Dear Ms Bachelder,

My name is Lois Przywitwoski. My husband, Dick, and I reside at 11619 Billings Avenue, directly adjacent to the proposed Wise Farm development. We consider ourselves to be good neighbors of Erie, paying taxes by shopping at Safeway and Walgreens; frequenting the local restaurants and gas stations; supporting the Post Office and banks. We have no voting privileges within the town of Erie.

Brownsville is a rural community, with children, dogs, cats, chickens, horses, cows, sheep, llamas and the occasional pig. In addition to the domestic animals, we coexist with wildlife, including coyotes, foxes, owls, hawks, eagles and deer. Very few privacy fences are in existence here. We have no sidewalks or streetlights. It is dark enough to see the stars at night.

While we appreciate that the developer has reduced the number of homes, the density is still too high. Not only will we loose the beautiful open space to a virtual sea of rooftops, we will be impacted by streetlights and traffic noise. We experience enough cars cutting through our neighborhood to avoid the busier roads; this development can only make this worse.

Of even higher concern is the fact that no substantial buffer exists between Brownsville and the new development! This is a major issue for us as close to three properties will span the length of our property. The idea of a privacy fence as a solution to this is abhorrent. Adequate space was provided between Brownsville and the developments to the south. Why is that not the case here?

We know that growth is inevitable. However, it is essential that this growth is done in a responsible manner, staying within the existing rural residential zoning. It must have open space as a buffer between the Wise Farm and Brownsville communities which can also serve as a wildlife corridor.

There is a community called Antelope Hills in Bennett, Colorado. They have preserved their rural character by not installing streetlights or sidewalks and not permitting privacy fences. The lots are about an acre in size. The community is fully developed and thriving. We suggest that this could be an excellent model for responsible development.

Even though this is probably an impossibility, we wholly support maintaining this land as agricultural open space. Your attention to our concerns is appreciated.

Sincerely,

Lois & Dick Przywitowski

Lois and Dick Przywitowski
Concerned Neighbors

KERR-MCGEE OIL & GAS ONSHORE LP 1099 18TH STREET, SUITE 1800 • DENVER, COLORADO 80202

KerrMcGee

January 9, 2015

VIA E-MAIL
Town of Erie Community Development Services
Planning and Building
Ms. Deborah Bachelder, Planner
645 Holbrook, P.O. Box 750
Erie, CO 80516

Re: Wise Farms
Jasper Land Investments, LLC – Applicant
Township 1 North, Range 69 West, 6th P.M.
Section 14: part of the N/2
Boulder County, Colorado

Dear Ms. Bachelder:

This letter is being sent by Kerr-McGee Oil & Gas Onshore LP ("KMG") to inform you that KMG is the owner of valid oil and gas leases underlying a portion of Section 14, Township 1 North, Range 69 West, for which Jasper Land Investments, LLC ("Applicant") is seeking approval of a request for Rezoning, Planned Unit Development Overlay and Preliminary Plat on the Property. KMG is submitting this comment and objection timely, in accordance with the procedural requirements of the State of Colorado and the Town.

KMG's recorded oil and gas leases are real property interests entitling it to produce oil and gas from the leased lands. The company has the right to produce from existing wells, to maintain, rework, recomplete, and fracture those existing wells to enhance production, and to drill new wells to produce oil and gas, in accordance with applicable Colorado Oil and Gas Conservation Commission regulations and Colorado Statutes. KMG's oil and gas assets have significant value, and, consequently, the company is concerned about any development, surface use, plan of use, PUD, zoning or rezoning, or other action by the Town that would impair or preclude its ability to develop its property.

KMG's preferred practice is to meet with surface owners and attempt to conclude a mutually acceptable surface use agreement. In this case, KMG is currently working with the Applicant to negotiate a Surface Use Agreement that will fully accommodate its rights to explore for, develop and produce oil and gas from its leasehold interests. KMG requests that the Town of Erie place a condition of approval stating that a Surface Use Agreement must be in place before construction begins. Any future surface development plans should incorporate and designate lands to be set aside for mineral development and expressly provide protection for KMG's current and future wells, pipelines, gathering lines and related oil and gas facilities and equipment. The Town of Erie has a constitutional obligation to ensure that the property

rights of mineral interest owners are accommodated in its land use planning process. Approval of any surface development plan that forecloses the rights of mineral owners may be a compensable taking.

Please contact me at 720-929-6469 if you have any questions or comments about this matter. KMG hopes to enter into a mutually acceptable surface use agreement with the Applicant, and we look forward to working with the Town to accomplish its land use planning goals.

Sincerely,
KERR-MCGEE OIL & GAS ONSHORE LP

Terry Enright
Staff Landman

cc: Susan Aldridge, Esq. – Anadarko Petroleum Corporation
Ron Olsen – Kerr-McGee Oil & Gas Onshore LP
Mike Brotzman – Kerr-McGee Oil & Gas Onshore LP
Jim Dullea – Applicant's Representative (j.dullea@comcast.net)
Hallie Sawyer – Town of Erie (hsawyer@arieco.gov)

Town of Erie
Open Space and Trails Advisory Board

From: Town of Erie Open Space and Trails Advisory Board (OSTAB)
To: Deborah Bachelder, Senior Planner, Community Development
Date: November 19, 2014

Subject: Wise Farms Referral: Rezoning, PUD Overlay, Preliminary Plat

OSTAB has reviewed the referral materials, compared them to Town planning documents, and has prepared the following comments, questions, and recommendations for the Town's consideration in evaluating this application.

The application includes a letter to OSTAB, dated September 30, 2014, which describes actions taken by the applicant in response to our previous evaluation letter of August 26, 2014. Those actions are discussed in detail below.

The Natural Areas Inventory (NAI):

Discussion: We are pleased that the applicant has specifically agreed to our previous recommendations, as stated in the response:

1. "The revised landscape plans depict native planting adjacent to the low lying wet area near NAI site #42";
2. "In addition, the tree preservation plans indicate preserving the trees that are mentioned"...i.e. the large trees in the area adjacent to Lower Boulder Ditch that ERO, the applicants consultant, evaluated.

Recommendations: None

Open Space:

Discussion: Thank you for correcting the discrepancies between the previous narrative and the tract summary table concerning the specific tracts that will be preserved as Town owned open space and the total acreage of them. Those tracts are Tract I, 7.15 acres (essentially NAI site #42), and Tract P, 2.12 acres (along Jasper Road, due east of Tract I). The combined acreage of these tracts is approximately 9.25 acres.

Recommendations: None.

Trails:

Spine Trail

Discussion: Thank you for confirming that the Spine Trail, which will be due south of the RTD ROW, will be built by the applicant to Town specifications - an 8 foot concrete trail, an adjacent 4 foot crusher fines trail, and a 2 foot buffer on each side. We did detect 2 inconsistencies in the application, which we believe are unintentional oversights:

1. Your above referenced letter to OSTAB states that "We have modified the spine trail adjacent to the RTD ROW to be an 8' trail, with the adjacent 4' trail and a 2 foot buffer on either side". The adjacent 4' trail should be a crusher fines trail;
2. In the upper right quadrant of sheet L8 of the preliminary landscape plan, there is the statement "30' trail easement for future regional trail. Concrete trail to be constructed at the time of adjacent trail improvements."

Recommendation: Correct the above inconsistencies so that the application clearly states that the Spine Trail will be built by the applicant to the town's specifications in the proposed regional trail easement immediately south of the RTD ROW.

Neighborhood Trails

Discussion: In our previous response, we made the following recommendations:

1. Complete the loop in the northern half of the development with a trail either across Lower Boulder Ditch, or due north of the ditch;
2. Complete the loop in the southern half of the development with a trail along the perimeter of the western portion, and the western half of the southern portion;
3. Define the surface composition of all trails;
4. Increase the width of all neighborhood trails to 6 feet.

Concerning the northern portion, the applicant responded that "we believe that we have provided a very connected system of trails, all walks adjacent to streets are detached with a tree lawn and should be considered an integral part of the trail connectivity." We further reviewed the planned trails, and also learned of the significant implements to crossing the Lower Boulder Ditch. Therefore, we are withdrawing all recommendations to modify the planned trails in this portion.

Concerning the southern portion, the applicant responded that "we believe that adding s short section of trail behind lots on the west side does not provide a benefit, and decreases the value of those home sites". We do not agree. The planned trails exclude approximately half of the southern perimeter and essentially all the western perimeter. Adding trails in those sections would increase the loop trail by about 50%. Concerning the impact on the value of those home sites, we believe that their value would be INCREASED. Recently, the Town surveyed residents about Parks, Open Space and Trails (PROST Survey, 2014). One question was "How important was the presence of parks, recreation facilities and programs, open space, and trails in your decision to move to Erie or continue to live in Erie". Responses were 1 (lowest) through 5 (highest), and were grouped by length of residency. For those residing in Erie less than 1 year, 64% responded "5", and 26% "4". For those residing between 1 and 5 years, 52% responded "5", and 30% "4". Anecdotally, our experience is that easy access to safe trails is critical for homeowners with children, especially direct access without using sidewalks adjacent to streets. For homeowners without children, "couch potatoes" do not want a trail at the rear of their property, "active" occupants are split 50-50. Since this development will NOT have connectivity via sidewalks or trails to any other Town open space or trails, our opinion is that the length and safe access to neighborhood trails will be a critical component in its success.

We are pleased that the applicant has "changed all the attached walks to detached walks with a tree lawn of the south side of the property", and that "trail surfacing is called out on the preliminary landscape plans, and all neighborhood trails are depicted as 6 feet in width".

Recommendation: complete the loop trail on the perimeter of the southern portion behind

proposed lots 1 through 12 on Street "X".

Please pass this referral letter to the Applicant, and appropriate town departments, boards, and commissions. Thank you for your attention to these matters. OSTAB is available to discuss any of the above in more detail as needed.

Sincerely,

Open Space and Trails Advisory Board

Denise Brady
Kevin Chard
Dawn Fraser
Monica Kash
Nicole Littman
Ken Martin (Chair)
Joe Martinez

Community Development Services
Planning and Building

TOWN OF ERIE
1874

Town of Erie, Colorado
Development Referral

___Town of Erie Community Development
___Town of Erie OSTAB
___Town of Erie Parks – Hegner
___Town of Erie Water Attorney
___High Plains Library District
___Mountain View Fire Protection District
X Division of Wildlife
___NRCS
___Kerr-McGee Oil & Gas Onshore, LP
___St. Vrain Valley School District
___RTD
___Comcast Commercial & Residential
___DOE WAPA – Barb O'Rourke
___Leyden Cottonwood Ditch Company

___Town of Erie Engineering
___Town of Erie Parks & Recreation – Buller
___Public Review
___Boulder County Public Works
___Urban Drainage
___CGS
___NCWCD & Subdistrict
___EnCana
___Noble Energy
___Felsburg Holt & Ullevig
___Century Link Communications
___DOE WAPA – Carey Ashton
___XCEL Energy
___New Consolidated Lower Boulder Ditch

Planner: Deborah Bachelder **Date: May 5, 2014**

Project: Wise Farms **Applicant: Jasper Land Investments, LLC**

Description: Rezoning, Planned Unit Development Overlay & Preliminary Plat

Location: West of the Intersection of N. 119th Street & Jasper Road on the south

Legal Description: See Attached

This application is submitted to you for review and comment. Please reply by **Thursday, June 5, 2014**, so that we may give full consideration to your comments. Any response not received by this date may be deemed to be a positive response to the Town of Erie. Email responses can be sent to dbach@erieco.gov. If you have any questions about this application, please call 303-926-2775.

___We have reviewed this application and find no conflicts with our interests.
___We have reviewed this application and find conflicts with our interests.
X See comments below or attached letter.

Comments: Comments made in letter dated January 7, 2014 for this project still apply. Please include with comments on this update. Thank you.

Signature: Kristin Cannon **Date:** 6/2/14

Name (Please Print) Kristin Cannon

COLORADO PARKS & WILDLIFE

4207 West County Road 16E • Loveland, Colorado 80537
Phone 970-472-4460 • FAX 970-472-4468
cpw.state.co.us

January 7, 2014

Deborah Bachelder
Community Development Services
Town of Erie
P.O. Box 750
Erie, CO 80516
(303) 926-2770
(303) 926-2706 fax

Re: Wise Farms Rezoning, Planned Unit Development Overlay and Preliminary Plat

Dear Ms. Bachelder:

Thank you for the opportunity to comment on the proposed rezoning of the Wise Farms Property located southwest of the intersection of north 119th and Jasper Road. The applicant, Jasper Land Investments, LLC is requesting to rezone 71.10 acres of an 86.82 acre property from Rural Residential to Low Density Residential. Ultimately, the applicant would like to develop the property and build up to 127 dwelling units.

The property is currently used for agriculture and there are some existing buildings. The Lower Boulder Ditch crosses the property and there are two depressional wetlands on the property. Additionally there are several trees on the property including some mature trees. ERO Resources did an environmental assessment of the property in September 2013. ERO did not identify suitable habitat for any threatened or endangered species nor did they find any migratory bird nests on the property. The property is surrounded by agricultural land and low density residential properties.

This parcel is currently used by a variety of wildlife, including but not limited to red foxes, raccoons, striped skunks, coyotes, mule deer, white-tailed deer, red-tailed hawks, and great horned owls. Residents moving onto this property should be aware that wildlife will continue to use this site after development is completed. Conflicts can occur when people and pets share the same living space with wildlife. Foxes and coyotes may prey on unattended pets, deer may eat ornamental shrubs and flowers, raccoons may get into trash containers and open garages, and skunks may burrow under decks. While uncontrolled pets are at risk from animals such as coyotes, foxes and raccoons, pets can also have a negative impact on wildlife. Cats kill many birds and rodents, while dogs often chase and harass wildlife such as deer. For the safety of both pets and wildlife, dogs should be contained in appropriate enclosures and cats should remain in homes. Residents should be provided with information about how to avoid and minimize wildlife

STATE OF COLORADO
John W. Hickenlooper, Governor • Mike King, Executive Director, Department of Natural Resources
Bob D. Broscheid, Director, Colorado Parks and Wildlife
Parks and Wildlife Commission: Robert W. Bray • Chris Castilian, Secretary • Jeanne Horne
Bill Kane, Chair • Gaspar Perricone • James Pribyl • John Singletary
Mark Smith, Vice-Chair • James Vigil • Dean Wingfield • Michelle Zimmerman
Ex Officio Members: Mike King and John Salazar

conflicts, and should take responsibility for peacefully co-existing with local wildlife. Information, brochures, and tips for co-existing with wildlife can be provided by Colorado Parks and Wildlife, and are available on our website at www.cpw.state.co.us.

Fencing, in general, should be wildlife-friendly, minimize risk, and allow unrestricted movement by deer and other wildlife. Residents or the builder may choose to construct fencing to exclude coyotes from residential yards. Fencing meant to exclude coyotes should be at least six feet high and obscure views into yards.

If at all possible removal of mature trees should be avoided. If trees are to be removed between the months of March and August they should be carefully examined to insure that they do not support raptor or songbird nests. If an active raptor nest is located during construction, destruction of the nest tree should be delayed until the nest is no longer active and recommended buffer zones should be established to minimize the chance that the nest is abandoned due to construction activity at the site. To avoid delays in construction due to nesting raptors, trees targeted for removal should be identified and dropped in mid winter before onset of construction to avoid the nesting season. Guidelines and recommended buffer zone distances for raptors may be found in "Spatial and Temporal Buffers for Raptors in Colorado: A Review of Relevant Literature and Applicable Laws" which is available from Colorado Parks and Wildlife.

There may be noxious weeds considered to be invasive on this parcel. Invasive weeds diminish habitat quality and are costly to control. We recommend working with your town's invasive/noxious weed coordinator or other parties responsible for invasive and noxious weed management in Boulder County to create and implement a weed management plan on the site. This will provide for ongoing weed control during and after construction. To avoid spreading these weed species to other sites and to prevent new species from being introduced we recommend that all construction equipment be thoroughly cleaned prior to arriving on site and after construction is completed.

Residents should also be aware that hunting has historically occurred in the vicinity. There may be activities such as small game, upland bird, waterfowl, and deer hunting that occur in areas adjacent to Wise Farms.

Finally, there are some wetlands present on the property. Wetlands comprise less than two percent of Colorado's landscape but provide benefits to over 75% of the species in the state, including waterfowl and several declining species. Since the beginning of major settlement activities, Colorado has lost half of its wetlands. By virtue of their position in the landscape, wetlands perform several functions valuable to wildlife and society, including feeding, resting and rearing habitat, movement corridors, groundwater recharge, flood flow alteration, stream bank stabilization, and sediment and nutrient removal. Included in the plans was communications with the Army Corps of Engineers.

The Army Corps of Engineers regulates how wetlands may be filled and impacts mitigated.

If you have any questions please contact District Wildlife Manager Kristin Cannon at 303-291-7117.

Sincerely,

Larry Rogstad
Area Wildlife Manager

CC: S. Yamashita, T. Kroening, M. Taylor, L. Rogstad, K. Cannon

HISTORY Colorado

17 June 2014 HC #66095

Deborah Bachelder
Community Development
Town of Erie
645 Holbrook St.
P.O. Box 750
Erie, CO 80516

RE: Wise Farm Development, Jasper Road west of North 119th Street, Erie, Boulder County

Dear Ms. Bachelder:

Thank you for your recent correspondence dated 6 June 2014, concerning the proposed redevelopment of a 169-acre farm in Erie to create 166 new single-family housing lots, open space, and buffer zones. Our office has reviewed the submitted materials.

The Wise Farm (5BL.478) is potentially eligible for listing on the National Register of Historic Places. Several other historic properties are also located within the project area, including the Lower Boulder Ditch (5BL.488.22 and 5BL.488.24) and the Union Pacific Railroad line (5BL.469). Non-historic resources within the project area include the electrical transmission line (5BL.7882) and the South Platte Canal (5BL.7355).

Under state and federal laws, our office takes on a consulting role in projects that involve federal or state funding, permits, and/or land. As a consulting party, we work with the appropriate federal and state agencies to identify and protect cultural resources (such as historic buildings and archaeological sites). Projects that do not have state or federal involvement are not covered by these laws, and our office operates in an advisory capacity only.

It does not appear from the submitted site plans that the proposed development will have an effect on these resources, with one possible exception (a 30' sanitary sewer easement passes through an existing barn associated with the Wise Farm (alone Jasper Road in Tract "I"). However, we encourage the continued occupation of the Wise Farm buildings (to prevent their decay through neglect and/or vandalism), as well as preserving the agricultural character of the Lower Boulder Ditch (as opposed to straightening, lining, or piping the ditch).

If you have any questions, please contact Joseph Saldibar, Architectural Services Manager, at (303) 866-3741.

Sincerely,

for Edward C. Nichols
State Historic Preservation Officer and
President, Colorado Historical Society

OFFICE OF ARCHAEOLOGY AND HISTORIC PRESERVATION
303-866-3392 * Fax 303-866-2711 * E-mail: oahp@state.co.us * Internet: www.historycolorado.org

BV

Community Development Services
Planning and Building

TOWN OF ERIE

Town of Erie, Colorado
Development Referral

5-7-14

___Town of Erie Community Development
___Town of Erie OSTAB
___Town of Erie Parks – Hegner
___Town of Erie Water Attorney
___High Plains Library District
___Mountain View Fire Protection District
___Division of Wildlife
X NRCS
___Kerr-McGee Oil & Gas Onshore, LP
___St. Vrain Valley School District
___RTD
___Comcast Commercial & Residential
___DOE WAPA – Barb O'Rourke
___Leyner Cottonwood Ditch Company

___Town of Erie Engineering
___Town of Erie Parks & Recreation – Buller
___Public Review
___Boulder County Public Works
___Urban Drainage
___CGS
___NCWCD & Subdistrict
___EnCana
___Noble Energy
___Felsburg Holt & Ullevig
___Century Link Communications
___DOE WAPA – Carey Ashton
___XCEL Energy
___New Consolidated Lower Boulder Ditch

Planner: Deborah Bachelder **Date: May 5, 2014**

Project: Wise Farms **Applicant: Jasper Land Investments, LLC**

Description: Rezoning, Planned Unit Development Overlay & Preliminary Plat

Location: West of the Intersection of N. 119th Street & Jasper Road on the south

Legal Description: See Attached

This application is submitted to you for review and comment. Please reply by **Thursday, June 5, 2014,** so that we may give full consideration to your comments. Any response not received by this date may be deemed to be a positive response to the Town of Erie. Email responses can be sent to dbach@erieco.gov. If you have any questions about this application, please call 303-926-2775.

X We have reviewed this application and find no conflicts with our interests

___We have reviewed this application and find conflicts with our interests.

___See comments below or attached letter.

Comments:_____

Signature: Arlene Penner **Date:** 5-12-2014

Name (Please Print) Arlene Penner

645 Holbrook • P.O. Box 750 • Erie, Colorado 80516 • Phone (303) 926-2770 -• Fax (303) 926-2706

Community Development Services
Planning and Building

Town of Erie, Colorado
Development Referral

___Town of Erie Community Development
___Town of Erie OSTAB
___Town of Erie Parks – Behlen
___Town of Erie Water Attorney
X CGS
___Kerr-McGee Oil & Gas Onshore, LP
___New Consolidated Lower Boulder Ditch
___Town of Erie Engineering
___Town of Erie Parks & Recreation – Buller
___Public Review
___Boulder County Public Works
___NCWCD & Subdistrict
___XCEL Energy
___New Consolidated Lower Boulder Ditch

Planner: Deborah Bachelder **Date: August 5, 2014**

Project: Wise Farms **Applicant: Jasper Land Investments, LLC**

Description: Rezoning, Planned Unit Development Overlay & Preliminary Plat

Location: West of the Intersection of N. 119th Street & Jasper Road on the south

Legal Description: See Attached

This application is submitted to you for review and comment. Please reply by **Tuesday, August 26, 2014**, so that we may give full consideration to your comments. Any response not received by this date may be deemed to be a positive response to the Town of Erie. Email responses can be sent to dbach@erieco.gov. If you have any questions about this application, please call 303-926-2775.

✓ We have reviewed this application and find no conflicts with our interests

___We have reviewed this application and find conflicts with our interests.

___See comments below or attached letter.

Comments:_____

Signature: J Carlson **Date:** 8/25/2014

Name (Please Print) Jill Carlson

COLORADO GEOLOGICAL SURVEY

1500 Illinois Street
Golden, Colorado 80401
Phone 303.384.2655

Karen Berry
Acting State Geologist

June 5, 2014

Deborah Bachelder
Community Development Services
Town of Erie
P.O. Box 750
Erie, CO 80516

Location:
Section 14,
T1N, R69W of the 6th P.M.
40.051, -105.08

Subject: Resubmittal (Expanded) – Wise Farms – Rezoning, PUD Overlay, and Preliminary Plat
Town of Erie, Weld County, CO; CGS Unique No. BO-14-0004

Dear Deborah:

Colorado Geological Survey has reviewed the above-referenced Wise Farms Rezoning, PUD Overlay, and Preliminary Plat submittal. I understand the applicant, Jasper Land Investments, LLC, now proposes 166 single family lots on 169 acres located between Jasper Road and Brownsville Block 1 (north of Billings Avenue), west of 119th Street. The abandoned mining town of Canfield is located just east of the northeastern corner of the site. With this referral, I received:

- Wise Farms Preliminary Plat narrative (PCS Group, Inc., revised April 2014),
- Land Use Application (unsigned, undated),
- Supplemental Mine Subsidence Risk Investigation (CTL|Thompson, October 25, 2013), including
  - Wise Property Mine Subsidence Investigation (Western Environment and Ecology [WEE], May 31, 2005), with a letter review confirming the 2005 report conclusions (WEE, July 21, 2012),
- Preliminary Geotechnical Investigation (CTL|Thompson, December 9, 2005),
- Phase I Environmental Site Assessment (A.G.Wassenaar, January 2, 2012),
- Compatible Development and Surface Use Agreement (signed July 31, 2013),
- Set of 14 Preliminary Plat drawings (CVL Consultants, April 15, 2014),
- Set of three ALTA/ACSM Land Title Survey drawings for Wise Farms (CVL Consultants, April 11, 2014),
- Set of three ALTA/ACSM Land Title Survey drawings for Wise Farms South Parcel (CVL Consultants, April 11, 2014),
- Set of 16 Preliminary Development Plans (CVL Consultants, April 2014), and
- Set of 11 Preliminary Landscape Plans (PCS Group, Inc., April 25, 2014).

CGS previously reviewed the "North Parcel" portion of the proposed Wise Farms project; our comments were provided in a letter dated January 16, 2014.

Mine subsidence. I agree with Western Environment and Ecology's and CTL|Thompson's interpretation of the mine maps, boring results, and subsidence hazard on this site. The Star Mine is located east of the Wise Farms North Parcel, the Standard Mine is located beneath the southeastern corner of the North Parcel and the northeastern corner of the South Parcel, and the Jackson Mine is located beneath the western portion of the South Parcel.

CVL correctly shows CTL's restricted development areas and access road locations on the preliminary plat drawings. Except for small areas within proposed Lot 3, Block 1 and Lot 1, Block 3 in the South Parcel, the

"Low Risk Subsidence Area" shown on CTL's Hazard Map (Figure 3) is located within proposed Tracts G, A, and E on the eastern portion of the property. **CGS recommends that building envelopes be identified (or reduced) on these two lots, specifically excluding the shaded subsidence areas.**

Several publications indicate that a portion of the Standard Mine or an unnamed mine and shaft may be present beneath the central portion of the site. However, mine workings were not encountered in any of the borings drilled in this area, and I agree that the mine maps showing a mine and shaft in the central area of the site are probably incorrect.

However, it is always possible that unmapped shafts or other mining-related features exist within proposed development areas. All grading activities should be carefully observed to identify any unmapped shafts or other mining features. The developer, engineer, builder, earthmoving contractors and field inspection staff should be made aware that adjacent properties to the east are undermined, unmapped shafts may be present, and there is a potential risk of sinkholes and other subsidence-related features developing. If subsidence feature(s) or shaft(s) are observed, mitigation and/or possible development reconfiguration would be required.

Shallow groundwater. Very shallow groundwater was observed in many of CTL's and WEE's borings, at depths that may preclude full-depth basements in some areas. CTL's Supplemental Mine Subsidence Risk Investigation report references a more detailed evaluation of groundwater elevations (July 16, 2013.) This report was not included with the referral documents. Full-depth basements should not be considered feasible unless the shallow groundwater condition is mitigated through one or more of the usual methods (fill placement to raise grade, construction of an area underdrain system, etc.)

Other geotechnical constraints. CTL's 2005 geotechnical report contains appropriate *preliminary* recommendations (pages 6-10) regarding overlot grading, subgrade preparation, fill placement, surface and subsurface drainage, and foundation design to mitigate the site's soft, wet, compressible and expansive soils, and shallow groundwater condition. Additional investigations, based on the currently proposed development plans, are needed to confirm or refine these recommendations.

Environmental considerations. In their Phase I Environmental Site assessment, Wassenaar identified the Wise 1-14 X oil and gas well and associated separator, tank battery, and concrete condensate storage tank, as a Recognized Environmental Condition (REC). These features are located on the Wise Farms South Parcel. The required 150-ft. setback from oil and gas wells and production equipment appears to have been correctly incorporated into the lot layout as Tract D within Block 2.

Thank you for the continued opportunity to review and comment on this project. If you have questions or require further review, please call me at (303) 384-2643, or e-mail carlson@mines.edu.

Sincerely,

Jill Carlson, C.E.G.
Engineering Geologist

Department of Energy
Western Area Power Administration
Rocky Mountain Customer Service Region
P.O. Box 3700
Loveland, CO 80539-3003

November 21, 2014

Ms. Deborah Bachelder
Town of Erie
Community Development Services – Planning and Building
P.O. Box 750
645 Holbrook
Erie, CO 80516

RE: Wise Farms located within Section 14, T. 1 N., R. 69 W.
Western Area Power Administration's Erie-Terry Street 115-kV Transmission Line

Dear Ms. Bachelder:

Thank you for providing the updated version of the proposed Preliminary Plat for the Wise Farms Subdivision to Western Area Power Administration (Western) for review. Western appreciates the addition of the new language in Plat Note No. 8 and other modifications that have been made to the plat, which relate to Western's transmission line easement.

As noted in the letter, dated September 30, 2014, which we received from John Prestwich of PCS Group, Western will anticipate receiving and reviewing our ROW Use Application from the owner of the proposed facility for any crossings of our easement. Some examples of these crossings that we identified on the most recent version of the proposed plat and associated plan sheets included the following:

- Street crossings
- Water, sewer, and other utility lines
- Recreational trails/bike paths
- At least two pipelines associated with the oil & gas operations in Tract S

Western needs to preserve sufficient access to our facilities from public roads, and to maintain the current ground to conductor (wires) clearance. We use very large vehicles to maintain the line. No grading changes should be made which will prohibit our vehicles from accessing any portion of the transmission line or that will reduce the amount of clearance.

I've attached a copy of Western's ROW Use Application for your reference. I've also included a copy of a map that identifies the transmission line structure or pole numbers, which should be referenced on the ROW Use Applications. Upon review and approval of the applications, Western will then enter into a License Agreement with the applicant to properly document the uses within Western's easement.

We appreciate the opportunity to work with the Town of Erie, the developer, homebuilder, and utility providers for the Wise Farms project. If you have any questions, please contact Brian Pederson, Realty Specialist, at (970) 461-7284 or by email at bpederson@wapa.gov. Thank you.

Sincerely,

Carey Ashton
Realty Officer

Enclosure

Cc: John Prestwich, PCS Group. Inc.

pcs group inc. www.pcsgroupco.com

community design | entitlement | site design | landscape architecture | community imaging

September 30, 2014

Carey Ashton
Department of Energy - Western Area Power Administration
Rocky Mountain Customer Service Region
P.O. Box 3700
Loveland, CO 80539-3003

Dear Carey:

Thank you for your comment letter dated July 8th, 2014. Please accept this letter as our response to your comments.

CVL has updated note number 9 on the preliminary plat as requested, and has added a note indicating that "No fences shall be constructed within or across the easement without written approval by Western Area Power Administration", In addition we have modified the proposed fence location to remove the section of fence that crossed the easement.

The Wise development team acknowledges that a ROW use application will be required for any crossings or uses within the easement, and will work with WAPA at the time of final plat and construction drawings for any required approvals.

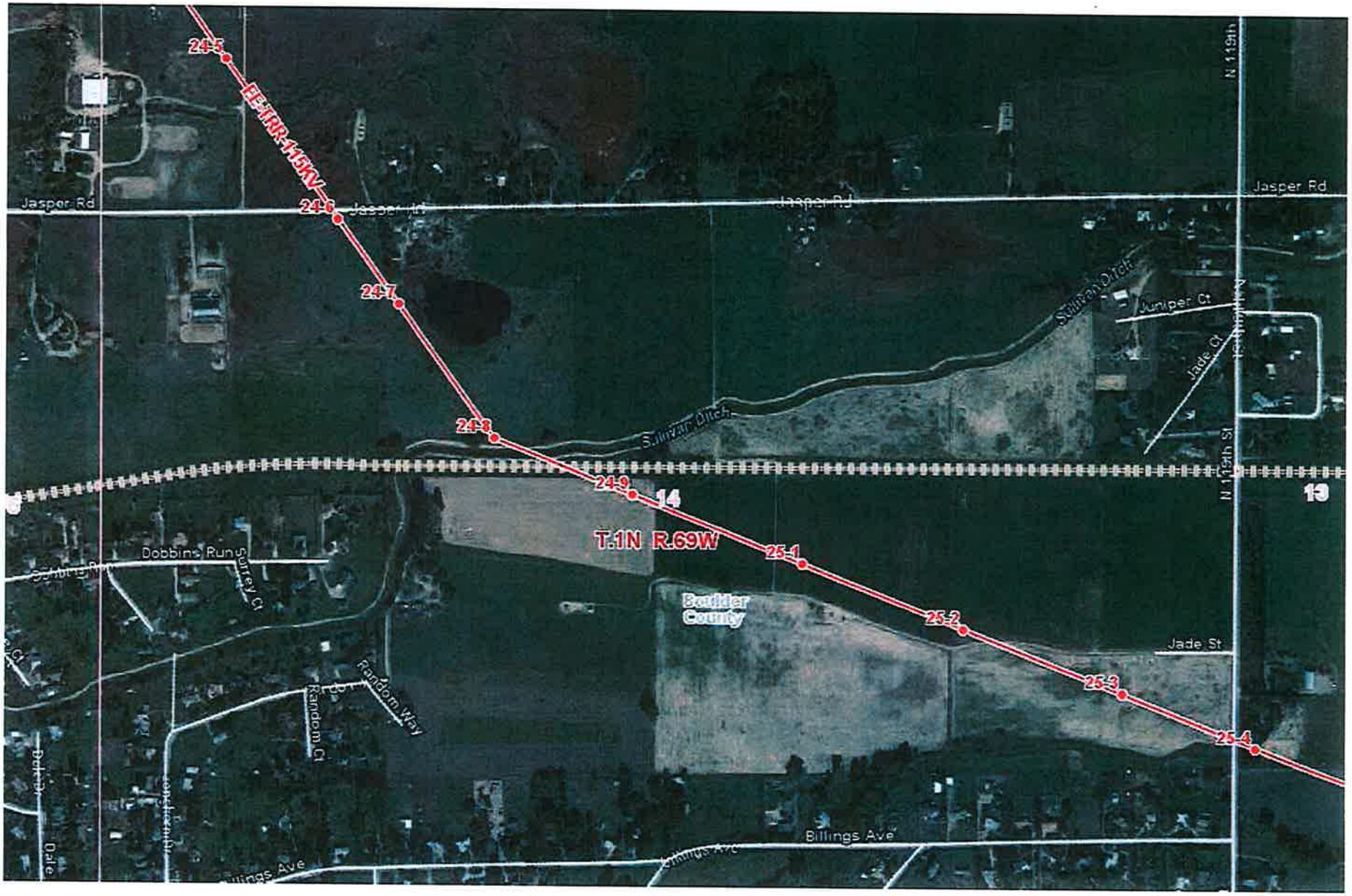
Sincerely,

John Prestwich

John Prestwich - President, RLA

Western Area Power Administration

Erie - Terry Street (EE-TRR) 115-kV Transmission Line



Western Area Power Administration
Rocky Mountain Customer Service Region
ATTN: Carey Ashton, A7400.LV
P.O. Box 3700
Loveland, CO 80539-3003

EXHIBIT A
Page ____ of ____

NOTE: A minimum overhead clearance of at least ____ feet from the conductors must be maintained at all times.

RIGHT-OF-WAY USE APPLICATION

Date: _____ Transmission Line: Erie – Terry Street (EE-TRR) 115-kV

Description of Proposal (Narrative):

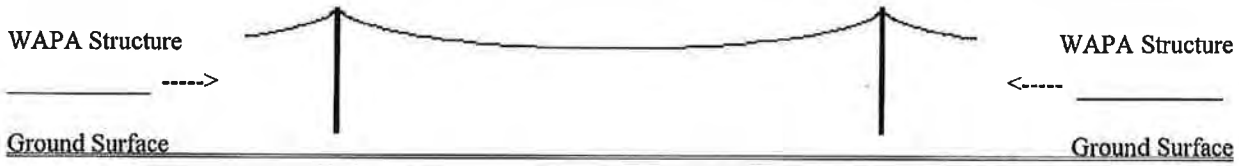
_____

_____

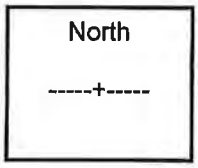
Location: _____

County: _____ State: _____

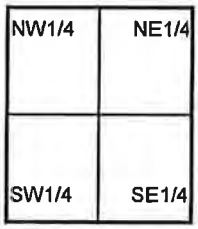
PROFILE: Show the location, height (feet), and distance (feet) from the nearest transmission line structure.



PLAN: Show the location and dimensions (in feet) of the proposed facility in relation to the center conductor of the transmission line.



Show NORTH by arrow at (+) in block at left and show approximate location in Section at right.



Attach other drawings and information as appropriate.

NOTE: Induced voltages and currents may occur on facilities constructed or placed under or near high voltage transmission lines, therefore, the Licensee shall be responsible for the protection of personnel and equipment in their design, construction, operation and maintenance of the facilities described in this application.

_____
Name: (Please Print)

_____
Signature

APPLICANT:

_____
Address: _____
_____
_____
Phone: _____

Community Development Services
Planning and Building

Town of Erie, Colorado
Development Referral

___Town of Erie Community Development
___Town of Erie OSTAB
___Town of Erie Parks – Hegner
___Town of Erie Water Attorney
___High Plains Library District
___Mountain View Fire Protection District
___Division of Wildlife
___NRCS
___Kerr-McGee Oil & Gas Onshore, LP
___St. Vrain Valley School District
___RTD
___Comcast Commercial & Residential
___DOE WAPA – Barb O'Rourke
✓ Leyner Cottonwood Ditch Company
___Town of Erie Engineering
___Town of Erie Parks & Recreation – Buller
___Public Review
___Boulder County Public Works
___Urban Drainage
___CGS
___NCWCD & Subdistrict
___EnCana
___Noble Energy
___Felsburg Holt & Ullevig
___Century Link Communications
___DOE WAPA – Carey Ashton
___XCEL Energy
___New Consolidated Lower Boulder Ditch

Planner: Deborah Bachelder **Date: May 5, 2014**

Project: Wise Farms **Applicant: Jasper Land Investments, LLC**

Description: Rezoning, Planned Unit Development Overlay & Preliminary Plat

Location: West of the Intersection of N. 119th Street & Jasper Road on the south

Legal Description: See Attached

This application is submitted to you for review and comment. Please reply by **Thursday, June 5, 2014,** so that we may give full consideration to your comments. Any response not received by this date may be deemed to be a positive response to the Town of Erie. Email responses can be sent to dbach@erieco.gov. If you have any questions about this application, please call 303-926-2775.

___We have reviewed this application and find no conflicts with our interests

___We have reviewed this application and find conflicts with our interests.

X See comments below or attached letter.

Comments: Our Concerns are that the Ditch will be in the back yards of Some of the Lots. We Need to Make Sure We have Access to all of our Ditch for Maintenance & For Running Water. See back of Page

Signature: Brad Johnson **Date:** 5/25/2014

Name (Please Print) Brad Johnson

We Reserve the Right to Amend Any encrochments upon our Ditch Right of Way. We Also Reserve the Right to Readdress this At a Later Time

Brad

Community Development Services
Planning and Building

Town of Erie, Colorado
Development Referral

___Town of Erie Community Development
___Town of Erie OSTAB
___Town of Erie Parks – Behlen
___Town of Erie Water Attorney
___CGS
___Kerr-McGee Oil & Gas Onshore, LP
___New Consolidated Lower Boulder Ditch
___Town of Erie Engineering
___Town of Erie Parks & Recreation – Buller
___Public Review
___Boulder County Public Works
X NCWCD & Subdistrict
___XCEL Energy
___New Consolidated Lower Boulder Ditch

Planner: Deborah Bachelder **Date: August 5, 2014**

Project: Wise Farms **Applicant: Jasper Land Investments, LLC**

Description: Rezoning, Planned Unit Development Overlay & Preliminary Plat

Location: West of the Intersection of N. 119th Street & Jasper Road on the south

Legal Description: See Attached

This application is submitted to you for review and comment. Please reply by **Tuesday, August 26, 2014,** so that we may give full consideration to your comments. Any response not received by this date may be deemed to be a positive response to the Town of Erie. Email responses can be sent to dbach@erieco.gov. If you have any questions about this application, please call 303-926-2775.

___We have reviewed this application and find no conflicts with our interests

X We have reviewed this application and find conflicts with our interests.

___See comments below or attached letter.

Comments: Please see attached letter.

Signature: [signature] **Date:** 970-622-2243

Name (Please Print) Jim Stoble 970-593-2074
Real Estate Manager
Northern Water

Northern Water
Northern Colorado Water Conservancy District
220 Water Avenue Berthoud, Colorado 80513
Phone 1-800-369-7246 • Fax 1-877-851-0018
www.northernwater.org

June 2, 2014

Deborah Bachelder, Planner
Town of Erie
PO Box 750
Erie, Colorado 80516

Dear Deborah:

This letter is in response to the Wise Farms development referral letter dated May 5, 2014. As you know Northern Colorado Water Conservancy District (Northern Water) sent you a letter dated January 10, 2014, and subsequently we met with you and the developer to discuss the proposed development. I have enclosed a copy of the letter for your reference.

Northern Water asks that we be kept informed through the development process and remind both you and the developer that we will need to have drawings provided with adequate time to review the activities that are planned within the permanent easement of the South Platte Supply Canal ownership. In addition, any work within the easement will need to have a Letter of Consent completed for the crossing. The owner of the facilities will be required to ask for the Letter of Consent, which will need to be approved by both Northern Water and The New Consolidated Lower Boulder Reservoir and Ditch Company.

If you have any questions, please contact me at 970-622-2243.

Sincerely,

Jim Struble, SR/WA
Real Estate Manager

mm
Enclosure

cc: Eric Doering, President, The New Consolidated Lower Boulder Reservoir and Ditch Company
Jeff Kahn, Lyons Gaddis Kahn Hall Jeffers Dworak & Grant

Northern Water
Northern Colorado Water Conservancy District
220 Water Avenue Berthoud, Colorado 80513
Phone 1-800-369-7246 • Fax 1-877-851-0018
www.northernwater.org

January 10, 2014

Deborah Bachelder, Planner
Town of Erie
Community Development Services
Planning and Building
PO Box 750
Erie, Colorado 80516

Re: Wise Farms Development

Dear Ms. Bachelder:

This letter is in response to the development referral letter sent to Northern Water for the proposed Wise Farms Development, which is owned by Jasper Land Investments LLC.

Northern Colorado Water Conservancy District (Northern Water) is the owner of easements associated with the South Platte Supply Canal (SPSC), also known as the Lower Boulder Ditch. Northern Water has entered into an agreement with The New Consolidated Lower Boulder Reservoir and Ditch Company (Lower Boulder) to perform the operation and maintenance of the canal; however, Northern Water and Lower Boulder have a dispute concerning the precise, present ownership of the canal.

I have enclosed two separate Easement Deeds that show the described easements, which are owned by Northern Water. The first is a contract and grant of easement, which is shown on the drawings as Tract C. Northern Water is now the owner of this tract of land conveyed by Quit Claim Deed recorded on March 25, 2008, at Reception No. 3543528, Weld County, State of Colorado, from the United States of America to Northern Water. This same parcel is shown on the drawings as being recorded on Book 963 Page 168 United States of America and Book 993 Page 344. The Preliminary Plat shows that two roads will cross the easement of Northern Water as well as lots that will be located adjacent to the easement. In addition, Northern Water anticipates that multiple utilities will also be constructed under the canal. Northern Water will require the developer to submit all proposed plans and specifications of the proposed road and utility crossings associated with the Wise Farm Development prior to any activities being performed in and around its canal easement.

The developer and/or the Town of Erie will be required to enter into a Letter of Consent with Northern Water and Lower Boulder to allow for the construction of the bridges across the canal as well as all utility crossings. Also, in order to protect both Northern Water and Lower Boulder, we will require that a fence be installed on both sides of the canal to eliminate the trespass and liability of individuals using the canal roads as a path for recreational purposes.

Northern Water also owns an easement recorded on November 3, 1989 at Reception No. 1011773 for the purposes of constructing, operating and maintaining an access road and underground electrical line. The access road and electrical line are used for the operations and maintenance of the SPSC. On Page 1 of 9 of the Preliminary Plat, Note 10 states that "the following recorded easement will be vacated by separate document: 30' electric & access easement recorded under Rec. No. 1011773." Both Northern Water and Lower Boulder will only agree to vacate this easement if the developer agrees to provide an additional access and utility easement to Northern Water. The developer will be required to construct both the new road and replace the electrical line at no cost to Northern Water and Lower Boulder.

Northern Water and Lower Boulder have not had any written or verbal discussions with the owner or representative of Jasper Land Investments LLC regarding the proposed Wise Farms Development. Northern Water requests the Town of Erie have a representative of Jasper Land Investments LLC schedule a meeting with both Northern Water and Lower Boulder to discuss the proposed Wise Farms Development.

You are welcome to contact me to discuss Northern Water's interest at 970-622-2243 or at 970-593-2074.

Sincerely,

Jim L. Struble, SR/WA
Real Estate Manager

mm
Enclosures

Jeffrey J. Kahn
John Wade Gaddis
Bradley A. Hall
Steven P. Jeffers
Anton V. Dworak
Adele L. Reester
Catherine A. Tallerico
Scott E. Holwick
Cameron A. Grant

Richard N. Lyons, II
Senior Counsel

Lyons Gaddis Kahn Hall Jeffers Dworak & Grant

A Professional Corporation — Attorneys and Counselors

Eve I. Canfield
Matthew Machado
Madoline Wallace-Gross
Chad A. Kupper
Blair M. Dickhoner
Elizabeth M. Joyce

Suzan D. Fritchel
Special Counsel

Wallace H. Grant
Of Counsel

Daniel F. Bernard
(1942-2011)

November 20, 2014

Deborah Bachelder, Senior Planner
Town of Erie

VIA E-MAIL: dbach@erieco.gov

Re: Wise Farms Application for Rezoning, Planned Unit Development Overlay & Preliminary Plat (Applicant Jasper Land Investments, LLC)

Dear Ms. Bachelder:

I am responding to your referral of the above referenced application on behalf of the New Consolidated Lower Boulder Reservoir and Ditch Company ("the Company"). I am attaching the Company's letter to the Town of Erie dated May 21, 2014, previous letter responses to referrals on the above referenced development dated June 5, 2014 and August 13, 2014. As stated in the May 21, 2014 letter and as stated in the third and fourth paragraphs of the June 5, 2014 referral response letter, and as reiterated in the letter dated June 5, 2014, the Company will not allow or permit any of the proposed ditch crossings necessary for this development to proceed until the issue presented in the Company's May 21, 2014 letter is addressed and resolved. There has been a meeting between representatives of the Company and Gary Behlen, Director of Public Works for the Town, and A.J. Krieger, Town Administrator, but there is not yet a resolution of the issue concerning the ability of the Company to continue to operate and maintain the Lower Boulder Ditch (also known as the South Platte Supply Canal) as it has historically. Until such a resolution is reached, the Company's position remains the same.

Sincerely,

LYONS GADDIS KAHN HALL
JEFFERS DWORAK & GRANT, PC

By_____
Jeffrey J. Kahn
jkahn@lgkhlaw.com

Enclosures
cc: Board of Directors
Dan Grant, Secretary
John Prestwich, President, PCS Group, Inc. (Developer's Representative)
A.J. Krieger, Town Manager
Gary Behlen, Public Works Director
Jim Struble, Real Estate Manager, Northern Water

Jeffrey J. Kahn
John Wade Gaddis
Bradley A. Hall
Steven P. Jeffers
Anton V. Dworak
Adele L. Reester
Catherine A. Tallerico
Scott E. Holwick
Cameron A. Grant

Richard N. Lyons, II
Senior Counsel

Lyons Gaddis Kahn Hall
Jeffers Dworak & Grant
A Professional Corporation — Attorneys and Counselors

Eve I. Canfield
Matthew Machado
Madoline Wallace-Gross
Chad A. Kupper
Blair M. Dickhoner

Suzan D. Fritchel
Special Counsel

Wallace H. Grant
Of Counsel

Daniel F. Bernard
(1942-2011)

August 13, 2014

Deborah Bachelder, Senior Planner
Town of Erie

VIA E-MAIL: dbach@erieco.gov

Re: Wise Farms

I am responding on behalf of the New Consolidated Lower Boulder Reservoir and Ditch Company ("the Company") to the development referral dated August 5, 2014 in the above referenced project. In response, I have attached a letter from the Company dated June 5, 2014. The issues raised in that letter have not been addressed by the Town or the applicant. In particular, I am again attaching the Company's letter dated May 21, 2014. No response has been forthcoming from the Town.

Any response should be addressed to me (jkahn@lgkhlaw.com) and Scott Holwick (sholwick@lgkhlaw.com) of this firm as well as Dan Grant (drgnlg@msn.com) secretary of the Company and Eric Doering (eric@stsan.com) president of the Company.

Sincerely,

LYONS GADDIS KAHN HALL
JEFFERS DWORAK & GRANT, PC

By _____
Jeffrey J. Kahn
jkahn@lgkhlaw.com

Enclosures
cc: Board of Directors
Dan Grant, Secretary
Jim Struble, Northern Colorado Water Conservancy District
Jim Dullea, Jasper Land Investments, LLC

Jeffrey J. Kahn
John Wade Gaddis
Bradley A. Hall
Steven P. Jeffers
Anton V. Dworak
Adele L. Reester
Catherine A. Tallerico
Scott E. Holwick
Cameron A. Grant

Richard N. Lyons, II
Senior Counsel

Lyons Gaddis Kahn Hall Jeffers Dworak & Grant

A Professional Corporation — Attorneys and Counselors

Eve I. Canfield
Matthew Machado
Madoline Wallace-Gross
Chad A. Kupper
Blair M. Dickhoner

Suzan D. Fritchel
Special Counsel

Wallace H. Grant
Of Counsel

Daniel F. Bernard
(1942-2011)

June 5, 2014

Deborah Bachelder, Senior Planner
Town of Erie

VIA E-MAIL: dbachelder@erieco.gov

Re: Proposed Wise Farm Development (Applicant, Jasper Land Investments, LLC)

Dear Ms. Bachelder:

I am responding to your development referral dated May 5, 2014 concerning the above referenced proposed development on behalf of the New Consolidated Lower Boulder Reservoir and Ditch Company ("the Company"). The Company is the owner of an easement for the Lower Boulder Ditch which goes through the north part of the above referenced proposed development, generally in a southwest to northeasterly direction. The Company shares ownership of the Lower Boulder Ditch with the Northern Colorado Water Conservancy District ("Northern Water") which identifies the ditch as the "South Platte Supply Canal." Northern Water's ownership of the easement for the canal is by the deeds referenced in Jim Struble's letter to you dated January 10, 2014. The Company's easement results from use or prescription dating back approximately 150 years.

A review of the proposed preliminary plat indicates that the proposed development includes at least two roads that will cross the easements for the canal. There will, in addition, likely be many utility crossings proposed across, or in, the easement for the canal. The proposed plat shows an easement for the canal. One question that needs to be answered is whether the canal is centered within the easement depicted on the plat. It is not unusual for ditch structures, such as this canal, to migrate over time with the result that at least the Company's easement may be somewhat different from the deeded easement to Northern Water.

In the past, development within the Town of Erie has impaired the Company's ability to operate and maintain the canal. As a result, the Company sent a letter dated May 21, 2014 to the Town of Erie. A copy of that letter is attached to this response.

As a result, before the Company is willing to work on the agreements necessary for this development to proceed, it must be assured that this development will not impair its ability to operate and maintain the canal.

If the Company can be assured that its ability to operate and maintain the canal is not impaired as a result of this proposed development, the Company is willing to sit down and negotiate the various agreements necessary to allow the road utility crossings of its easement.

Please direct future communications on this matter to me as well as Dan Grant, Secretary, at drgnlg@msn.com. You are welcome, also, to include the President of the Company, Eric Doering, at eric@stsan.com.

Sincerely,

LYONS GADDIS KAHN HALL
JEFFERS DWORAK & GRANT, PC

By_____
Jeffrey J. Kahn
jkahn@lgkhlaw.com

Enclosure
cc: Board of Directors
Dan Grant, Secretary
Jim Struble, Real Estate Manager, Northern Water

NEW CONSOLIDATED LOWER BOULDER RESERVOIR AND DITCH COMPANY

P.O. Box 1826
Longmont, CO 80501

May 21, 2014

A.J. Krieger
Erie Town Manager

VIA E-MAIL townadministrator@erieco.gov

Gary Behlen
Public Works Director

VIA E-MAIL gbehlen@erieco.gov

RE: Burning/Cleaning of the Lower Boulder Ditch

Dear Mr. Krieger and Mr. Behlen:

I am the President of the Company. The Company is the owner of the Lower Boulder Ditch and water rights adjudicated to that structure. Among the water rights adjudicated to the Lower Boulder Ditch is an 1859 water right for diversion of 25 cubic feet per second from Boulder Creek. This is the oldest and most senior water right in the South Platte River Basin. The Company has for years diverted water and delivered that water for beneficial use across land now being annexed and developed in the Town of Erie. The Company has no objection to such development provided its ability to operate and maintain the ditch is not impaired. However, the Town of Erie has adopted an ordinance which prohibits the burning of irrigation ditches within Town limits without a permit. The Company's experience has been that the Town refuses to issue such permits, at least to the Company. If the Company cannot burn within Town limits, it will have to resort to more labor intensive and costly procedures to clean the ditch. The Company does not believe it is fair that it should be burdened by such additional expenses as the result of developments. The Company has cleaned sections by burning the ditch likely for a period of 150 years.

The Company has attempted to discuss this issue with the Town of Erie on a number of occasions but without success and without even the opportunity to have meaningful dialogue. As a result, the Company at this time is unwilling to work with the Town in permitting crossings or other activities within the ditch easement that are part of proposed developments within the Town. These developments include proposals on the property formerly owned by the Wise Family and the proposed Andalusia project.

There may be ways to resolve this including issuing the Company permits to burn the ditch in a safe manner, compensating the Company for cleaning the ditch or paying a third party contractor to clean the ditch.

In some fashion, this issue must be addressed.

Please address your response which, may be sent via e-mail, to the following:

Eric Doering, President, EDoe@Knoll9025.com
Famuer Rasmussen, vice president, sanuer1342@comcast.net
Dan Grant, Secretary, drgnlg@msn.com
Jeff Kahn, counsel for the Company, jkahn@lgkhlaw.com.

Sincerely yours,

Eric Doering, President
New Consolidated Lower Boulder
Reservoir and Ditch Company

cc: Board of Directors
Dan Grant, Secretary
Jeff Kahn, Counsel for the Company
Jim Struble, Real Estate Manager, Northern Water

Boulder County

Transportation Department

2525 13th Street, Suite 203 • Boulder, Colorado 80304 • Tel: 303.441.3900 • Fax: 303.441.4594
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • **www.bouldercounty.org**

MEMORANUM

Date: January 25, 2013

To: Deborah Bachelder, Senior Planner, Town of Erie Community Development Services Planning and Building

From: Anita Riley, Transportation Planner, Boulder County Transportation Department

Re: Wise Farms Rezoning, Planned Unit Development Overlay & Preliminary Plat

The Boulder County Transportation Department has reviewed the documents provided for the above-referenced application and has the following comments.

1. Boulder County supports and advocates for the provision of a multimodal transportation system. The plans for the proposal currently provided do not reflect any provision for proposed or future multimodal facilities, such as bikeable shoulders or bike lanes, at Jasper Road or N. 119th Street. Staff suggests that such facilities either be incorporated into the current proposal or that additional right-of-way be acquired so that facilities may be constructed at a later time.
2. The potential connection indicated across the RTD right-of-way that bisects the property should be constructed so to accommodate a future trail within the right-of-way.

This concludes our comments at this time.

Xcel Energy℠
PUBLIC SERVICE COMPANY

Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.571.3306**
Facsimile: 303. 571.3660
donna.l.george@xcelenergy.com

November 24, 2014

Town of Erie
645 Holbrook
PO Box 750
Erie, Colorado 80516

Attn: Deborah Bachelder

Re: Wise Farms – 4th referral

Public Service Company of Colorado (PSCo) has reviewed the plans for **Wise Farms – 4th referral** and acknowledges the continued coordination with all Xcel personnel involved with this project including the **Designer** assigned to the project for distribution facilities, **Bill Schulz** (Right-of-Way Agent at william.a.schulz@xcelenergy.com or 303-245-2271) to resolve all distribution easement issues, and **Cheryl Diedrich** (Senior Right-of-Way Agent at cheryl.diedrich@xcelenergy.com or 303-571-3116) regarding the high pressure gas transmission pipeline directly adjacent to this property to the south for development plan review and execution of a License Agreement as necessary.

Public Service Company requests that Note 8 from the plat drawings dated April 14, 2014 be added back onto the current proposed plat. PSCo also requests 1) the 6-foot utility easements in Tract A along Streets X and Y be increased to 8-feet, and 2) 8-foot front-lot connector utility easements along Street X in Tracts V and W.

Public Service Company has no objection to this proposed rezone, contingent upon PSCo's ability to maintain all existing rights and this amendment should not hinder our ability for future expansion, including all present and any future accommodations for natural gas transmission and electric transmission related facilities.

As a safety precaution, PSCo would like to remind the developer to call the **Utility Notification Center at 1-800-922-1987** to have all utilities located prior to any construction.

If you have any questions about this referral response, please contact me at (303) 571-3306.

Donna George
Contract Right of Way Referral Processor
Public Service Company of Colorado

Community Development Services
Planning and Building

Town of Erie, Colorado
Development Referral

5/7/14

___Town of Erie Community Development
___Town of Erie OSTAB
___Town of Erie Parks – Hegner
___Town of Erie Water Attorney
___High Plains Library District
✓ Mountain View Fire Protection District
___Division of Wildlife
___NRCS
___Kerr-McGee Oil & Gas Onshore, LP
___St. Vrain Valley School District
___RTD
___Comcast Commercial & Residential
___DOE WAPA – Barb O'Rourke
___Leyner Cottonwood Ditch Company
___Town of Erie Engineering
___Town of Erie Parks & Recreation – Buller
___Public Review
___Boulder County Public Works
___Urban Drainage
___CGS
___NCWCD & Subdistrict
___EnCana
___Noble Energy
___Felsburg Holt & Ullevig
___Century Link Communications
___DOE WAPA – Carey Ashton
___XCEL Energy
___New Consolidated Lower Boulder Ditch

Planner: Deborah Bachelder **Date: May 5, 2014**

Project: Wise Farms **Applicant: Jasper Land Investments, LLC**

Description: Rezoning, Planned Unit Development Overlay & Preliminary Plat

Location: West of the Intersection of N. 119th Street & Jasper Road on the south

Legal Description: See Attached

This application is submitted to you for review and comment. Please reply by **Thursday, June 5, 2014,** so that we may give full consideration to your comments. Any response not received by this date may be deemed to be a positive response to the Town of Erie. Email responses can be sent to dbach@erieco.gov. If you have any questions about this application, please call 303-926-2775.

___We have reviewed this application and find no conflicts with our interests

___We have reviewed this application and find conflicts with our interests.

X See comments below or attached letter.

Comments:_____

Signature: [signature] **Date:** 5/23/14

Name (Please Print) LuAnn Penfold

MOUNTAIN VIEW FIRE RESCUE
3561 North Stagecoach Road, Unit 200• Longmont, CO 80504
(303) 772-0710 • FAX (303) 651-7702

May 23, 2014

Ms. Deborah Bachelder
Town of Erie
P.O. Box 750
Erie, CO 80516

Dear Ms. Bachelder:

I have reviewed the submitted material pertaining to the Wise Farms rezoning and preliminary plat, located on both the north and south side of Jasper Road west of 119th Street. The Fire District does not object to the proposed plan and subsequent development, provided the development is able to meet the requirements of the Fire District. All applicable codes must be met as they pertain to water supply, fire hydrant locations, and street designs must be met. Based on my review, I have the following comments:

- Overall fire access appears to be satisfactory as indicated on the plans submitted. There is concern regarding landscaping. It appears that trees or other landscaping may narrow the drive lanes. The width of all access roads shall be maintained to a height of 13 feet, 6-inches. Additionally, sheet E3 lists the southwest emergency access (Tract C) as only 14 feet wide. I don't believe this is an actual emergency access and shouldn't be labeled as such. If it is an actual emergency access the width needs to be increased. All roads, including emergency access roads must support 75,000 pounds and be maintained in all weather conditions.

- A minimum fire flow of 1,000 gallons per minute, measured at a residual pressure of 20 pounds per square inch, is required for one- and two-family dwellings not exceeding 3,600 gross square feet. All other buildings (including larger one- and two-family dwellings) require a minimum fire flow of 1,750 gallons per minute and may require more depending on the building size and type of construction as per Appendix B of the International Fire Code.

- Fire hydrants shall be spaced along fire apparatus access ways so that spacing between hydrants does not exceed 500 feet and a hydrant is located within 250 feet of the front property line of all lots. The utility plans submitted did not show the location of proposed fire hydrants. Construction plans for the utilities must be submitted to the Fire District for review and approval.

- Street intersections must be marked with signs showing the street name when building construction begins. If non-standard street signs are used, the Fire District respectfully requests to comment with regard to sign visibility.

- The Fire District reserves the right to make further comments as development proceeds. Should the project be phased, phasing plans will need to be approved by the Fire District.

Nothing in this review is intended to authorize or approve of any aspect of this project that does not comply with all applicable codes and standards. We appreciate being involved in the planning process, should you have any questions please contact me at 303-772-0710 x 1121.

Sincerely,

LuAnn Penfold
Fire Marshal

LMP/lp

cc: file

lp05.04.14

VRANESH AND RAISCH, LLP
ATTORNEYS AT LAW

1720 14th Street, Suite 200 Boulder, Colorado 80302
Telephone: 303.443.6151 Fax: 303.443.9586
www.vrlaw.com

January 21, 2014

Deborah Bachelder, Town of Erie
Community Development Dept.
P.O. Box 750
Erie, CO 80516

Re: Wise Farms Rezoning and Preliminary Plat

Dear Deb:

You asked for comments regarding Wise Farms, west of the intersection of N 119th Street and Jasper Road. The Town should assure that the property has been included into the Northern Colorado Water Conservancy District and its Municipal Subdistrict prior to providing any water service. It should also be confirmed that the land has been excluded from the Left Hand Water District and the St. Vrain Sanitation District, if necessary. From a water rights standpoint, water demands should be determined, in order to determine cash in lieu of water dedication and/or water dedication requirements for the homes and the proposed parks.

It should also be determined whether there are any appurtenant surface water rights which should be conveyed to the Town. If so, the Applicant should comply with Town Municipal Code Section 8-1-9 regarding dedication of water rights.

In addition, the Town's agreements with Boulder County should be reviewed to be sure that the development is in compliance with any of those agreements as they pertain to property purchased for open space. My records indicate that an agreement with Boulder County applied to Wise property located north of Jasper Road, but it should be confirmed that there are no restrictions on the property subject to this rezoning and preliminary plat.

Finally, all ground water rights, including tributary, non-tributary, and not non-tributary rights should be dedicated to Erie. I apologize for the delay sending these comments and please call me with any questions or comments.

Sincerely,

VRANESH AND RAISCH, LLP

Paul J. Zilis
Paul J. Zilis, Esq.

PJZ:clm

Community Development Services
Planning and Building

Town of Erie, Colorado
Development Referral

___Town of Erie Community Development
___Town of Erie OSTAB
___Public Review
___Boulder County Public Works
___Urban Drainage
___CGS
___NCWCD & Subdistrict
___EnCana
___Noble Energy
X Felsburg Holt & Ullevig
___Century Link Communications
___DOE WAPA – Carey Ashton
___XCEL Energy

___Town of Erie Engineering
___Town of Erie Parks & Recreation
___Town of Erie Water Attorney
___High Plains Library District
___Mountain View Fire Protection District
___Division of Wildlife
___NRCS
___Kerr-McGee Oil & Gas Onshore, LP
___St. Vrain Valley School District
___RTD
___Comcast Commercial & Residential
___DOE WAPA – Barb O'Rourke
___Lower Boulder Ditch

Planner: Deborah Bachelder **Date: December 19, 2013**

Project: Wise Farms **Applicant: Jasper Land Investments, LLC**

Description: Rezoning, Planned Unit Development Overlay & Preliminary Plat

Location: West of the Intersection of N. 119th Street & Jasper Road on the south

Legal Description: See Attached

This application is submitted to you for review and comment. Please reply by **Thursday, January 16, 2014,** so that we may give full consideration to your comments. Any response not received by this date may be deemed to be a positive response to the Town of Erie. Email responses can be sent to dbach@erieco.gov. If you have any questions about this application, please call 303-926-2775.

___We have reviewed this application and find no conflicts with our interests

___We have reviewed this application and find conflicts with our interests.

X See comments below or attached letter.

Comments:_____

Signature: David E. Hatten **Date:** 1/16/14

Name (Please Print) David Hatten

FELSBURG
HOLT &
ULLEVIG

engineering paths to transportation solutions

January 16, 2014

MEMORANDUM

TO: Deborah Bachelder

FROM: David E. Hattan, P.E.

SUBJECT: Rezoning, PUD Overlay, and Preliminary Plat
PROJECT: Wise Farms
FHU # 95-190

I received and have reviewed the Rezoning, PUD Overlay, and Preliminary Plat information for Wise Farms. This development site is located on the south side of Jasper Road, west of 119th Street. Included in the packet of information was a traffic impact study prepared by LSC Transportation Consultants, November 5, 2013. I have reviewed this information from the perspective of traffic engineering and transportation planning, but not from the aspect of general civil or utility engineering.

Based on my review of the traffic study, I have the following comments:

- Page 1 – Land Use and Access – A potential future connection is noted on the south side of the development which would cross existing RTD right-of-way. This is the old Union Pacific RR, and building a new crossing would probably require Public Utilities Commission (PUC) approval and the closure of an existing crossing. This would be a difficult process. Fortunately, his crossing is not considered in the traffic analyses.

- Page 2 – Area Roadways – The intersection of Jasper Road and 119th Street was identified has having poor sight distance for northbound drivers in the *Town of Erie Traffic and Safety Study*, CDOT, September 2005. The additional traffic that this development will add to this intersection would likely make any existing safety problems worse. Recent crash data should be reviewed to determine the extent of a problem, and a proposal to address the situation developed, if necessary.

- Page 2 – 2017 and 20135 Background Traffic – There is no discussion of the basis for forecasting the future growth and what sources were used for the estimates. A quick comparison of the forecasted volumes shows that a growth rate of approximately 1.5% per year was used. This seems low in a growing community such as Erie.

- Page 3 – Trip Distribution and Assignment – The distribution of 45% of the development traffic to the south and west seems appropriate. However, I think too much outbound traffic has been assigned west on Jasper Road. The study makes the assumption that the intersection of US 287 and Jasper will be signalized in the future, since it meets a peak hour warrant. The peak

6300 South Syracuse Way, Suite 600 Centennial, CO 80111 tel 303.721.1440 fax 303.721.0832
www.fhueng.com info@fhueng.com

hour warrant is intended for special situations and is not applicable to this intersection. As expected, the AM peak hour volume is the highest. A quick review of the volumes (Figure 9) appears to show that the PM peak hour volume is less than the minimum requirement for the Four-Hour Warrant. Thus, my preliminary conclusion is that signalization of this intersection could be unlikely. If this is the case, the assignment of traffic to westbound Jasper Road should be modified. However, a more detailed warrant analysis may show different results. Any new analyses should be included in an update to the study.

- Page 5 – Recommended Improvements – An eastbound right-turn deceleration lane is recommended on Jasper Road at the eastern site access, based on a posted speed of 50 mph. Page 2 states that the speed limit is currently 35 mph at this location and 50 mph at the western access. I'm certainly not opposed to an auxiliary lane at this location, but it may not be necessary. In addition, the Town of Erie should consider whether the completion of the western access would be an appropriate time to lower the speed to 35 mph west to this location also.

Preliminary Plat and Preliminary Development – These documents show that an additional 20' for right-of-way will be dedicated along the northern property line. This will create a total right-of-way of 80', which is Erie's collector standard. The Preliminary Development Plan shows various cross sections along Jasper Road and within the development. My primary concern would be that there are 12-foot travel lanes on Jasper Road along this property. The inclusion of curb, gutter, and sidewalk on the south side needs to be resolved with Town staff.

Please call if you have any questions or need additional information.

Community Development Services
Planning and Building

Town of Erie, Colorado
Development Referral

RECEIVED
DEC 2 3 2013
UDFCD

___Town of Erie Community Development
___Town of Erie OSTAB
___Public Review
___Boulder County Public Works
X Urban Drainage
___CGS
___NCWCD & Subdistrict
___EnCana
___Noble Energy
___Felsburg Holt & Ullevig
___Century Link Communications
___DOE WAPA – Carey Ashton
___XCEL Energy

___Town of Erie Engineering
___Town of Erie Parks & Recreation
___Town of Erie Water Attorney
___High Plains Library District
___Mountain View Fire Protection District
___Division of Wildlife
___NRCS
___Kerr-McGee Oil & Gas Onshore, LP
___St. Vrain Valley School District
___RTD
___Comcast Commercial & Residential
___DOE WAPA – Barb O'Rourke
___Lower Boulder Ditch

Planner: Deborah Bachelder **Date: December 19, 2013**

Project: Wise Farms **Applicant: Jasper Land Investments, LLC**

Description: Rezoning, Planned Unit Development Overlay & Preliminary Plat

Location: West of the Intersection of N. 119th Street & Jasper Road on the south

Legal Description: See Attached

This application is submitted to you for review and comment. Please reply by **Thursday, January 16, 2014,** so that we may give full consideration to your comments. Any response not received by this date may be deemed to be a positive response to the Town of Erie. Email responses can be sent to dbach@erieco.gov. If you have any questions about this application, please call 303-926-2775.

___We have reviewed this application and find no conflicts with our interests

___We have reviewed this application and find conflicts with our interests.

✓ See comments below or attached letter.

Comments: The drainage plan is consistent with the revised Erie OSP. Erie can submit the detention pond for UDFCD maintenance eligibility. Erie should obtain an easement over the detention pond.

Signature: Bill DeGroot **Date:** 1/8/14

Name (Please Print) Bill DeGroot

Print Form

TOWN OF ERIE
Community Development Department – Planning Division
645 Holbrook Street – PO Box 750 – Erie, CO 80516
Tel: 303.926.2770 – Fax: 303.926.2706 – Web: www.erieco.gov

LAND USE APPLICATION

Please fill in this form completely. Incomplete applications will not be processed.

STAFF USE ONLY		
FILE NAME:		
FILE NO:	DATE SUBMITTED:	FEES PAID:

PROJECT/BUSINESS NAME: Wise Farms

PROJECT ADDRESS: Located west of the intersection of 119th St and Jasper Rd.

PROJECT DESCRIPTION: 169 acre Residential community.

LEGAL DESCRIPTION *(attach legal description if Metes & Bounds)*

Subdivision Name: none

Filing #: Lot #: Block #: Section: 14 Township: 1 North Range: 69 West

OWNER *(attach separate sheets if multiple)*

Name/Company: Wise Homestead, LLC
Contact Person: Sarah Allene Wise
Address: 11497 Jasper Road
City/State/Zip: Lafayette, CO - 80026
Phone: 303.828.4561 Fax:
E-mail: sarws@aol.com

AUTHORIZED REPRESENTATIVE

Company/Firm: Jasper Land Investments, LLC
Contact Person: Jim Dullea
Address: 9162 S. Kenwood Court
City/State/Zip: Highlands Ranch, CO - 80126
Phone: 303.902.5400 Fax:
E-mail: j.dullea@comcast.net

MINERAL RIGHTS OWNER *(attach separate sheets if multiple)*

Name/Company: see attached
Address:
City/State/Zip:

MINERAL LEASE HOLDER *(attach separate sheets if multiple)*

Name/Company: see attached
Address:
City/State/Zip:

LAND-USE & SUMMARY INFORMATION

Present Zoning: Rural Residential
Proposed Zoning: Low Density Res. AG/OS, Rural Residential
Gross Acreage: 169 acres
Gross Site Density (du/ac): 0.98 du/ac
Lots/Units Proposed: 166
Gross Floor Area: N/A

SERVICE PROVIDERS

Electric:
Metro District: none at this time
Water *(if other than Town)*:
Gas:
Fire District:
Sewer *(if other than Town)*:

PAGE TWO MUST BE SIGNED AND NOTARIZED

DEVELOPMENT REVIEW FEES			
ANNEXATION		**SUBDIVISION**	
☐ Major (10+ acres)	$ 4000.00	☐ Sketch Plan	$ 1000.00 + 10.00 per lot
☐ Minor (less than 10 acres)	$ 2000.00	☑ Preliminary Plat	$ 2000.00 + 40.00 per lot
☐ Deannexation	$ 1000.00	☐ Final Plat	$ 2000.00 + 20.00 per lot
COMPREHENSIVE PLAN AMENDMENT		☐ Minor Subdivision Plat	$ 2000.00
☐ Major	$ 3000.00	☐ Minor Amendment Plat	$ 1000.00 + 10.00 per lot
☐ Minor	$ 1200.00	☐ Road Vacation (constructed)	$ 1000.00
ZONING APPLICATION		☐ Road Vacation (paper)	$ 100.00
☐ Rezoning	$ 1700.00 + 10.00 per acre	**SITE PLAN**	
☐ PUD Rezoning	$ 1700.00 + 10.00 per acre	☐ Residential	$ 1400.00 + 10.00 per unit
☐ PUD Amendment	$ 1700.00 + 10.00 per acre	☐ Non-Resi. (>10,000 sq. ft.)	$ 2200.00
☐ Major PD Amendment	$ 3700.00 + 10.00 per acre	☐ Non-Resi. (>2,000 sq. ft.)	$ 1000.00
☐ Minor PD Amendment	$ 500.00	☐ Non-Resi. (<2,000 sq. ft.)	$ 200.00
SPECIAL REVIEW USE		☐ Amendment (major)	$ 1100.00
☐ Major	$ 1000.00	☐ Amendment (minor)	$ 350.00
☐ Minor	$ 400.00	**VARIANCE**	$ 600.00
☐ Oil & Gas	$ 1200.00	**SERVICE PLAN**	$ 10,000.00

*All fees **include** both Town of Erie Planning & Engineering review. These fees **do not include** referral agency review fees, outside consultant review fees, or review fees incurred by consultants acting on behalf of staff. See Town of Erie Municipal Code, Title 2-10-5 for all COMMUNITY DEVELOPMENT FEES.*

The undersigned is fully aware of the request/proposal being made and the actions being initiated on the referenced property. The undersigned understand that the application must be found to be complete by the Town of Erie before the request can officially be accepted and the development review process initiated. The undersigned is aware that the applicant is fully responsible for all reasonable costs associated with the review of the application/request being made to the Town of Erie. Pursuant to Chapter 7 (Section 7.2.B.5) of the Unified Development Code (UDC) of the Town of Erie, applicants shall pay all costs billed by the Town for legal, engineering and planning costs incurred by staff, including consultants acting on behalf of staff, necessary for project review. By this acknowledgement, the undersigned hereby certify that the above information is true and correct.

Owner: Sarah Allene Wise Date: 7-30-14

Owner: Alan C Wise Date: 7-30-14

Applicant: James A. Dulles Date: 7/30/2014
Aspen Land Investments LLC

STATE OF COLORADO)
) ss.
County of BOULDER)

The foregoing instrument was acknowledged before me this 30th day of JULY, 2014, by Sarah Allene Wise, Alan C. Wise & James A. Dulles

My commission expires: 10/24/2015
Witness my hand and official seal.

JON F. KOTTKE NOTARY PUBLIC STATE OF COLORADO

Notary Public

w i s e f a r m s

PRELIMINARY PLAT NARRATIVE

pcs group inc. www.pcsgroupco.com
#3 independence plaza, B-180 ,
1001 16th street , denver co 80265
t 303 531 4905

wise farms

PRELIMINARY PLAT NARRATIVE

-

NOVEMBER 2013
revised
APRIL 2014
JULY 2014
OCTOBER 2014

submitted to:

The Town of Erie

645 Holbrook Street, Erie, Colorado 805416

project team

applicant:

Jasper Land Investments, LLC
9162 S. Kenwood Court, Highlands Ranch, Colorado 80126
tel. 303.902.5400 - contact: Jim Dullea

planning consultant:

PCS Group, Inc.
#3-B180 1001 16th Street, Denver, Colorado 80265
tel. 720.259.8246 - contact: John Prestwich

engineering & surveyor consultant:

CVL Consultants, Inc.
10333 East Dry Creek Road, Suite 240, Englewood, Colorado 80112
tel. 720.249.3527 - contact: Karl Knapp

transportation consultant:

LSC Transportation Consultants, Inc.
1889 York Street, Denver, Colorado 80206
tel. 303.333.1105 - contact: Chris McGranahan

environmental consultant:

A.G Wassenaar, Inc.
2180 South Ivanhoe St, #5, Denver, Colorado 80222
tel. 303.759.8373 - contact: Brian Glade

forestry consultant:

Forestry Development, LLC.
7377 Osage Road, Larkspur, Colorado 80118
tel. 303.681.2492 - contact: Keith Worley

geologic & geotechnical consultant:

CTL Thompson, Inc.
1971 West 12th Avenue, Denver, Colorado 80204
tel. 303.825.0777 - contact: Dave Glater

mine subsidence:

Western Environment and Ecology, Inc.
2217 West Powers Avenue, Littleton, Colorado 80120
tel. 303.730.3452 - contact: Greg Sherman

CTL Thompson, Inc.
1971 West 12th Avenue, Denver, Colorado 80204
tel. 303.825.0777 - contact: Dave Glater

water resources:

Wright Water Engineers, Inc.
2490 W. 26th Avenue, Suite 100A, Denver, Colorado 80211
tel. 303.480.1700 - contact: David Foss

mineral rights:

Astrella Law, P.C.
1801 Broadway, Suite 1600 Denver, Colorado 80202
tel. 303.292.9021 - contact: Lance Astrella

GENERAL PROJECT CONCEPT AND PURPOSE OF THE REQUEST.

Project Concept

Jasper Land Investments LLC, (the 'Applicant') is pleased to present this written narrative as required for the Rezoning process, for a tract of land located in section 14, township 1 north, range 69 west of the sixth principal meridian, county of Boulder, State of Colorado, more commonly known as the Wise Farm. In this document we will discuss the property background, the proposed rezoning and rationale for the request.

We have been working with the Wise family since 2005 on this exceptional property. At this time we are requesting a Rezoning for a portion of the property from Rural Residential to Low Density Residential, and Agricultural/OS, with a PUD Zoning Overlay that will restrict the development in terms of density, and will increase the buffers and setbacks to our neighbors. In addition we are also requesting a Preliminary Plat. In total we believe that this proposal meets the spirit and intent of the comprehensive plan for the Town of Erie that was adopted in December of 2005.

We are very excited about the creation of a uniquely clustered and themed community. Based on the input that we received during the Sketch Plan process, and additional planning and engineering studies that we have completed,

we have reduced our proposed unit count from 345 units to 166 units. We have also proposed significant buffers adjacent to our surrounding neighbors. Along the existing neighbors to the east of Wise Farms we have proposed an open space area that ranges in width from approximately 300′ to over 500′. We are also proposing various trail corridors to connect the open space areas, and have substantial setbacks from Jasper Road to maintain the rural theme for the project. All of these open space buffers create a true cluster concept that meets the Town criteria and furthers the goals of the Comprehensive Plan.

As requested by the Town of Erie staff we are proposing to dedicate the open space land that is adjacent to Jasper Rd, as well as the eastern buffer of the property. In addition, the Town of Erie staff has requested that we pay cash-in-lieu for both the Neighborhood Park and Community Park required acreages. The dedication amount is determined by the population being generated by the proposed number of households. In this case we have reduced the number of proposed households to the point that we are generating a very modest need for Neighborhood and Community Parks. The Town of Erie staff has determined that it would be in the best interest of the Town of Erie to collect cash-in-lieu fees, versus having dedicated park space on this property.

As stated in the Unified Development Code, 10.6.7-D.b.i.B - Diversification Standards shall not apply to Residential Zone District (RR). As required in the Unified Development Code's Housing Diversity requirement we are proposing one housing type and one variation. In general we are proposing housing type G - Single Family Detached, and the variation we are proposing is variation 4 - Lot Size 5,000-9,000 square feet, and 5 - Lot Size 10,000 to 39,999 square feet. In general there are larger lots are on the east side of the property as a method to provide a transition to our eastern neighbors, and the south portion of the property will have 40,000 square foot minimum lots as a complimentary residential use to the southern neighbors. Our proposal meets the requirements of the Housing Diversity requirement.

Purpose of the Request

Our proposal is for a portion of the property to be re-zoned Low Density Residential (LR) zoning, and a portion of the property to be re-zoned AG/OS, with a PUD Overlay on the full property to allow for a more creative approach for the clustering and planning of buffers on the overall development of the property. The property is currently designated as Rural Residential on the Town of Erie zoning map.

The current Town of Erie Comprehensive Plan, has designated the property as Rural Residential with a density range of 0-2 dwelling units per acre, with an average of 1 dwelling unit per acre. This designation would support 169 dwelling units on the 169 acre property. The Comprehensive Plan provides more focused guidance as the community continues to grow, and encourages a more flexible approach to future development that will promote a more balance mix of uses for the community. An update to the Town's Unified Development Code was prepared concurrent with the last Comprehensive Plan, updating many of the key ideas and policies to be codified and gives the Plan a solid foundation for implementation.

We are proposing a maximum number of 166 dwelling units on the property, or an overall density of approximately 0.9 dwelling units per acre. Our clustered design approach, housing diversity, and density is consistent with the spirit and intent of the Comprehensive Plan. The proposed development time line is dependent on project approvals and market conditions.

Land Area Summary

In general the summary of land uses is as follows:

Residential:	95.16 acres	56%
Parks & Open Space	72.31 acres	43%
R.O.W.	0.79 acres	1%

Public Benefits

Approximately 43% of the total property will remain as Open Space, either as dedicated or private open space area. In addition we will be adding a mix of quality housing types within the neighborhood.

Availability of Existing Infrastructure & Services

Sanitary Sewer and Storm Sewer infrastructure currently exists on the property and is sized to accommodate the requested development. The preliminary construction documents show the minor roadway improvements, essentially turn lanes that will be required to support this development. Water service will be provided from the south inside of the 119th Ave ROW, and is less than 2,000 feet away, and will be looped to the northwest. The electric, gas and cable services that will be constructed within the project are all within close proximity and we will provide for easements on the final plat for the project as required by the respective utility providers. As is typical for residential development the new residents that are being served by the Town of Erie Fire and Police will have an additional modest impact on the existing services. This impact is offset by the fees, and additional taxes that the new residents pay within the Town of Erie.

Density of Uses proposed

The zoning being requested for the entire approximately 169 acres would allow for a maximum of 166 dwelling units to be constructed. The overall project density is 0.9 dwelling units per acre which is within the Comprehensive Planning designation of 0-2 dwelling units per acre for this area.

Parks & Open Space

We are proposing to dedicate approximately 9 acres of open space within the property, and a significant portion of the property, approximately another 63 acres will remain as district/HOA maintained park or open space. At the request of the Town of Erie staff we will be providing a cash-in-lieu payment for the Neighborhood Park and Community Park dedication requirements.

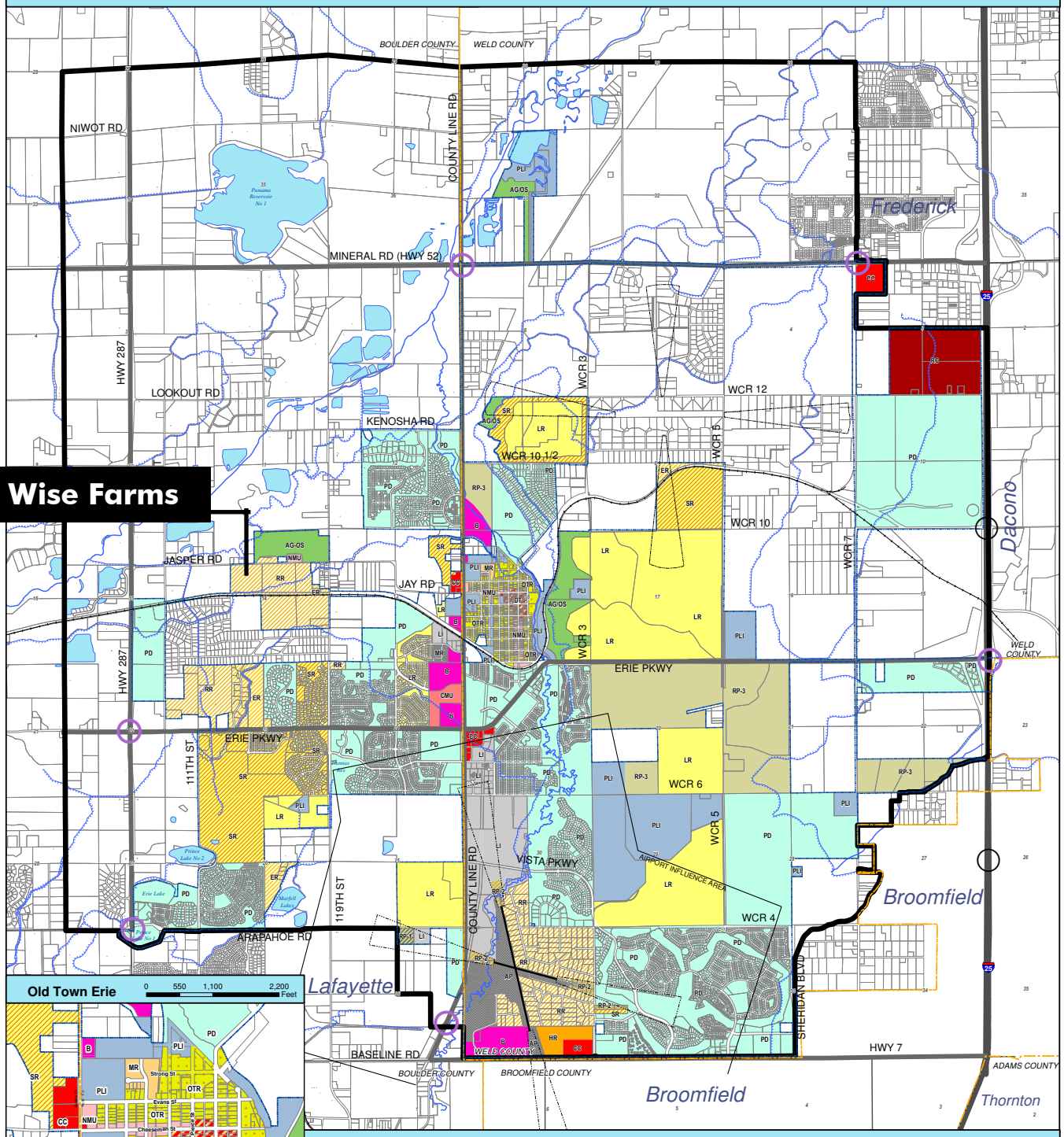
Proposed Development Timeline

The proposed development time line is dependent on project approvals and market conditions.

Status of Mineral Rights

The Wise Farms property has established a surface use agreement with Encana, and that SUA is included with this application. We are continuing to work with Encana to modify the agreement to minimize the future impacts. In addition we have provided a draft SUA for the south portion of the property with this submittal.

Town of Erie, Colorado
Zoning Map



Zoning Legend

- Rural Preservation 1 (RP-1)
- Rural Preservation 2 (RP-2)
- Rural Preservation 3 (RP-3)
- Rural Residential (RR)
- Estate Residential (ER)
- Suburban Residential (SR)
- Low Density Residential (LR)
- Medium Density Residential (MR)
- High Density Residential (HR)
- Old Town Residential (OTR)
- Planned Development (PD)
- Regional Commercial (RC)
- Community Commercial (CC)
- Business (B)
- Downtown District (DT)
- Neighborhood Mixed-Use (NMU)
- Community Mixed-Use (CMU)
- Light Industrial (LI)
- Public Lands & Institutions (PLI)
- Airport (AP)
- Agriculture/Open Space (AG/OS)

0 0.15 0.3 0.6 0.9 Miles

- Planning Area Boundary
- Town Boundary
- Community Gateways
- I-25 Interchange (Future)
- County Boundary

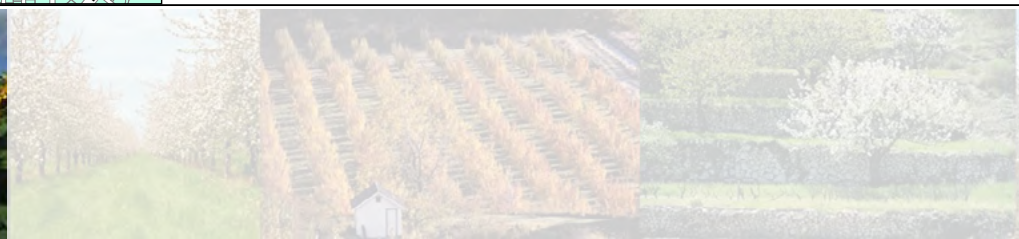
Sources: Boulder Co GIS, Weld Co GIS, CDOT, Town of Erie

Note: This map is intended to serve as a guide for future land use patterns within the Town of Erie's Planning Area Boundary and is advisory in nature. Land Use patterns depicted on the map are generalized, recognizing that development proposals may contain a mixture of land uses and density levels which achieve the intent of the Town of Erie Comprehensive Plan. Adopted Date: Dec. 21, 2005.

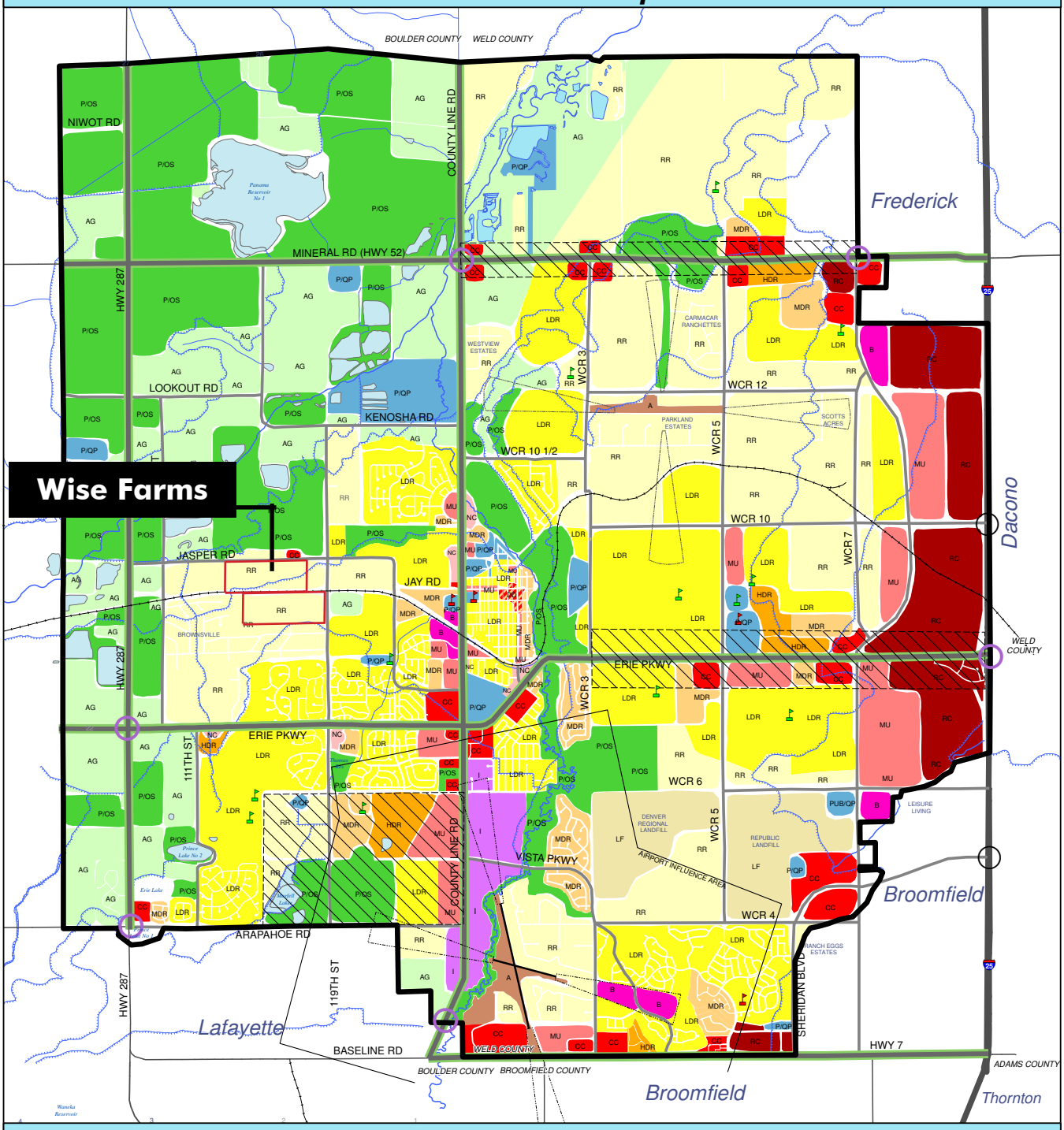
The Comprehensive Plan contains guidelines for the refinement of the generalized areas depicted on the map. These guidelines should be referred to by applicants prior to the preparation of a development submittal and by Town staff, elected, and appointed officials as part of the development review process.

Map Revision Date: November 16, 2012

X:\GIS\MXD\Zoning map 11 16 2012.MXD



Town of Erie, Colorado
2005 Comprehensive Plan
Land Use Plan Map



Land Use Plan Legend

AG	Agriculture	MDR	Medium Density Residential (6-12 du/ac)	B	Business		Canal/Ditch
P/OS	Parks/Public Open Space	HDR	High Density Residential (12-20 du/ac)	I	Industrial		Railroad
P/QP	Public/Quasi Public	CD	Downtown District		Reservoirs		Community Gateways
LF	Landfill	NC	Neighborhood Commercial		County Boundary		I-25 Interchange (Future)
A	Airport	CC	Community Commercial		Planning Area Boundary		Elementary School
RR	Rural Residential (0-2 du/ac)	RC	Regional Commercial		Areas of Special Consideration		Middle School
LDR	Low Density Residential (2-6 du/ac)	MU	Mixed Use				High School

0 0.25 0.5 1 Miles

Sources: Boulder CO GIS, Weld CO GIS, CDOT, Town of Erie

Note: This map is intended to serve as a guide for future land use patterns within the Town of Erie's Planning Area Boundary and is advisory in nature. Land Use patterns depicted on the map are generalized, recognizing that development proposals may contain a mixture of land uses and density levels which achieve the intent of the Town of Erie Comprehensive Plan. Adopted Date: Dec. 21, 2005.

The Comprehensive Plan contains guidelines for the refinement of the generalized areas depicted on the map. These guidelines should be referred to by applicants prior to the preparation of a development submittal and by Town staff, elected, and appointed officials as part of the development review process.

Town Boundary Not Shown - Refer to Zoning Map for Town Boundary

Map Revision Date: JULY 20, 2011

ALTA / ACSM LAND TITLE SURVEY

A PART OF THE NORTH HALF OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH P.M.
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO

LEGAL DESCRIPTION:

A PARCEL OF LAND BEING A PART OF THE NORTH HALF OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE EAST QUARTER CORNER OF SAID SECTION 14, FROM WHICH THE EAST-SOUTH ONE SIXTEENTH CORNER OF SAID SECTION 14 BEARS SOUTH 00°04'01" EAST, A DISTANCE OF 1316.88 FEET SAID LINE FORMING THE BASIS OF BEARINGS WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;

THENCE SOUTH 88°24'34" WEST, ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 30.01 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF NORTH 119TH STREET;

THENCE CONTINUING SOUTH 88°24'34" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 627.28 FEET; TO THE SOUTHEAST CORNER OF THE WEST HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 88°24'34" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 3.19 FEET;

THENCE NORTH 00°09'21" WEST, A DISTANCE OF 114.08 FEET TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY, SAID RIGHT-OF-WAY LINE BEING 50 FEET, BY PERPENDICULAR MEASUREMENT NORTHERLY OF THE CENTERLINE OF THE EXISTING TRACK, SAID POINT BEING THE POINT OF BEGINNING;

THENCE SOUTH 89°42'11" WEST ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 653.74 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 89°42'11" WEST ALONG SAID NORTHERLY RIGHT-OF-WAY LINE , A DISTANCE OF 1314.46 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 89°42'11" WEST ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1309.61 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14;

THENCE NORTH 00°29'33" WEST ALONG SAID WEST LINE, A DISTANCE OF 1119.88 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF JASPER ROAD;

THENCE ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE THE FOLLOWING THREE (3) COURSES:

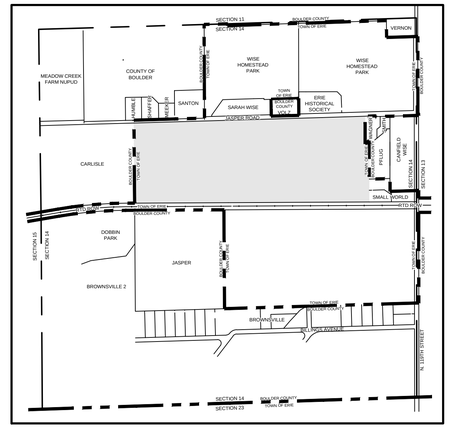
1. NORTH 88°21'52" EAST, A DISTANCE OF 1314.39 FEET;
2. NORTH 88°17'58" EAST, A DISTANCE OF 1317.03 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;
3. CONTINUING NORTH 88°17'58" EAST, A DISTANCE OF 599.53 FEET TO THE NORTHWESTERLY CORNER OF THAT TRACT OF LAND AS DESCRIBED ON SAID FILM 1555, AT RECEPTION NO. 953348;

THENCE SOUTH 00°09'21" EAST ALONG THE WESTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 397.57 FEET TO THE MOST SOUTHERLY CORNER THEREOF;

THENCE NORTH 50°52'13" EAST ALONG THE SOUTHEASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 70.21 FEET;

THENCE SOUTH 00°09'21" EAST, DISTANCE OF 843.98 FEET TO THE POINT OF BEGINNING,

SAID PARCEL CONTAINING A CALCULATED AREA OF 3,782,135 SQUARE FEET OR 86.826 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1" = 1000'

AREAS OF CONCERN (AOC):

THE FOLLOWING MATTERS WHICH MAY AFFECT THE STATUS OF TITLE TO THE SURVEYED PROPERTY ARE NOTED BY CVL CONSULTANTS INC. FOR THE BENEFIT OF THE PARTY REQUESTING THE SURVEY. CVL CONSULTANTS INC. AND THE SURVEYOR OF RECORD DO NOT WARRANT OR REPRESENT THAT ALL MATTERS THAT MAY AFFECT TITLE ARE NOTED BELOW. THE NUMBERS IN THE FOLLOWING COMMENTS CORRESPOND TO THE NUMBERS SHOWN ON OUR LAND SURVEY PLAT.

1. THERE IS AN OVERHEAD POWER LINE CROSSING THE NORTHWEST CORNER OF THE PARCEL THAT DOES NOT SEEM TO HAVE AN EASEMENT FOR IT.

2. THE AREA OF THE UNION PACIFIC (NOW RTD) RIGHT OF WAY MARKED AOC #3, WAS DEEDED TO THE TOWN OF ERIE FROM SMALL WORLD VENTURES, LLC BY WARRANTY DEED RECORDED UNDER RECEPTION NO. 1724707, DATED AUGUST 22, 1997. THOUGH THIS AREA LIES OUTSIDE OF THE SUBJECT PROPERTY IT IS WORTHY OF NOTE. FIRSTLY, IT IS A LAND LOCKED PARCEL WITH NO APPARENT DIRECT ACCESS. SECONDLY, IT IS NOT CLEAR THAT SMALL WORLD VENTURES, LLC HAD THE VESTED RIGHTS TO CONVEY THIS PROPERTY TO THE CITY. IT IS CVL CONSULTANTS OF COLORADO, INC'S UNDERSTANDING THAT THE RAILROAD RIGHT OF WAY IS OWNED BY RTD

NOTES:

1. ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT OR LAND BOUNDARY MONUMENT OR ACCESSORY, COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUTE 18-4-508, C.R.S.

2. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY CVL CONSULTANTS, INC. TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. FOR ALL INFORMATION REGARDING EASEMENTS, RIGHTS-OF-WAY, AND TITLE OF RECORD, CVL CONSULTANTS, INC. RELIED UPON THE TITLE COMMITMENT AS NOTED HEREON.

3. THIS PLAT WAS PREPARED FOR THE EXCLUSIVE USE OF THE PERSON(S) OR ENTITY(S) NAMED IN THE CERTIFICATE HEREON. SAID CERTIFICATE DOES NOT EXTEND TO ANY UNNAMED PERSON(S) OR ENTITY(S) WITHOUT AN EXPRESS RECERTIFICATION BY THE SURVEYOR NAMING SAID PERSON(S) OR ENTITY(S).

4. BASIS OF BEARINGS: BEARINGS ARE BASED ON THE EAST LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, ASSUMED TO BEAR SOUTH 00°04'01" EAST AND MONUMENTED AS SHOWN HEREON .

5. FLOODPLAIN: BASED ON A GRAPHICAL REPRESENTATION OF FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) NO. 08013C0437J WITH AN EFFECTIVE DATE OF DEC. 18, 2012, THE SUBJECT PROPERTY LIES WITHIN "OTHER AREAS" ZONE X. "ZONE X" IS DEFINED AS "AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN,

6. DATE OF ORIGINAL FIELD WORK WAS JUNE 26, 2013, ADDITIONAL FIELD WORK ON SEPTEMBER 23, 2013. CONTINUED FIELD WORK ON SEPTEMBER 27, 2014.

7. THE LINEAL UNIT USED IN THE PREPARATION OF THIS PLAT IS THE U.S. SURVEY FOOT AS DEFINED BY THE UNITED STATES DEPARTMENT OF COMMERCE, NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.

8. THE LIMITS OF THE WET AREA, AS SHOWN ON SHEET 3 OF 3, EKO RESOURCES CORPORATION'S MEMO TITLED "WISE FARM ISOLATED WETLAND" DETAIL 07/25/2014:
THE BOUNDARY OF THE AREA WAS DETERMINED BY LEVELS OF, HYDROPHYLIC VEGETATION, HYDRIC SOILS, AND WETLAND HYDROLOGY.

9. NO SURFACE EVIDENCE OF THE SEPTIC OR LEACH FIELD IN THE AREA OF THE "EAST DETAIL" WAS FOUND. THE OWNER WAS UNABLE TO POINT OUT A GENERAL LOCATION OF THE SEPTIC TANK.

SURVEYOR'S CERTIFICATE:

TO: ELIZABETH W. KISSELL AND WISE HOMESTEAD LLC, A COLORADO LIMITED LIABILITY COMPANY; TO JASPER LAND INVESTMENTS LLC, A COLORADO LIMITED LIABILITY COMPANY; TO LAND TITLE GUARANTEE COMPANY; AND TO FIRST AMERICAN TITLE INSURANCE COMPANY.

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2011 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 8, 11 (a),13 AND 14 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON SEPTEMBER 25, 2013.

DATE OF PLAT OR MAP: _____, 2014

_____
WILLIAM F. HESSELBACH, JR., P.L.S. NO. 25369
FOR AND ON BEHALF OF
CVL CONSULTANTS CONSULTING LLC

SURVEY PLAT DEPOSITING CERTIFICATE:

DEPOSITED THIS _____DAY OF _____ , 20__, AT ____ .M., IN BOOK____ OF THE COUNTY_____

SURVEYOR'S LAND SURVEY PLATS AT PAGE____ , DEPOSIT NO. _____, RECORDS OF BOULDER COUNTY, COLORADO.

SIGNED: _____ TITLE: _____ BY:_____

PREPARED WITH THE BENEFIT OF LAND TITLE GUARANTEE COMPANY
COMMITMENT NO. ABD70339758.1-2 EFFECTIVE DATE OCTOBER 28, 2013 AT 5:00 P.M .

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

No.	Revisions	Date	Init.	Appr.	Date
	ADD'L UPDATES	12\03\14	MJP		
	ADD'L UPDATES	9\29\14	MJP		
	MINOR UPDATES	7\29\14	MJP		
	ADDED DETAILS	04\11\14	BDL		
	UPDATED LEGAL	8\20\13	BDL		
	UPDATED B-2'S	8\20\13	BDL		

ALTA/ASCM LAND TITLE SURVEY
WISE FARMS

SCALE:
DRAWN BY: BDL
CHECKED BY: WFH
FILE NO:
DATE: 04\11\2014
SHEET NO: 1 OF 3

ALTA / ACSM LAND TITLE SURVEY

A PART OF THE NORTH HALF OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH P.M.
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO

SCHEDULE B-2 TITLE EXCEPTION NOTES:

1. ANY FACTS, RIGHTS, INTERESTS OR CLAIMS THEREOF, NOT SHOWN BY THE PUBLIC RECORDS BUT THAT COULD BE ASCERTAINED BY AN INSPECTION OF THE LAND OR THAT MAY BE ASSERTED BY PERSONS IN POSSESSION OF THE LAND. NO ADDITIONAL INFORMATION WAS PROVIDED TO THE SURVEYOR OF RECORD.

2. EASEMENTS, LIENS OR ENCUMBRANCES, OR CLAIMS THEREOF, NOT SHOWN BY THE PUBLIC RECORDS. NO ADDITIONAL INFORMATION WAS PROVIDED TO THE SURVEYOR OF RECORD.

3. ANY ENCROACHMENT, ENCUMBRANCE, VIOLATION, VARIATION, OR ADVERSE CIRCUMSTANCES AFFECTING THE TITLE THAT WOULD BE DISCLOSED BY AN ACCURATE AND COMPLETE LAND SURVEY OF THE LAND AND NOT SHOWN BY THE PUBLIC RECORDS. THIS SURVEY SERVES TO SATISFY THIS EXCEPTION.

4. ANY LIEN, OR RIGHT TO A LIEN, FOR SERVICES, LABOR OR MATERIAL HERETOFORE OR HEREAFTER FURNISHED, IMPOSED BY LAW AND NOT SHOWN BY THE PUBLIC RECORDS. NOT A SURVEY MATTER.

5. DEFECTS, LIENS, ENCUMBRANCES, ADVERSE CLAIMS OR OTHER MATTERS, IF ANY, CREATED, FIRST APPEARING IN THE PUBLIC RECORDS OR ATTACHING SUBSEQUENT TO THE EFFECTIVE DATE HEREOF BUT PRIOR TO THE DATE THE PROPOSED INSURED ACQUIRES OF RECORD FOR VALUE THE ESTATE OR INTEREST OR MORTGAGE THEREON COVERED BY THIS COMMITMENT. NOT A SURVEY MATTER.

6. ANY UNPAID TAXES, ASSESSMENTS AND UNREDEEMED TAX SALES. NOT A SURVEY MATTER.

7. (a) UNPATENTED MINING CLAIMS; (b) RESERVATIONS OR EXCEPTIONS IN PATENTS OR IN ACTS AUTHORIZING THE ISSUANCE THEREOF; (c) WATER RIGHTS, CLAIMS OR TITLE TO WATER, WHETHER OR NOT THE MATTERS EXCEPTED UNDER (a), (b) OR (c) ARE SHOWN BY THE PUBLIC RECORDS. NOT A SURVEY MATTER.

8. EXISTING LEASES OR TENANCIES, IF ANY. NOT A SURVEY MATTER.

9. RIGHTS OF THE PUBLIC AND THE COUNTY OF BOULDER IN AND TO THOSE PORTIONS OF THE LAND LYING WITHIN COUNTY ROAD 42 A.K.A. JASPER ROAD AND NORTH 119TH STREET. NOT PLOTTABLE.

10. EASEMENT GRANTED TO THE LOWER BOULDER EXTENSION DITCH COMPANY, FOR THE LOWER BOULDER DITCH, AND INCIDENTAL PURPOSES, BY INSTRUMENT RECORDED JULY 11, 1911, IN BOOK 325 AT PAGE 120. AS SHOWN.

NOTE: AFFIDAVIT AND NOTICE IN RELATION THERETO RECORDED SEPTEMBER 24, 1999 UNDER RECEPTION NO. 1984825. AS SHOWN

11. OIL AND GAS LEASES BETWEEN SARAH ALLENE WISE, ET AL. AND MARTIN EXPLORATION MANAGEMENT CORPORATION, RECORDED APRIL 7, 1980 UNDER RECEPTION NUMBER 390668 AND RECORDED NOVEMBER 23, 1982 UNDER RECEPTION NUMBER 521214 AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN. AS SHOWN.

PRODUCTION AFFIDAVITS RECORDED APRIL 13, 1983 UNDER RECEPTION NUMBER 543347 AND APRIL 16, 1987 UNDER RECEPTION NO. 841764.

AFFIDAVIT OF EXTENSION OF OIL AND GAS LEASES RECORDED MARCH 28, 1995 UNDER RECEPTION NUMBER 1505898.

NOTE: NOTICE OF RIGHT TO USE SURFACE OF LANDS AND NOTICE OF SURFACE USE RECORDED DECEMBER 24, 1996 UNDER RECEPTION NO. 01666170 AND FEBRUARY 8, 1999 UNDER RECEPTION NUMBER 1903341 AND DECEMBER 11, 2000 UNDER RECEPTION NUMBER 2102273.

NOTE: THE PRESENT OWNERSHIP OF THE LEASEHOLD CREATED BY SAID LEASE AND OTHER MATTERS AFFECTING THE INTEREST OF THE LESSEE ARE NOT SHOWN HEREIN. (ALL REASONABLE OR CUSTOMARY USES OF THE LAND RELATED TO SAID LEASE ARE BLANKET IN NATURE AND AFFECT ALL OF SECTION 14.)

12. REQUESTS FOR NOTIFICATION OF SURFACE DEVELOPMENT AS EVIDENCED BY INSTRUMENT RECORDED MAY 17, 2002 UNDER RECEPTION NUMBER 2288455. NOT PLOTTABLE.

13. RIGHTS OF PROPRIETOR OF A VEIN OR LODE TO EXTRACT AND REMOVE HIS ORE THEREFROM SHOULD THE SAME BE FOUND TO PENETRATE OR INTERSECT THE PREMISES AS RESERVED IN UNITED STATES PATENT RECORDED DECEMBER 01, 1874, IN BOOK R AT PAGE 557. AFFECTS THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER AND THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER. AFFECTS SUBJECT PARCEL, NOT PLOTTABLE.

14. RIGHT OF WAY FOR RIGHTS OF OTHERS TO THE IOWA DITCH AS EVIDENCED BY INSTRUMENT RECORDED AUGUST 21, 1875 IN BOOK 31 AT PAGE 352. AFFECTS SUBJECT PROPERTY. NOT PLOTTABLE.

15. RIGHT OF PROPRIETOR OF A VEIN OR LODE TO EXTRACT AND REMOVE HIS ORE THEREFROM SHOULD THE SAME BE FOUND TO PENETRATE OR INTERSECT THE PREMISES AS RESERVED IN UNITED STATES PATENT RECORDED JULY 31, 1876, IN BOOK 38 AT PAGE 156. AFFECTS SOUTHEAST QUARTER OF THE NORTHWEST QUARTER AND THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER AND THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER AND THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER. NOT PLOTTABLE.

16. TERMS, CONDITIONS, PROVISIONS, BURDENS, OBLIGATIONS AND EASEMENTS AS SET FORTH AND GRANTED IN CONTRACT AND GRANT OF EASEMENT RECORDED JULY 12, 1950 IN BOOK 870 AT PAGE 367. AS SHOWN.

17. TERMS, CONDITIONS, PROVISIONS, BURDENS, OBLIGATIONS AND EASEMENTS AS SET FORTH AND GRANTED IN CONTRACT AND GRANT OF EASEMENT RECORDED NOVEMBER 05, 1954 IN BOOK 963 AT PAGE 168. AS SHOWN.

18. ANY TAX, LIEN, FEE, OR ASSESSMENT BY REASON OF INCLUSION OF SUBJECT PROPERTY IN THE LONGMONT FIRE PROTECTION DISTRICT, AS EVIDENCED BY INSTRUMENT RECORDED JULY 29, 1966, IN BOOK 822 AT PAGE 491. NOT PLOTTABLE.

19. THE EFFECT OF APPLICATION FOR CHANGE OF CLASS D ALLOTMENT CONTRACT RECORDED MARCH 26, 1979 UNDER RECEPTION NUMBER 328968 AND AS AMENDED IN INSTRUMENT RECORDED JULY 2, 1981 UNDER RECEPTION NUMBER 453220 AND AS AMENDED IN INSTRUMENT RECORDED JULY 9, 1981 UNDER RECEPTION NUMBER 454311 AND AS AMENDED IN INSTRUMENT RECORDED MARCH 11, 1996 UNDER RECEPTION NUMBER 01590362 AND AS AMENDED IN INSTRUMENT RECORDED AUGUST 17, 2001 UNDER RECEPTION NUMBER 2186552, APPLICATION FOR CLASS D ALLOTMENT CONTRACT RECORDED OCTOBER 10, 2011 UNDER RECEPTION NUMBER 3175932 AND APPLICATION FOR RELEASE OF EXISTING CLASS D ALLOTMENT CONTRACT RECORDED OCTOBER 10, 2011 UNDER RECEPTION NUMBER 3175933 APPLICATIONS FOR RELEASE OF EXISTING CLASS D ALLOTMENT CONTRACTS RECORDED JUNE 24, 2013 UNDER RECEPTION NUMBER 03322055, UNDER RECEPTION NUMBER 03322056 AND UNDER RECEPTION NUMBER 03322057. NOT PLOTTABLE

20. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN AGREEMENT RECORDED NOVEMBER 9, 1979 UNDER RECEPTION NUMBER 369830. NOT PLOTTABLE.

SCHEDULE B-2 TITLE EXCEPTIONS CONTINUED:

21. THOSE WATER RIGHTS AS CONVEYED TO THE CITY OF LAFAYETTE BY INSTRUMENT RECORDED APRIL 7, 1980 UNDER RECEPTION NUMBER 390658 AND COVENANT IN CONNECTION THEREWITH RECORDED AUGUST 13, 1980 UNDER RECEPTION NUMBER 407640 AND AS AMENDED INSTRUMENT RECORDED APRIL 29, 1982 UNDER RECEPTION NUMBER 492592. NOT PLOTTABLE.

22. THE EFFECT OF NOTICE OF GENERAL DESCRIPTION OF AREA SERVED BY PANHANDLE EASTERN PIPE LINE COMPANY CONCERNING UNDERGROUND FACILITIES RECORDED JUNE 25, 1986 UNDER RECEPTION NUMBER 00768891. NOT PLOTTABLE.

23. TERMS, CONDITIONS, PROVISIONS, BURDENS, OBLIGATIONS AND EASEMENTS AS SET FORTH AND GRANTED IN EASEMENT RECORDED NOVEMBER 3, 1989 UNDER RECEPTION NUMBER 01011773. AS SHOWN.

24. THE EFFECT OF ZONING ORDINANCES NUMBER 473 RECORDED NOVEMBER 10, 1994 UNDER RECEPTION NUMBER 01478077. AS SHOWN.

25. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN ANNEXATION AGREEMENTS RECORDED SEPTEMBER 12, 1995 UNDER RECEPTION NUMBER 01546831 AND UNDER RECEPTION NUMBERS 01546832 AND 01546833. NOT PLOTTABLE.

26. THE EFFECT OF THE MAP OF WISE ACRES ANNEXATION TO THE TOWN OF ERIE RECORDED SEPTEMBER 12, 1995 UNDER RECEPTION NUMBER 1546834. NOT PLOTTABLE.

27. THOSE WATER RIGHTS AS CONVEYED TO THE CITY OF LAFAYETTE BY INSTRUMENT RECORDED MAY 2, 1997 UNDER RECEPTION NUMBER 1695500. NOT PLOTTABLE.

28. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN ORDINANCE NUMBER 484, REGARDING ANNEXATION RECORDED SEPTEMBER 5, 1997 UNDER RECEPTION NUMBER 1728523. NOT PLOTTABLE.

29. THE EFFECT OF ORDINANCE NUMBER 485, REGARDING ZONING, RECORDED SEPTEMBER 5, 1997 UNDER RECEPTION NUMBER 1728524. NOT PLOTTABLE.

30. TERMS, CONDITIONS, PROVISIONS, BURDENS, OBLIGATIONS AND EASEMENTS AS SET FORTH AND GRANTED IN GRANT OF PERMANENT ACCESS AND UTILITIES EASEMENT AGREEMENT RECORDED APRIL 10, 2002 UNDER RECEPTION NUMBER 2275928. AS SHOWN.

31. ANY TAX, LIEN, FEE, OR ASSESSMENT BY REASON OF INCLUSION OF SUBJECT PROPERTY IN THE NORTHERN COLORADO WATER CONSERVANCY DISTRICT, AS EVIDENCED BY INSTRUMENT RECORDED DECEMBER 10, 2003 UNDER RECEPTION NUMBER 2537461. NOT A SURVEY MATTER.

32. ANY WATER RIGHTS OR CLAIMS OR TITLE TO WATER IN, OR UNDER THE LAND, WHETHER OF RECORD OR NOT. NOT A SURVEY MATTER.

33. ANY RIGHT, TITLE (FEE OR EASEMENT) AND/OR INTEREST OF THE REGIONAL TRANSPORTATION DISTRICT IN OR TO THOSE PORTIONS OF THE LAND DESCRIBED IN INSTRUMENTS RECORDED NOVEMBER 6, 1871 IN BOOK "N" AT PAGE 591, NOVEMBER 6, 1871 IN BOOK "N" AT PAGE 601 AND JUNE 26, 2009 UNDER RECEPTION NUMBER 3011226.

SAID DEEDS DO NOT CONTAIN A SPECIFIC METES AND BOUNDS LEGAL DESCRIPTION OF THE LAND CONVEYED THEREIN. THE RAILROAD IS AS SHOWN, AND LIES OUTSIDE OF THE SUBJECT PROPERTY.

34. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN MEMORANDUM OF AGREEMENT EXECUTED BY AND BETWEEN ELIZABETH W. KISSELL AND WISE HOMESTEAD, LLC, A COLORADO LIMITED LIABILITY COMPANY, AS BUYER RECORDED JULY 11, 2005 UNDER RECEPTION NUMBER 2703251. NOT PLOTTABLE.

NOTE: THIS EXCEPTION WILL BE DELETED UPON THE RECORDATION OF A TERMINATION OF SAID AGREEMENT IN A FORM ACCEPTABLE TO THIS COMPANY.

35. REQUEST FOR NOTIFICATION OF SURFACE DEVELOPMENT EXECUTED BY NOBLE ENERGY, INC., NOBLE ENERGY PRODUCTION, INC., SOCO WATTENBERG CORPORATION AND UNITED STATES EXPLORATION, INC. RECORDED OCTOBER 23, 2007 UNDER RECEPTION NUMBER 2890878. NOT PLOTTABLE.

36. REQUEST FOR NOTIFICATION (MINERAL ESTATE OWNER) EXECUTED BY KERR-MCGEE OIL & GAS ONSHORE LP RECORDED DECEMBER 21, 2007 UNDER RECEPTION NUMBER 2900941. NOT PLOTTABLE.

37. ANY BOUNDARY DISCREPANCY DUE TO THE LOCATION OF FENCE LINES AND THE EFFECT OF ANY RIGHT, TITLE OR INTEREST THAT MAY BE CLAIMED DUE TO ANY SAID DISCREPANCY AS SHOWN ON LAND SURVEY PLAT PREPARED BY CIVIL ARTS - DREXEL GROUP, DATED JUNE 24, 2001 AND LAST REVISED APRIL 4, 2005, JOB NUMBER 211-12.

38. ANY FACTS, RIGHTS, INTERESTS OR CLAIMS WHICH MAY EXIST OR ARISE BY REASON OF THE FOLLOWING FACTS SHOWN ON LAND SURVEY PLAT DATED JUNE 24, 2001 AND LAST REVISED APRIL 4, 2005, PREPARED BY CIVIL ARTS - DREXEL GROUP, JOB NUMBER 211-12. AS SHOWN.

A. A DIRT ROAD CROSSING THE LAND, BUT NOT WITHIN A RECORDED EASEMENT. AS SHOWN, ALSO SEE AOC #2

B. UTILITY POLES AND UTILITY LINES LOCATED ALONG THE EAST BOUNDARY OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER, CROSSING THE WEST HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER, BUT NOT WITHIN A RECORDED EASEMENT. AS SHOWN, ALSO SEE AOC #1.

PREPARED WITH THE BENEFIT OF LAND TITLE GUARANTEE COMPANY
COMMITMENT NO. ABD70339758.1-2 EFFECTIVE DATE OCTOBER 28, 2013 AT 5:00 P.M .

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

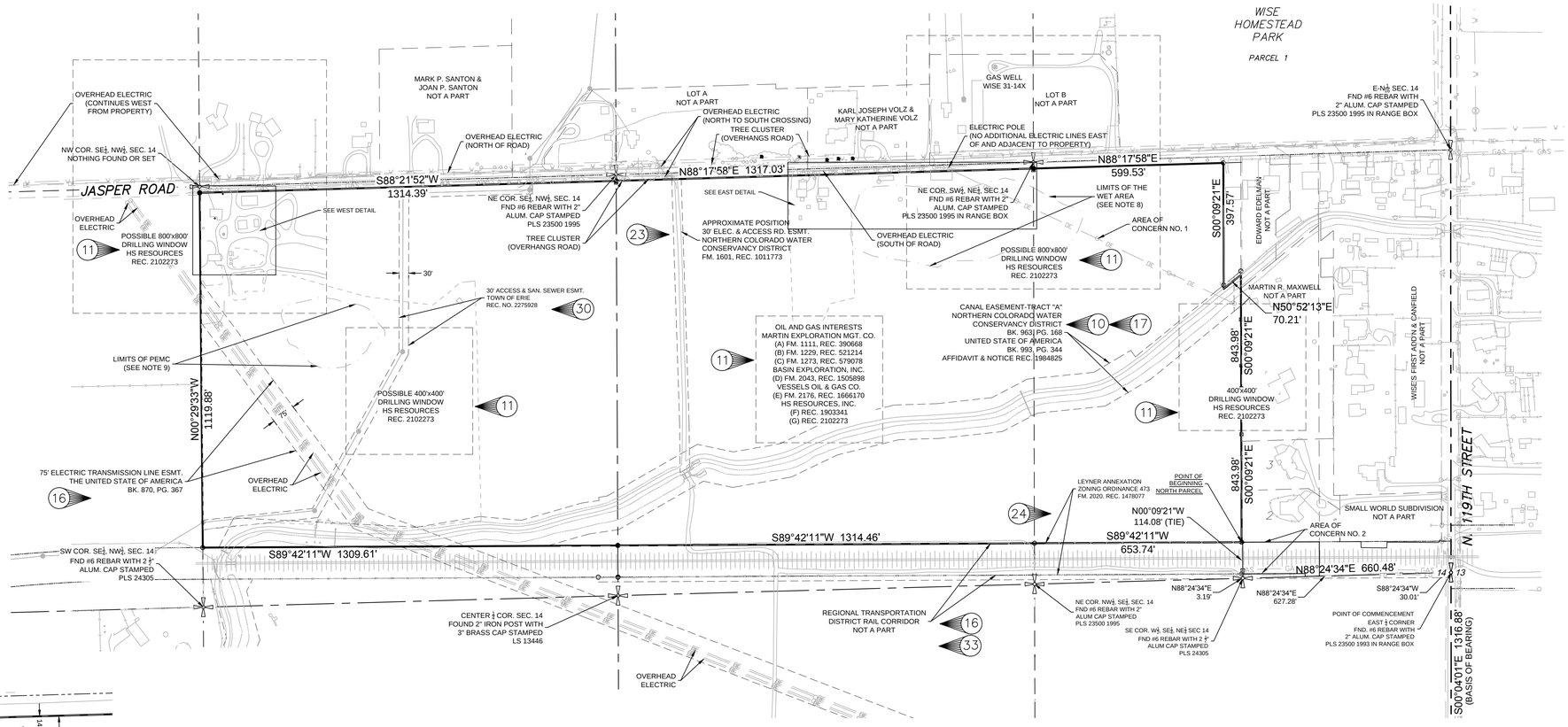
No.	Revisions	Date	Init.	Appr.	Date
	ADD'L UPDATES	12\03\14	MJP		
	ADD'L UPDATES	9\29\14	MJP		
	MINOR UPDATES	7\29\14	MJP		
	ADDED DETAILS	04\11\14	BDL		
	UPDATED LEGAL	8\20\13	BDL		
	UPDATED B-2'S	8\20\13	BDL		

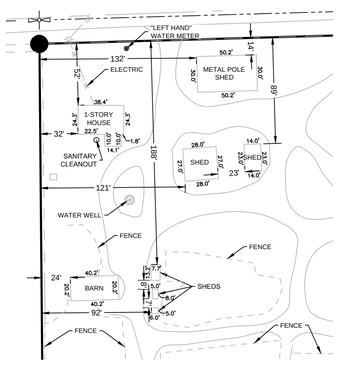
ALTA/ASCM LAND TITLE SURVEY
WISE FARMS

SCALE:
DRAWN BY: BDL
CHECKED BY: WFH
FILE NO:
DATE: 04\11\2014
SHEET NO: 2 OF 3

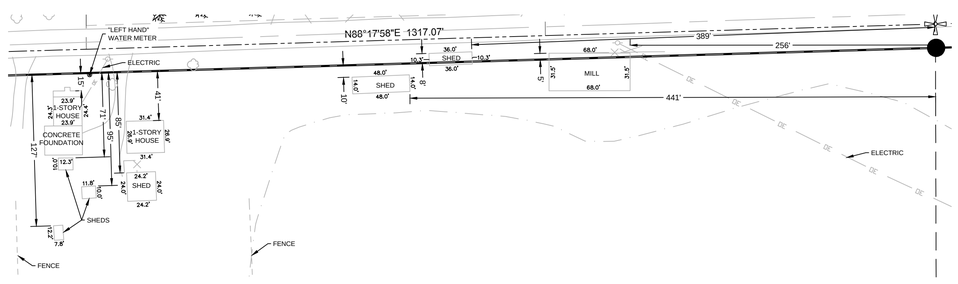
ALTA / ACSM LAND TITLE SURVEY

A PART OF THE NORTH HALF OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH P.M.
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO





WEST DETAIL
SCALE 1" = 60'



EAST DETAIL
SCALE 1" = 60'

GRAPHIC SCALE
200 0 100 200 400
(IN FEET)
1 inch = 200 ft.

SYMBOL LEGEND

	FND. SECTION CORNER AS DESCRIBED		TREE		EXISTING WIRE FENCE
	FND. WITNESS CORNER AS DESCRIBED		STORM DRAIN INLET		EXISTING WOOD FENCE
	SET NO. 5 REBAR, 24" LONG, w/1 1/2" ORANGE PLASTIC CAP STAMPED CVL LS NO. 25369 UNLESS OTHERWISE NOTED		EXISTING BARB WIRE FENCE	OE	OVERHEAD ELECTRIC
	FND #5 REBAR W/2" ALUM. CAP STAMPED LS 24305		SIGN		UTILITY POLE
	FND #5 REBAR W/1 1/2" ALUM CAP MARKED "BRUNS INC"	D	STORM DRAIN MANHOLE		EXISTING WOOD POST
5	FND #4 REBAR W/ALUM. COLLAR "LS 2149"		GUY WIRE		
6	FND #5 REBAR W/1-1/2" ALUM. CAP STAMPED PLS 13466	WV	WATER VALVE		

PREPARED WITH THE BENEFIT OF LAND TITLE GUARANTEE COMPANY
COMMITMENT NO. ABD70339758.1-2 EFFECTIVE DATE OCTOBER 28, 2013 AT 5:00 P.M .

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

No.	Revisions	Date	Init.	Appr.	Date
	ADD'L UPDATES	12\03\14	MJP		
	ADD'L UPDATES	9\29\14	MJP		
	MINOR UPDATES	7\29\14	MJP		
	ADDED DETAILS	04\11\14	BDL		
	UPDATED LEGAL	8\20\13	BDL		
	UPDATED B-2'S	8\20\13	BDL		

ALTA/ASCM LAND TITLE SURVEY
WISE FARMS

SCALE:
DRAWN BY: BDL
CHECKED BY: WFH
FILE NO:
DATE: 04\11\2014
SHEET NO: 3 OF 3

ALTA / ACSM LAND TITLE SURVEY

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH P.M., TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO

LEGAL DESCRIPTION:

A PARCEL OF LAND BEING A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE EAST QUARTER CORNER OF SAID SECTION 14, FROM WHICH THE EAST-SOUTH ONE SIXTEENTH CORNER OF SAID SECTION 14 BEARS SOUTH 00°04'01" EAST, A DISTANCE OF 1316.88 FEET, SAID LINE FORMING THE BASIS OF BEARINGS WITH ALL BEARINGS CONTAINED HEREWITH BEING RELATIVE THERETO;

THENCE SOUTH 88°24'34" WEST, A DISTANCE OF 30.01 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF NORTH 119TH STREET;

THENCE SOUTH 00°04'01" EAST, ALONG SAID WESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 0.14 FEET TO A POINT ON THE SOUTHERLY RIGHT OF WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY, SAID RIGHT-OF-WAY LINE BEING 50 FEET, BY PERPENDICULAR MEASUREMENT, SOUTHERLY OF THE EXISTING TRACK, SAID POINT BEING THE **POINT OF BEGINNING**;

THENCE CONTINUING SOUTH 00°04'01" EAST ALONG SAID WESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1316.79 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 88°18'16" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 1282.39 FEET TO THE SOUTHWEST CORNER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 88°18'16" WEST ALONG THE SOUTH LINE OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 1312.40 FEET TO THE SOUTHWEST CORNER OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 88°16'21" WEST ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 14, A DISTANCE OF 60.98 FEET TO THE SOUTHEASTERLY CORNER OF THAT TRACT OF LAND CONVEYED TO RONALD SCOTT JASPER, RONALD LEE JASPER AND VEE ANN JASPER AS DESCRIBED IN WARRANTY DEED RECORDED MAY 3, 1976, ON FILM 922 AS RECEPTION NO. 175271, OF THE RECORDS OF BOULDER COUNTY, COLORADO;

THENCE NORTH 00°19'00" WEST ALONG THE EASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 1381.63 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY, SAID RIGHT-OF-WAY LINE BEING 50 FEET, BY PERPENDICULAR MEASUREMENT, SOUTHERLY OF THE EXISTING TRACK;

THENCE NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 62.45 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1314.28 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 653.74 FEET;

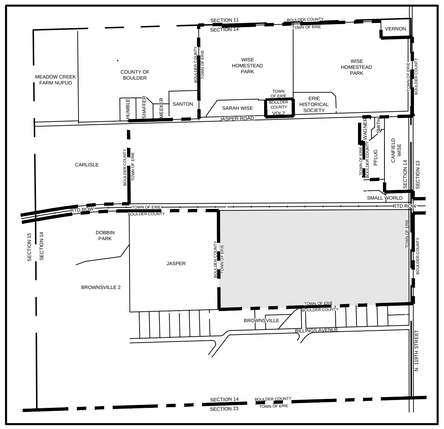
THENCE SOUTH 00°09'21" EAST, A DISTANCE OF 14.09 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE NORTH 88°24'34" EAST ALONG SAID SOUTH LINE, A DISTANCE OF 3.19 FEET TO THE SOUTHEAST CORNER OF THE WEST HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 88°24'34" EAST ALONG SAID SOUTH LINE, A DISTANCE OF 620.87 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF SAID PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY;

THENCE NORTH 89°42'11" EAST, ALONG SAID SOUTHERLY RAILROAD RIGHT-OF-WAY LINE, A DISTANCE OF 6.40 FEET TO THE **POINT OF BEGINNING**,

SAID SOUTH PARCEL CONTAINING A CALCULATED AREA OF 3,581,472 SQUARE FEET OR 82.219 ACRES, MORE OR LESS.



VICINITY MAP
SCALE: 1" = 1000'

AREAS OF CONCERN (AOC):

THE FOLLOWING MATTERS WHICH MAY AFFECT THE STATUS OF TITLE TO THE SURVEYED PROPERTY ARE NOTED BY CVL CONSULTANTS INC. FOR THE BENEFIT OF THE PARTY REQUESTING THE SURVEY. CVL CONSULTANTS INC. AND THE SURVEYOR OF RECORD DO NOT WARRANT OR REPRESENT THAT ALL MATTERS THAT MAY AFFECT TITLE ARE NOTED BELOW. THE NUMBERS IN THE FOLLOWING COMMENTS CORRESPOND TO THE NUMBERS SHOWN ON OUR LAND SURVEY PLAT.

1. DIRT ROAD CROSSING SOUTHEAST CORNER OF SAID PARCEL OF LAND BUT NOT WITHIN A RECORDED EASEMENT. THE ROAD APPEARS TO ALLOW ACCESS FROM 119TH STREET TO THE DITCH, AS SHOWN.
2. LIVESTOCK CORRAL ALONG SOUTH BOUNDARY APPEARS TO BE IN USE BY OTHERS.
3 THE VESTING DEEDS FOR THIS PROPERTY DO NOT INCLUDE ANY LANDS IN THE EAST HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION14. THE SLIVER OF LAND LYING SOUTH OF THE RAILROAD (NOW RTD) RIGHT OF WAY WITHIN SAID EAST HALF, AND LABELED AOC #3 IS NOT INCLUDED IN THE SUBJECT PROPERTY. THE COUNTY ASSESSOR'S OFFICE INCLUDES THIS AREA AS OWNERSHIP OF "WISE HOMESTEAD LLC". THIS AREA CONTAINS 4,359 SQUARE FEET, OR 0.100 ACRE.
4. THE AREA OF THE UNION PACIFIC (NOW RTD) RIGHT OF WAY MARKED AOC #4, WAS DEEDED TO THE TOWN OF ERIE FROM SMALL WORLD VENTURES, LLC BY WARRANTY DEED RECORDED UNDER RECEPTION NO. 1724707, DATED AUGUST 22, 1997. THOUGH THIS AREA LIES OUTSIDE OF THE SUBJECT PROPERTY IT IS WORTHY OF NOTE. FIRSTLY, IT IS A LAND LOCKED PARCEL WITH NO APPARENT DIRECT ACCESS. SECONDLY, IT IS NOT CLEAR THAT SMALL WORLD VENTURES, LLC HAD THE VESTED RIGHTS TO CONVEY THIS PROPERTY TO THE CITY. IT IS CVL CONSULTANTS OF COLORADO, INC'S UNDERSTANDING THAT THE RAILROAD RIGHT OF WAY IS OWNED BY RTD.

NOTES:

1. ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT OR LAND BOUNDARY MONUMENT OR ACCESSORY, COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUTE 18-4-508, C.R.S.

2. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY CVL CONSULTANTS, INC. TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. FOR ALL INFORMATION REGARDING EASEMENTS, RIGHTS-OF-WAY, AND TITLE OF RECORD, CVL CONSULTANTS, INC. RELIED UPON THE TITLE COMMITMENT AS NOTED HEREON.

3. THIS PLAT WAS PREPARED FOR THE EXCLUSIVE USE OF THE PERSON(S) OR ENTITY(S) NAMED IN THE CERTIFICATE HEREON. SAID CERTIFICATE DOES NOT EXTEND TO ANY UNNAMED PERSON(S) OR ENTITY(S) WITHOUT AN EXPRESS RECERTIFICATION BY THE SURVEYOR NAMING SAID PERSON(S) OR ENTITY(S).

4. BASIS OF BEARINGS: BEARINGS ARE BASED ON THE EAST LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, ASSUMED TO BEAR SOUTH 00°04'01" EAST AND MONUMENTED AS SHOWN HEREON .

5. FLOODPLAIN: BASED ON A GRAPHICAL REPRESENTATION OF FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) NO. 08013C0437J WITH AN EFFECTIVE DATE OF DEC. 18, 2012, THE SUBJECT PROPERTY LIES WITHIN "OTHER AREAS" ZONE X. "ZONE X" IS DEFINED AS "AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN,

6. DATE OF ORIGINAL FIELD WORK WAS JUNE 26, 2013 AND ADDITIONAL FIELD WORK ON SEPTEMBER 23, 2013.

7. THE LINEAL UNIT USED IN THE PREPARATION OF THIS PLAT IS THE U.S. SURVEY FOOT AS DEFINED BY THE UNITED STATES DEPARTMENT OF COMMERCE, NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.

SURVEYOR'S CERTIFICATE:

TO: ELIZABETH W. KISSELL AND WISE HOMESTEAD LLC, A COLORADO LIMITED LIABILITY COMPANY; TO JASPER LAND INVESTMENTS LLC, A COLORADO LIMITED LIABILITY COMPANY; TO LAND TITLE GUARANTEE COMPANY; AND TO FIRST AMERICAN TITLE INSURANCE COMPANY.

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2011 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 8, 11 (a),13 AND 14 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON SEPTEMBER 25, 2013.

DATE OF PLAT OR MAP: _____, 2014

_____
WILLIAM F. HESSELBACH, JR., P.L.S. NO. 25369
FOR AND ON BEHALF OF
CVL CONSULTANTS CONSULTING LLC

SURVEY PLAT DEPOSITING CERTIFICATE:

DEPOSITED THIS _____DAY OF _____ , 2014, AT ____ .M., IN BOOK____ OF THE COUNTY_____

SURVEYOR'S LAND SURVEY PLATS AT PAGE____ , DEPOSIT NO. _____, RECORDS OF BOULDER COUNTY, COLORADO.

SIGNED: _____ TITLE: _____ BY:_____

PREPARED WITH THE BENEFIT OF LAND TITLE GUARANTEE COMPANY
COMMITMENT NO. ABD70339758.2-6 EFFECTIVE DATE SEPTEMBER 08, 2014 AT 5:00 P.M .

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

ALTA/ASCM LAND TITLE SURVEY
WISE FARMS
SOUTH PARCEL

No.	Revisions	Date	Init.	Appr.	Date
2	GAS LINE ESMT. UPDATES	9\18\14	MJP	WFH	09/18/14
1	MINOR UPDATES	7\29\14	JLR		

SCALE:
FILE NO:
DRAWN BY: BDL
CHECKED BY: WFH
DATE: 04\11\2014
SHEET NO: 1 OF 3

ALTA / ACSM LAND TITLE SURVEY

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH P.M., TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO

SCHEDULE B-2 TITLE EXCEPTION NOTES:

1. ANY FACTS, RIGHTS, INTERESTS OR CLAIMS THEREOF, NOT SHOWN BY THE PUBLIC RECORDS BUT THAT COULD BE ASCERTAINED BY AN INSPECTION OF THE LAND OR THAT MAY BE ASSERTED BY PERSONS IN POSSESSION OF THE LAND. NO ADDITIONAL INFORMATION WAS PROVIDED TO THE SURVEYOR OF RECORD.

2. EASEMENTS, LIENS OR ENCUMBRANCES, OR CLAIMS THEREOF, NOT SHOWN BY THE PUBLIC RECORDS. NO ADDITIONAL INFORMATION WAS PROVIDED TO THE SURVEYOR OF RECORD.

3. ANY ENCROACHMENT, ENCUMBRANCE, VIOLATION, VARIATION, OR ADVERSE CIRCUMSTANCES AFFECTING THE TITLE THAT WOULD BE DISCLOSED BY AN ACCURATE AND COMPLETE LAND SURVEY OF THE LAND AND NOT SHOWN BY THE PUBLIC RECORDS. THIS SURVEY SERVES TO SATISFY THIS EXCEPTION.

4. ANY LIEN, OR RIGHT TO A LIEN, FOR SERVICES, LABOR OR MATERIAL HERETOFORE OR HEREAFTER FURNISHED, IMPOSED BY LAW AND NOT SHOWN BY THE PUBLIC RECORDS. NOT A SURVEY MATTER.

5. DEFECTS, LIENS, ENCUMBRANCES, ADVERSE CLAIMS OR OTHER MATTERS, IF ANY, CREATED, FIRST APPEARING IN THE PUBLIC RECORDS OR ATTACHING SUBSEQUENT TO THE EFFECTIVE DATE HEREOF BUT PRIOR TO THE DATE THE PROPOSED INSURED ACQUIRES OF RECORD FOR VALUE THE ESTATE OR INTEREST OR MORTGAGE THEREON COVERED BY THIS COMMITMENT. NOT A SURVEY MATTER.

6. ANY UNPAID TAXES, ASSESSMENTS AND UNREDEEMED TAX SALES. NOT A SURVEY MATTER.

7. (a) UNPATENTED MINING CLAIMS; (b) RESERVATIONS OR EXCEPTIONS IN PATENTS OR IN ACTS AUTHORIZING THE ISSUANCE THEREOF; (c) WATER RIGHTS, CLAIMS OR TITLE TO WATER, WHETHER OR NOT THE MATTERS EXCEPTED UNDER (a), (b) OR (c) ARE SHOWN BY THE PUBLIC RECORDS. NOT A SURVEY MATTER.

8. EXISTING LEASES OR TENANCIES, IF ANY. NOT A SURVEY MATTER.

9. RIGHTS OF THE PUBLIC AND THE COUNTY OF BOULDER IN AND TO THOSE PORTIONS OF THE LAND LYING WITHIN NORTH 119TH STREET. NOT PLOTTABLE.

10. EASEMENT GRANTED TO THE LOWER BOULDER EXTENSION DITCH COMPANY, FOR THE LOWER BOULDER DITCH, AND INCIDENTAL PURPOSES, BY INSTRUMENT RECORDED JULY 11, 1911, IN BOOK 325 AT PAGE 120. AS SHOWN.

NOTE: AFFIDAVIT AND NOTICE IN RELATION THERETO RECORDED SEPTEMBER 24, 1999 UNDER RECEPTION NO. 1984825. AS SHOWN

11. OIL AND GAS LEASES BETWEEN SARAH ALLENE WISE, ET AL. AND MARTIN EXPLORATION MANAGEMENT CORPORATION, RECORDED APRIL 7, 1980 UNDER RECEPTION NUMBER 390668 AND RECORDED NOVEMBER 23, 1982 UNDER RECEPTION NUMBER 521214 AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN. AS SHOWN.

PRODUCTION AFFIDAVITS RECORDED APRIL 13, 1983 UNDER RECEPTION NUMBER 543347 AND APRIL 16, 1987 UNDER RECEPTION NO. 841764.

AFFIDAVIT OF EXTENSION OF OIL AND GAS LEASES RECORDED MARCH 28, 1995 UNDER RECEPTION NUMBER 1505898.

NOTE: NOTICE OF RIGHT TO USE SURFACE OF LANDS AND NOTICE OF SURFACE USE RECORDED DECEMBER 24, 1996 UNDER RECEPTION NO. 01666170 AND FEBRUARY 8, 1999 UNDER RECEPTION NUMBER 1903341 AND DECEMBER 11, 2000 UNDER RECEPTION NUMBER 2102273.

NOTE: DECLARATION OF POOLING REFERENCING SAID LEASES RECORDED JANUARY 22, 2014 UNDER RECEPTION NO. 03362994.

NOTE: THE PRESENT OWNERSHIP OF THE LEASEHOLD CREATED BY SAID LEASE AND OTHER MATTERS AFFECTING THE INTEREST OF THE LESSEE ARE NOT SHOWN HEREIN.

12. REQUESTS FOR NOTIFICATION OF SURFACE DEVELOPMENT AS EVIDENCED BY INSTRUMENT RECORDED MAY 17, 2002 UNDER RECEPTION NUMBER 2288455. NOT PLOTTABLE.

13. RIGHTS OF PROPRIETOR OF A VEIN OR LODE TO EXTRACT AND REMOVE HIS ORE THEREFROM SHOULD THE SAME BE FOUND TO PENETRATE OR INTERSECT THE PREMISES AS RESERVED IN UNITED STATES PATENT RECORDED DECEMBER 01, 1874, IN BOOK R AT PAGE 557. AFFECTS THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER AND THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER. AFFECTS SUBJECT PARCEL, NOT PLOTTABLE.

14. RIGHT OF WAY FOR RIGHTS OF OTHERS TO THE IOWA DITCH AS EVIDENCED BY INSTRUMENT RECORDED AUGUST 21, 1875 IN BOOK 31 AT PAGE 352. AFFECTS SUBJECT PROPERTY. NOT PLOTTABLE.

15. RIGHT OF PROPRIETOR OF A VEIN OR LODE TO EXTRACT AND REMOVE HIS ORE THEREFROM SHOULD THE SAME BE FOUND TO PENETRATE OR INTERSECT THE PREMISES AS RESERVED IN UNITED STATES PATENT RECORDED JULY 31, 1876, IN BOOK 38 AT PAGE 156. AFFECTS SOUTHEAST QUARTER OF THE NORTHWEST QUARTER AND THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER AND THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER AND THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER. NOT PLOTTABLE.

16. TERMS, CONDITIONS, PROVISIONS, BURDENS, OBLIGATIONS AND EASEMENTS AS SET FORTH AND GRANTED IN CONTRACT AND GRANT OF EASEMENT RECORDED JULY 12, 1950 IN BOOK 870 AT PAGE 367. AS SHOWN.

17. ANY TAX, LIEN, FEE, OR ASSESSMENT BY REASON OF INCLUSION OF SUBJECT PROPERTY IN THE LONGMONT FIRE PROTECTION DISTRICT, AS EVIDENCED BY INSTRUMENT RECORDED JULY 29, 1966, IN BOOK 822 AT PAGE 491. NOT PLOTTABLE.

18. THE EFFECT OF APPLICATION FOR CHANGE OF CLASS D ALLOTMENT CONTRACT RECORDED MARCH 26, 1979 UNDER RECEPTION NUMBER 328968 AND AS AMENDED IN INSTRUMENT RECORDED JULY 2, 1981 UNDER RECEPTION NUMBER 453220 AND AS AMENDED IN INSTRUMENT RECORDED JULY 9, 1981 UNDER RECEPTION NUMBER 454311 AND AS AMENDED IN INSTRUMENT RECORDED MARCH 11, 1996 UNDER RECEPTION NUMBER 01590362 AND AS AMENDED IN INSTRUMENT RECORDED AUGUST 17, 2001 UNDER RECEPTION NUMBER 2186552, APPLICATION FOR CLASS D ALLOTMENT CONTRACT RECORDED OCTOBER 10, 2011 UNDER RECEPTION NUMBER 3175932 AND APPLICATION FOR RELEASE OF EXISTING CLASS D ALLOTMENT CONTRACT RECORDED OCTOBER 10, 2011 UNDER RECEPTION NUMBER 3175933 APPLICATIONS FOR RELEASE OF EXISTING CLASS D ALLOTMENT CONTRACTS RECORDED JUNE 24, 2013 UNDER RECEPTION NUMBER 03322055, UNDER RECEPTION NUMBER 03322056 AND UNDER RECEPTION NUMBER 03322057. NOT PLOTTABLE

19. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN AGREEMENT RECORDED NOVEMBER 9, 1979 UNDER RECEPTION NUMBER 369830. NOT PLOTTABLE.

20. THOSE WATER RIGHTS AS CONVEYED TO THE CITY OF LAFAYETTE BY INSTRUMENT RECORDED APRIL 7, 1980 UNDER RECEPTION NUMBER 390658 AND COVENANT IN CONNECTION THEREWITH RECORDED AUGUST 13, 1980 UNDER RECEPTION NUMBER 407640 AND AS AMENDED INSTRUMENT RECORDED APRIL 29, 1982 UNDER RECEPTION NUMBER 492592. NOT PLOTTABLE.

21. TERMS, CONDITIONS, PROVISIONS, BURDENS, OBLIGATIONS AND EASEMENTS AS SET FORTH AND GRANTED IN RIGHT OF WAY GRANT RECORDED AUGUST 20, 1985 UNDER RECEPTION NUMBER 707266. NOT PLOTTABLE.

SCHEDULE B-2 TITLE EXCEPTIONS CONTINUED:

22. TERMS, CONDITIONS, PROVISIONS, BURDENS, OBLIGATIONS AND EASEMENTS AS SET FORTH AND GRANTED IN RIGHT OF WAY GRANT RECORDED AUGUST 20, 1985 UNDER RECEPTION NUMBER 707261. AS SHOWN BY DIRT ROAD ACCESSING BOTH WELL SITES.

23. THE EFFECT OF NOTICE OF GENERAL DESCRIPTION OF AREA SERVED BY PANHANDLE EASTERN PIPE LINE COMPANY CONCERNING UNDERGROUND FACILITIES RECORDED JUNE 25, 1986 UNDER RECEPTION NUMBER 00768891. NOT PLOTTABLE.

24. EASEMENT GRANTED TO MOUNTAIN STATES TELEPHONE AND TELEGRAPH COMPANY, FOR UTILITIES, AND INCIDENTAL PURPOSES, BY INSTRUMENT RECORDED JANUARY 2, 1987, UNDER RECEPTION NUMBER 00816351. AS SHOWN.

25. TERMS, CONDITIONS, PROVISIONS, BURDENS, OBLIGATIONS AND EASEMENTS AS SET FORTH AND GRANTED IN RIGHT OF WAY GRANT RECORDED AUGUST 12, 1994 UNDER RECEPTION NUMBER 01454162. AS SHOWN - EASEMENT IS BASED ON THE CENTERLINE OF THE MARKED GAS LINE

26. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN ANNEXATION AGREEMENTS RECORDED SEPTEMBER 12, 1995 UNDER RECEPTION NUMBER 01546831 AND UNDER RECEPTION NUMBERS 01546832 AND 01546833. NOT PLOTTABLE.

27. THE EFFECT OF THE MAP OF WISE ACRES ANNEXATION TO THE TOWN OF ERIE RECORDED SEPTEMBER 12, 1995 UNDER RECEPTION NUMBER 1546834. NOT PLOTTABLE.

28. THOSE WATER RIGHTS AS CONVEYED TO THE CITY OF LAFAYETTE BY INSTRUMENT RECORDED MAY 2, 1997 UNDER RECEPTION NUMBER 1695500. NOT PLOTTABLE.

29. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN ORDINANCE NUMBER 484, REGARDING ANNEXATION RECORDED SEPTEMBER 5, 1997 UNDER RECEPTION NUMBER 1728523. NOT PLOTTABLE.

30. THE EFFECT OF ORDINANCE NUMBER 485, REGARDING ZONING, RECORDED SEPTEMBER 5, 1997 UNDER RECEPTION NUMBER 1728524. NOT PLOTTABLE.

31. ANY TAX, LIEN, FEE, OR ASSESSMENT BY REASON OF INCLUSION OF SUBJECT PROPERTY IN THE NORTHERN COLORADO WATER CONSERVANCY DISTRICT, AS EVIDENCED BY INSTRUMENT RECORDED DECEMBER 10, 2003 UNDER RECEPTION NUMBER 2537461. NOT A SURVEY MATTER.

32. ANY WATER RIGHTS OR CLAIMS OR TITLE TO WATER IN, OR UNDER THE LAND, WHETHER OF RECORD OR NOT. NOT A SURVEY MATTER.

33. THE FOLLOWING RECITAL AS CONTAINED IN DEED FROM SARAH ALLENE WISE TO ELIZABETH W. KISSELL RECORDED NOVEMBER 13, 1995 UNDER RECEPTION NO. 1562123: "MINERAL RIGHTS WILL BE RETAINED BY THE GRANTOR". AS SHOWN.

34. ANY RIGHT, TITLE (FEE OR EASEMENT) AND/OR INTEREST OF THE REGIONAL TRANSPORTATION DISTRICT IN OR TO THOSE PORTIONS OF THE LAND DESCRIBED IN INSTRUMENTS RECORDED NOVEMBER 6, 1871 IN BOOK "N" AT PAGE 591, NOVEMBER 6, 1871 IN BOOK "N" AT PAGE 601 AND JUNE 26, 2009 UNDER RECEPTION NUMBER 3011226.

SAID DEEDS DO NOT CONTAIN A SPECIFIC METES AND BOUNDS LEGAL DESCRIPTION OF THE LAND CONVEYED THEREIN. THE RAILROAD IS AS SHOWN, AND LIES OUTSIDE OF THE SUBJECT PROPERTY.

35. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN MEMORANDUM OF AGREEMENT EXECUTED BY AND BETWEEN ELIZABETH W. KISSELL AND WISE HOMESTEAD, LLC, A COLORADO LIMITED LIABILITY COMPANY, AS BUYER RECORDED JULY 11, 2005 UNDER RECEPTION NUMBER 2703251. NOT PLOTTABLE.

NOTE: THIS EXCEPTION WILL BE DELETED UPON THE RECORDATION OF A TERMINATION OF SAID AGREEMENT IN A FORM ACCEPTABLE TO THIS COMPANY.

36. REQUEST FOR NOTIFICATION OF SURFACE DEVELOPMENT EXECUTED BY NOBLE ENERGY, INC., NOBLE ENERGY PRODUCTION, INC., SOCO WATTENBERG CORPORATION AND UNITED STATES EXPLORATION, INC. RECORDED OCTOBER 23, 2007 UNDER RECEPTION NUMBER 2890878. NOT PLOTTABLE.

37. REQUEST FOR NOTIFICATION (MINERAL ESTATE OWNER) EXECUTED BY KERR-MCGEE OIL & GAS ONSHORE LP RECORDED DECEMBER 21, 2007 UNDER RECEPTION NUMBER 2900941. NOT PLOTTABLE.

38. ANY BOUNDARY DISCREPANCY DUE TO THE LOCATION OF FENCE LINES AND THE EFFECT OF ANY RIGHT, TITLE OR INTEREST THAT MAY BE CLAIMED DUE TO ANY SAID DISCREPANCY AS SHOWN ON LAND SURVEY PLAT PREPARED BY CIVIL ARTS - DREXEL GROUP, DATED JUNE 24, 2001 AND LAST REVISED APRIL 4, 2005, JOB NUMBER 211-12.

39. ANY FACTS, RIGHTS, INTERESTS OR CLAIMS WHICH MAY EXIST OR ARISE BY REASON OF THE FOLLOWING FACTS SHOWN ON LAND SURVEY PLAT DATED JUNE 24, 2001 AND LAST REVISED APRIL 4, 2005, PREPARED BY CIVIL ARTS - DREXEL GROUP, JOB NUMBER 211-12. AS SHOWN.

A. A DIRT ROAD CROSSING THE LAND, BUT NOT WITHIN A RECORDED EASEMENT. ONE DIRT ROAD CROSSING PARCEL CONNECTS WELL PADS, SEE ITEM NO. 22, THE OTHER DIRT ROAD CROSSES THE SOUTHEAST CORNER OF THE PARCEL. SEE AOC #1.

B. UTILITY POLES AND UTILITY LINES LOCATED ALONG THE EAST BOUNDARY OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER, CROSSING THE WEST HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER AND THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER AND ALONG THE NORTH BOUNDARY OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER , BUT NOT WITHIN A RECORDED EASEMENT. DOES NOT AFFECT SUBJECT PARCEL.

40. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN MEMORANDUM OF COMPATIBLE DEVELOPMENT AND SURFACE USE AGREEMENT RECORDED JANUARY 22, 2014 UNDER RECEPTION NO. 03362979. AFFECTS SUBJECT PROPERTY, NOT PLOTTABLE.

41. (ITEM INTENTIONALLY DELETED)

42. OIL AND GAS LEASE BETWEEN OLIVE M. WISE AND ALBERT C. WISE FAMILY TRUST AND MARTIN EXPLORATION MANAGEMENT CORP., RECORDED NOVEMBER 23, 1982 UNDER RECEPTION NO. 521213 AND ANY ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

NOTE: CORRECTION OF DESCRIPTION IN LEASE RECORDED DECEMBER 14, 1982 UNDER RECEPTION NO. 524170.

NOTE: DECLARATION OF POOLING REFERENCING SAID LEASE RECORDED JANUARY 22, 2014 UNDER RECEPTION NO. 03362994.

NOTE: THE PRESENT OWNERSHIP OF THE LEASEHOLD CREATED BY SAID LEASE AND OTHER MATTERS AFFECTING THE INTEREST OF THE LESSEE ARE NOT SHOWN HEREIN.

43. EASEMENT GRANTED TO K N FRONT RANGE GATHERING COMPANY, FOR PIPELINES, AND INCIDENTAL PURPOSES, BY INSTRUMENT RECORDED AUGUST 12, 1994, UNDER RECEPTION NO. 01454161. AS SHOWN - EASEMENT IS BASED ON THE CENTERLINE OF THE MARKED GAS LINE

PREPARED WITH THE BENEFIT OF LAND TITLE GUARANTEE COMPANY
COMMITMENT NO. ABD70339758.2-6 EFFECTIVE DATE SEPTEMBER 08, 2014 AT 5:00 P.M .

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

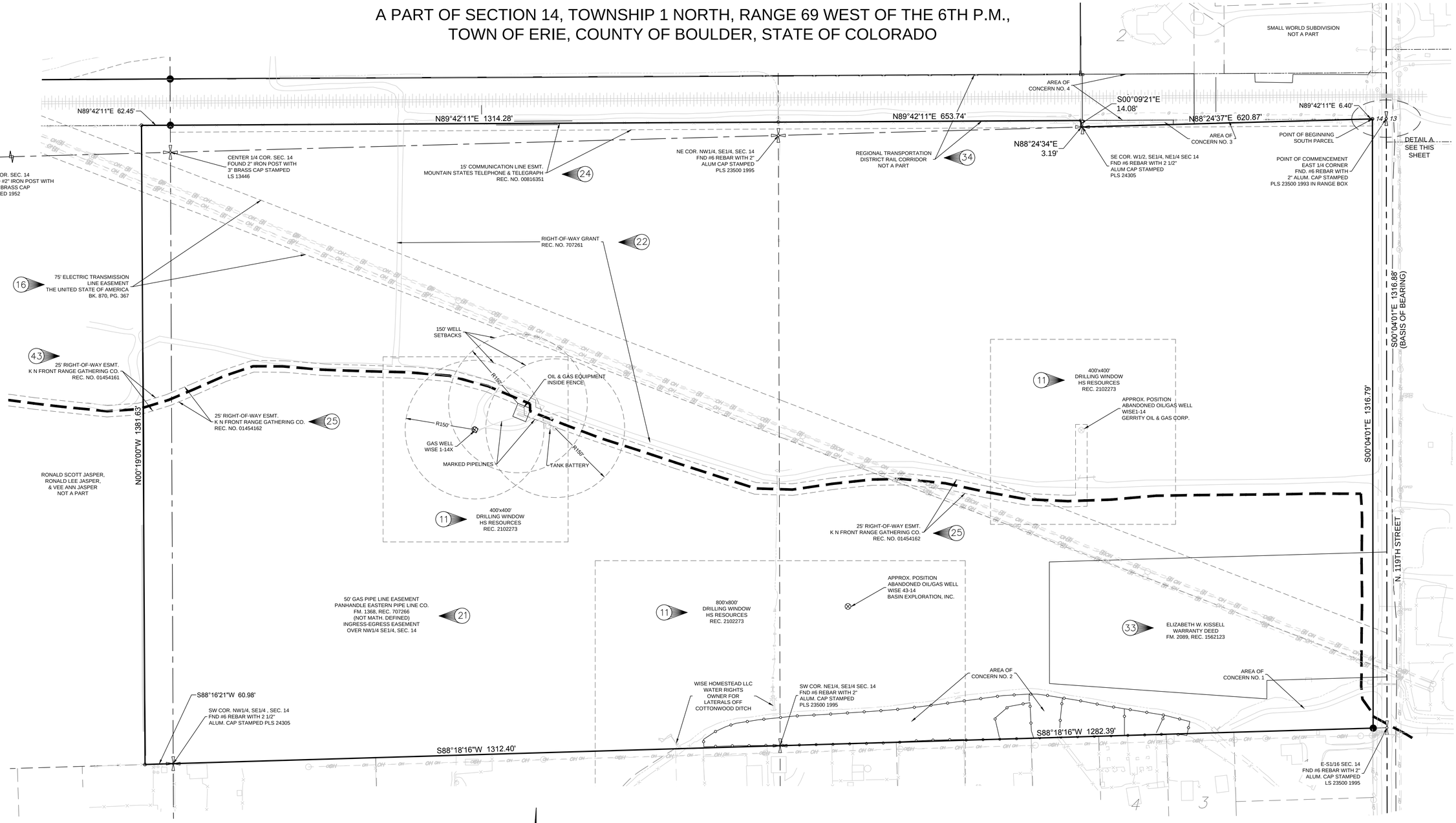
ALTA/ASCM LAND TITLE SURVEY
WISE FARMS
SOUTH PARCEL

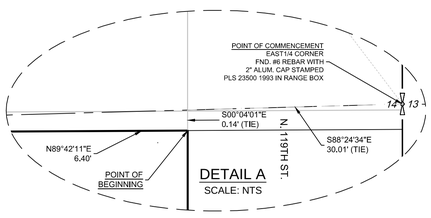
No.	Revisions	Date	Init.	Appr.	Date
2	GAS LINE ESMT. UPDATES	9\18\14	MJP	WFH	09/18/14
1	MINOR UPDATES	7\29\14	JLR		

SCALE:
FILE NO:
DRAWN BY: BDL
CHECKED BY: WFH
DATE: 04\11\2014
SHEET NO: 2 OF 3

ALTA / ACSM LAND TITLE SURVEY

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH P.M., TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO





GRAPHIC SCALE

100 0 50 100 200

(IN FEET)
1 inch = 100 ft.

PREPARED WITH THE BENEFIT OF LAND TITLE GUARANTEE COMPANY
COMMITMENT NO. ABD70339758.2-6 EFFECTIVE DATE SEPTEMBER 08, 2014 AT 5:00 P.M .

SYMBOL LEGEND

✚	FND. SECTION CORNER AS DESCRIBED		TREE		EXISTING WIRE FENCE
	FND. WITNESS CORNER AS DESCRIBED		STORM DRAIN INLET		EXISTING WOOD FENCE
●	SET NO. 5 REBAR, 24" LONG, W/1-1/2" ORANGE PLASTIC CAP STAMPED CVL LS NO. 25369 UNLESS OTHERWISE NOTED		EXISTING BARB WIRE FENCE		OVERHEAD ELECTRIC
	FND #5 REBAR W/2" ALUM. CAP STAMPED LS 24305		SIGN		UTILITY POLE
	FND #5 REBAR W/1-1/2" ALUM CAP MARKED "BRUNS INC"		STORM DRAIN MANHOLE		
	FND #5 REBAR W/1-1/2" ALUM. CAP STAMPED PLS 13446		GUY WIRE		
	EXISTING WOOD POST		WATER VALVE		

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

ALTA/ASCM LAND TITLE SURVEY
WISE FARMS
SOUTH PARCEL

No.	Revisions	Date	Init.	Appr.	Date
2	GAS LINE ESMT. UPDATES	9\18\14	MJP	WFH	09/18/14
1	MINOR UPDATES	7\29\14	JLR		

SCALE:

FILE NO:

DRAWN BY: BDL

CHECKED BY: WFH

DATE: 04\11\2014

SHEET NO: 3 OF 3

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M., TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO

173.929 ACRES – 166 LOTS/25 TRACTS

PP 13–00012

SHEET 1 OF 14

LAND SUMMARY CHART		
TYPE	AREA	% OF TOTAL AREA
RESIDENTIAL	65.864 AC.	37.87%
TRACTS	81.581 AC.	46.90%
PUBLIC ROW	26.484 AC.	15.23%
TOTAL	173.929 AC.	100%

LEGAL DESCRIPTION

KNOW ALL PEOPLE BY THESE PRESENTS, THAT THE UNDERSIGNED WARRANT THAT THEY ARE OWNERS OF A PARCEL OF LAND BEING A PART OF THE NORTH HALF OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

NORTH PARCEL:

COMMENCING AT THE EAST QUARTER CORNER OF SAID SECTION 14, FROM WHICH THE EAST–SOUTH ONE SIXTEENTH CORNER OF SAID SECTION 14 BEARS SOUTH 00°04'01" EAST, A DISTANCE OF 1316.88 FEET SAID LINE FORMING THE BASIS OF BEARINGS WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;

THENCE SOUTH 88°24'34" WEST, ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 30.01 FEET TO A POINT ON THE WESTERLY RIGHT–OF–WAY LINE OF NORTH 119TH STREET;

THENCE CONTINUING SOUTH 88°24'34" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 627.28 FEET, TO THE SOUTHEAST CORNER OF THE WEST HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 88°24'34" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 3.19 FEET;

THENCE NORTH 00°09'21" WEST, A DISTANCE OF 114.08 FEET TO A POINT ON THE NORTHERLY RIGHT–OF–WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT–OF–WAY, SAID RIGHT–OF–WAY LINE BEING 50 FEET, BY PERPENDICULAR MEASUREMENT NORTHERLY OF THE CENTERLINE OF THE EXISTING TRACK, SAID POINT BEING THE POINT OF BEGINNING;

THENCE SOUTH 89°42'11" WEST ALONG SAID NORTHERLY RIGHT–OF–WAY LINE, A DISTANCE OF 653.74 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 89°42'11" WEST ALONG SAID NORTHERLY RIGHT–OF–WAY LINE , A DISTANCE OF 1314.46 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 89°42'11" WEST ALONG SAID NORTHERLY RIGHT–OF–WAY LINE, A DISTANCE OF 1309.61 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14;

THENCE NORTH 00°29'33" WEST ALONG SAID WEST LINE, A DISTANCE OF 1119.88 FEET TO A POINT ON THE SOUTHERLY RIGHT–OF–WAY LINE OF JASPER ROAD;

THENCE ALONG SAID SOUTHERLY RIGHT–OF–WAY LINE THE FOLLOWING THREE (3) COURSES:

1. NORTH 88°21'52" EAST, A DISTANCE OF 1314.39 FEET;
2. NORTH 88°17'58" EAST, A DISTANCE OF 1317.03 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;
3. CONTINUING NORTH 88°17'58" EAST, A DISTANCE OF 599.53 FEET TO THE NORTHWESTERLY CORNER OF THAT TRACT OF LAND AS DESCRIBED ON SAID FILM 1555, AT RECEPTION NO. 953348;

THENCE SOUTH 00°09'21" EAST ALONG THE WESTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 397.57 FEET TO THE MOST SOUTHERLY CORNER THEREOF;

THENCE NORTH 50°52'13" EAST ALONG THE SOUTHEASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 70.21 FEET;

THENCE SOUTH 00°09'21" EAST, DISTANCE OF 843.98 FEET TO THE POINT OF BEGINNING,

SAID PARCEL CONTAINING A CALCULATED AREA OF 3,782,135 SQUARE FEET OR 86.826 ACRES, MORE OR LESS.

TOGETHER WITH:

SOUTH PARCEL:

A PARCEL OF LAND BEING A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE EAST QUARTER CORNER OF SAID SECTION 14, FROM WHICH THE EAST–SOUTH ONE SIXTEENTH CORNER OF SAID SECTION 14 BEARS SOUTH 00°04'01" EAST, A DISTANCE OF 1316.88 FEET, SAID LINE FORMING THE BASIS OF BEARINGS WITH ALL BEARINGS CONTAINED HEREWITH BEING RELATIVE THERETO;

THENCE SOUTH 88°24'34" WEST, A DISTANCE OF 30.01 FEET TO A POINT ON THE WESTERLY RIGHT–OF–WAY LINE TO NORTH 119TH STREET;

THENCE SOUTH 00°04'01" EAST, ALONG SAID WESTERLY RIGHT–OF–WAY LINE, A DISTANCE OF 0.14 FEET TO A POINT ON THE SOUTHERLY RIGHT–OF–WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT–OF–WAY, SAID RIGHT–OF–WAY LINE BEING 50 FEET, BY PERPENDICULAR MEASUREMENT, SOUTHERLY OF THE EXISTING TRACK, SAID POINT BEING THE POINT OF BEGINNING;

THENCE CONTINUING SOUTH 00°04'01" EAST ALONG SAID WESTERLY RIGHT–OF–WAY LINE, A DISTANCE OF 1316.79 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 88°18'16" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 1282.39 FEET TO THE SOUTHWEST CORNER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING SOUTH 88°18'16" WEST ALONG THE SOUTH LINE OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 1312.40 FEET TO THE SOUTHWEST CORNER OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;

THENCE SOUTH 88°16'21" WEST ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 14, A DISTANCE OF 60.98 FEET TO THE SOUTHEASTERLY CORNER OF THAT TRACT OF LAND CONVEYED TO RONALD SCOTT JASPER, RONALD LEE JASPER AND VEE ANN JASPER AS DESCRIBED IN WARRANTY DEED RECORDED MAY 3, 1976, ON FILM 922 AS RECEPTION NO. 175271, OF THE RECORDS OF BOULDER COUNTY, COLORADO:

THENCE NORTH 00°19'00" WEST ALONG THE EASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 1381.63 FEET TO THE SOUTHERLY RIGHT–OF–WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT–OF–WAY, SAID RIGHT–OF–WAY BEING 50 FEET, BY PERPENDICULAR MEASUREMENT, SOUTHERLY OF THE EXISTING TRACK;

THENCE NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT–OF–WAY LINE, A DISTANCE OF 62.45 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT–OF–WAY LINE, A DISTANCE OF 1314.28 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT–OF–WAY LINE, A DISTANCE OF 653.74 FEET;

THENCE SOUTH 00°09'21" EAST, A DISTANCE OF 14.09 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 14;

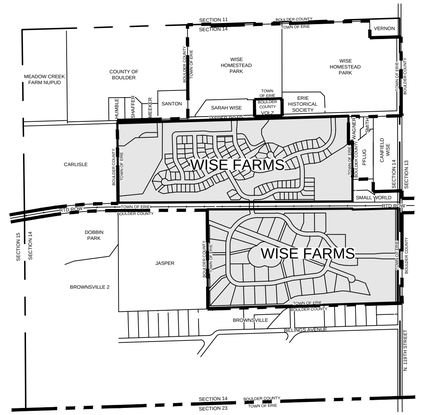
THENCE NORTH 88°24'34" EAST ALONG SAID SOUTH LINE, A DISTANCE OF 3.19 FEET TO THE SOUTHEAST CORNER OF THE WEST HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;

THENCE CONTINUING NORTH 88°24'34" EAST ALONG SAID SOUTH LINE, A DISTANCE OF 620.87 FEET TO A POINT ON THE SOUTHERLY RIGHT–OF–WAY LINE OF SAID PREVIOUS UNION PACIFIC RAILROAD RIGHT–OF–WAY;

THENCE NORTH 89°42'11" EAST, ALONG SAID SOUTHERLY RAILROAD RIGHT–OF–WAY LINE, A DISTANCE OF 6.40 FEET TO THE POINT OF BEGINNING,

SAID SOUTH PARCEL CONTAINING A CALCULATED ARE OF 3,581,472 SQUARE FEET OR 82.219 ACRES, MORE OR LESS.

TOGETHER WITH:



VICINITY MAP

SCALE: 1" = 1000'

LEGAL DESCRIPTION (CONTINUED)

JASPER ROAD RIGHT OF WAY PARCEL:

A PARCEL OF LAND BEING A PART OF THE NORTH HALF OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWEST CORNER OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14, AND ASSUMING THE EAST LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14 TO BEAR SOUTH 00°04'01" EAST, 1316.88 FEET WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;

THENCE NORTH 00°29'33" WEST, A DISTANCE OF 20.00 FEET TO A POINT ON THE NORTHERLY RIGHT OF WAY LINE OF JASPER ROAD;

THENCE ALONG SAID NORTHERLY RIGHT OF WAY LINE THE FOLLOWING EIGHT (8) COURSES:

1. NORTH 88°21'52" EAST, A DISTANCE OF 986.68 FEET;
2. NORTH 00°15'36" WEST, A DISTANCE OF 20.01 FEET;
3. NORTH 88°21'52" EAST, A DISTANCE OF 327.86 FEET;
4. NORTH 88°17'58" EAST, A DISTANCE OF 604.84 FEET;
5. SOUTH 00°09'21" EAST, A DISTANCE OF 20.01 FEET;
6. NORTH 88°17'58" EAST, A DISTANCE OF 385.00 FEET;
7. NORTH 00°09'21" WEST, A DISTANCE OF 20.01 FEET;
8. NORTH 88°17'58" EAST, A DISTANCE OF 1604.42 FEET;

THENCE SOUTH 08°12'42" EAST, A DISTANCE OF 70.45 FEET TO A POINT ON THE SOUTHERLY RIGHT OF WAY LINE OF JASPER ROAD;

THENCE ALONG SAID SOUTHERLY RIGHT OF WAY LINE THE FOLLOWING FOUR (4) COURSES:

1. SOUTH 88°17'58" WEST, A DISTANCE OF 540.23 FEET;
2. NORTH 00°04'41" WEST, A DISTANCE OF 10.00 FEET;
3. SOUTH 88°17'58" WEST, A DISTANCE OF 2063.81 FEET;
4. SOUTH 88°21'52" WEST, A DISTANCE OF 1314.39 FEET;

THENCE NORTH 00°29'33" WEST, A DISTANCE OF 20.00 FEET TO THE POINT OF BEGINNING,

SAID JASPER ROAD RIGHT OF WAY PARCEL CONTAINING A CALCULATED AREA OF 212,737 SQUARE FEET OR 4.884 ACRES, MORE OR LESS.

SAID NORTH, SOUTH AND JASPER ROAD RIGHT OF WAY PARCELS CONTAINING A CALCULATED AREA OF 7,576,344 SQUARE FEET, OR 173.929 ACRES, MORE OR LESS.

HAVE LAID OUT, PLATTED, AND SUBDIVIDED THE SAME INTO LOTS, BLOCKS, TRACTS AND RIGHT–OF–WAY AS SHOWN ON THIS PLAT, UNDER THE NAME AND STYLE OF **WISE FARMS PRELIMINARY PLAT** AND BY THESE PRESENTS DO HEREBY DEDICATE TO THE TOWN OF ERIE, COLORADO, FOR THE PERPETUAL USE OF THE PUBLIC, THE STREETS, AND EASEMENTS FOR PUBLIC PURPOSES SHOWN HEREON AND NOT PREVIOUSLY DEDICATED TO THE PUBLIC.

NOTES:

1. BASIS OF BEARINGS: BEARINGS ARE BASED ON THE EAST LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, ASSUMED TO BEAR SOUTH 00°04'01" EAST AND MONUMENTED AS SHOWN HEREON.

2. ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT OR LAND BOUNDARY MONUMENT OR ACCESSORY, COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUTE 18–4–508, C.R.S.

TRACT SUMMARY TABLE				
TRACT	AREA	USE	OWNERSHIP	MAINTENANCE
A	2.45 AC.	DRAINAGE / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
B	2.31 AC.	UTILITY / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
C	0.55 AC.	DRAINAGE / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
D	3.03 AC.	OIL & GAS OPERATIONS / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
E	12.56 AC.	IRRIGATION DITCH / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
F	0.24 AC.	EMERGENCY ACCESS / TRAIL CORRIDOR	METRO DIST/HOA	METRO DIST/HOA
G	8.87 AC.	IRRIGATION DITCH / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
H	3.64 AC.	IRRIGATION DITCH / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
I	7.15 AC.	OPEN SPACE	TOWN OF ERIE	TOWN OF ERIE
J	0.08 AC.	OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
K	0.45 AC.	POCKET PARK	METRO DIST/HOA	METRO DIST/HOA
L	9.70 AC.	OIL & GAS OPERATIONS	METRO DIST/HOA	METRO DIST/HOA
M	11.40 AC.	OIL & GAS, DRAINAGE, UTILITY, IRRIGATION DITCH, OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
N	0.10 AC.	DRAINAGE & UTILITY / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
O	0.12 AC.	DRAINAGE & UTILITY / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
P	2.12 AC.	IRRIGATION DITCH / OPEN SPACE	TOWN OF ERIE	TOWN OF ERIE
Q	0.74 AC.	OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
R	13.71 AC.	OIL & GAS OPERATIONS / OPEN SPACE	WISE HOMESTEAD	WISE HOMESTEAD
S	0.44 AC.	OIL & GAS OPERATIONS	WISE HOMESTEAD	WISE HOMESTEAD
T	0.20 AC.	OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
U	0.32 AC.	OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
V	0.18 AC.	PIPELINE & ACCESS / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
W	0.20 AC.	PIPELINE & ACCESS / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
X	0.43 AC.	PIPELINE & ACCESS / OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
Y	0.26 AC.	OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA
Z	0.33 AC.	OPEN SPACE	METRO DIST/HOA	METRO DIST/HOA

NOTES: (CONT'D)

3. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY CVL CONSULTANTS OF COLORADO, INC. TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. FOR ALL INFORMATION REGARDING EASEMENTS, RIGHTS–OF–WAY, AND TITLE OF RECORD, CVL CONSULTANTS OF COLORADO, INC. RELIED UPON LAND TITLE GUARANTEE COMPANY COMMITMENT NUMBER ABD70339758.1–2 EFFECTIVE DATE: OCTOBER 28, 2013 AT 5:00 P.M. AS TO THE NORTH PARCEL AND LAND TITLE GUARANTEE COMPANY COMMITMENT NUMBER ABD70339758.2–5 EFFECTIVE DATE: APRIL 08, 2014 AT 5:00 P.M. AS TO THE SOUTH PARCEL.

4. ACCORDING TO COLORADO LAW YOU **MUST** COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

5. THE LINEAL UNIT USED IN THE PREPARATION OF THIS PLAT IS THE U.S. SURVEY FOOT AS DEFINED BY THE UNITED STATES DEPARTMENT OF COMMERCE, NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.

6. THE FOLLOWING RECORDED EASEMENTS WILL BE VACATED BY SEPARATE DOCUMENT:
   BLANKET ACCESS EASEMENT, RECORDED UNDER REC. NO. 707261
   30' ELECTRIC AND ACCESS EASEMENT, RECORDED UNDER REC. NO. 1011773
   25' PIPELINE RIGHT–OF–WAY, RECORDED UNDER REC. NO. 1454161 & REC. NO 1454162
   50' PIPELINE RIGHT–OF–WAY, RECORDED UNDER REC. NO. 707261 & REC 707266

7. EXISTING ACCESS FROM JASPER ROAD TO LOT 1, BLOCK 17 SHALL REMAIN.

8. THE UNITED STATES EASEMENTS ARE RESTRICTED AREAS AND ALL CONSTRUCTION ACTIVITIES WITHIN SAID EASEMENTS SHOULD BE COORDINATED WITH WESTERN AREA POWER ADMINISTRATION, P.O. BOX 3700, LOVELAND, COLORADO, 80539–3003. (970–461–7200). NO BUILDINGS, STRUCTURES, OR TREES ARE ALLOWED WITHIN THE EASEMENT, ONLY LOW GROWING PLANTS NOT EXCEEDING 10 FEET IN MAXIMUM MATURE HEIGHT. NO FENCES SHALL BE CONSTRUCTED WITHIN OR ACROSS THE EASEMENT WITHOUT WRITTEN APPROVAL BY WESTERN AREA POWER ADMINISTRATION. EXCAVATION IS NOT PERMITTED WITHIN 50 FEET OF ANY TRANSMISSION LINE STRUCTURE. THE EASEMENT WIDTH IS 75 FEET, 37.5 FEET EACH SIDE OF THE CENTERLINE.

9. NON–EXCLUSIVE BLANKET EASEMENTS ARE HEREBY DEDICATED THROUGH ALL OF TRACTS V, W, AND X FOR OIL AND GAS PIPELINE USES.

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

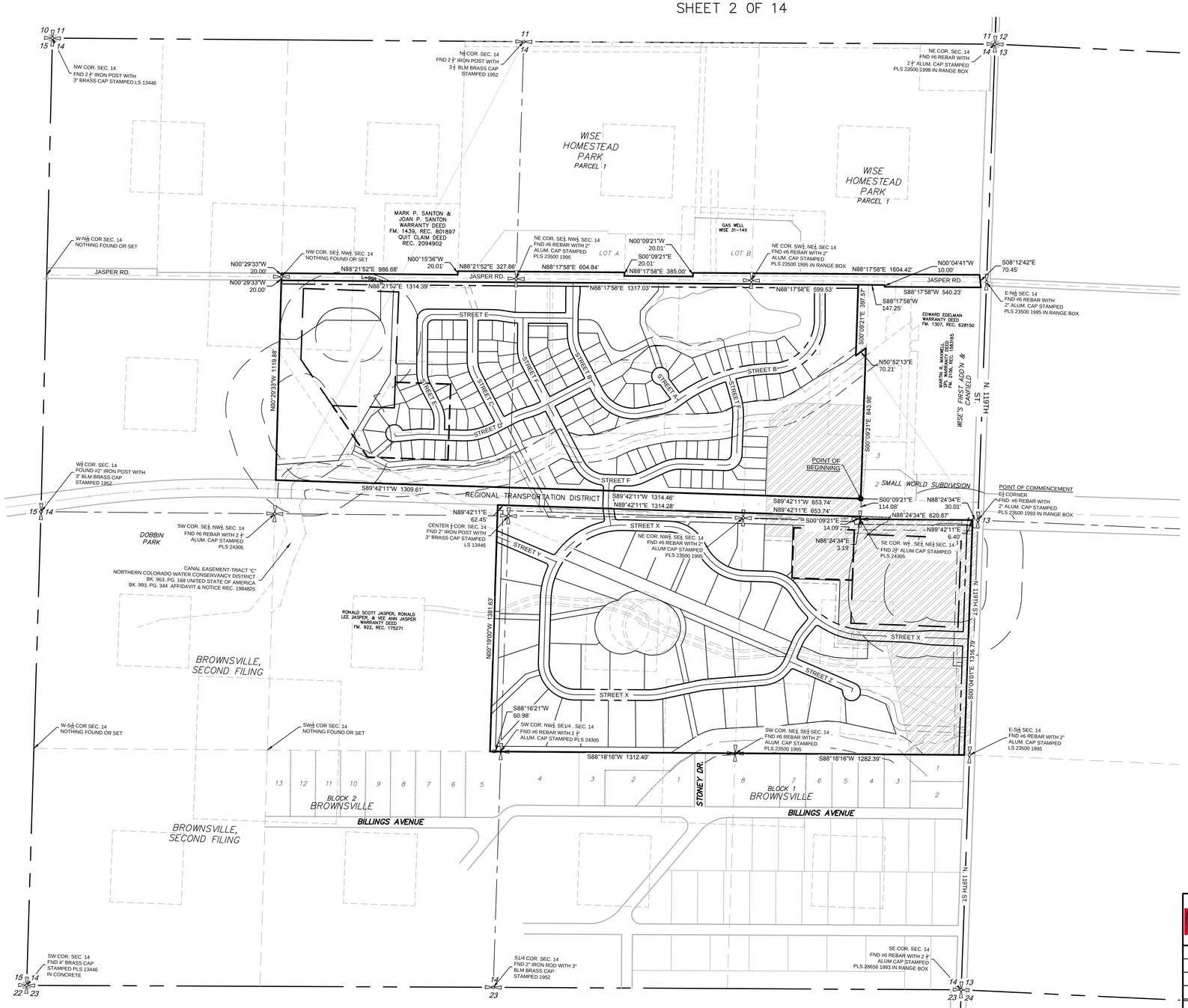
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

No.	Revisions	Date	Init.	Appr.	Date

SCALE: AS NOTED
FILE NO:
DRAWN BY: BDL/JLR/MJP
CHECKED BY: WFH
DATE: 12/29/2014
SHEET NO: 1 OF 14

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012
SHEET 2 OF 14



CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

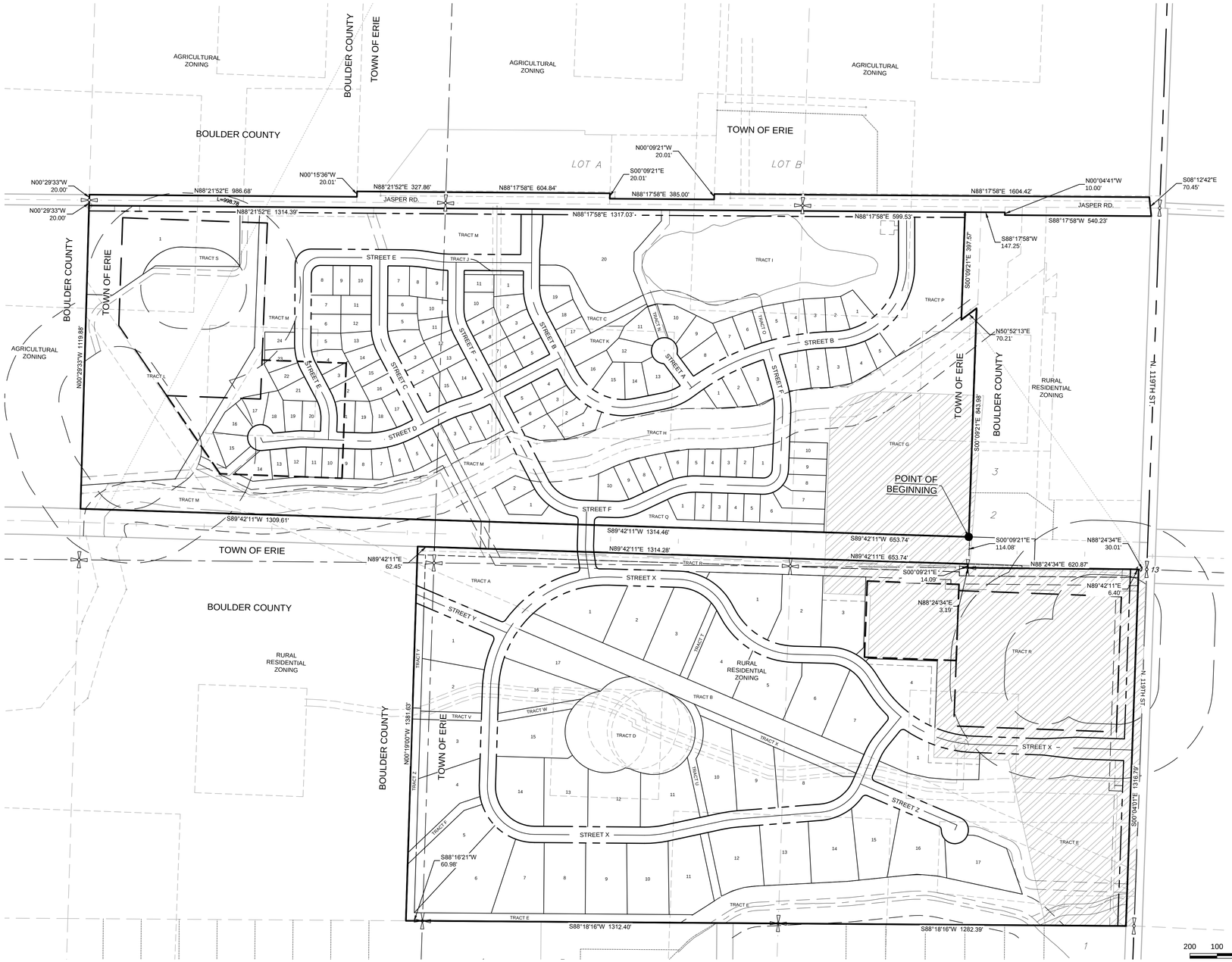
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

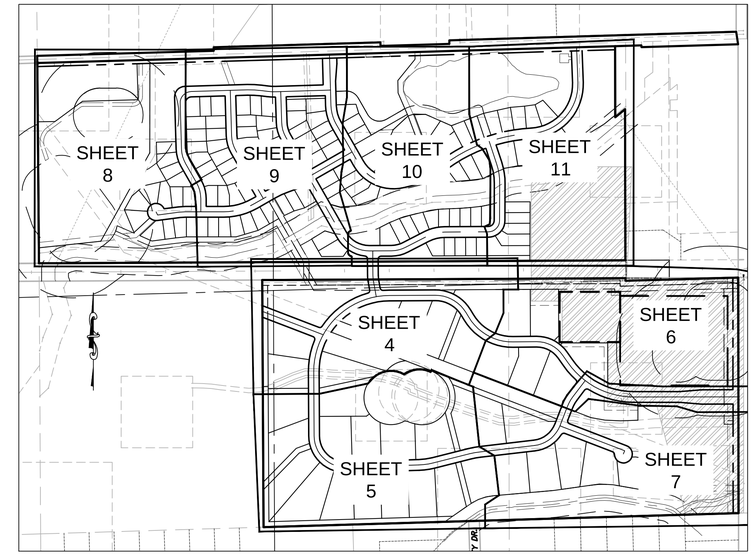
No.	Revisions	Date	Init.	Appr.	Date

SCALE: AS NOTED	DRAWN BY: BDL/JLR/MJP	SHEET NO: 2 of 14
FILE NO:	CHECKED BY: WFH	
	DATE: 12/29/2014	

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012





SHEET LAYOUT
SCALE 1" = 400'

200 100 0 200 400

SCALE: 1" = 200'

LOW RISK SUBSIDENCE AREA

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

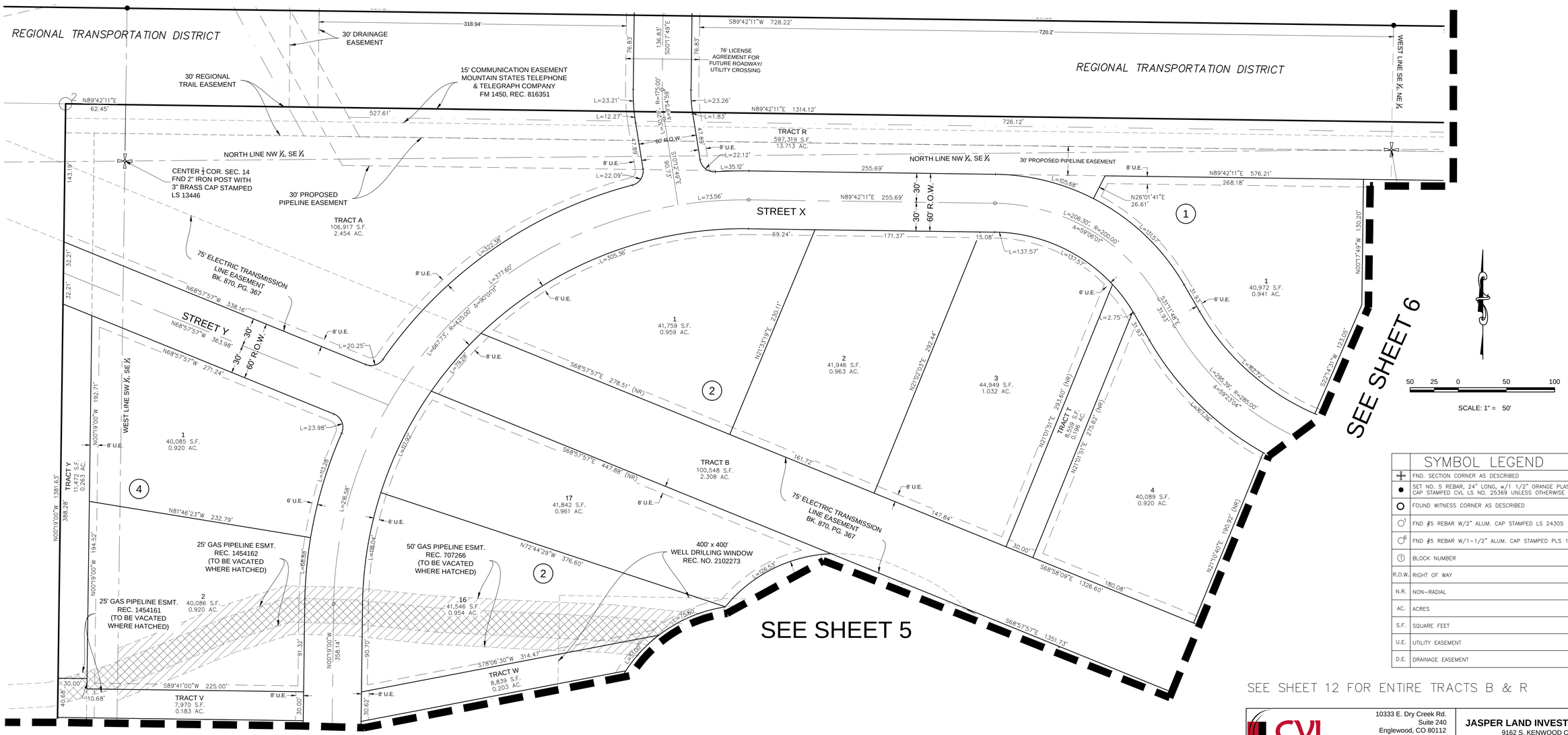
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

No.	Revisions	Date	Init.	Appr.	Date

SCALE: AS NOTED	DRAWN BY: BDL/JLR/MJP	SHEET NO: 3 of 14
FILE NO:	CHECKED BY: WFH	
	DATE: 12/29/2014	

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012
SHEET 4 OF 14



SYMBOL LEGEND

	FND. SECTION CORNER AS DESCRIBED
●	SET NO. 5 REBAR, 24" LONG, w/1 1/2" ORANGE PLASTIC CAP STAMPED CVL LS NO. 25369 UNLESS OTHERWISE NOTED
O	FOUND WITNESS CORNER AS DESCRIBED
	FND #5 REBAR W/2" ALUM. CAP STAMPED LS 24305
	FND #5 REBAR W/1–1/2" ALUM. CAP STAMPED PLS 13466
1	BLOCK NUMBER
R.O.W.	RIGHT OF WAY
N.R.	NON–RADIAL
AC.	ACRES
S.F.	SQUARE FEET
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT

SEE SHEET 12 FOR ENTIRE TRACTS B & R

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

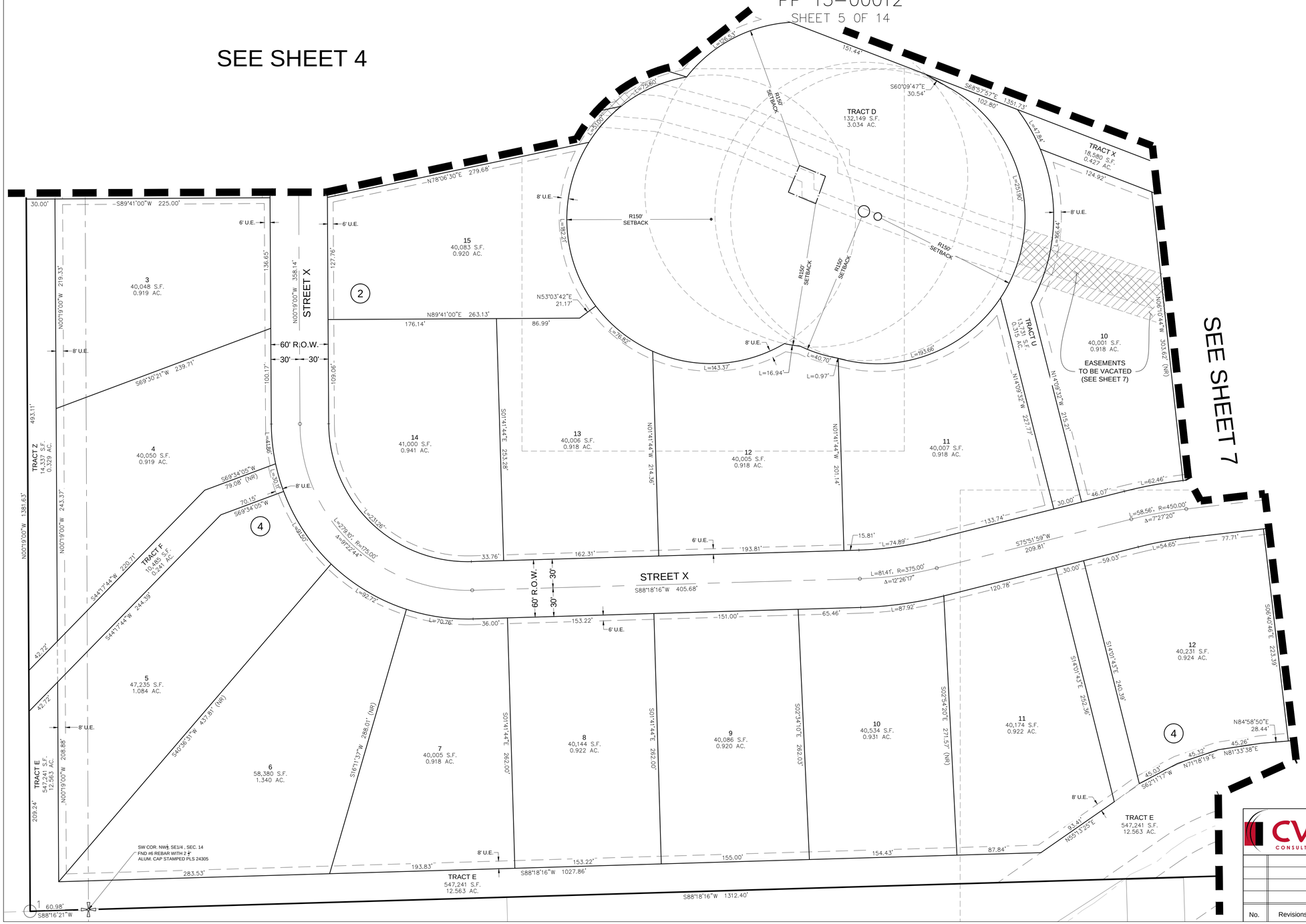
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

No.	Revisions	Date	Init.	Appr.	Date

SCALE: AS NOTED	DRAWN BY: BDL/JLR/MJP	SHEET NO: 4 OF 14
FILE NO:	CHECKED BY: WFH	
	DATE: 12/29/2014	

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012
SHEET 5 OF 14



50 25 0 50 100

SCALE: 1" = 50'

SYMBOL LEGEND	
✢	FND. SECTION CORNER AS DESCRIBED
●	SET NO. 5 REBAR, 24" LONG, w/1 1/2" ORANGE PLASTIC CAP STAMPED CVL LS NO. 25369 UNLESS OTHERWISE NOTED
O	FOUND WITNESS CORNER AS DESCRIBED
O¹	FND #5 REBAR W/2" ALUM. CAP STAMPED LS 24305
O⁶	FND #5 REBAR W/1–1/2" ALUM. CAP STAMPED PLS 13466
①	BLOCK NUMBER
R.O.W.	RIGHT OF WAY
N.R.	NON–RADIAL
AC.	ACRES
S.F.	SQUARE FEET
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT

SEE SHEET 12 FOR ENTIRE TRACTS E & X

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

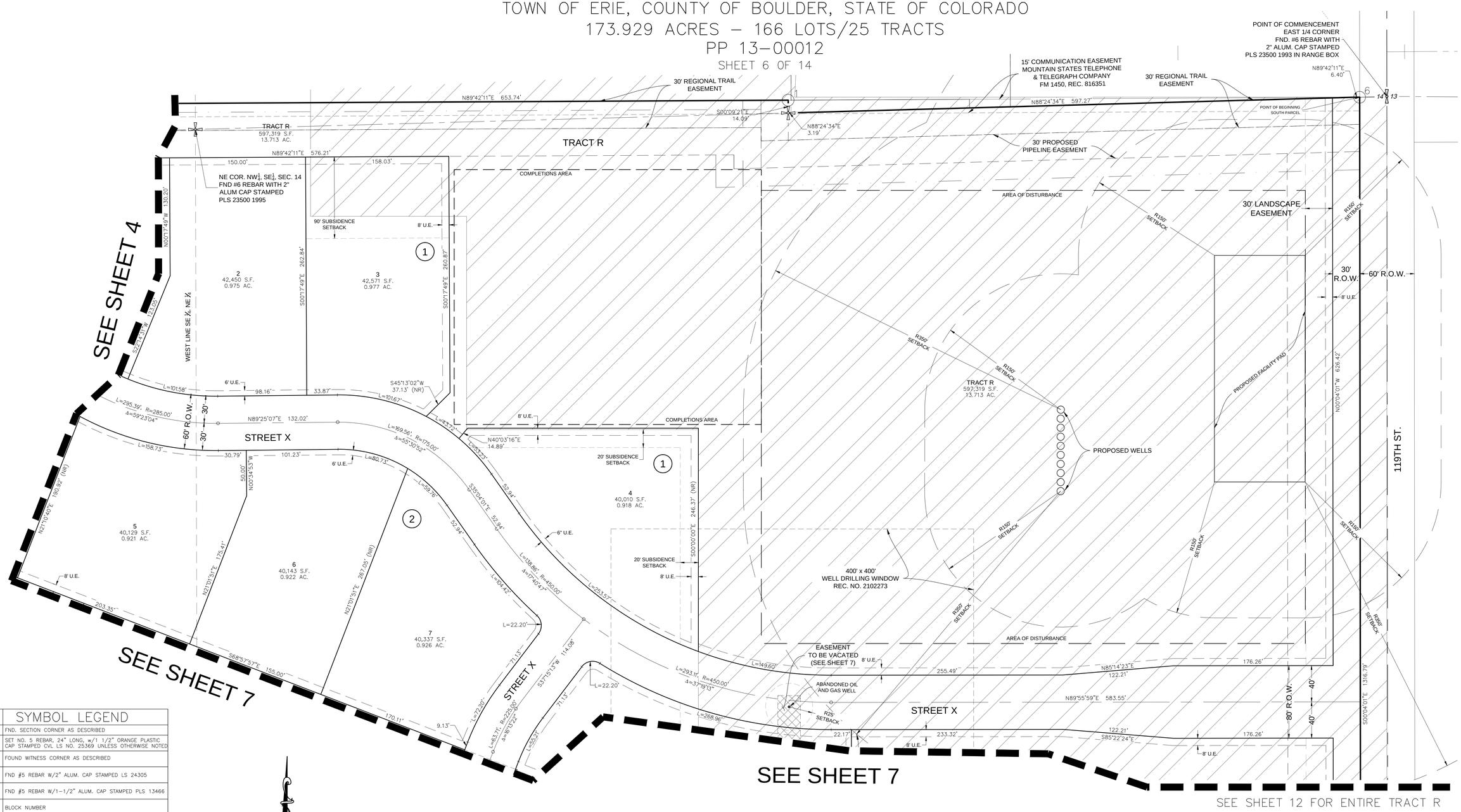
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

No.	Revisions	Date	Init.	Appr.	Date

SCALE: AS NOTED	DRAWN BY: BDL/JLR/MJP	SHEET NO: 5 OF 14
FILE NO:	CHECKED BY: WFH	
	DATE: 12/29/2014	

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012



SYMBOL LEGEND

	FND. SECTION CORNER AS DESCRIBED
●	SET NO. 5 REBAR, 24" LONG, w/1 1/2" ORANGE PLASTIC CAP STAMPED CVL LS NO. 25369 UNLESS OTHERWISE NOTED
○	FOUND WITNESS CORNER AS DESCRIBED
○7	FND #5 REBAR W/2" ALUM. CAP STAMPED LS 24305
○6	FND #5 REBAR W/1-1/2" ALUM. CAP STAMPED PLS 13466
1	BLOCK NUMBER
R.O.W.	RIGHT OF WAY
N.R.	NON-RADIAL
AC.	ACRES
S.F.	SQUARE FEET
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT

50 25 0 50 100

SCALE: 1" = 50'

LOW RISK SUBSIDENCE AREA

NOTES:
1. ALLOWABLE BUILDING AREAS FOR LOTS 3 & 4, BLOCK 1 HAVE BEEN ESTABLISHED WITH REGARD TO UNDERMINING IN CONSIDERATION OF CTL/THOMPSON "SUPPLEMENTAL MINE SUBSIDENCE RISK INVESTIGATION" LETTER DATED 10/25/2013. IN SOME CASES, MINIMUM ALLOWABLE SETBACKS PER ZONING REQUIREMENTS MIGHT DICTATE.

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

No.	Revisions	Date	Init.	Appr.	Date

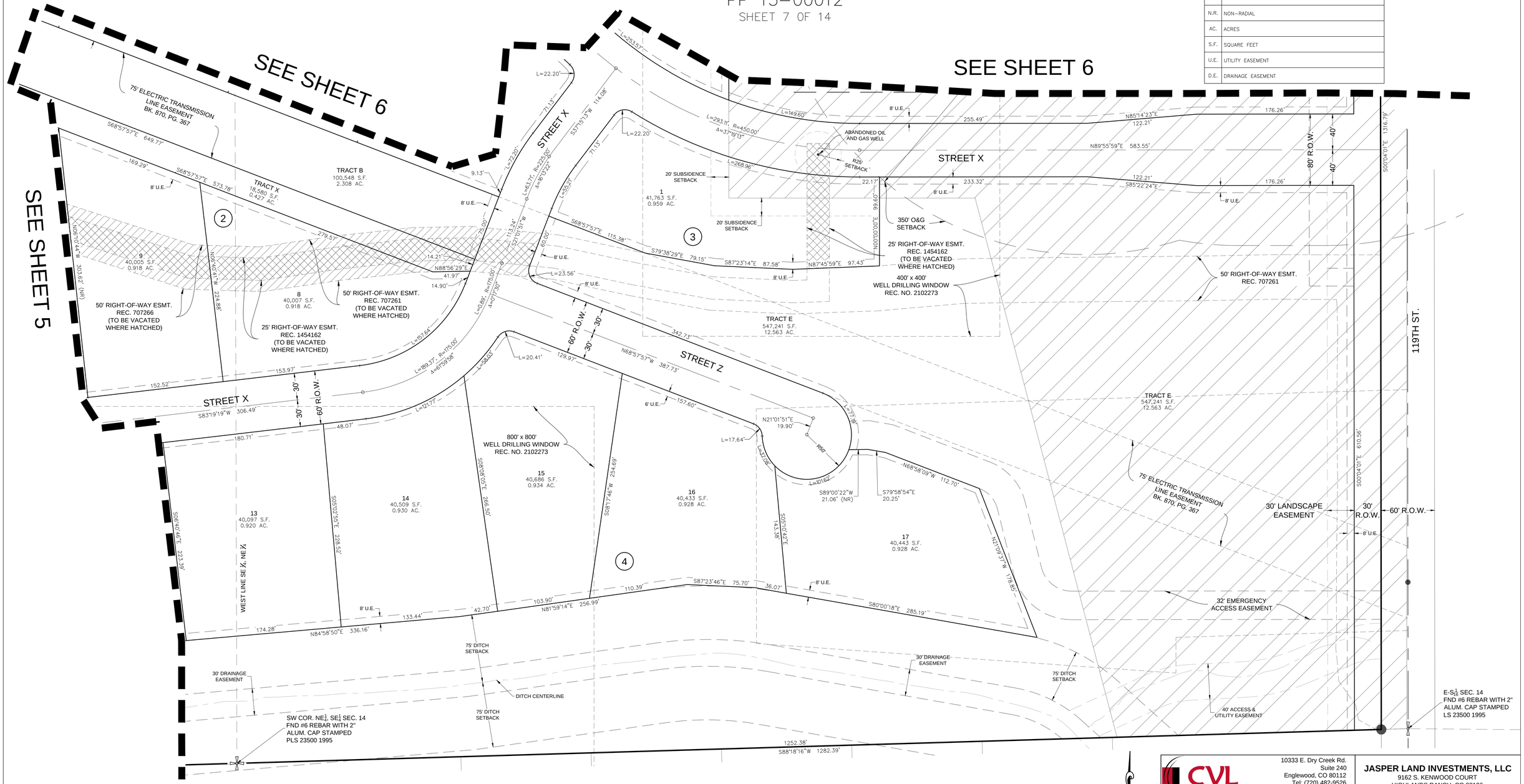
SCALE: AS NOTED	DRAWN BY: BDL/JLR/MJP	SHEET NO: 6 OF 14
FILE NO:	CHECKED BY: WFH	
	DATE: 12/29/2014	

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012
SHEET 7 OF 14

NOTES:
1. ALLOWABLE BUILDING AREA FOR LOT 1, BLOCK 3 HAS BEEN ESTABLISHED WITH REGARD TO UNDERMINING IN CONSIDERATION OF CTL/THOMPSON "SUPPLEMENTAL MINE SUBSIDENCE RISK INVESTIGATION" LETTER DATED 10/25/2013. IN SOME CASES, MINIMUM ALLOWABLE SETBACKS PER ZONING REQUIREMENTS MIGHT DICTATE.

SYMBOL LEGEND	
	FND. SECTION CORNER AS DESCRIBED
●	SET NO. 5 REBAR, 24" LONG, w/1 1/2" ORANGE PLASTIC CAP STAMPED CVL LS NO. 25369 UNLESS OTHERWISE NOTED
O	FOUND WITNESS CORNER AS DESCRIBED
O1	FND #5 REBAR W/2" ALUM. CAP STAMPED LS 24305
O6	FND #5 REBAR W/1-1/2" ALUM. CAP STAMPED PLS 13466
1	BLOCK NUMBER
R.O.W.	RIGHT OF WAY
N.R.	NON-RADIAL
AC.	ACRES
S.F.	SQUARE FEET
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT



SEE SHEET 12 FOR ENTIRE TRACTS B, E, & X

LOW RISK SUBSIDENCE AREA

50 25 0 50 100
SCALE: 1" = 50'

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

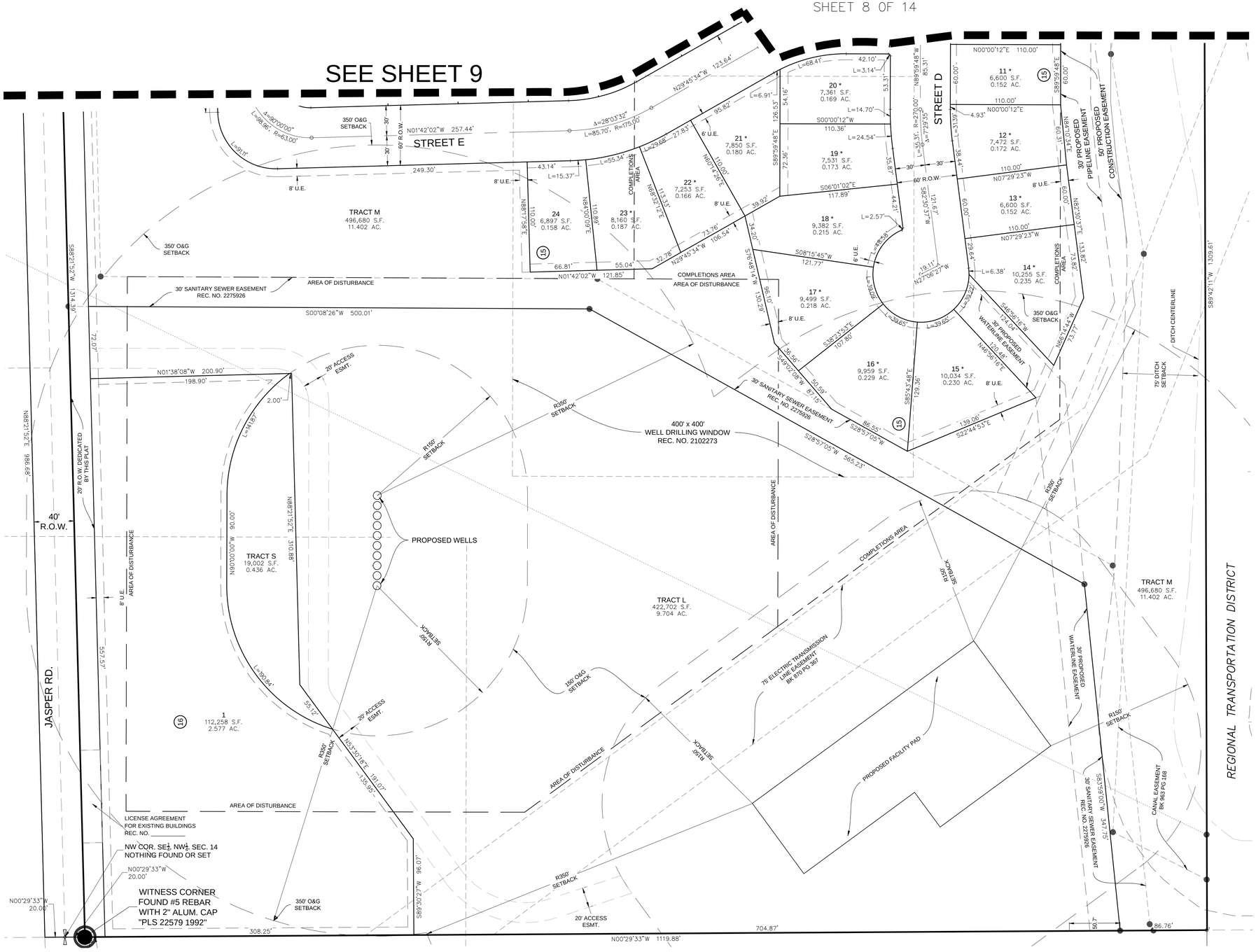
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

No.	Revisions	Date	Init.	Appr.	Date

SCALE:	AS NOTED
DRAWN BY:	BDL/JLR/MJP
CHECKED BY:	WFH
FILE NO:	
DATE:	12/29/2014
SHEET NO:	7 OF 14

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012



NOTES:

1. LOTS DENOTED WITH "*" ARE RESTRICTED LOTS. NO TEMPORARY OR PERMANENT BUILDINGS, STRUCTURES, OR OTHER IMPROVEMENTS SHALL BE LOCATED, CONSTRUCTED OR INSTALLED WITHIN THE OIL AND GAS OPERATIONS AREAS UNTIL AFTER CONSTRUCTION OF ALL PERMANENT FACILITIES.

SYMBOL LEGEND

	FND. SECTION CORNER AS DESCRIBED
●	SET NO. 5 REBAR, 24" LONG, w/1 1/2" ORANGE PLASTIC CAP STAMPED CVL LS NO. 25369 UNLESS OTHERWISE NOTED
○	FOUND WITNESS CORNER AS DESCRIBED
○1	FND #5 REBAR W/2" ALUM. CAP STAMPED LS 24305
○6	FND #5 REBAR W/1–1/2" ALUM. CAP STAMPED PLS 13466
1	BLOCK NUMBER
R.O.W.	RIGHT OF WAY
N.R.	NON–RADIAL
AC.	ACRES
S.F.	SQUARE FEET
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT

50 25 0 50 100

SCALE: 1" = 50'

SEE SHEET 13 FOR ENTIRE TRACT M

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

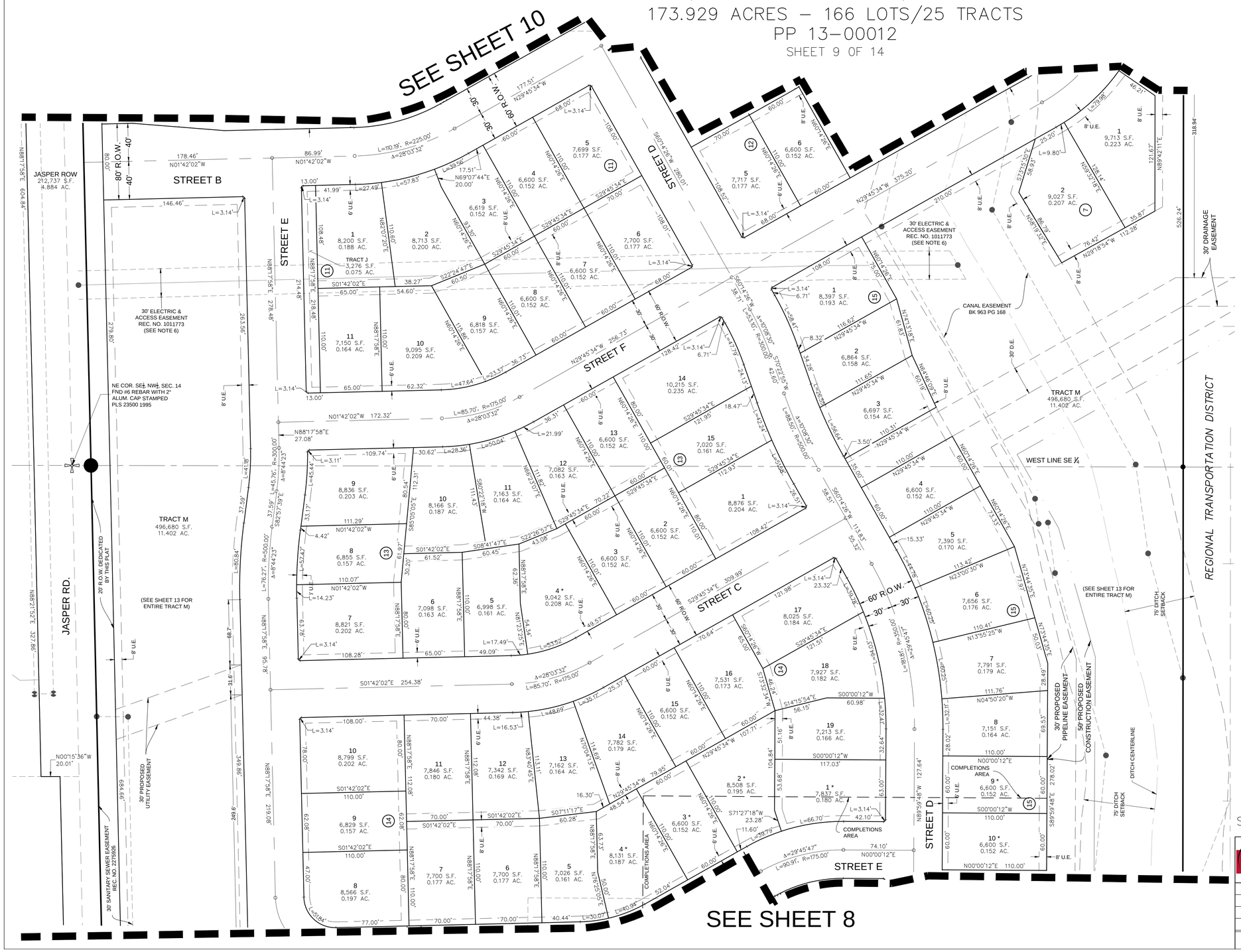
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

No.	Revisions	Date	Init.	Appr.	Date

SCALE: AS NOTED
FILE NO:
DRAWN BY: BDL/JLR/MJP
CHECKED BY: WFH
DATE: 12/29/2014
SHEET NO: 8 OF 14

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012



NOTES:

1. LOTS DENOTED WITH "*" ARE RESTRICTED LOTS. NO TEMPORARY OR PERMANENT BUILDINGS, STRUCTURES, OR OTHER IMPROVEMENTS SHALL BE LOCATED, CONSTRUCTED OR INSTALLED WITHIN THE OIL AND GAS OPERATIONS AREAS UNTIL AFTER CONSTRUCTION OF ALL PERMANENT O&G FACILITIES.

SYMBOL LEGEND

	FND. SECTION CORNER AS DESCRIBED
●	SET NO. 5 REBAR, 24" LONG, w/1 1/2" ORANGE PLASTIC CAP STAMPED CVL LS NO. 25369 UNLESS OTHERWISE NOTED
○	FOUND WITNESS CORNER AS DESCRIBED
○1	FND #5 REBAR W/2" ALUM. CAP STAMPED LS 24305
○6	FND #5 REBAR W/1–1/2" ALUM. CAP STAMPED PLS 13466
1	BLOCK NUMBER
R.O.W.	RIGHT OF WAY
N.R.	NON–RADIAL
AC.	ACRES
S.F.	SQUARE FEET
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT

50 25 0 50 100

SCALE: 1" = 50'

SEE SHEET 13 FOR ENTIRE TRACT M AND JASPER R.O.W.

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

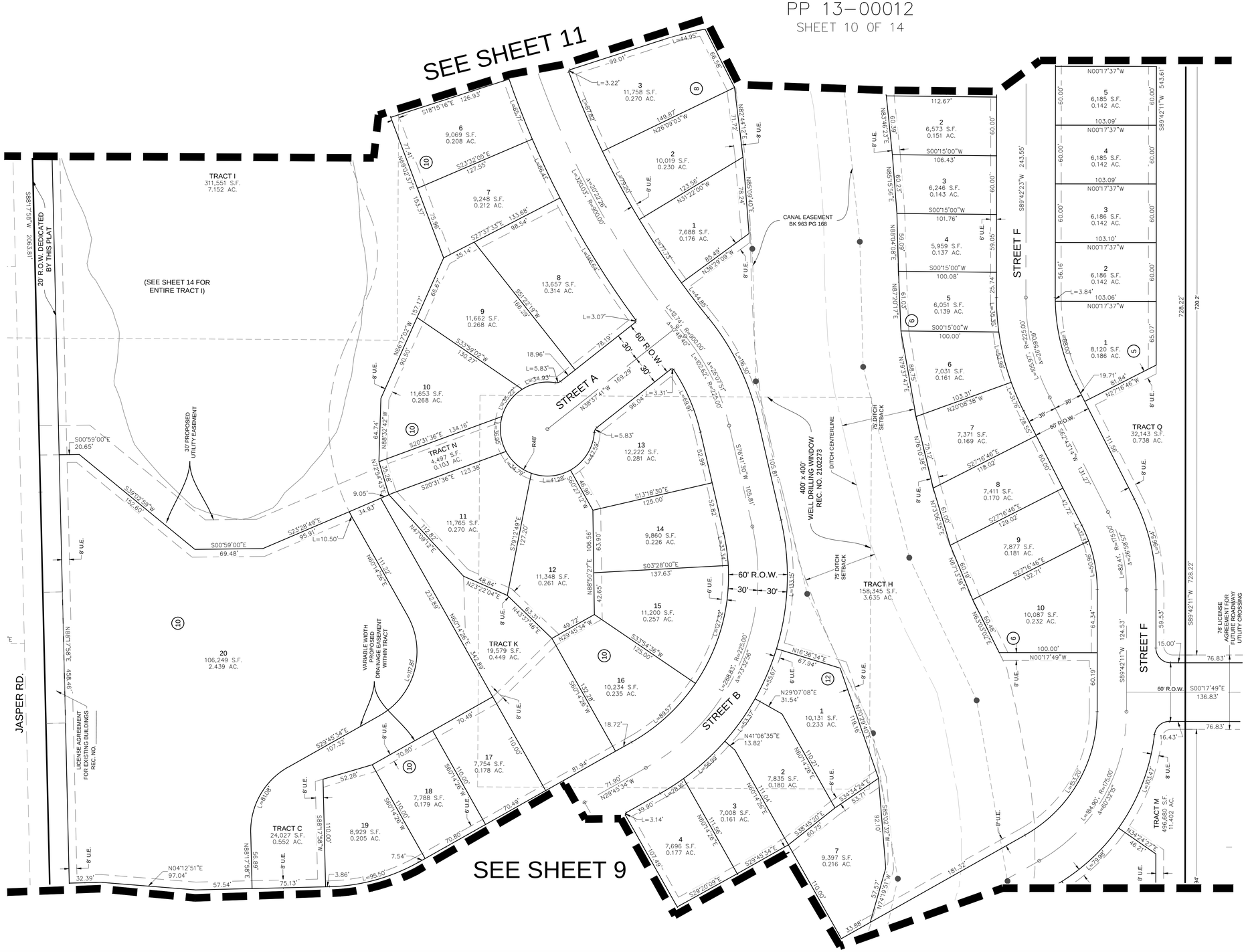
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

No.	Revisions	Date	Init.	Appr.	Date

SCALE: AS NOTED	DRAWN BY: BDL/JLR/MJP	SHEET NO: 9 OF 14
FILE NO:	CHECKED BY: WFH	
	DATE: 12/29/2014	

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012



SYMBOL LEGEND

✛	FND. SECTION CORNER AS DESCRIBED
●	SET NO. 5 REBAR, 24" LONG, w/1 1/2" ORANGE PLASTIC CAP STAMPED CVL LS NO. 25369 UNLESS OTHERWISE NOTED
○	FOUND WITNESS CORNER AS DESCRIBED
○[1]	FND #5 REBAR W/2" ALUM. CAP STAMPED LS 24305
○[6]	FND #5 REBAR W/1–1/2" ALUM. CAP STAMPED PLS 13466
(1)	BLOCK NUMBER
R.O.W.	RIGHT OF WAY
N.R.	NON–RADIAL
AC.	ACRES
S.F.	SQUARE FEET
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT

50 25 0 50 100

SCALE: 1" = 50'

SEE SHEET 13 FOR ENTIRE TRACTS M, Q, & JASPER R.O.W.
SEE SHEET 14 FOR ENTIRE TRACTS H & I

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

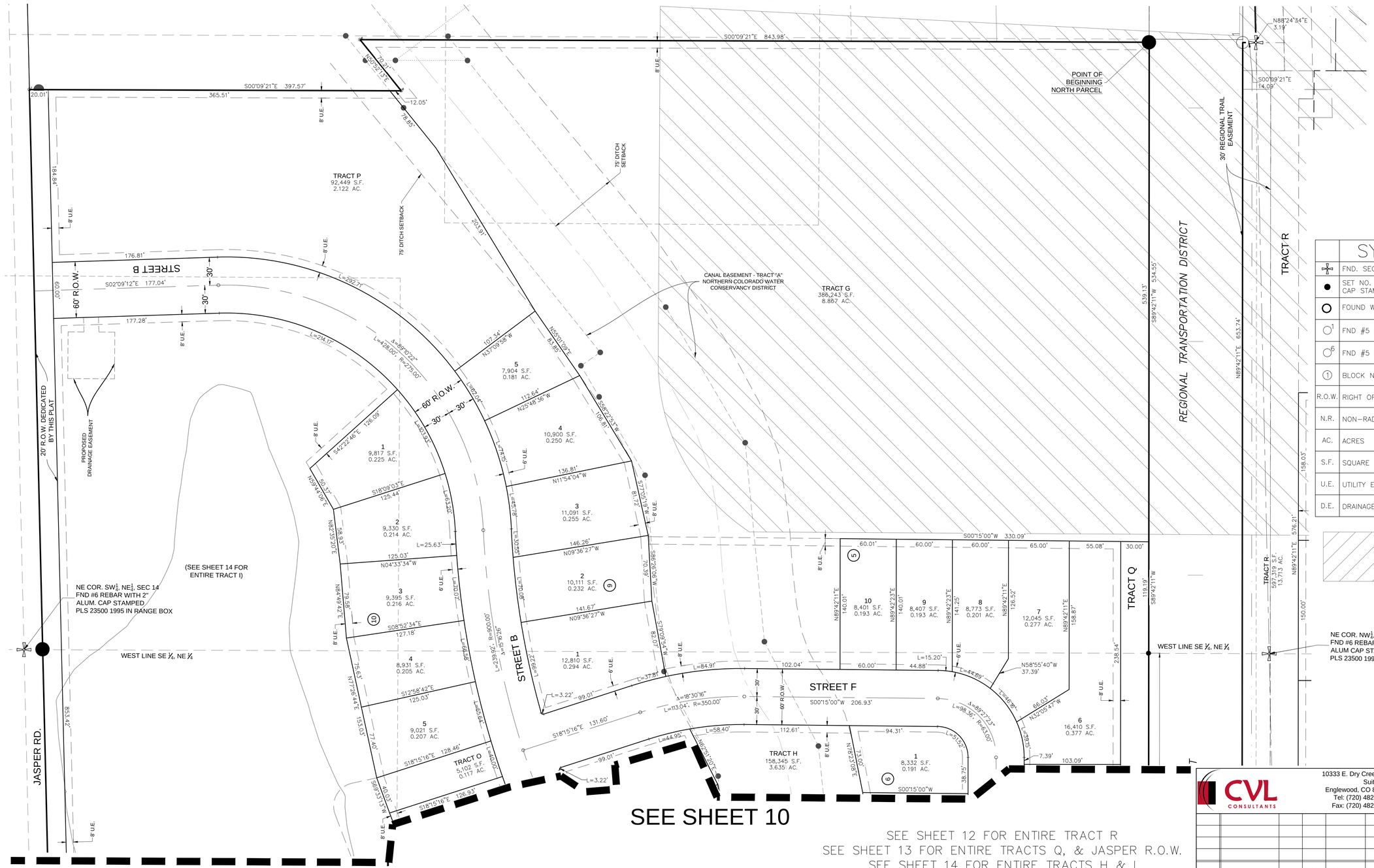
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

No.	Revisions	Date	Init.	Appr.	Date

SCALE: AS NOTED	DRAWN BY: BDL/JLR/MJP	SHEET NO: 10 OF 14
FILE NO:	CHECKED BY: WFH	
	DATE: 12/29/2014	

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012



SYMBOL LEGEND

	FND. SECTION CORNER AS DESCRIBED
●	SET NO. 5 REBAR, 24" LONG, w/1 1/2" ORANGE PLASTIC CAP STAMPED CVL LS NO. 25369 UNLESS OTHERWISE NOTED
○	FOUND WITNESS CORNER AS DESCRIBED
○1	FND #5 REBAR W/2" ALUM. CAP STAMPED LS 24305
○6	FND #5 REBAR W/1-1/2" ALUM. CAP STAMPED PLS 13466
(1)	BLOCK NUMBER
R.O.W.	RIGHT OF WAY
N.R.	NON-RADIAL
AC.	ACRES
S.F.	SQUARE FEET
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT

LOW RISK SUBSIDENCE AREA

NE COR. NW¼, SE¼, SEC. 14
FND #6 REBAR WITH 2" ALUM CAP STAMPED PLS 23500 1995

50 25 0 50 100

SCALE: 1" = 50'

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

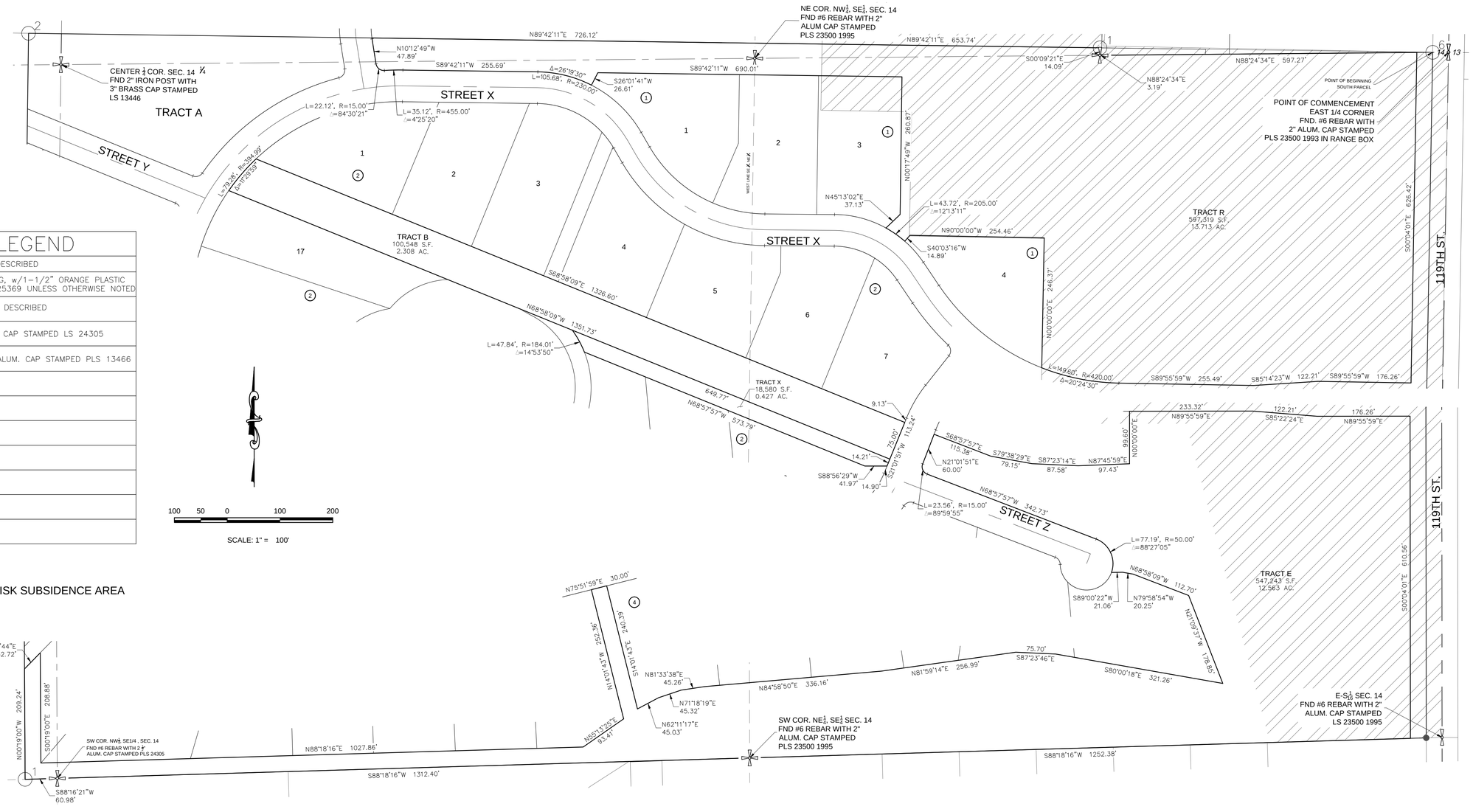
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

No.	Revisions	Date	Init.	Appr.	Date

SCALE: AS NOTED	DRAWN BY: BDL/JLR/MJP	SHEET NO: 11 OF 14
FILE NO:	CHECKED BY: WFH	
	DATE: 12/29/2014	

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012



SYMBOL LEGEND

	FND. SECTION CORNER AS DESCRIBED
●	SET NO. 6 REBAR, 30" LONG, w/1–1/2" ORANGE PLASTIC CAP STAMPED CVL LS NO. 25369 UNLESS OTHERWISE NOTED
○	FOUND WITNESS CORNER AS DESCRIBED
○1	FND #5 REBAR W/2" ALUM. CAP STAMPED LS 24305
○6	FND #5 REBAR W/1–1/2" ALUM. CAP STAMPED PLS 13466
(1)	BLOCK NUMBER
R.O.W.	RIGHT OF WAY
N.R.	NON–RADIAL
AC.	ACRES
S.F.	SQUARE FEET
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT

LOW RISK SUBSIDENCE AREA

DETAIL TRACTS B, R, E, & X

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

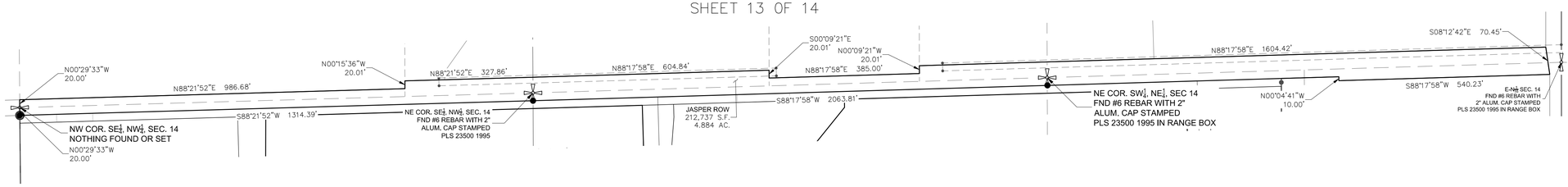
No.	Revisions	Date	Init.	Appr.	Date

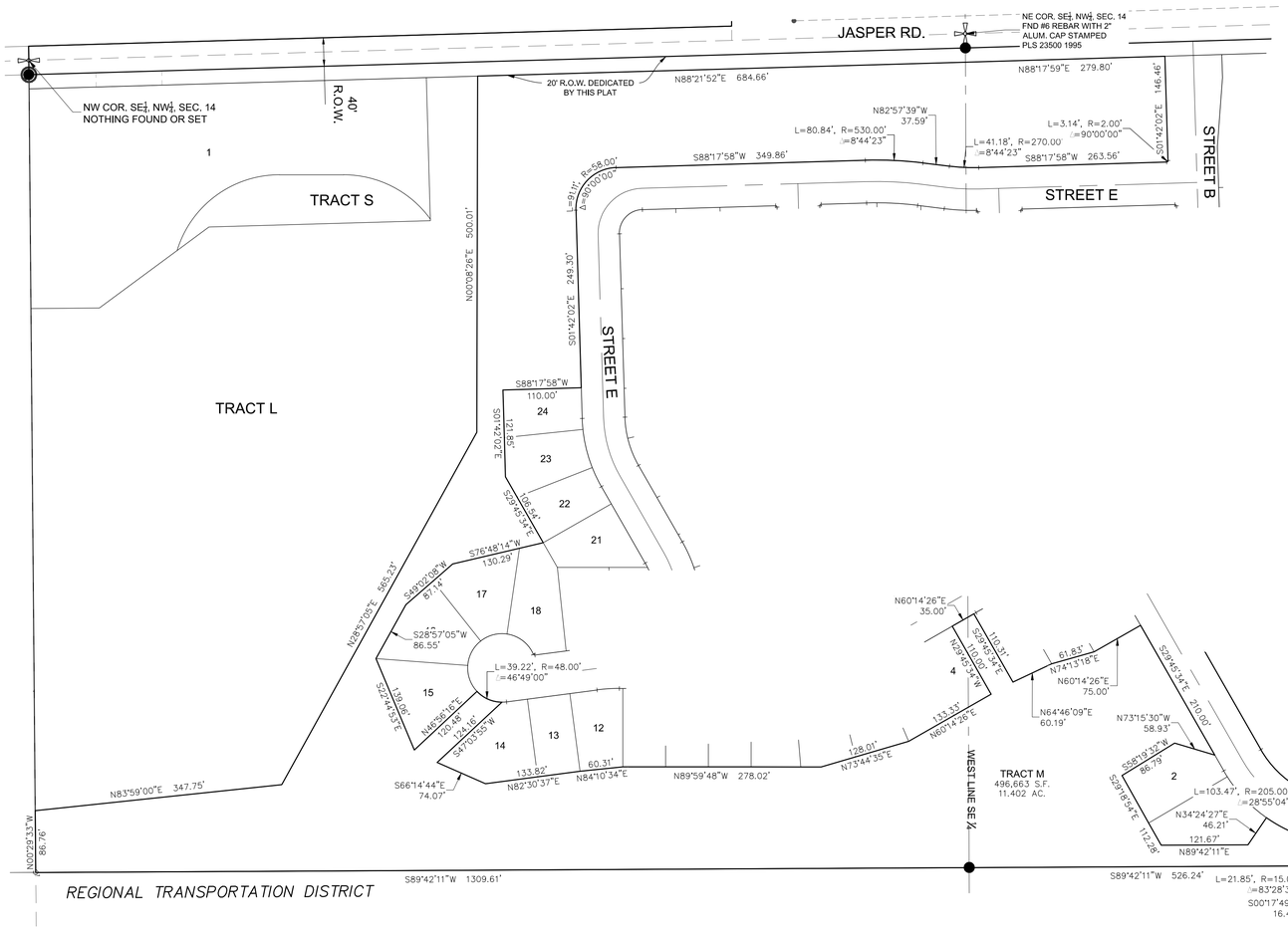
SCALE: AS NOTED
FILE NO:
DRAWN BY: BDL/JLR/MJP
CHECKED BY: WFH
DATE: 12/29/2014
SHEET NO: 12 OF 14

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012

150 75 0 150 300
SCALE: 1" = 150'





SYMBOL LEGEND	
✠	FND. SECTION CORNER AS DESCRIBED
●	SET NO. 6 REBAR, 30" LONG, w/1–1/2" ORANGE PLASTIC CAP STAMPED CVL LS NO. 25369 UNLESS OTHERWISE NOTED
O	FOUND WITNESS CORNER AS DESCRIBED
O¹	FND #5 REBAR W/2" ALUM. CAP STAMPED LS 24305
O⁶	FND #5 REBAR W/1–1/2" ALUM. CAP STAMPED PLS 13466
①	BLOCK NUMBER
R.O.W.	RIGHT OF WAY
N.R.	NON–RADIAL
AC.	ACRES
S.F.	SQUARE FEET
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT

100 50 0 100 200
SCALE: 1" = 100'

DETAIL TRACTS M, Q, & JASPER ROAD

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

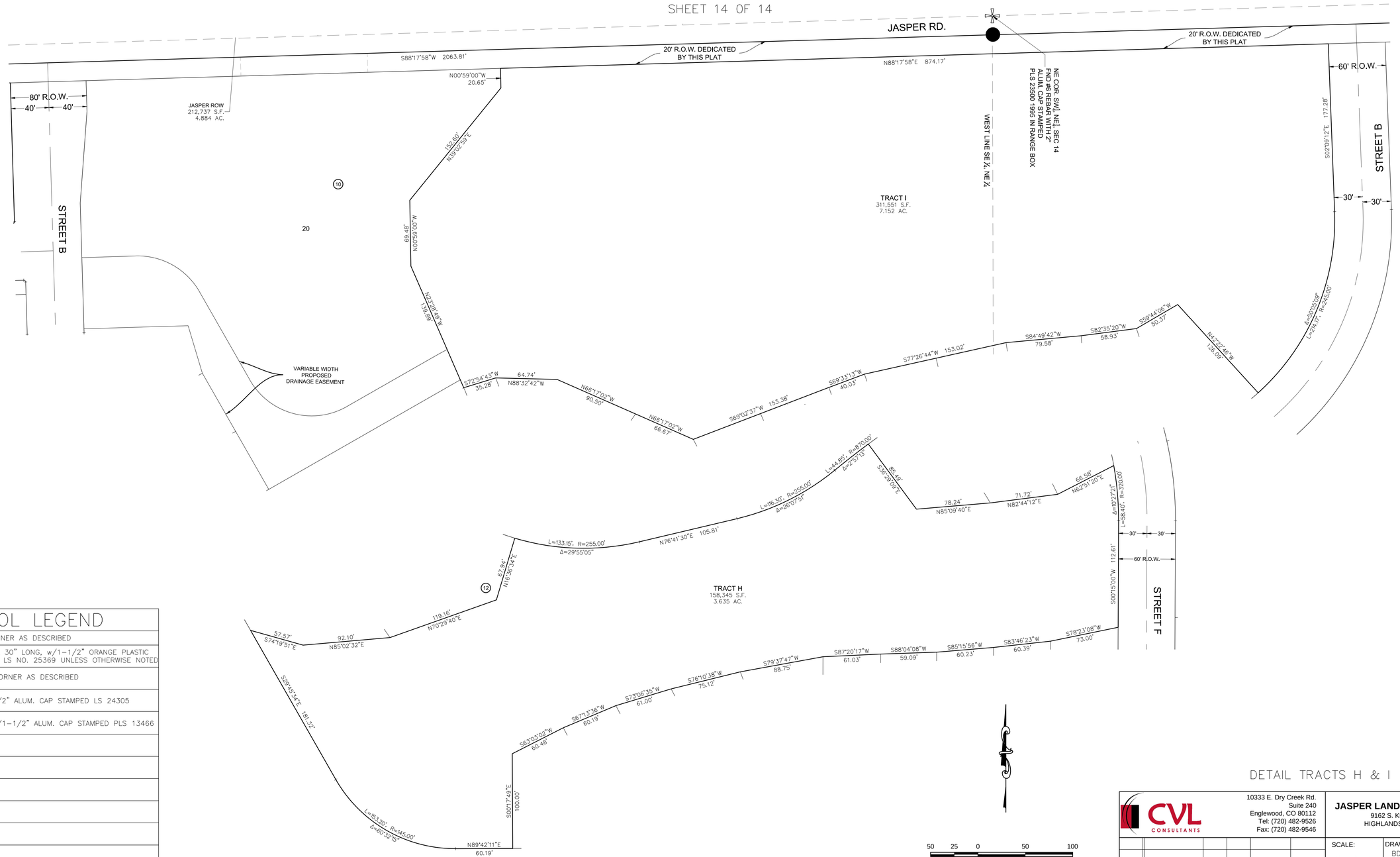
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

No.	Revisions	Date	Init.	Appr.	Date

SCALE: AS NOTED
FILE NO:
DRAWN BY: BDL/JLR/MJP
CHECKED BY: WFH
DATE: 12/29/2014
SHEET NO: 13 OF 14

WISE FARMS PRELIMINARY PLAT

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M.,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
173.929 ACRES – 166 LOTS/25 TRACTS
PP 13–00012



SYMBOL LEGEND

	FND. SECTION CORNER AS DESCRIBED
●	SET NO. 6 REBAR, 30" LONG, w/1–1/2" ORANGE PLASTIC CAP STAMPED CVL LS NO. 25369 UNLESS OTHERWISE NOTED
○	FOUND WITNESS CORNER AS DESCRIBED
○1	FND #5 REBAR W/2" ALUM. CAP STAMPED LS 24305
○6	FND #5 REBAR W/1–1/2" ALUM. CAP STAMPED PLS 13466
1	BLOCK NUMBER
R.O.W.	RIGHT OF WAY
N.R.	NON–RADIAL
AC.	ACRES
S.F.	SQUARE FEET
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT

DETAIL TRACTS H & I

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

No.	Revisions	Date	Init.	Appr.	Date

SCALE: AS NOTED	DRAWN BY: BDL/JLR/MJP	SHEET NO: 14 OF 14
FILE NO:	CHECKED BY: WFH	
	DATE: 12/29/2014	

WISE FARMS - PRELIMINARY DEVELOPMENT PLAN

A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6th P.M., TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO

PP-13-000012

LEGAL DESCRIPTION

A PARCEL OF LAND BEING A PART OF THE NORTH HALF OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
KNOW ALL PEOPLE BY THESE PRESENTS, THAT THE UNDERSIGNED WARRANT THAT THEY ARE OWNERS OF A PARCEL OF LAND BEING A PART OF THE NORTH HALF OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

NORTH PARCEL:

COMMENCING AT THE EAST QUARTER CORNER OF SAID SECTION 14, FROM WHICH THE EAST-SOUTH ONE SIXTEENTH CORNER OF SAID SECTION 14 BEARS SOUTH 00°04'01" EAST, A DISTANCE OF 1316.88 FEET SAID LINE FORMING THE BASIS OF BEARINGS WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;
THENCE SOUTH 88°24'34" WEST, ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 30.01 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF NORTH 119TH STREET;
THENCE CONTINUING SOUTH 88°24'34" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 627.28 FEET, TO THE SOUTHEAST CORNER OF THE WEST HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;
THENCE CONTINUING SOUTH 88°24'34" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 3.19 FEET;
THENCE NORTH 00°09'21" WEST, A DISTANCE OF 114.08 FEET TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY, SAID RIGHT-OF-WAY LINE BEING 50 FEET, BY PERPENDICULAR MEASUREMENT NORTHERLY OF THE CENTERLINE OF THE EXISTING TRACK, SAID POINT BEING THE POINT OF BEGINNING;
THENCE SOUTH 89°42'11" WEST ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 653.74 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;
THENCE CONTINUING SOUTH 89°42'11" WEST ALONG SAID NORTHERLY RIGHT-OF-WAY LINE , A DISTANCE OF 1314.46 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;
THENCE CONTINUING SOUTH 89°42'11" WEST ALONG SAID NORTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1309.61 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14;
THENCE NORTH 00°29'33" WEST ALONG SAID WEST LINE, A DISTANCE OF 1119.88 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF JASPER ROAD;
THENCE ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE THE FOLLOWING THREE (3) COURSES:
1. NORTH 88°21'52" EAST, A DISTANCE OF 1314.39 FEET;
2. NORTH 88°17'58" EAST, A DISTANCE OF 1317.03 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;
3. CONTINUING NORTH 88°17'58" EAST, A DISTANCE OF 599.53 FEET TO THE NORTHWESTERLY CORNER OF THAT TRACT OF LAND AS DESCRIBED ON SAID FILM 1555, AT RECEPTION NO. 953348;

THENCE SOUTH 00°09'21" EAST ALONG THE WESTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 397.57 FEET TO THE MOST SOUTHERLY CORNER THEREOF;
THENCE NORTH 50°52'13" EAST ALONG THE SOUTHEASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 70.21 FEET;
THENCE SOUTH 00°09'21" EAST, DISTANCE OF 843.98 FEET TO THE POINT OF BEGINNING,
SAID PARCEL CONTAINING A CALCULATED AREA OF 3,782,135 SQUARE FEET OR 86.826 ACRES, MORE OR LESS.

SOUTH PARCEL:

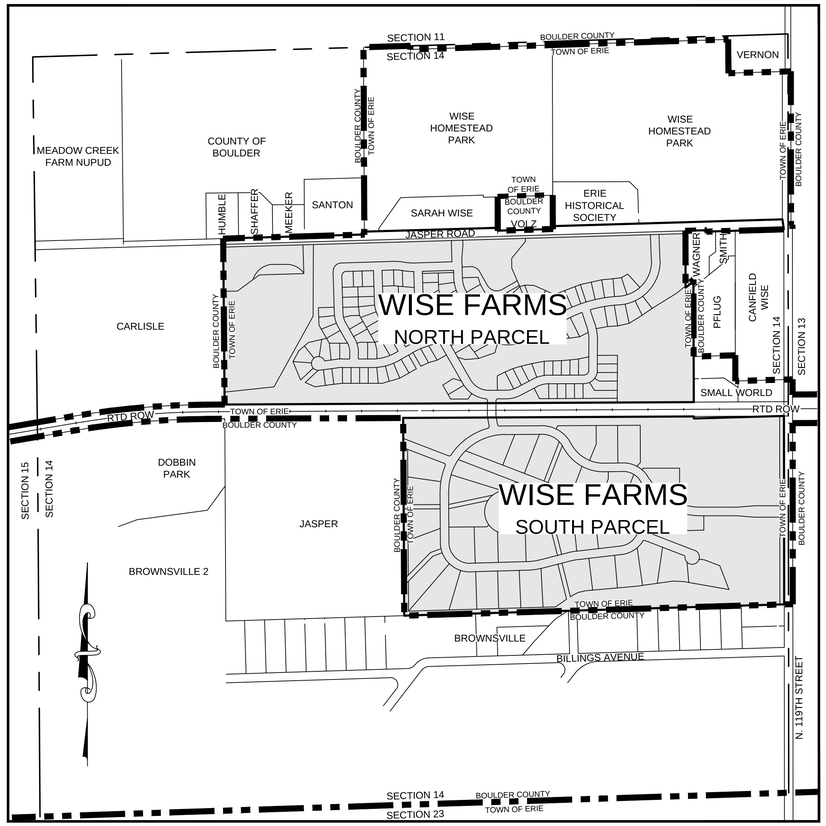
A PARCEL OF LAND BEING A PART OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCING AT THE EAST QUARTER CORNER OF SAID SECTION 14, FROM WHICH THE EAST-SOUTH ONE SIXTEENTH CORNER OF SAID SECTION 14 BEARS SOUTH 00°04'01" EAST, A DISTANCE OF 1316.88 FEET, SAID LINE FORMING THE BASIS OF BEARINGS WITH ALL BEARINGS CONTAINED HEREWITH BEING RELATIVE THERETO;
THENCE SOUTH 88°24'34" WEST, A DISTANCE OF 30.01 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE TO NORTH 119TH STREET;
THENCE SOUTH 00°04'01" EAST, ALONG SAID WESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 0.14 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY, SAID RIGHT-OF-WAY LINE BEING 50 FEET, BY PERPENDICULAR MEASUREMENT, SOUTHERLY OF THE EXISTING TRACK, SAID POINT BEING THE POINT OF BEGINNING;
THENCE CONTINUING SOUTH 00°04'01" EAST ALONG SAID WESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1316.79 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;
THENCE SOUTH 88°18'16" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 1282.39 FEET TO THE SOUTHWEST CORNER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;
THENCE CONTINUING SOUTH 88°18'16" WEST ALONG THE SOUTH LINE OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14, A DISTANCE OF 1312.40 FEET TO THE SOUTHWEST CORNER OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14;
THENCE SOUTH 88°16'21" WEST ALONG THE SOUTH LINE OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 14, A DISTANCE OF 60.98 FEET TO THE SOUTHEASTERLY CORNER OF THAT TRACT OF LAND CONVEYED TO RONALD SCOTT JASPER, RONALD LEE JASPER AND VEE ANN JASPER AS DESCRIBED IN WARRANTY DEED RECORDED MAY 3, 1976, ON FILM 922 AS RECEPTION NO. 175271, OF THE RECORDS OF BOULDER COUNTY, COLORADO;
THENCE NORTH 00°19'00" WEST ALONG THE EASTERLY LINE OF SAID TRACT OF LAND, A DISTANCE OF 1381.63 FEET TO THE SOUTHERLY RIGHT-OF-WAY LINE OF THE PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY, SAID RIGHT-OF-WAY BEING 50 FEET, BY PERPENDICULAR MEASUREMENT, SOUTHERLY OF THE EXISTING TRACK;
THENCE NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 62.45 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;
THENCE CONTINUING NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1314.28 FEET TO A POINT ON THE WEST LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;
THENCE CONTINUING NORTH 89°42'11" EAST ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, A DISTANCE OF 653.74 FEET;
THENCE SOUTH 00°09'21" EAST, A DISTANCE OF 14.09 FEET TO A POINT ON THE SOUTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 14;
THENCE NORTH 88°24'34" EAST ALONG SAID SOUTH LINE, A DISTANCE OF 3.19 FEET TO THE SOUTHEAST CORNER OF THE WEST HALF OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 14;
THENCE CONTINUING NORTH 88°24'34" EAST ALONG SAID SOUTH LINE, A DISTANCE OF 620.87 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE OF SAID PREVIOUS UNION PACIFIC RAILROAD RIGHT-OF-WAY;
THENCE NORTH 89°42'11" EAST, ALONG SAID SOUTHERLY RAILROAD RIGHT-OF-WAY LINE, A DISTANCE OF 6.40 FEET TO THE POINT OF BEGINNING,
SAID SOUTH PARCEL CONTAINING A CALCULATED ARE OF 3,581,472 SQUARE FEET OR 82.219 ACRES, MORE OR LESS.

JASPER ROAD RIGHT OF WAY PARCEL:

A PARCEL OF LAND BEING A PART OF THE NORTH HALF OF SECTION 14, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
BEGINNING AT THE NORTHWEST CORNER OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 14, AND ASSUMING THE EAST LINE OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 14 TO BEAR SOUTH 00°04'01" EAST, 1316.88 FEET WITH ALL BEARINGS CONTAINED HEREIN BEING RELATIVE THERETO;
THENCE NORTH 00°29'33" WEST, A DISTANCE OF 20.00 FEET TO A POINT ON THE NORTHERLY RIGHT OF WAY LINE OF JASPER ROAD;
THENCE ALONG SAID NORTHERLY RIGHT OF WAY LINE THE FOLLOWING EIGHT (8) COURSES:
1. NORTH 88°21'52" EAST, A DISTANCE OF 986.68 FEET;
2. NORTH 00°15'36" WEST, A DISTANCE OF 20.01 FEET;
3. NORTH 88°21'52" EAST, A DISTANCE OF 327.86 FEET;
4. NORTH 88°17'58" EAST, A DISTANCE OF 604.84 FEET;
5. SOUTH 00°09'21" EAST, A DISTANCE OF 20.01 FEET;
6. NORTH 88°17'58" EAST, A DISTANCE OF 385.00 FEET;
7. NORTH 00°09'21" WEST, A DISTANCE OF 20.01 FEET;
8. NORTH 88°17'58" EAST, A DISTANCE OF 1604.42 FEET;

THENCE SOUTH 08°12'42" EAST, A DISTANCE OF 70.45 FEET TO A POINT ON THE SOUTHERLY RIGHT OF WAY LINE OF JASPER ROAD;
THENCE ALONG SAID SOUTHERLY RIGHT OF WAY LINE THE FOLLOWING FOUR (4) COURSES:
1. SOUTH 88°17'58" WEST, A DISTANCE OF 540.23 FEET;
2. NORTH 00°04'41" WEST, A DISTANCE OF 10.00 FEET;
3. SOUTH 88°17'58" WEST, A DISTANCE OF 2063.81 FEET;
4. SOUTH 88°21'52" WEST, A DISTANCE OF 134.39 FEET;

THENCE NORTH 00°29'33" WEST, A DISTANCE OF 20.00 FEET TO THE POINT OF BEGINNING,
SAID JASPER ROAD RIGHT OF WAY PARCEL CONTAINING A CALCULATED AREA OF 212,737 SQUARE FEET OR 4.884 ACRES, MORE OR LESS.
SAID NORTH, SOUTH AND JASPER ROAD RIGHT OF WAY PARCELS CONTAINING A CALCULATED AREA OF 7,576,344 SQUARE FEET, OR 173.929 ACRES, MORE OR LESS.
HAVE LAID OUT, PLATTED, AND SUBDIVIDED THE SAME INTO LOTS, BLOCKS, TRACTS AND RIGHT-OF-WAY AS SHOWN ON THIS PLAT, UNDER THE NAME AND STYLE OF WISE FARMS PRELIMINARY PLAT AND BY THESE PRESENTS DO HEREBY DEDICATE TO THE TOWN OF ERIE, COLORADO, FOR THE PERPETUAL USE OF THE PUBLIC, THE STREETS, AND EASEMENTS FOR PUBLIC PURPOSES SHOWN HEREON AND NOT PREVIOUSLY DEDICATED TO THE PUBLIC.



VICINITY MAP
SCALE 1" = 500'

SHEET INDEX

CS COVER SHEET
E1 PRELIMINARY ROAD CONSTRUCTION PLAN - OVERALL
E2 PRELIMINARY ROAD CONSTRUCTION PLAN - NORTH
E3 PRELIMINARY ROAD CONSTRUCTION PLAN - SOUTH
E4 JASPER ROAD & N. 119TH STREET IMPACT PLAN
E5 PRELIMINARY GRADING PLAN - OVERALL
E6 PRELIMINARY GRADING PLAN - NORTH
E7 PRELIMINARY GRADING PLAN - SOUTH
E8 PRELIMINARY UTILITY PLAN - OVERALL
E9 PRELIMINARY UTILITY PLAN - NORTH
E10 PRELIMINARY UTILITY PLAN - SOUTH
E11 PRELIMINARY UTILITY PLAN - OFFSITE WATER
E12 PRELIMINARY EROSION CONTROL PLAN - NORTH
E13 PRELIMINARY EROSION CONTROL PLAN - SOUTH
T1 TREE INVENTORY
LP PRELIMINARY LANDSCAPE PLAN

APPLICANT:
JASPER LAND INVESTMENTS, LLC
9162 S. Kenwood Court
Highlands Ranch, CO 80126
Tel: (303) 902-5400

Contact Person: Jim Dullea

PLANNER / LANDSCAPE ARCHITECT:
PCS GROUP INC.
#3, B-180 Independence Plaza
1001 16th Street
Denver, CO 80265
Tel: (303) 531-4905
Fax: (303) 531-4908

ENGINEER / SURVEYOR:
CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

No.	Revisions	Date	Init.	Appr.	Date

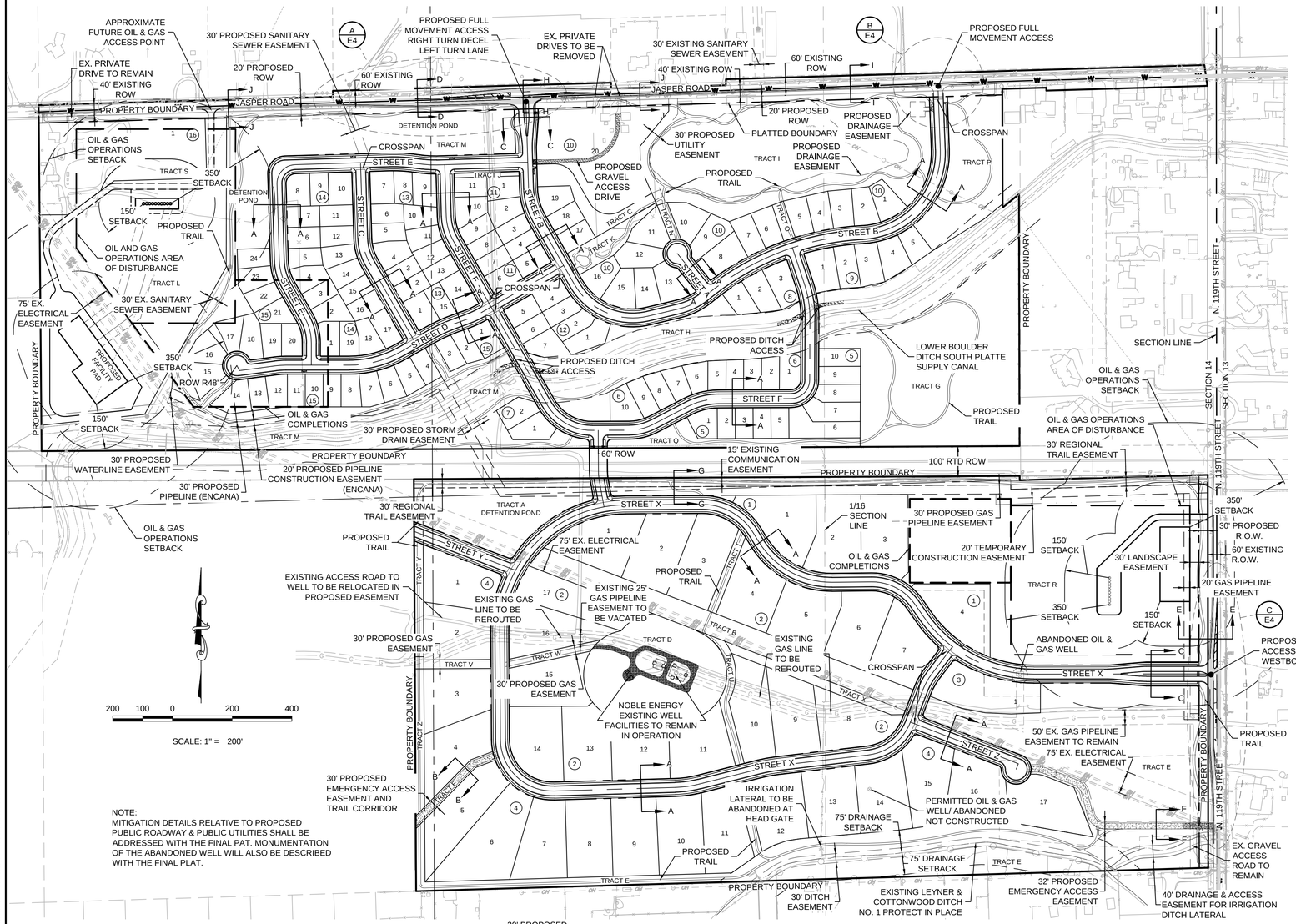
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546
CVL CONSULTANTS

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
PRELIMINARY DEVELOPMENT PLAN
COVER SHEET

SCALE: AS SHOWN
FILE NO: 8.13.0230801
DRAWN BY: AAP
CHECKED BY: KEK
DATE: DECEMBER 2014
SHEET NUMBER CS

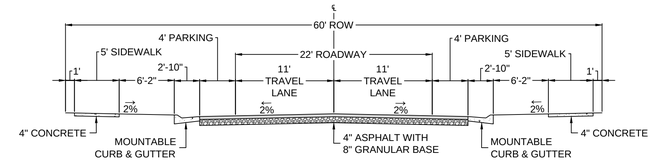
N:\PROJECTS\0230801 WISE FARMS\CAD\ENGINEERING\SHEET SETS\WISE FARMS - PDP\COVER SHEET.DWG, PATRICK PASSANISE, 12/29/14



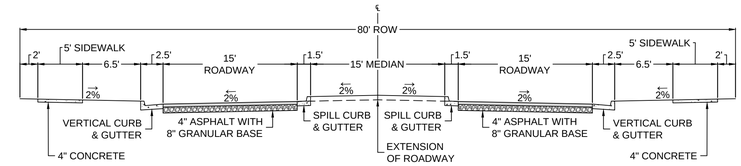
NOTE:
MITIGATION DETAILS RELATIVE TO PROPOSED PUBLIC ROADWAY & PUBLIC UTILITIES SHALL BE ADDRESSED WITH THE FINAL PAT. MONUMENTATION OF THE ABANDONED WELL WILL ALSO BE DESCRIBED WITH THE FINAL PLAT.

LEGEND

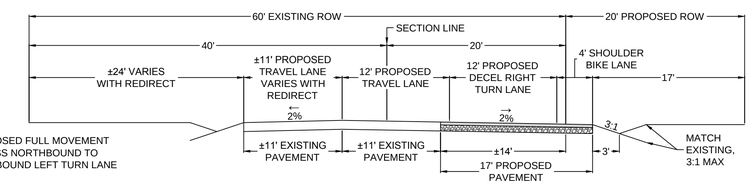
— — —	CENTERLINE	———	PROPERTY BOUNDARY
— — —	RIGHT-OF-WAY		EXISTING TREE
———	LOT LINE	11	LOT NUMBER
(6)	BLOCK NUMBER	A / E2	DETAIL / SHT #



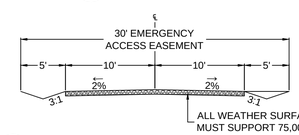
A-A LOCAL STREET
NTS



C-C COLLECTOR WITH RAISED MEDIAN
NTS

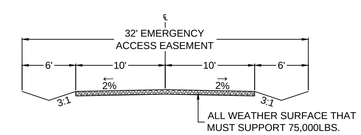


D-D JASPER ROAD WEST - 60' EXISTING ROW, 20' PROPOSED ROW
NTS



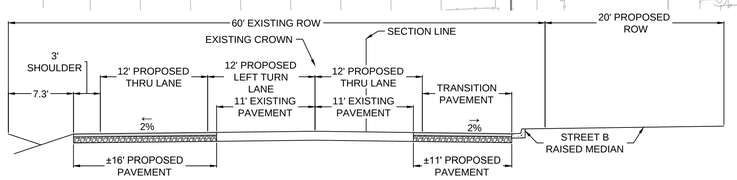
B-B 30' EMERGENCY ACCESS
NTS

NOTE: REMOVABLE DEVICES SUCH AS COLLAPSIBLE BOLLARDS SHALL BE INSTALLED AT EITHER END OF THIS ACCESS ROAD. COORDINATION REGARDING THESE DEVICES WILL BE ACCOMPLISHED WITH THE FINAL PLAT.

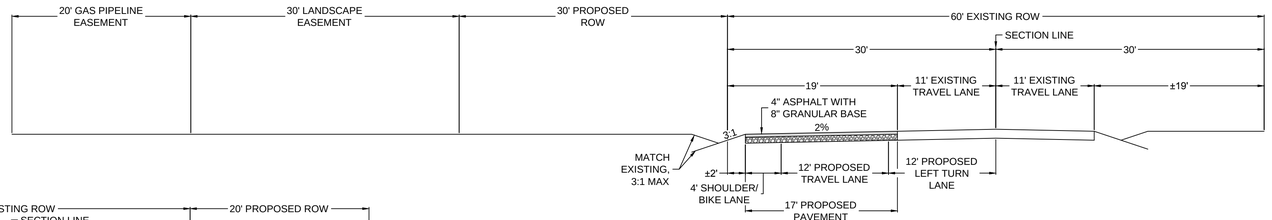


F-F 32' EMERGENCY ACCESS
NTS

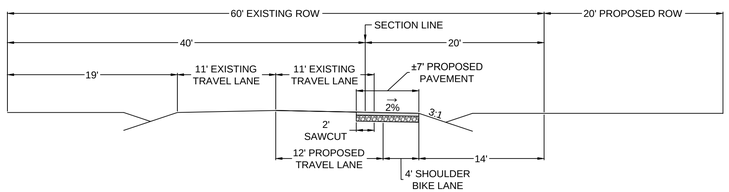
NOTE: REMOVABLE DEVICES SUCH AS COLLAPSIBLE BOLLARDS SHALL BE INSTALLED AT EITHER END OF THIS ACCESS ROAD. COORDINATION REGARDING THESE DEVICES WILL BE ACCOMPLISHED WITH THE FINAL PLAT.



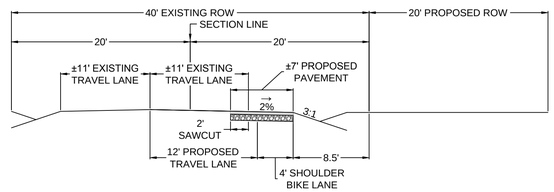
H-H JASPER ROAD AT STREET B - 60' EXISTING ROW, 20' PROPOSED ROW
NTS



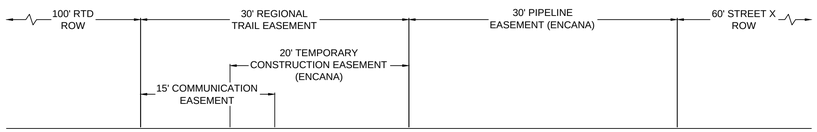
E-E N. 119TH STREET ENTRANCE - 60' EXISTING ROW, DRAINAGE EASEMENT
NTS



I-I JASPER ROAD EAST - 60' EXISTING ROW, 20' PROPOSED ROW
NTS



J-J JASPER ROAD WEST - 40' EXISTING ROW, 20' PROPOSED ROW
NTS



G-G SECTION G-G
NTS

No.	Revisions	Date	Init.	Aggr.	Date

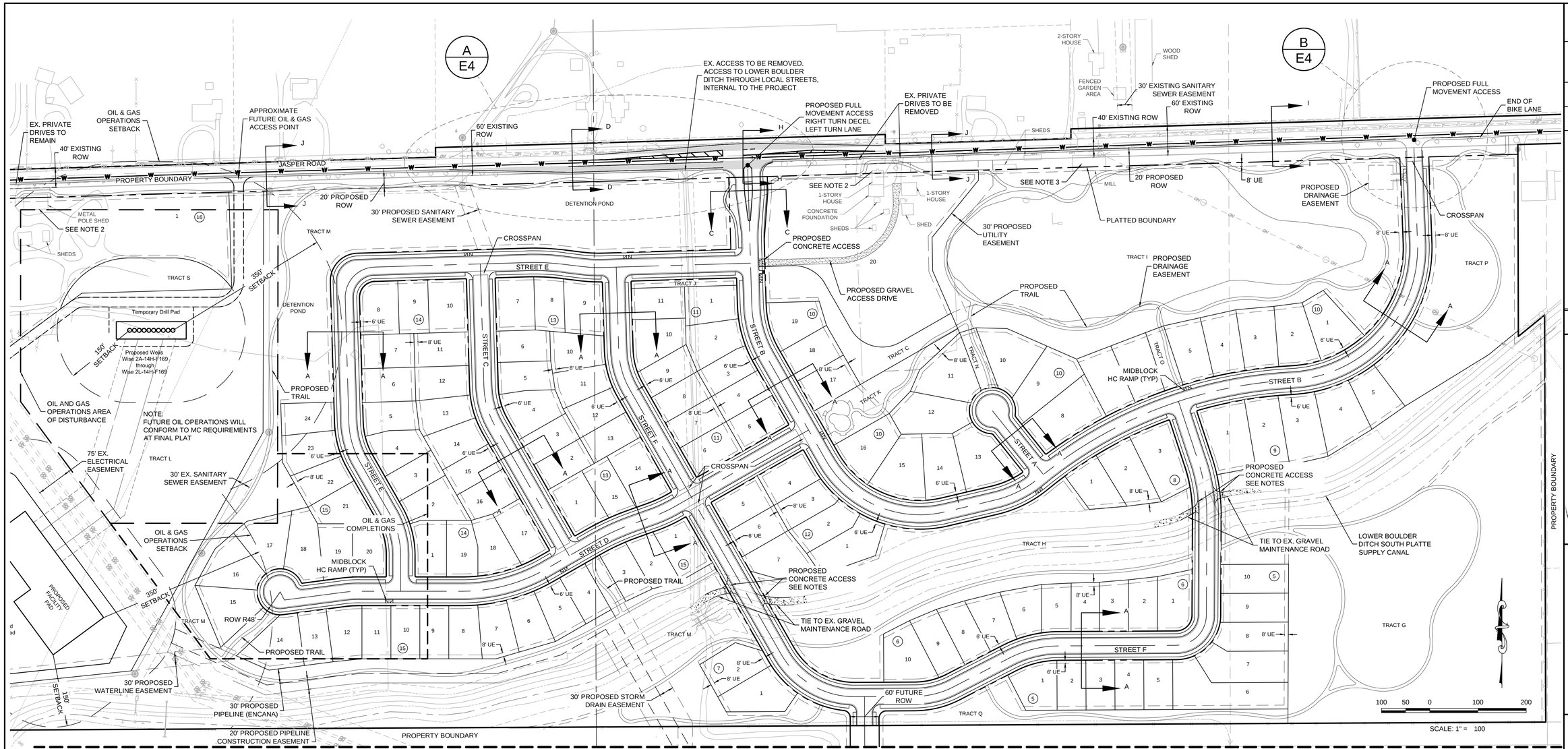
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546
CVL CONSULTANTS

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

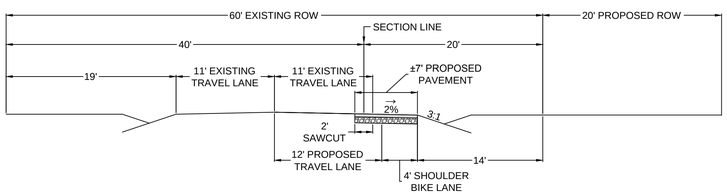
WISE FARMS
PRELIMINARY DEVELOPMENT PLAN
PRELIMINARY ROAD
CONSTRUCTION PLAN - OVERALL

SCALE: AS SHOWN
FILE NO: 8.13.0230801
DRAWN BY: AAP
CHECKED BY: KEK
DATE: DECEMBER 2014
SHEET NUMBER E1

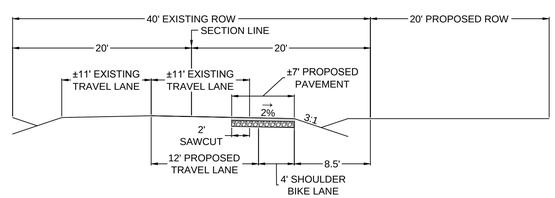
N:\PROJECTS\0230801 WISE FARMS\CAD\ENGINEERING\SHEET SETS\WISE FARMS - PDP\PRELIMINARY ROAD CONSTRUCTION PLAN.DWG, PATRICK PASSANISE, 12/29/14



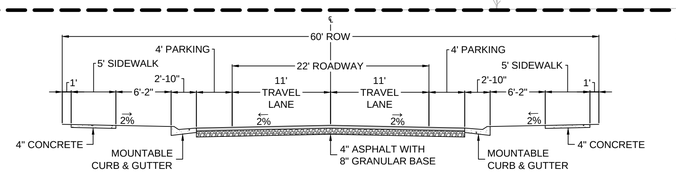
MATCHLINE - SEE SHEET E3



I-I JASPER ROAD EAST - 60' EXISTING ROW, 20' PROPOSED ROW
NTS



J-J JASPER ROAD WEST - 40' EXISTING ROW, 20' PROPOSED ROW
NTS

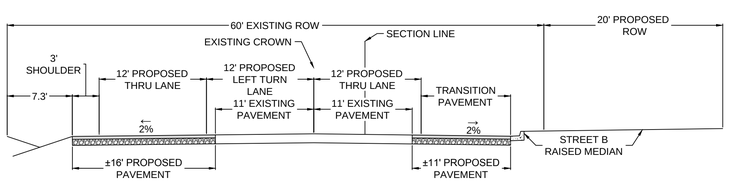


A-A LOCAL STREET
NTS

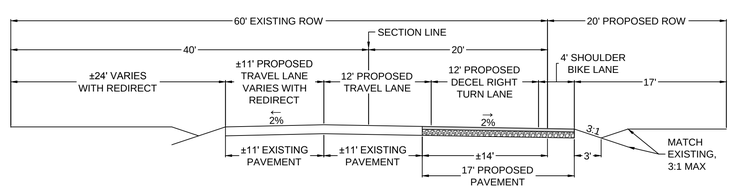
NOTES:
1. REMOVABLE DEVICES SUCH AS COLLAPSIBLE BOLLARDS SHALL BE INSTALLED WHERE THE DITCH MAINTENANCE ROAD MEETS THE PUBLIC ROADWAY. COORDINATION REGARDING THESE DEVICES WILL BE ACCOMPLISHED WITH THE FINAL PLAT.
2. LICENSE AGREEMENTS WILL BE PURSUED FOR HOUSES THAT WILL BE/ ARE IN THE RIGHT-OF-WAY PRIOR TO APPROVAL OF A FINAL PLAT ALLOWING DEVELOPMENT.
3. PRIOR TO APPROVAL OF A FINAL PLAT ALLOWING DEVELOPMENT, THE MILL BUILDINGS IN TRACT I WILL BE EITHER MOVED OFF SITE OR REMOVED.

LEGEND

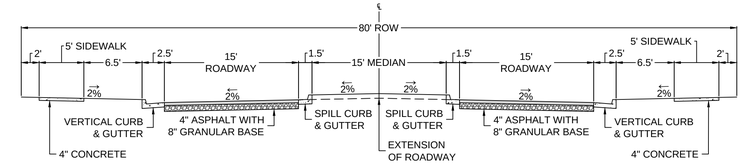
- CENTERLINE
- RIGHT-OF-WAY
- LOT LINE
- BLOCK NUMBER
- PROPERTY BOUNDARY
- EXISTING TREE
- LOT NUMBER
- DETAIL SHT #



H-H JASPER ROAD AT STREET B - 60' EXISTING ROW, 20' PROPOSED ROW
NTS



D-D JASPER ROAD WEST - 60' EXISTING ROW, 20' PROPOSED ROW
NTS



C-C COLLECTOR WITH RAISED MEDIAN
NTS

No.	Revisions	Date	Init.	Aggr.	Date

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

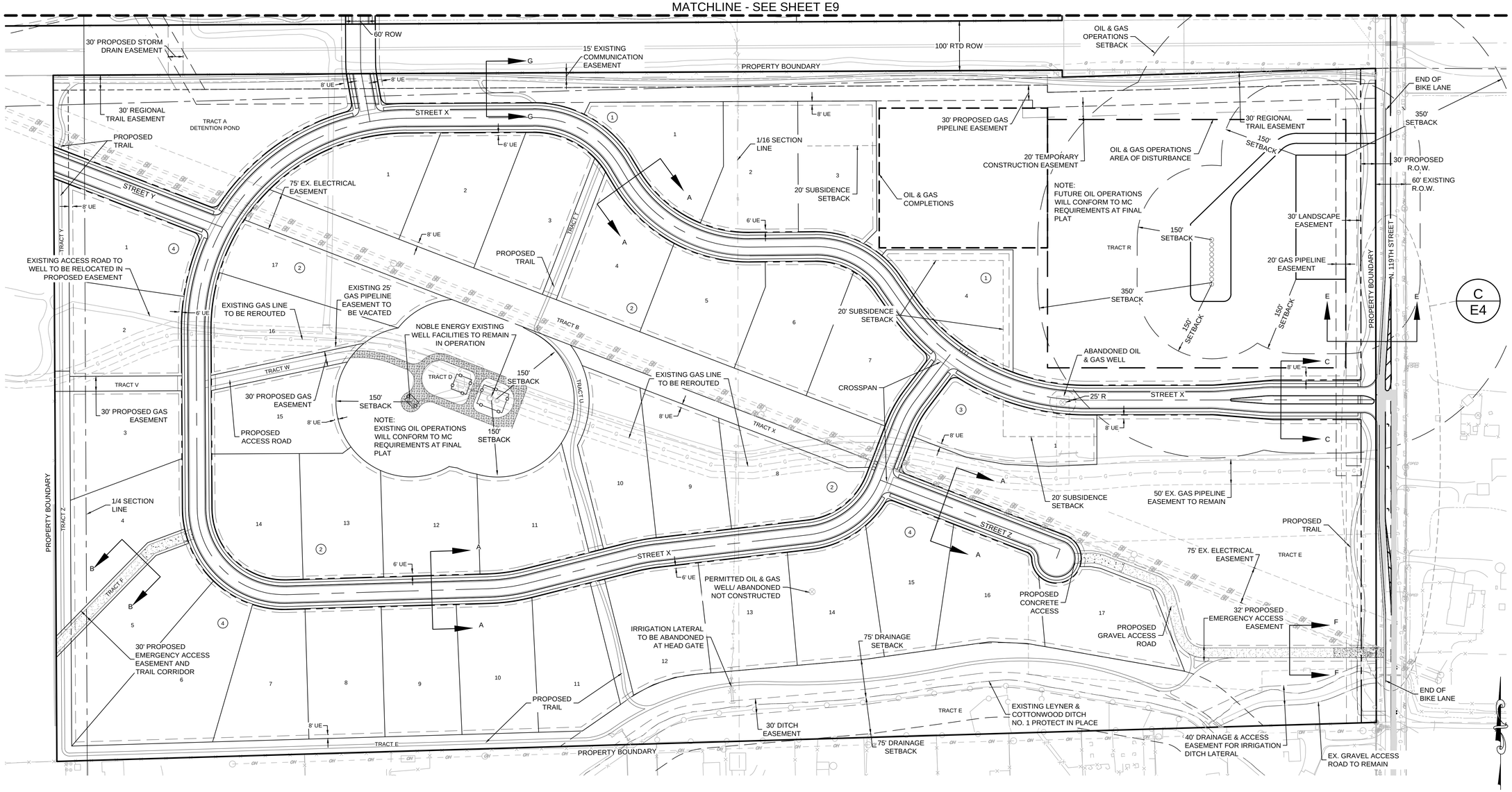
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

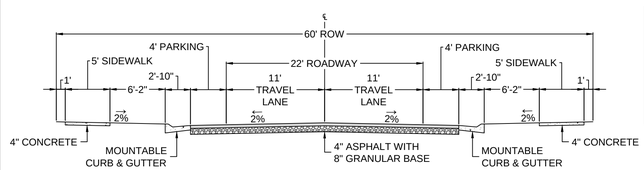
WISE FARMS
PRELIMINARY DEVELOPMENT PLAN
PRELIMINARY ROAD
CONSTRUCTION PLAN - NORTH

SCALE: AS SHOWN
FILE NO: 8.13.0230801
DRAWN BY: AAP
CHECKED BY: KEK
DATE: DECEMBER 2014
SHEET NUMBER E2

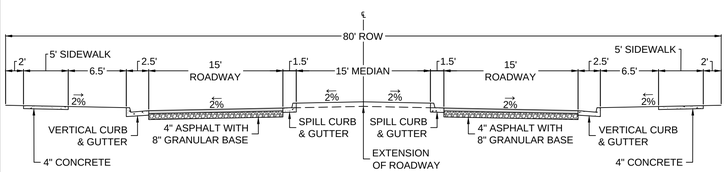
N:\PROJECTS\0230801 WISE FARMS\CAD\ENGINEERING\SHEET SETS\WISE FARMS - PDP\PRELIMINARY ROAD CONSTRUCTION PLAN.DWG, PATRICK PASSANISE, 12/29/14

MATCHLINE - SEE SHEET E9





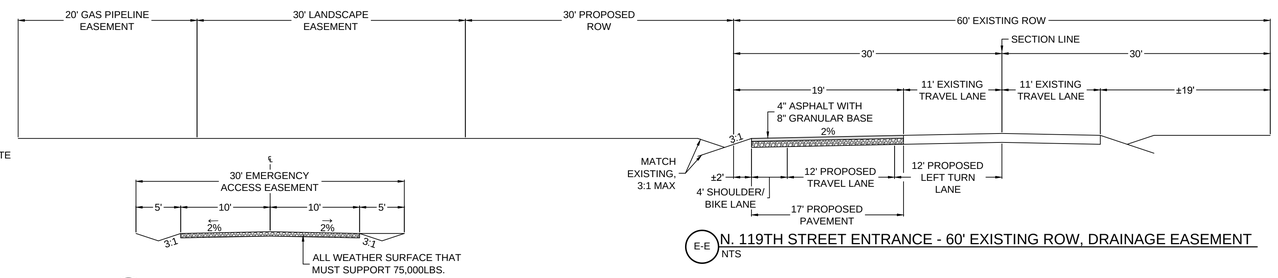
A-A LOCAL STREET
NTS



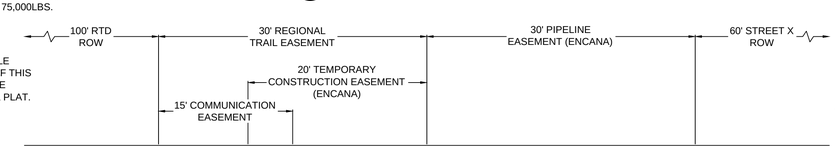
C-C COLLECTOR WITH RAISED MEDIAN
NTS

B-B 30' EMERGENCY ACCESS
NTS

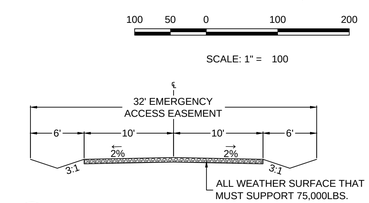
NOTE: REMOVABLE DEVICES SUCH AS COLLAPSIBLE BOLLARDS SHALL BE INSTALLED AT EITHER END OF THIS ACCESS ROAD. COORDINATION REGARDING THESE DEVICES WILL BE ACCOMPLISHED WITH THE FINAL PLAT.



E-E N. 119TH STREET ENTRANCE - 60' EXISTING ROW, DRAINAGE EASEMENT
NTS



G-G SECTION G-G
NTS



F-F 32' EMERGENCY ACCESS
NTS

NOTE: REMOVABLE DEVICES SUCH AS COLLAPSIBLE BOLLARDS SHALL BE INSTALLED AT EITHER END OF THIS ACCESS ROAD. COORDINATION REGARDING THESE DEVICES WILL BE ACCOMPLISHED WITH THE FINAL PLAT.

LEGEND

CENTERLINE	PROPERTY BOUNDARY
RIGHT-OF-WAY	EXISTING TREE
LOT LINE	11 LOT NUMBER
6 BLOCK NUMBER	A / E2 DETAIL / SHT #

No.	Revisions	Date	Init.	Appr.	Date

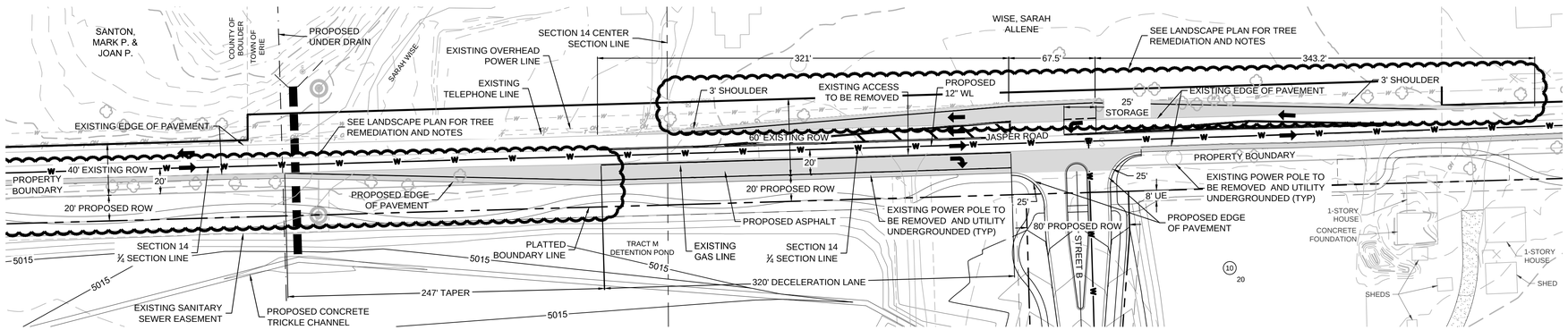
CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

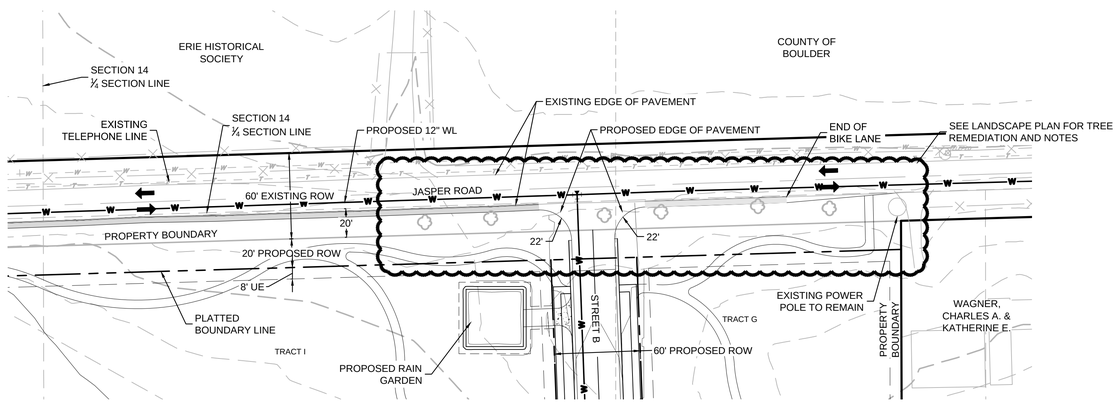
WISE FARMS
PRELIMINARY DEVELOPMENT PLAN
PRELIMINARY ROAD
CONSTRUCTION PLAN - SOUTH

SCALE: AS SHOWN
FILE NO: 8.13.0230801
DRAWN BY: AAP
CHECKED BY: KEK
DATE: DECEMBER 2014
SHEET NUMBER E3

N:\PROJECTS\0230801 WISE FARMS\CAD\ENGINEERING\SHEET SETS\WISE FARMS - PDP\PRELIMINARY ROAD CONSTRUCTION PLAN.DWG, PATRICK PASSANISE, 12/29/14



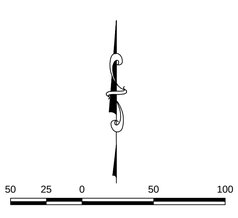
A JASPER ROAD - WEST ENTRANCE
1" = 50'

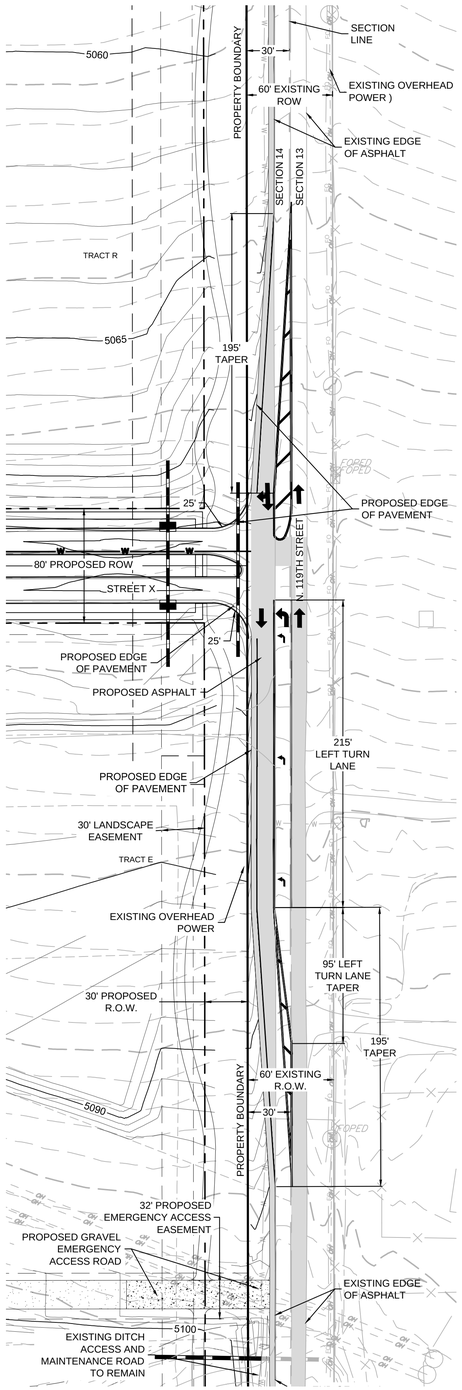


B JASPER ROAD - EAST ENTRANCE
1" = 50'

LEGEND

CENTERLINE	PROPERTY BOUNDARY
RIGHT-OF-WAY	EXISTING TREE
LOT LINE	PROPOSED ASPHALT
6 BLOCK NUMBER	SEE LANDSCAPE PLAN FOR TREE REMEDIATION AND NOTES
11 LOT NUMBER	





C N. 119TH STREET
1" = 50'

No.	Revisions	Date	Init.	Aggr.	Date

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

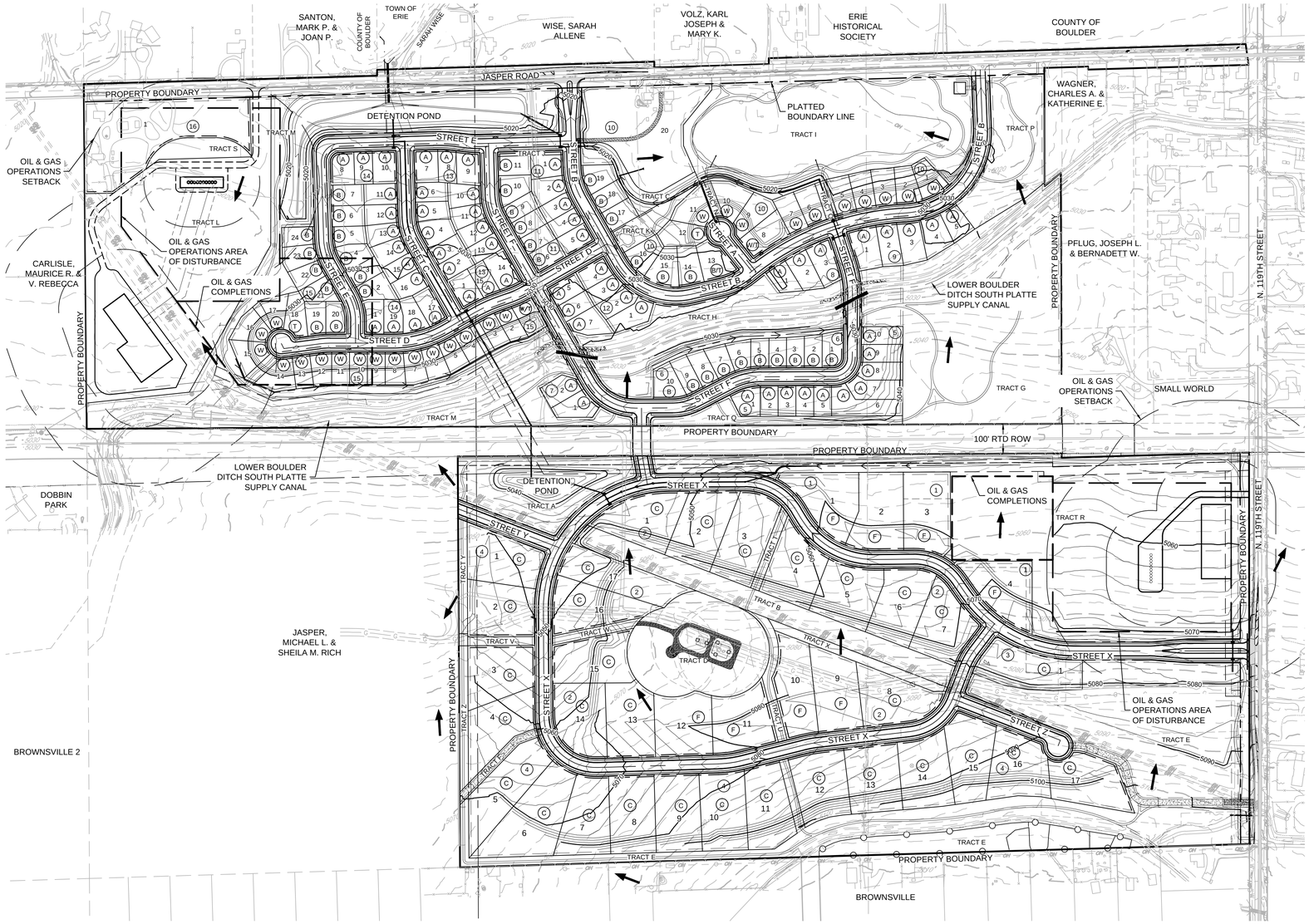
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
PRELIMINARY DEVELOPMENT PLAN
JASPER ROAD & N. 119TH STREET
IMPACT PLAN

SCALE: AS SHOWN
FILE NO: 8.13.0230801
DRAWN BY: AAP
CHECKED BY: KEK
DATE: DECEMBER 2014

SHEET NUMBER E4

N:\PROJECTS\0230801 WISE FARMS\CAD\ENGINEERING\SHEET SETS\WISE FARMS - POP\JASPER & 119TH IMPACT PLAN.DWG, PATRICK PASSANISE, 12/29/14



GRADING LEGEND

1.00%	PROPOSED SLOPE & DIRECTION OF FLOW	5000	EXISTING ELEVATION
	EXISTING 10' CONTOUR	5000	PROPOSED DESIGN ELEVATION
	EXISTING 2' CONTOUR		PROPOSED FLARED END SECTION
	PROPOSED 10' CONTOUR		PROPOSED STORM INLET
	PROPOSED 2' CONTOUR		PROPOSED STORM DRAIN
	CENTERLINE		PROPOSED AREA INLET
	RIGHT-OF-WAY		PROPERTY BOUNDARY
	LOT LINE		PROPOSED SWALE
11	LOT NUMBER	C	LOT TYPE
6	BLOCK NUMBER		

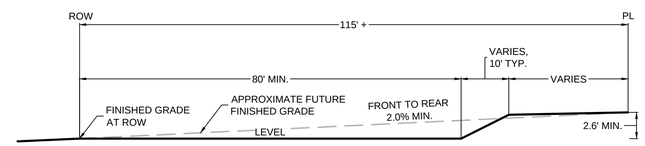
200 100 0 200 400

SCALE: 1" = 200'

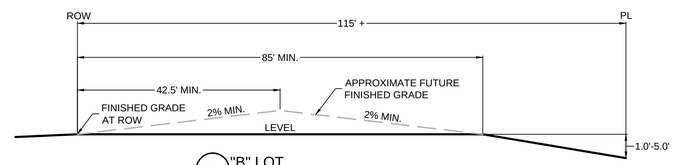
EARTHWORK

TOTAL CUT VOLUME	361,001 C.Y.
TOTAL FILL VOLUME (15% ADJUSTMENT FOR COMPACTION)	416,665 C.Y.
NET (IMPORT)	55,664 C.Y.

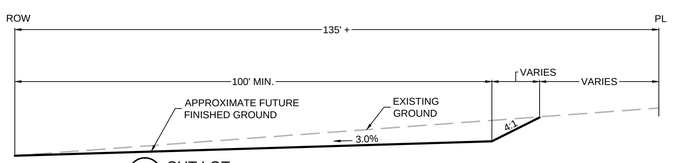
NOTES:
1. TRAIL LOCATIONS ARE CONCEPTUAL AND FINAL GRADING WILL ACCOMMODATE FINAL TRAIL ALIGNMENTS.
2. OIL & GAS FACILITIES SHOWN WITHIN OIL & GAS OPERATIONS AREA ARE CONCEPTUAL FUTURE IMPROVEMENTS AND AND ARE SHOWN FOR REFERENCE ONLY.



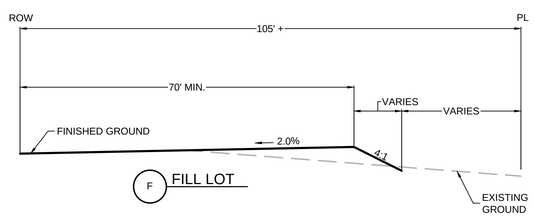
A "A" LOT



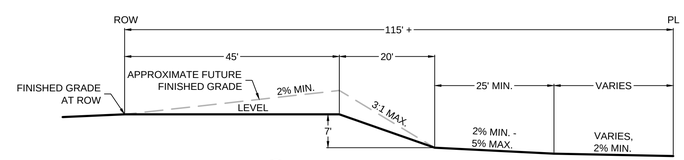
B "B" LOT



C CUT LOT



F FILL LOT



W "WALKOUT" LOT

No.	Revisions	Date	Init.	Appr.	Date

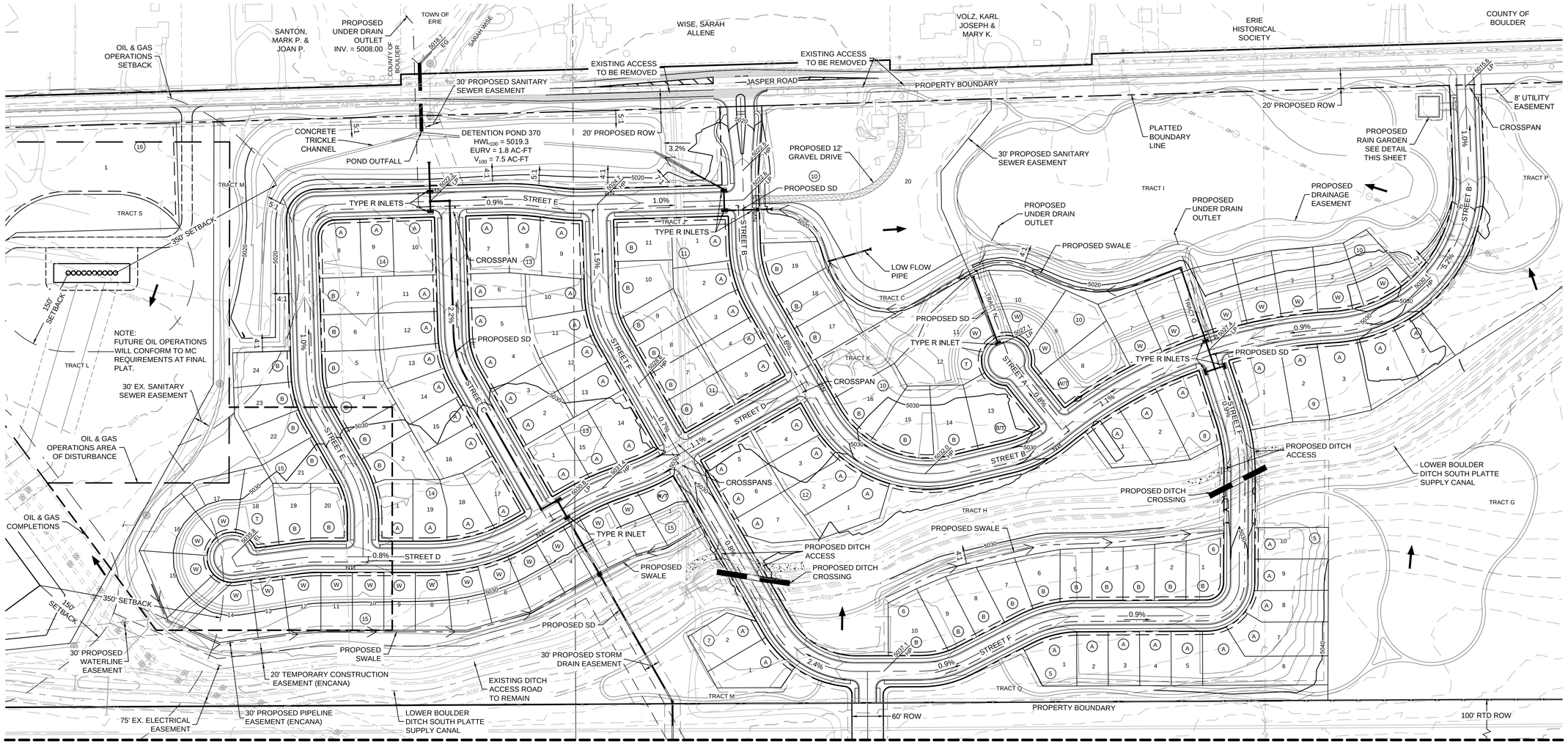
CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

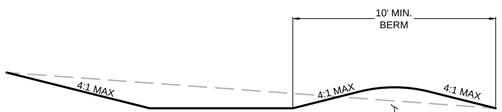
WISE FARMS
PRELIMINARY DEVELOPMENT PLAN
PRELIMINARY GRADING PLAN - OVERALL

SCALE: AS SHOWN
FILE NO: 8.13.0230801
DRAWN BY: AAP
CHECKED BY: KEK
DATE: DECEMBER 2014
SHEET NUMBER E5

N:\PROJECTS\30230801 WISE FARMS\CAD\ENGINEERING\SHEET SETS\WISE FARMS - PDP\PRELIMINARY GRADING PLAN.DWG, PATRICK PASSANISE, 12/29/14



MATCHLINE - SHEET E7



RG PROPOSED RAIN GARDEN

PROVIDE 4' WIDE 1' FEET, CLASS 6 AGGREGATE WRAPPED IN MIRAFI 140N OR APPROVED EQUAL BURIED WITH 6" TOPSOIL

NOTES:
1. TRAIL LOCATIONS ARE CONCEPTUAL AND FINAL GRADING WILL ACCOMMODATE FINAL TRAIL ALIGNMENTS.
2. OIL & GAS FACILITIES SHOWN WITHIN OIL & GAS OPERATIONS AREA ARE CONCEPTUAL FUTURE IMPROVEMENTS AND AND ARE SHOWN FOR REFERENCE ONLY.

100 50 0 100 200

SCALE: 1" = 100'

GRADING LEGEND

1.00%	PROPOSED SLOPE & DIRECTION OF FLOW	5000	EXISTING ELEVATION
	EXISTING 10' CONTOUR	5000	PROPOSED DESIGN ELEVATION
	EXISTING 2' CONTOUR		PROPOSED FLARED END SECTION
	PROPOSED 10' CONTOUR		PROPOSED STORM INLET
	PROPOSED 2' CONTOUR		PROPOSED STORM DRAIN
	CENTERLINE		PROPOSED AREA INLET
	RIGHT-OF-WAY		PROPERTY BOUNDARY
	LOT LINE		PROPOSED SWALE
11	LOT NUMBER	C	LOT TYPE
6	BLOCK NUMBER		

EARTHWORK

TOTAL CUT VOLUME	361,001 C.Y.
TOTAL FILL VOLUME (15% ADJUSTMENT FOR COMPACTION)	416,665 C.Y.
NET (IMPORT)	55,664 C.Y.

No.	Revisions	Date	Init.	Appr.	Date

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

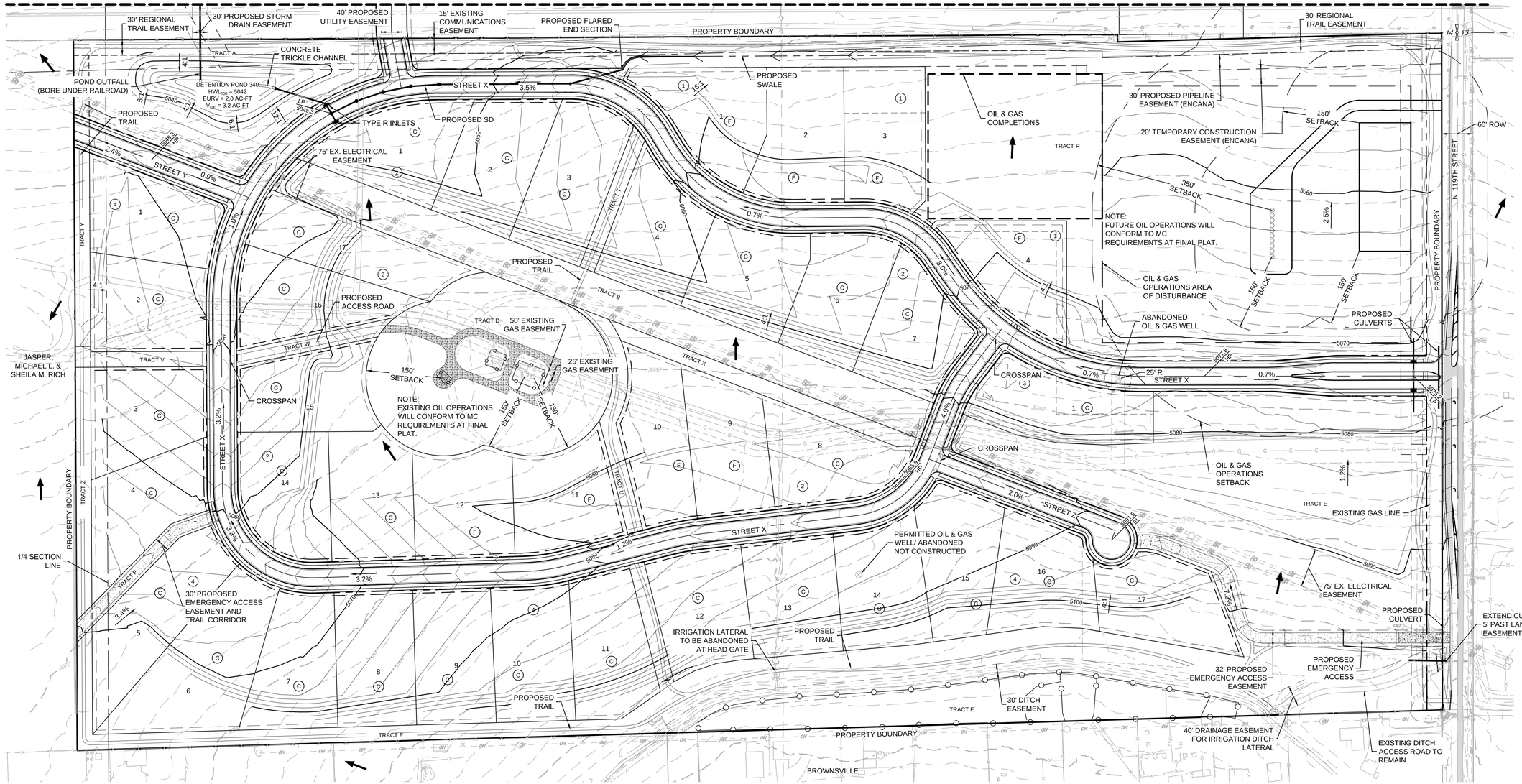
WISE FARMS
PRELIMINARY DEVELOPMENT PLAN
PRELIMINARY GRADING PLAN - NORTH

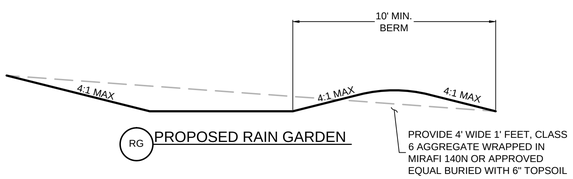
SCALE: AS SHOWN
FILE NO: 8.13.0230801
DRAWN BY: AAP
CHECKED BY: KEK
DATE: DECEMBER 2014

SHEET NUMBER E6

N:\PROJECTS\0230801 WISE FARMS\CAD\ENGINEERING\SHEET SETS\WISE FARMS - PDP\PRELIMINARY GRADING PLAN.DWG, PATRICK PASSANISE, 12/29/14

MATCHLINE - SHEET E6





NOTES:
1. TRAIL LOCATIONS ARE CONCEPTUAL AND FINAL GRADING WILL ACCOMMODATE FINAL TRAIL ALIGNMENTS.
2. OIL & GAS FACILITIES SHOWN WITHIN OIL & GAS OPERATIONS AREA ARE CONCEPTUAL FUTURE IMPROVEMENTS AND AND ARE SHOWN FOR REFERENCE ONLY.

100 50 0 100 200

SCALE: 1" = 100'

EARTHWORK

TOTAL CUT VOLUME	361,001 C.Y.
TOTAL FILL VOLUME (15% ADJUSTMENT FOR COMPACTION)	416,665 C.Y.
NET (IMPORT)	55,664 C.Y.

GRADING LEGEND

1.00%	PROPOSED SLOPE & DIRECTION OF FLOW	5000	EXISTING ELEVATION
	EXISTING 10' CONTOUR	5000	PROPOSED DESIGN ELEVATION
	EXISTING 2' CONTOUR		PROPOSED FLARED END SECTION
	PROPOSED 10' CONTOUR		PROPOSED STORM INLET
	PROPOSED 2' CONTOUR		PROPOSED STORM DRAIN
	CENTERLINE		PROPOSED AREA INLET
	RIGHT-OF-WAY		PROPERTY BOUNDARY
	LOT LINE		PROPOSED SWALE
11	LOT NUMBER	C	LOT TYPE
6	BLOCK NUMBER		

No.	Revisions	Date	Init.	Aggr.	Date

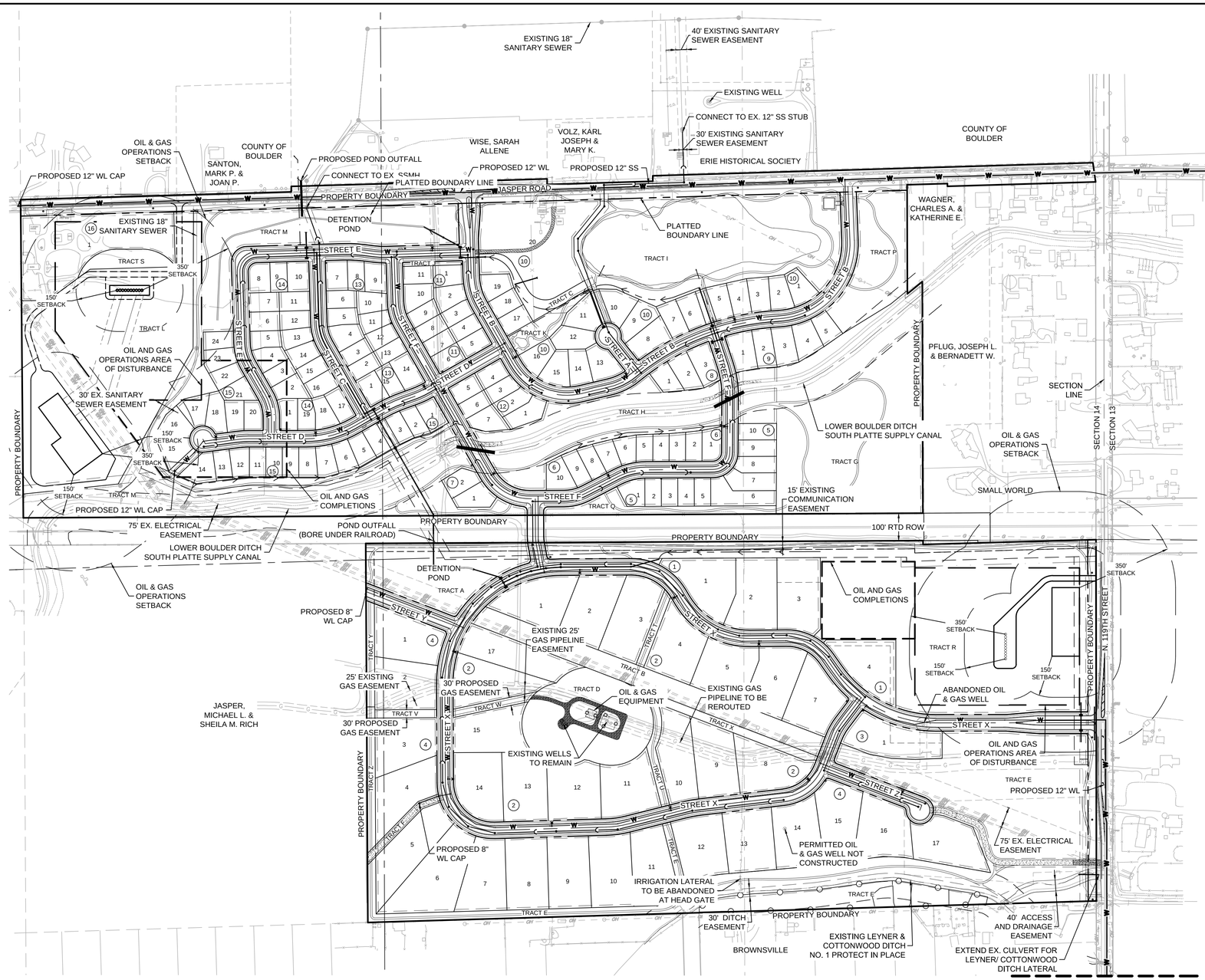
CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

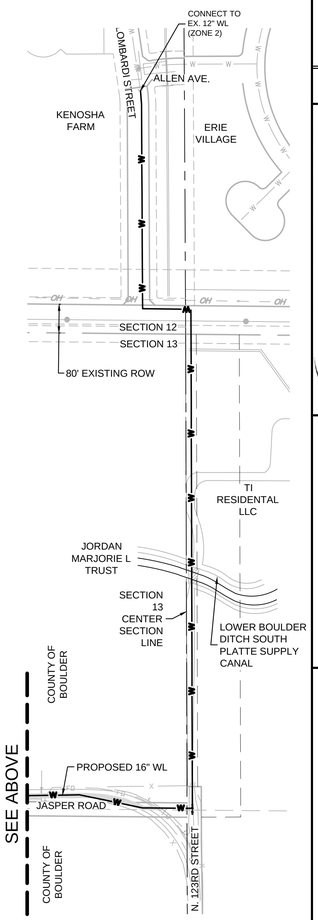
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

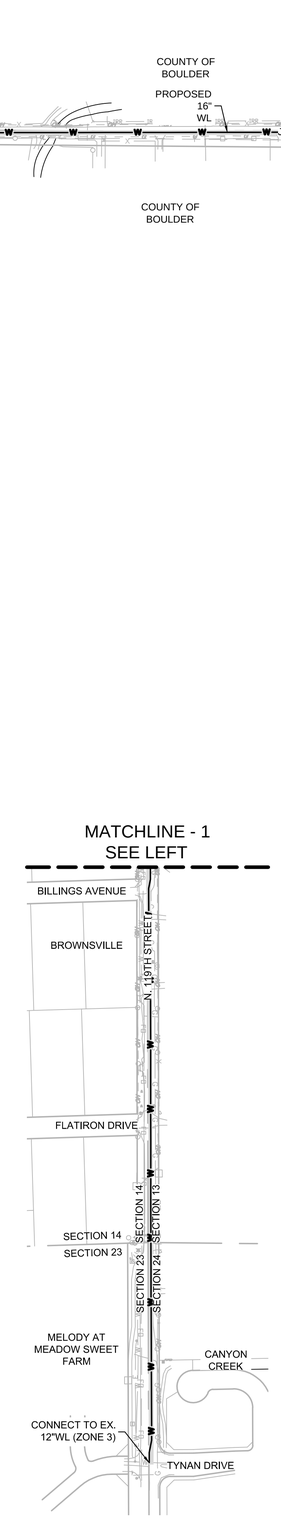
WISE FARMS
PRELIMINARY DEVELOPMENT PLAN
PRELIMINARY GRADING PLAN - SOUTH

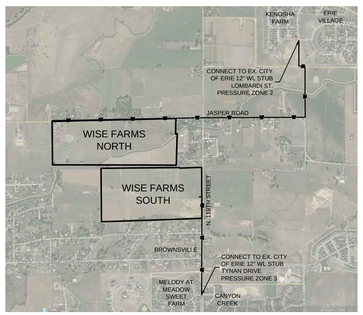
SCALE: AS SHOWN
FILE NO: 8.13.0230801
DRAWN BY: AAP
CHECKED BY: KEK
DATE: DECEMBER 2014
SHEET NUMBER E7

N:\PROJECTS\30230801 WISE FARMS\CAD\ENGINEERING\SHEET SETS\WISE FARMS - PDP\PRELIMINARY GRADING PLAN.DWG, PATRICK PASSANISE, 12/29/14









UTILITY LEGEND

- PROPOSED 8" WATERLINE UNLESS OTHERWISE NOTED
- PROPOSED PRESSURE RELEASE VALVE
- PROPOSED 8" SANITARY SEWER WITH MANHOLE UNLESS OTHERWISE NOTED
- CENTERLINE
- RIGHT-OF-WAY
- PROPERTY LINE
- PROPERTY BOUNDARY
- PROPOSED WATER METER
- IRR — PROPOSED IRRIGATION
- PROPOSED UNDER DRAIN
- 6" FIRE HYDRANT ASSEMBLY
- PROPOSED BLOW OFF VALVE
- EXISTING TREE
- PROPOSED FLARED END SECTION
- PROPOSED STORM INLET
- PROPOSED STORM DRAIN WITH MANHOLE
- EASEMENT LINE
- PROPOSED SWALE
- PROPOSED AREA INLET
- PROPOSED GATE VALVE
- 11 — LOT NUMBER
- 6 — BLOCK NUMBER
- STREET LIGHT

NOTES

1. UNDERDRAINS WILL BE INSTALLED THROUGH THE ENTIRE SITE TO MITIGATE GROUNDWATER FLOODING.
2. THE WATER SERVICE FOR THE PROJECT SITE WILL CONNECT TO ZONE 2 IN KENOSHA FARMS TO THE NORTH AND ZONE 3 IN CANYON CREEK TO THE SOUTH.
3. WATER TIGHT SEWER WILL BE INSTALLED WHEN IN GROUNDWATER TO PROTECT THE GROUNDWATER.
4. THE EXISTING OVERHEAD POWER LINES LOCATED IN JASPER ROAD, ALONG THE PROJECT FRONTAGE; SHALL BE UNDERGROUNDED.
5. THE EXISTING OVERHEAD POWER LINES LOCATED IN THE NORTHEAST CORNER OF THE PROJECT SITE SHALL BE RELOCATED & UNDERGROUNDED WITHIN PROPOSED UTILITY EASEMENTS.
6. THE EXISTING OVERHEAD POWER LINES LOCATED ALONG THE N. 119TH STREET FRONTAGE, SHALL BE UNDERGROUNDED.

200 100 0 200 400

SCALE: 1" = 200'

No.	Revisions	Date	Init.	Aggr.	Date

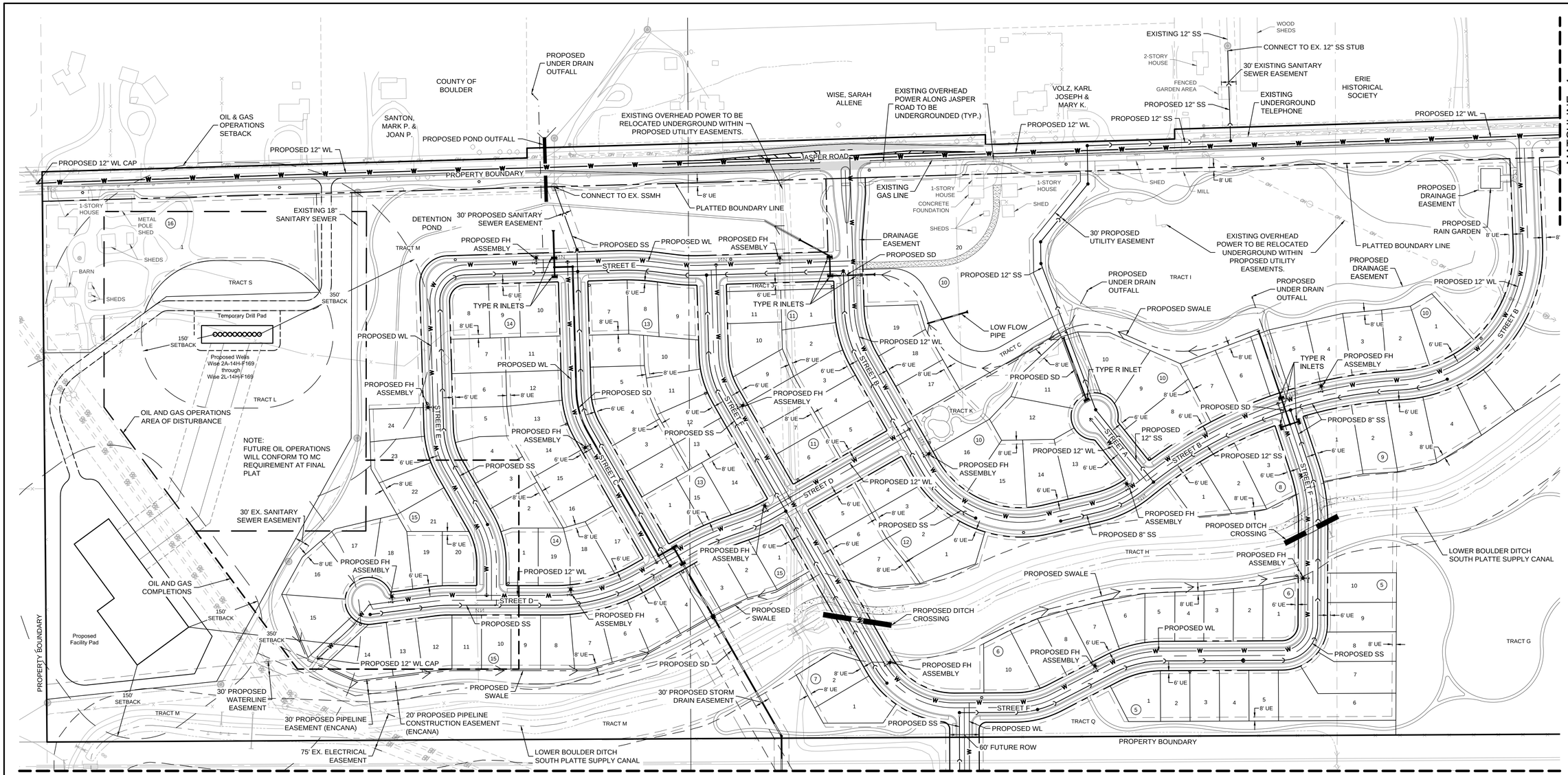
CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
PRELIMINARY DEVELOPMENT PLAN
PRELIMINARY UTILITY PLAN - OVERALL

SCALE: AS SHOWN
FILE NO: 8.13.0230801
DRAWN BY: AAP
CHECKED BY: KEK
DATE: DECEMBER 2014
SHEET NUMBER E8

N:\PROJECTS\30230801 WISE FARMS\CAD\ENGINEERING\SHEET SETS\WISE FARMS - PD\PRELIMINARY UTILITY PLAN.DWG, PATRICK PASSANISE, 12/29/14



NOTES:

1. REMOVABLE DEVICES SUCH AS COLLAPSIBLE BOLLARDS SHALL BE INSTALLED WHERE THE DITCH MAINTENANCE ROAD MEETS THE PUBLIC ROADWAY. COORDINATION REGARDING THESE DEVICES WILL BE ACCOMPLISHED WITH THE FINAL PLAT.
2. LICENSE AGREEMENTS WILL BE PURSUED FOR HOUSES THAT WILL BE/ ARE IN THE RIGHT-OF-WAY PRIOR TO APPROVAL OF A FINAL PLAT ALLOWING DEVELOPMENT.
3. PRIOR TO APPROVAL OF A FINAL PLAT ALLOWING DEVELOPMENT, THE MILL BUILDINGS IN TRACT I WILL BE EITHER MOVED OFF SITE OR REMOVED.

UTILITY LEGEND

PROPOSED 8" WATERLINE UNLESS OTHERWISE NOTED	EXISTING TREE
PROPOSED PRESSURE RELEASE VALVE	PROPOSED FLARED END SECTION
PROPOSED 8" SANITARY SEWER WITH MANHOLE UNLESS OTHERWISE NOTED	PROPOSED STORM INLET
CENTERLINE	PROPOSED STORM DRAIN WITH MANHOLE
RIGHT-OF-WAY	EASEMENT LINE
PROPERTY LINE	PROPOSED SWALE
PROPERTY BOUNDARY	PROPOSED AREA INLET
PROPOSED WATER METER	PROPOSED GATE VALVE
IRR PROPOSED IRRIGATION	11 LOT NUMBER
PROPOSED UNDER DRAIN	6 BLOCK NUMBER
6" FIRE HYDRANT ASSEMBLY	STREET LIGHT
PROPOSED BLOW OFF VALVE	

NOTES

1. UNDERDRAINS WILL BE INSTALLED THROUGH THE ENTIRE SITE TO MITIGATE GROUNDWATER FLOODING.
2. THE WATER SERVICE FOR THE PROJECT SITE WILL CONNECT TO ZONE 2 IN KENOSHA FARMS TO THE NORTH AND ZONE 3 IN CANYON CREEK TO THE SOUTH.
3. WATER TIGHT SEWER WILL BE INSTALLED WHEN IN GROUNDWATER TO PROTECT THE GROUNDWATER.
4. THE EXISTING OVERHEAD POWER LINES LOCATED IN JASPER ROAD, ALONG THE PROJECT FRONTAGE; SHALL BE UNDERGROUNDED.
5. THE EXISTING OVERHEAD POWER LINES LOCATED IN THE NORTHEAST CORNER OF THE PROJECT SITE SHALL BE RELOCATED & UNDERGROUNDED WITHIN PROPOSED UTILITY EASEMENTS.
6. THE EXISTING OVERHEAD POWER LINES LOCATED ALONG THE N. 119TH STREET FRONTAGE, SHALL BE UNDERGROUNDED.

100 50 0 100 200

SCALE: 1" = 100'

No.	Revisions	Date	Init.	Aggr.	Date

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
PRELIMINARY DEVELOPMENT PLAN
PRELIMINARY UTILITY PLAN - NORTH

SCALE: AS SHOWN
FILE NO: 8.13.0230801
DRAWN BY: AAP
CHECKED BY: KEK
DATE: DECEMBER 2014
SHEET NUMBER E9

N:\PROJECTS\30230801 WISE FARMS\CAD\ENGINEERING\SHEET SETS\WISE FARMS - PDP\PRELIMINARY UTILITY PLAN.DWG, PATRICK PASSANISE, 12/29/14

MATCHLINE - 3 SEE SHEET E9

30' REGIONAL TRAIL EASEMENT
30' PROPOSED STORM DRAIN EASEMENT
PROPOSED AREA INLET
PROPERTY BOUNDARY
15' EXISTING COMMUNICATION EASEMENT
PROPOSED SS
60' FUTURE ROW
PROPOSED WL
POND OUTFALL (BORE UNDER RAILROAD)
PROPOSED TRICKLE CHANNEL
DETENTION POND
TRACT A
TYPE R INLETS
PROPOSED SD
PROPOSED FH ASSEMBLY
PROPOSED SWALE
OIL AND GAS COMPLETIONS
30' PROPOSED GAS PIPELINE EASEMENT
30' REGIONAL TRAIL EASEMENT
350' SETBACK
20' PROPOSED GAS PIPELINE CONSTRUCTION EASEMENT
EXISTING OVERHEAD POWERLINE
20' SUBSIDENCE SETBACK
Proposed access
Proposed Facility Pad
Proposed Wells
EXISTING WL
TRACT R
NOTE: FUTURE OIL OPERATIONS WILL CONFORM TO MC REQUIREMENT AT FINAL PLAT
150' SETBACK
PROPOSED 8" WL CAP
STREET Y
TRACT Y
25' EXISTING GAS EASEMENT
30' PROPOSED GAS EASEMENT
EXISTING 25' GAS PIPELINE EASEMENT
NOTE: EXISTING OIL OPERATIONS WILL CONFORM TO MC REQUIREMENT AT FINAL PLAT.
EXISTING GAS PIPELINE TO BE RELOCATED
TRACT B
TRACT T
TRACT W
TRACT V
EXISTING GAS PIPELINE TO BE RELOCATED
PROPOSED ACCESS ROAD
TRACT D
150' SETBACK
STREET X
TRACT X
OIL AND GAS OPERATIONS AREA OF DISTURBANCE
PROPOSED 8" WL ZONE 2/ ZONE 3
PROPOSED CULVERTS
PROPERTY BOUNDARY
N. 119TH STREET
EXISTING GAS LINE
EXISTING FIBER OPTIC
ABANDONED OIL & GAS WELL
25' R
PROPOSED PRV
20' SUBSIDENCE SETBACK
PROPOSED DRAINAGE EASEMENT
1/4 SECTION LINE
EXISTING GAS PIPELINE TO BE RELOCATED
EXISTING GAS PIPELINE TO REMAIN
TRACT E
PROPOSED 12" WL
EXISTING GAS LINE TO BE REMOVED
TRACT U
STREET Z
75' EX. ELECTRICAL EASEMENT
PROPERTY BOUNDARY
TRACT Z
TRACT F
30' PROPOSED EMERGENCY ACCESS EASEMENT AND TRAIL CORRIDOR
PERMITTED OIL & GAS WELL/ ABANDONED NOT CONSTRUCTED
EXISTING LEYNER & COTTONWOOD DITCH NO. 1 PROTECT IN PLACE
IRRIGATION LATERAL TO BE ABANDONED AT HEAD GATE
75' DRAINAGE SETBACK
30' DITCH EASEMENT
EXISTING IRRIGATION GATE AND 30" CULVERT
40' ACCESS AND DRAINAGE EASEMENT
32' PROPOSED EMERGENCY ACCESS EASEMENT
PROPOSED 30" CULVERT
TRACT E
30' DITCH EASEMENT
PROPERTY BOUNDARY
75' DRAINAGE SETBACK
SECTION 14
SECTION 13
LEYNER & COTTONWOOD DITCH NO. 1 CROSSING
BILLINGS AVENUE
PROPOSED 12" WL
BROWNSVILLE
EXISTING WL
EXISTING GAS LINE
EXISTING FIBER OPTIC

NOTES:
1. REMOVABLE DEVICES SUCH AS COLLAPSIBLE BOLLARDS SHALL BE INSTALLED WHERE THE DITCH MAINTENANCE ROAD MEETS THE PUBLIC ROADWAY. COORDINATION REGARDING THESE DEVICES WILL BE ACCOMPLISHED WITH THE FINAL PLAT.
2. LICENSE AGREEMENTS WILL BE PURSUED FOR HOUSES THAT WILL BE/ ARE IN THE RIGHT-OF-WAY PRIOR TO APPROVAL OF A FINAL PLAT ALLOWING DEVELOPMENT.
3. PRIOR TO APPROVAL OF FINAL PLAT ALLOWING DEVELOPMENT, THE MILL BUILDINGS IN TRACT I WILL BE EITHER MOVED OFF SITE OR REMOVED.

UTILITY LEGEND

PROPOSED 8" WATERLINE UNLESS OTHERWISE NOTED	EXISTING TREE
PROPOSED PRESSURE RELEASE VALVE	PROPOSED FLARED END SECTION
PROPOSED 8" SANITARY SEWER WITH MANHOLE UNLESS OTHERWISE NOTED	PROPOSED STORM INLET
CENTERLINE	PROPOSED STORM DRAIN WITH MANHOLE
RIGHT-OF-WAY	EASEMENT LINE
PROPERTY LINE	PROPOSED SWALE
PROPERTY BOUNDARY	PROPOSED AREA INLET
PROPOSED WATER METER	PROPOSED GATE VALVE
IRR PROPOSED IRRIGATION	11 LOT NUMBER
PROPOSED UNDER DRAIN	6 BLOCK NUMBER
6" FIRE HYDRANT ASSEMBLY	STREET LIGHT
PROPOSED BLOW OFF VALVE	

NOTES

1. UNDERDRAINS WILL BE INSTALLED THROUGH THE ENTIRE SITE TO MITIGATE GROUNDWATER FLOODING.
2. THE WATER SERVICE FOR THE PROJECT SITE WILL CONNECT TO ZONE 2 IN KENOSHA FARMS TO THE NORTH AND ZONE 3 IN CANYON CREEK TO THE SOUTH.
3. WATER TIGHT SEWER WILL BE INSTALLED WHEN IN GROUNDWATER TO PROTECT THE GROUNDWATER.
4. THE EXISTING OVERHEAD POWER LINES LOCATED IN JASPER ROAD, ALONG THE PROJECT FRONTAGE; SHALL BE UNDERGROUNDED.
5. THE EXISTING OVERHEAD POWER LINES LOCATED IN THE NORTHEAST CORNER OF THE PROJECT SITE SHALL BE RELOCATED & UNDERGROUNDED WITHIN PROPOSED UTILITY EASEMENTS.
6. THE EXISTING OVERHEAD POWER LINES LOCATED ALONG THE N. 119TH STREET FRONTAGE, SHALL BE UNDERGROUNDED.

100 50 0 100 200
SCALE: 1" = 100'

MATCHLINE - 5
SEE SHEET E11

No.	Revisions	Date	Init.	Aggr.	Date

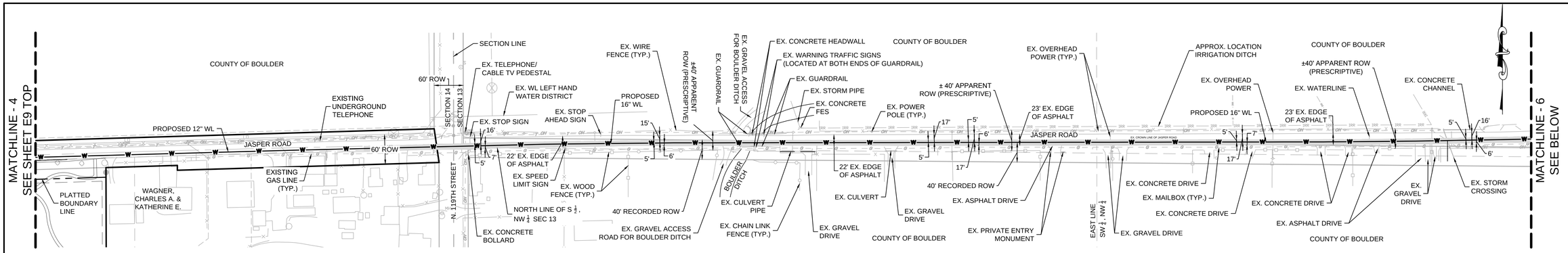
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546
CVL CONSULTANTS

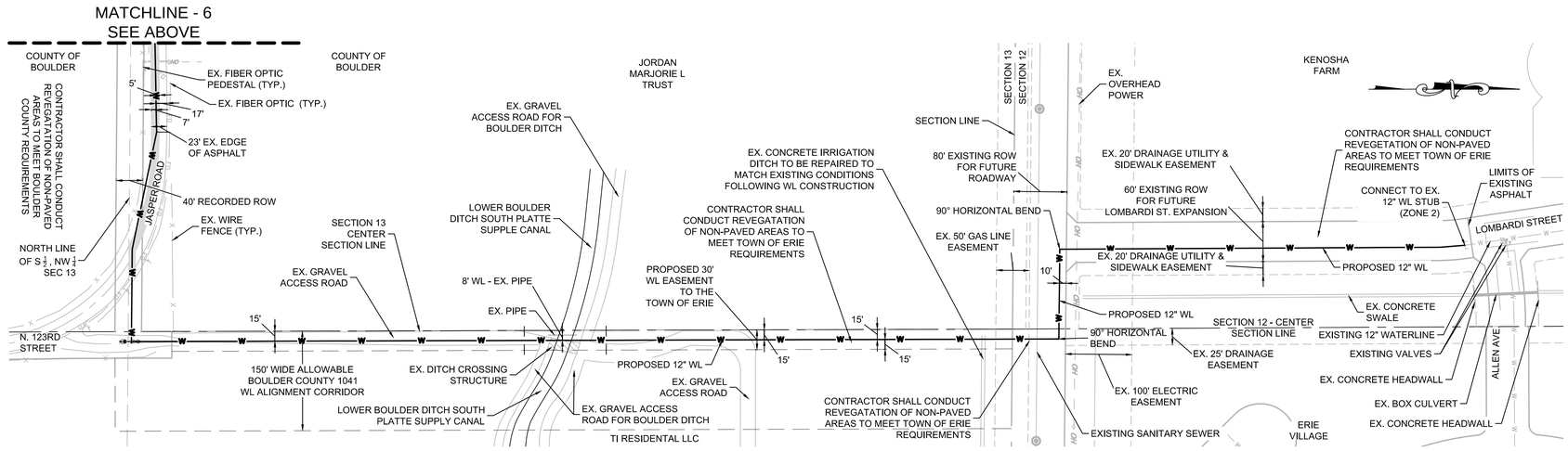
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

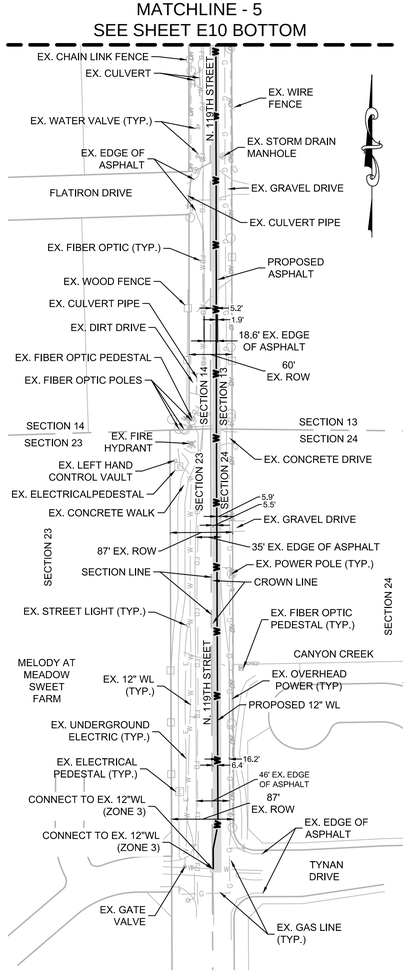
WISE FARMS
PRELIMINARY DEVELOPMENT PLAN
PRELIMINARY UTILITY PLAN - SOUTH

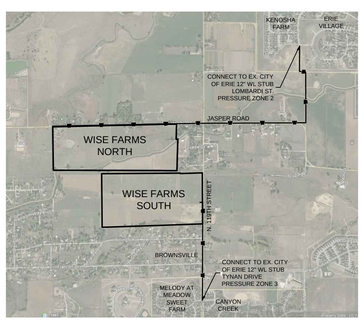
SCALE: AS SHOWN
FILE NO: 8.13.0230801
DRAWN BY: AAP
CHECKED BY: KEK
DATE: DECEMBER 2014
SHEET NUMBER E10

N:\PROJECTS\30230801 WISE FARMS\CAD\ENGINEERING\SHEET SETS\WISE FARMS - PDP\PRELIMINARY UTILITY PLAN.DWG, PATRICK PASSANISE, 12/2/014









UTILITY LEGEND

W	PROPOSED 8" WATERLINE UNLESS OTHERWISE NOTED		EXISTING TREE
	PROPOSED PRESSURE RELEASE VALVE		PROPOSED FLARED END SECTION
	PROPOSED 8" SANITARY SEWER WITH MANHOLE UNLESS OTHERWISE NOTED		PROPOSED STORM INLET
	CENTERLINE		PROPOSED STORM DRAIN WITH MANHOLE
	RIGHT-OF-WAY		EASEMENT LINE
	PROPERTY LINE		PROPOSED SWALE
	PROPERTY BOUNDARY		PROPOSED AREA INLET
W	PROPOSED WATER METER		PROPOSED GATE VALVE
IRR	PROPOSED IRRIGATION	11	LOT NUMBER
	PROPOSED UNDER DRAIN	6	BLOCK NUMBER
	6" FIRE HYDRANT ASSEMBLY		STREET LIGHT
	PROPOSED BLOW OFF VALVE		

NOTES

1. UNDERDRAINS WILL BE INSTALLED THROUGH THE ENTIRE SITE TO MITIGATE GROUNDWATER FLOODING.
2. THE WATER SERVICE FOR THE PROJECT SITE WILL CONNECT TO ZONE 2 IN KENOSHA FARMS TO THE NORTH AND ZONE 3 IN CANYON CREEK TO THE SOUTH.
3. WATER TIGHT SEWER WILL BE INSTALLED WHEN IN GROUNDWATER TO PROTECT THE GROUNDWATER.
4. THE EXISTING OVERHEAD POWER LINES LOCATED IN JASPER ROAD, ALONG THE PROJECT FRONTAGE; SHALL BE UNDERGROUNDED.
5. THE EXISTING OVERHEAD POWER LINES LOCATED IN THE NORTHEAST CORNER OF THE PROJECT SITE SHALL BE RELOCATED & UNDERGROUNDED WITHIN PROPOSED UTILITY EASEMENTS.
6. THE EXISTING OVERHEAD POWER LINES LOCATED ALONG THE N. 119TH STREET FRONTAGE, SHALL BE UNDERGROUNDED.

100 50 0 100 200

SCALE: 1" = 100'

No.	Revisions	Date	Init.	Appr.	Date

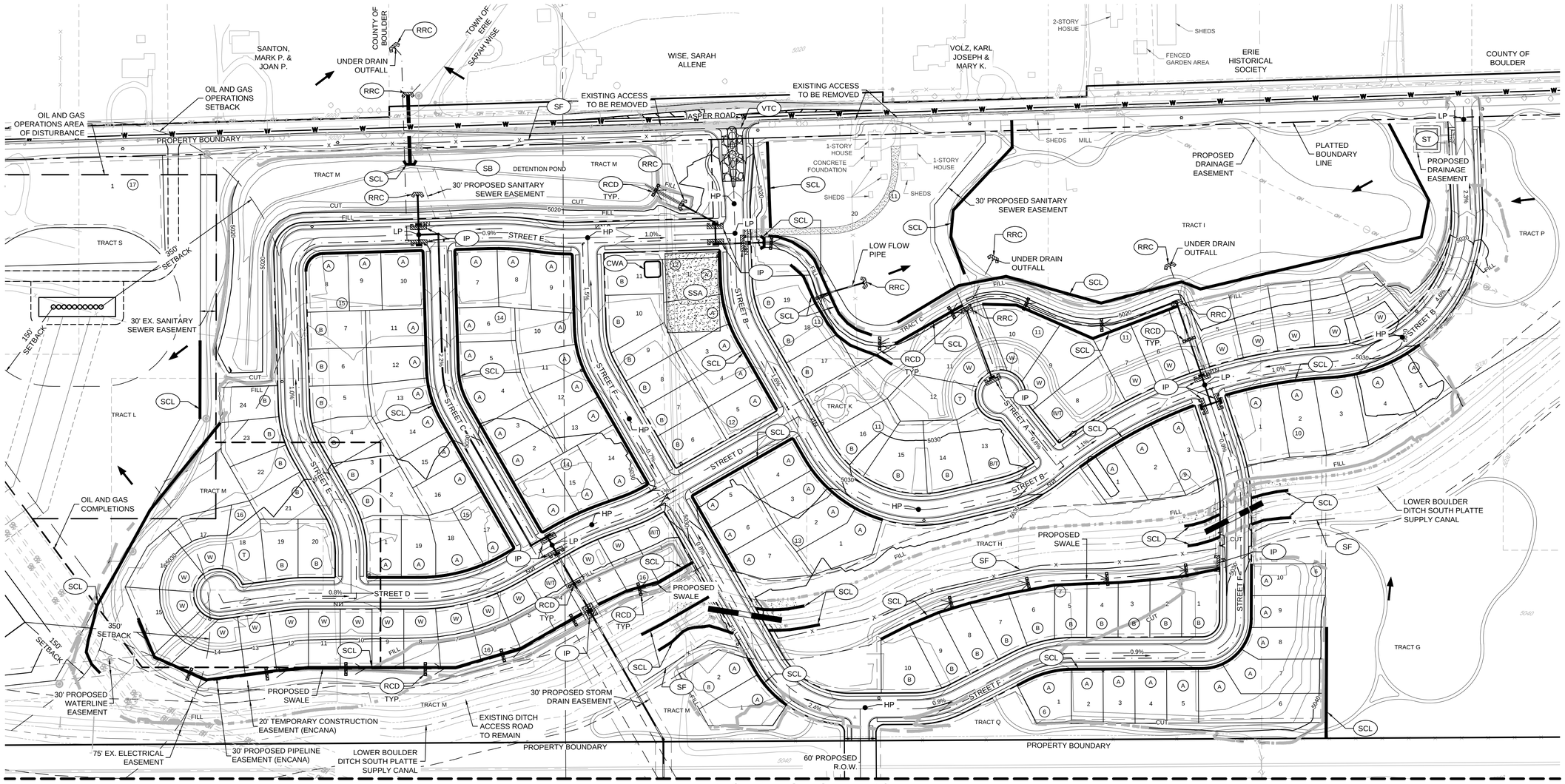
CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
PRELIMINARY DEVELOPMENT PLAN
PRELIMINARY UTILITY PLAN - OFFSITE WATER

SCALE: AS SHOWN
FILE NO: 8.13.0230801
DRAWN BY: AAP
CHECKED BY: KEK
DATE: DECEMBER 2014
SHEET NUMBER E11

N:\PROJECTS\30230801 WISE FARMS\CAD\ENGINEERING\SHEET SETS\WISE FARMS - PDP\PRELIMINARY UTILITY PLAN.DWG, PATRICK PASSANISE, 12/29/14



MATCHLINE - SEE SHEET E13

EROSION CONTROL LEGEND

IP — INLET PROTECTION	CENTERLINE
RRC — REINFORCED ROCK BERM FOR CULVERT PROTECTION	RIGHT-OF-WAY
RCD — REINFORCED CHECK DAM	LOT LINE
ST — SEDIMENT TRAP	PROPERTY BOUNDARY
SSA — STAGING / STORAGE AREA	PROPOSED DIRECTION OF FLOW
SCL — SEDIMENT CONTROL LOG	EXISTING 10' CONTOUR
CWA — CONCRETE WASHOUT AREA	EXISTING 2' CONTOUR
SF — SILT FENCE	PROPOSED 10' CONTOUR
FLOW DIRECTION ARROW	PROPOSED 2' CONTOUR
5000 — EXISTING ELEVATION	PROPOSED STORM DRAIN
5000 — PROPOSED DESIGN ELEVATION	PROPOSED FLARED END SECTION
11 — LOT NUMBER	PROPOSED STORM INLET
6 — BLOCK NUMBER	PROPOSED AREA INLET
A — LOT TYPE	PROPOSED SWALE
	CUT / FILL LINE

NOTES:
1. TRAIL LOCATIONS ARE CONCEPTUAL AND FINAL GRADING WILL ACCOMMODATE FINAL TRAIL ALIGNMENTS.
2. OIL & GAS FACILITIES SHOWN WITHIN OIL & GAS OPERATIONS AREA ARE CONCEPTUAL FUTURE IMPROVEMENTS AND AND ARE SHOWN FOR REFERENCE ONLY.

EARTHWORK

TOTAL CUT VOLUME	361,001 C.Y.
TOTAL FILL VOLUME (15% ADJUSTMENT FOR COMPACTION)	416,665 C.Y.
NET (IMPORT)	55,664 C.Y.

EROSION CONTROL NOTES

1. ALL DISTURBED AREAS WILL RECEIVE SURFACE ROUGHENING AND SEEDING AND MULCHING FOLLOWING GRADING OPERATIONS.
2. ALL SLOPES GREATER THAN 4:1 REQUIRE EROSION CONTROL BLANKET.

200 100 0 200 400

SCALE: 1" = 200'

No.	Revisions	Date	Init.	Aggr.	Date

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

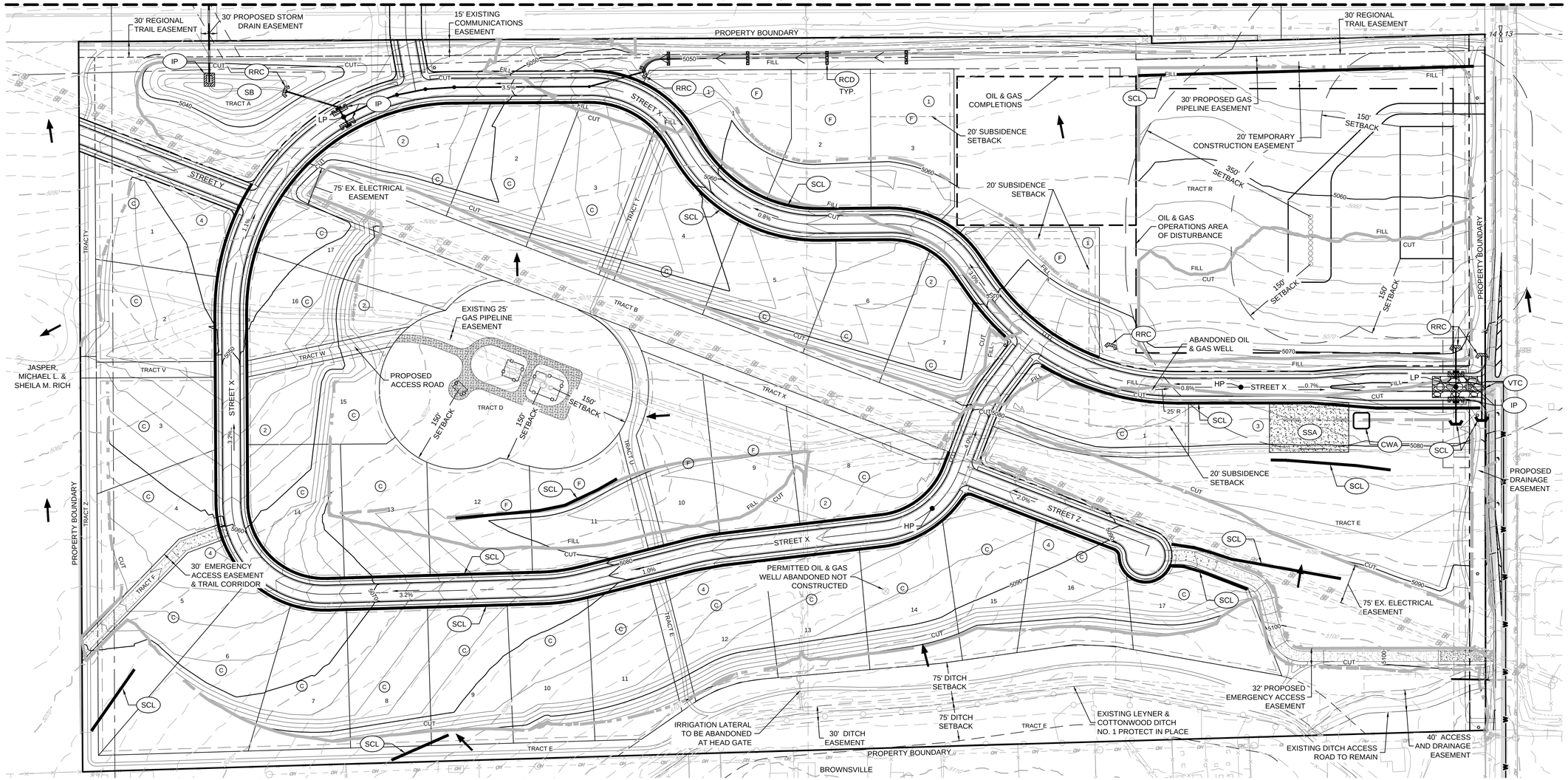
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
PRELIMINARY DEVELOPMENT PLAN
PRELIMINARY EROSION CONTROL PLAN - NORTH

SCALE: AS SHOWN
FILE NO: 8.13.0230801
DRAWN BY: AAP
CHECKED BY: KEK
DATE: DECEMBER 2014
SHEET NUMBER E12

N:\PROJECTS\0230801 WISE FARMS\CAD\ENGINEERING\SHEET SETS\WISE FARMS - PDP\PRELIMINARY GESC.DWG, PATRICK PASSANISE, 12/29/14

MATCHLINE - SEE SHEET E12



EROSION CONTROL LEGEND

IP — INLET PROTECTION	CENTERLINE
RRC — REINFORCED ROCK BERM FOR CULVERT PROTECTION	RIGHT-OF-WAY
RCD — REINFORCED CHECK DAM	LOT LINE
ST — SEDIMENT TRAP	PROPERTY BOUNDARY
SSA — STAGING / STORAGE AREA	PROPOSED DIRECTION OF FLOW
SCL — SEDIMENT CONTROL LOG	EXISTING 10' CONTOUR
CWA — CONCRETE WASHOUT AREA	EXISTING 2' CONTOUR
SF — SILT FENCE	PROPOSED 10' CONTOUR
FLOW DIRECTION ARROW	PROPOSED 2' CONTOUR
5000 — EXISTING ELEVATION	PROPOSED STORM DRAIN
5000 — PROPOSED DESIGN ELEVATION	PROPOSED FLARED END SECTION
11 — LOT NUMBER	PROPOSED STORM INLET
6 — BLOCK NUMBER	PROPOSED AREA INLET
A — LOT TYPE	PROPOSED SWALE
	CUT / FILL LINE

NOTES:
1. TRAIL LOCATIONS ARE CONCEPTUAL AND FINAL GRADING WILL ACCOMMODATE FINAL TRAIL ALIGNMENTS.
2. OIL & GAS FACILITIES SHOWN WITHIN OIL & GAS OPERATIONS AREA ARE CONCEPTUAL FUTURE IMPROVEMENTS AND AND ARE SHOWN FOR REFERENCE ONLY.

EARTHWORK

TOTAL CUT VOLUME	361,001 C.Y.
TOTAL FILL VOLUME (15% ADJUSTMENT FOR COMPACTION)	416,665 C.Y.
NET (IMPORT)	55,664 C.Y.

EROSION CONTROL NOTES

1. ALL DISTURBED AREAS WILL RECEIVE SURFACE ROUGHENING AND SEEDING AND MULCHING FOLLOWING GRADING OPERATIONS.
2. ALL SLOPES GREATER THAN 4:1 REQUIRE EROSION CONTROL BLANKET.

100 50 0 100 200

SCALE: 1" = 100'

No.	Revisions	Date	Init.	Aggr.	Date

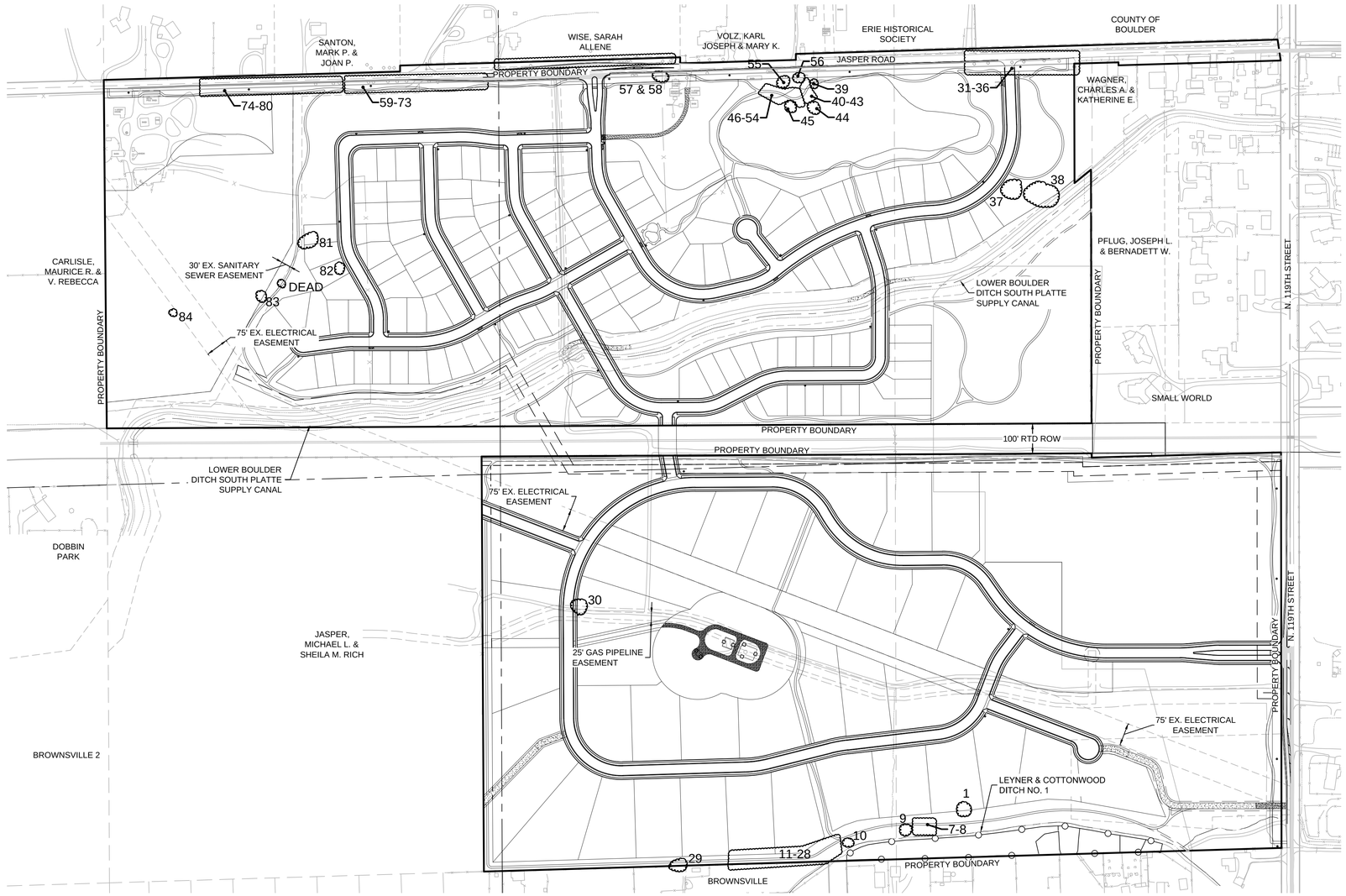
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546
CVL CONSULTANTS

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
PRELIMINARY DEVELOPMENT PLAN
PRELIMINARY EROSION CONTROL PLAN - SOUTH

SCALE: AS SHOWN
FILE NO: 8.13.0230801
DRAWN BY: AAP
CHECKED BY: KEK
DATE: DECEMBER 2014
SHEET NUMBER E13

N:\PROJECTS\30230801 WISE FARMS\CAD\ENGINEERING\SHEET SETS\WISE FARMS - PDP\PRELIMINARY GESC.DWG, PATRICK PASSANISE, 12/29/14



NOTES

1. SEE THE PRELIMINARY LANDSCAPE PLAN FOR EXISTING CONDITION OF TREES.
2. SEE THE PRELIMINARY LANDSCAPE PLANS FOR TREE REMOVAL AND REPLACEMENT RECOMMENDATIONS.
3. THE DATA PRESENTED WITHIN THE TREE INVENTORY HAS BEEN PROVIDED BY OTHERS AND IS DEPICTED FOR REFERENCE ONLY.
4. SEE PRELIMINARY LANDSCAPE PLANS FOR FULL MITIGATION MEASURES.

LEGEND

	EXISTING TREE LOCATION
37	TREE NUMBER
	PROPERTY BOUNDARY

200 100 0 200 400

SCALE: 1" = 200'

TREE INVENTORY PROVIDED BY FORESTREE DEVELOPMENT, LLC.

No.	Revisions	Date	Init.	Aggr.	Date

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
PRELIMINARY DEVELOPMENT PLAN
TREE INVENTORY

SCALE: AS SHOWN
DRAWN BY: AAP
CHECKED BY: KEK
FILE NO: 8.13.0230901
DATE: DECEMBER 2014
SHEET NUMBER T1

N:\PROJECTS\30230901 WISE FARMS\CAD\ENGINEERING\SHEET SETS\WISE FARMS - PDP\TREE SURVEY.DWG, PATRICK PASSANISE, 12/29/14

Wise Farms Preliminary Landscape Plan

a part of section 14, township 1 north, range 69 west of the 6th p.m.
town of erie, county of boulder, state of colorado
169.05 acres

TOWN OF ERIE GENERAL NOTES:

1. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST "STANDARDS AND SPECIFICATIONS FOR DESIGN AND CONSTRUCTION OF PUBLIC IMPROVEMENTS" BY THE TOWN OF ERIE. COPIES OF THE TOWN OF ERIE STANDARDS AND SPECIFICATIONS MAY BE OBTAINED FROM THE TOWN OF ERIE WEB SITE. CONTRACTOR SHALL HAVE A SET ON SITE AT ALL TIMES.

2. THE OWNER SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE TOWN OF ERIE ENGINEERING STAFF AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION. THOSE IN ATTENDANCE SHALL INCLUDE THE OWNER, HIS ENGINEER, THE TOWN OF ERIE ENGINEERING STAFF, REPRESENTATIVES OF THE CONTRACTORS AND OTHER AFFECTED AGENCIES. PLANS SIGNED AND ACCEPTED BY THE TOWN OF ERIE WILL BE DISTRIBUTED AT THE PRE-CONSTRUCTION MEETING. CONTRACTOR SHALL HAVE (1) COPY OF THE SIGNED PLANS ON SITE AT ALL TIMES
.

3. THE TOWN OF ERIE, THROUGH ACCEPTANCE OF THIS DOCUMENT, ASSUMES NO RESPONSIBILITY FOR THE COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT. THE OWNER AND DESIGN ENGINEER UNDERSTAND THAT THE RESPONSIBILITY FOR THE ENGINEERING ADEQUACY OF THE FACILITIES DEPICTED IN THIS DOCUMENT LIES SOLELY WITH THE REGISTERED PROFESSIONAL ENGINEER WHOSE STAMP AND SIGNATURE ARE AFFIXED TO THIS DOCUMENT. REPORT ALL DISCREPANCIES TO THE DESIGN ENGINEER IMMEDIATELY.

4. PRIOR TO BEGINNING THE WORK, THE CONTRACTOR SHALL OBTAIN ANY/ALL WRITTEN AGREEMENTS FOR INGRESS AND EGRESS TO THE WORK SITE FROM ADJACENT PRIVATE PROPERTY OWNERS. A COPY OF ALL AGREEMENTS SHALL BE PROVIDED TO THE TOWN. ACCESS TO ANY ADJACENT PRIVATE PROPERTY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.

5. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE TOWN OF ERIE ENGINEERING STAFF. THE TOWN RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO TOWN STANDARDS AND SPECIFICATIONS. INSPECTIONS AND ONSITE VISITS ARE NOT TO BE CONSTRUED AS A GUARANTEE BY THE TOWN ENGINEERING STAFF OF THE CONTRACTORS'' CONTRACTUAL COMMITMENT. REQUESTS FOR INSPECTION BY THE TOWN OF ERIE SHALL BE MADE BY THE CONTRACTOR A MINIMUM OF TWENTY FOUR (24) HOURS IN ADVANCE.

6. CONSTRUCTION WATER IS AVAILABLE TO THE CONTRACTOR AS ESTABLISHED IN THE TOWN OF ERIE STANDARDS AND SPECIFICATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE TOWN OF ERIE REGARDING CURRENT REGULATIONS, FEES AND REQUIRED AGREEMENTS RELATED TO THE PROVISION OF CONSTRUCTION WATER.

7. THE CONTRACTOR SHALL COORDINATE HIS ACTIVITIES WITH THE AFFECTED UTILITY COMPANIES AND SHALL NOTIFY THE UTILITY NOTIFICATION CENTER, PHONE NUMBER 811, FORTY-EIGHT (48) HOURS PRIOR TO THE START OF CONSTRUCTION.

8. UTILITIES IN THE AREA OF CONSTRUCTION ARE APPROXIMATE ONLY. THEY HAVE BEEN LOCATED FROM FIELD INVESTIGATION AND THE BEST AVAILABLE UTILITY RECORDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION, PROTECTION AND REPAIR OF ALL UTILITIES ENCOUNTERED DURING CONSTRUCTION WHETHER SHOWN ON THESE PLANS OR NOT. THE CONTRACTOR SHALL CONTACT ALL RESPECTIVE UTILITIES AND HAVE ALL UTILITIES FIELD-LOCATED PRIOR TO CONSTRUCTION. IF ANY UNKNOWN SUBSURFACE STRUCTURES ARE ENCOUNTERED DURING CONSTRUCTION, IT SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE TOWN OF ERIE ENGINEERING STAFF AND DESIGN ENGINEER PRIOR TO PROCEEDING.

9. THE CONTRACTOR SHALL NOTIFY TOWN OF ERIE ENGINEERING STAFF OF ANY PROBLEM IMPACTING WATER AND WASTE WATER FACILITIES THAT WOULD POTENTIALLY REQUIRE A VARIANCE FROM THE APPROVED PLANS AND SPECIFICATIONS. ANY VARIANCE FROM THE APPROVED DOCUMENTS SHALL BE AT THE SOLE DISCRETION OF THE TOWN OF ERIE ENGINEERING STAFF.

10. CONTRACTOR SHALL OBTAIN, AT HIS OWN EXPENSE, ALL APPLICABLE SPECIFICATIONS AND PERMITS NECESSARY TO PERFORM THE PROPOSED WORK.

11. AS-BUILT DRAWINGS AND A CD INCLUDING AUTOCAD AND PDF FILES, AS REQUIRED IN THE SPECIFICATIONS, ARE TO BE SUBMITTED BY THE OWNER/DEVELOPER PRIOR TO SUBSTANTIAL COMPLETION/CONSTRUCTION ACCEPTANCE OF THE CONSTRUCTION.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ANY EXISTING SIGNS, STRUCTURES, FENCES, ETC., ENCOUNTERED ON THE JOB AND RESTORING THEM TO THEIR ORIGINAL CONDITION.

13. THE CONTRACTOR IS RESPONSIBLE FOR: A. NOTIFYING THE TOWN OF ERIE UTILITY CUSTOMERS OF POTENTIAL SERVICE OUTAGES, AND COORDINATE WITH THE TOWN OF ERIE FOR DETERMINATION OF MINIMUM TIME REQUIREMENT. B. NOTIFYING THE TOWN OF ERIE ENGINEERING STAFF IF WORK IS SUSPENDED FOR ANY PERIOD OF TIME AFTER INITIAL START-UP. THE CONTRACTOR SHALL NOTIFY THE TOWN OF ERIE FORTY-EIGHT (48) HOURS PRIOR TO RESTART. C. IN THE EVENT OF AN AFTER HOURS EMERGENCY, CALL 303-441-4444. D. NOTIFYING THE MOUNTAIN VIEW FIRE PROTECTION DISTRICT OF ALL STREET CLOSURES AND EXISTING FIRE HYDRANTS TAKEN OUT OF SERVICE A MINIMUM OF FORTY-EIGHT (48) HOURS PRIOR TO THE START OF CONSTRUCTION.

14. PRIOR TO INSTALLATION OF UTILITY MAINS, ROAD CONSTRUCTION MUST HAVE PROGRESSED TO AT LEAST THE "SUB-GRADE" STAGE.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY GROUNDWATER ENCOUNTERED DURING THE CONSTRUCTION OF ANY PORTION OF THIS PROJECT. A CONSTRUCTION DEWATERING PERMIT MUST BE OBTAINED FROM THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE). GROUNDWATER SHALL BE PUMPED, PIPED, REMOVED AND DISPOSED OF IN A MANNER WHICH DOES NOT CAUSE FLOODING OF EXISTING STREETS OR EROSION OF ABUTTING PROPERTIES IN ORDER TO CONSTRUCT THE IMPROVEMENTS SHOWN ON THESE PLANS. THE USE OF ANY SANITARY SEWER TO DISPOSE OF TRENCH WATER WILL NOT BE PERMITTED. NO CONCRETE SHALL BE PLACED WHERE GROUNDWATER IS VISIBLE OR UNTIL THE GROUNDWATER TABLE HAS BEEN LOWERED BELOW THE PROPOSED IMPROVEMENTS. ANY UNSTABLE AREAS, AS A RESULT OF GROUNDWATER, ENCOUNTERED DURING THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE STABILIZED AS AGREED UPON BY THE CONTRACTOR, THE TOWN OF ERIE, AND THE DESIGN ENGINEER AT THE TIME OF THE OCCURRENCE

16. IT SHALL BE THE RESPONSIBILITY OF THE DESIGN ENGINEER TO RESOLVE CONSTRUCTION PROBLEMS WITH THE TOWN OF ERIE DUE TO CHANGED CONDITIONS ENCOUNTERED BY THE CONTRACTOR DURING THE PROGRESS OF ANY PORTION OF THE PROPOSED WORK. IF, IN THE OPINION OF THE TOWN OF ERIE, PROPOSED ALTERATIONS TO THE SIGNED CONSTRUCTION PLANS INVOLVES SIGNIFICANT CHANGES TO THE CHARACTER OF THE WORK, OR TO THE FUTURE CONTIGUOUS PUBLIC OR PRIVATE IMPROVEMENTS, THE DESIGN ENGINEER SHALL BE RESPONSIBLE FOR SUBMITTING REVISED PLANS TO THE TOWN OF ERIE FOR REVIEW, PRIOR TO ANY FURTHER CONSTRUCTION RELATED TO THAT PORTION OF THE WORK.

17. DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS AT AND ADJACENT TO THE JOB INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAGMEN, OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND IS NOT LIMITED TO NORMAL WORKING HOURS. THE TOWN OF ERIE OR THE DESIGN ENGINEER EXERCISE NO CONTROLS OVER THE SAFETY OR ADEQUACY OF ANY EQUIPMENT, BUILDING COMPONENTS, SCAFFOLDING, FORMS OR OTHER WORK AIDS USED IN OR ABOUT THE PROJECT, OR IN THE SUPERINTENDING OF THE SAME. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS FROM ANY AND ALL LIABILITY, REAL AND ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER, THE DESIGN ENGINEER OR THE TOWN. THE TOWN OF ERIE ENGINEERING STAFF, OR ANY CONTRACTED ENGINEER, ARE NOT RESPONSIBLE FOR SAFETY IN, ON OR ABOUT THE PROJECT SITE, NOR FOR COMPLIANCE BY THE APPROPRIATE PARTY OF ANY REGULATIONS RELATING THERETO.

18. WORK IN PUBLIC STREETS, ONCE BEGUN, SHALL BE PROSECUTED TO COMPLETION WITHOUT DELAY SO AS TO PROVIDE MINIMUM INCONVENIENCE TO ADJACENT PROPERTY OWNERS AND TO THE TRAVELING PUBLIC.

19. THE CONTRACTOR SHALL TAKE ALL NECESSARY AND PROPER PRECAUTIONS TO PROTECT ADJACENT PROPERTIES FROM ANY AND ALL DAMAGE THAT MAY OCCUR FROM STORM WATER RUNOFF AND/OR DEPOSITION OF DEBRIS RESULTING FROM ANY AND ALL WORK. THE OWNER/CONTRACTOR IS RESPONSIBLE FOR OBTAINING A STORMWATER DISCHARGE PERMIT FOR CONSTRUCTION ACTIVITIES FOR ANY PROJECT DISTURBING OVER ONE ACRE FROM BOTH THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND THE TOWN OF ERIE.

20. EACH TYPE OF CONSTRUCTION SHALL BE COMPLETED BY A CONTRACTOR THAT HAS DEMONSTRATED ACCEPTABLE QUALIFICATIONS TO THE TOWN AND IS A LICENSED CONTRACTOR IN THE TOWN OF ERIE.

21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL DURING CONSTRUCTION. ALL TRAFFIC CONTROLS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (MUTCD) LATEST EDITION. A PLAN SHALL BE SUBMITTED TO THE TOWN FOR REVIEW AND APPROVAL PRIOR TO THE PRE-CONSTRUCTION MEETING.

22. ALL BACKFILL SHALL CONFORM TO THE TRENCH DETAIL LOCATED IN THE TOWN OF ERIE STANDARDS & SPECIFICATIONS.

23. THE CONTRACTOR SHALL IMMEDIATELY REMOVE ANY CONSTRUCTION DEBRIS OR MUD TRACKED ONTO EXISTING ROADWAYS.

24. THE CONTRACTOR SHALL REPAIR ANY EXCAVATION OR PAVEMENT FAILURES CAUSED BY HIS CONSTRUCTION.

25. THE CONTRACTOR SHALL RENEW OR REPLACE ANY EXISTING TRAFFIC STRIPING AND/OR PAVEMENT MARKINGS, WHICH HAVE BEEN EITHER REMOVED OR THE EFFECTIVENESS OF WHICH HAS BEEN REDUCED DURING HIS OPERATION. RENEWAL OF PAVEMENT STRIPING AND MARKING SHALL BE DONE IN CONFORMANCE WITH THE TOWN OF ERIE STANDARD SPECIFICATIONS.

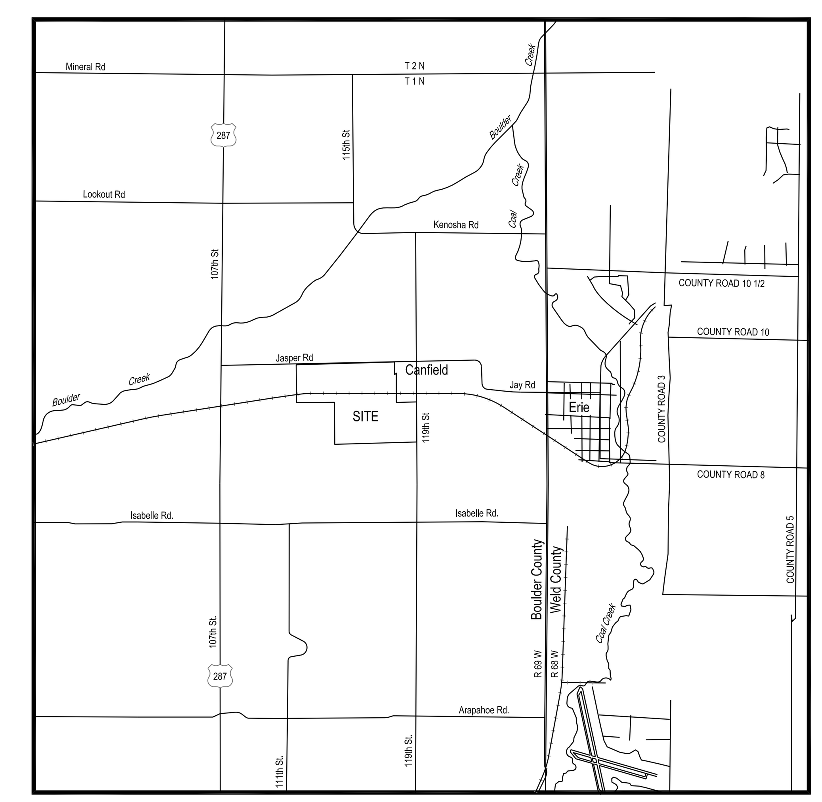
26. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO TAKE EVERY MEASURE NECESSARY TO COMPLY WITH ANY STATE, COUNTY OR TOWN DUST CONTROL ORDINANCE.

27. CONSTRUCTION VEHICLES SHALL USE TRUCK ROUTES DESIGNATED BY THE TOWN.

28. THE OWNER/DEVELOPER WILL BE HELD RESPONSIBLE FOR THE PROPER FUNCTIONING OF THE IMPROVEMENTS FOR A MINIMUM OF TWO (2) YEARS FROM THE DATE OF SUBSTANTIAL COMPLETION/ CONSTRUCTION ACCEPTANCE OF THE IMPROVEMENTS BY THE TOWN OF ERIE. ANY FAILURE DURING THIS PERIOD OF GUARANTEE SHALL BE REMEDIED BY THE OWNER/CONTRACTOR TO THE SATISFACTION OF THE TOWN OF ERIE AT NO EXPENSE TO THE TOWN.

29. THE DESIGN ENGINEER SHALL PERFORM SUFFICIENT INSPECTIONS AND SURVEYS DURING GRADING AND CONSTRUCTION SO THAT AN OPINION CAN BE RENDERED AND VERIFIED IN WRITING AS TO COMPLIANCE WITH THE PLANS AND CODES WITHIN THE DESIGN ENGINEER'S PURVIEW.

30. THE SOILS ENGINEER SHALL PERFORM SUFFICIENT INSPECTIONS DURING GRADING AND CONSTRUCTION SO THAT AN OPINION CAN BE RENDERED AND VERIFIED IN WRITING AS TO COMPLIANCE WITH THE PLANS AND CODES WITHIN THE SOILS ENGINEER'S PURVIEW.



Vicinity Map
1"=5000'

SHEET INDEX
L0......Cover
L1......Overall Landscape Plan
L2......Landscape Plan Enlargement
L3......Landscape Plan Enlargements
L4......Landscape Plan Enlargement
L5......Landscape Plan Enlargement (Pocket Park)
L6......Landscape Plan (Pocket Park Details)
L7......Landscape Plan Enlargement
L8......Existing Tree Plan & Trail Plan - South ½ of Site
L9......Existing Tree Plan &Trail Plan - North ½ of Site
L10....Planting Schedule
L11....Fencing Plan & Street Light Plan

No.	Revisions	Date	Init.	Appr.	Date

people creating spaces
pcs group inc. www.pcsgroupco.com
1001 16th Street - B-180 . denver co 80265
t 303 531 4905 f 303 531 4908

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
PRELIMINARY LANDSCAPE PLAN

DRAWN BY: CD
CHECKED BY: JP
DATE: 12-22-2014
SCALE: AS SHOWN
FILE NO:

SHEET NUMBER
L0

Y:\ARCHIVE\ERIE-WISE PROPERTY\LANDSCAPE ARCHITECTURE\CURRENT DWGS\PRELIMINARY_LANDSCAPE_PLAN_COMBINED.DWG, CURTIS DAVIDSON, 12/22/14

PRIOR TO APPROVAL OF A FINAL PLAT ALLOWING DEVELOPMENT, THE MILL BUILDINGS IN TRACT I WILL BE EITHER MOVED OFF SITE OR REMOVED.

EXISTING TREES TO REMAIN IN PLACE, TYP.

PROPERTY BOUNDARY, TYP.

ENLARGEMENT 3 / L4

ENLARGEMENT 1 / L2

EXISTING TREES TO BE REMOVED, TYP.

MIXED GRASS PRAIRIE SEED MIX OVERSEEDED WITH MOIST SWALE SEED MIX

SHORT GRASS NATIVE SEED MIX, TYP.

NON JURISDICTIONAL ISOLATED DEPRESSIONAL WETLAND

110' DITCH ESMT.

ORNAMENTAL IRON FENCE, TYP.

FUTURE OIL OPERATIONS WILL CONFORM TO MC REQUIREMENTS AT FINAL PLAT

ENLARGEMENT 1 / L5

SHORT GRASS NATIVE SEED MIX, TYP.

DITCH MAINTENANCE ROAD AND ACCESS, TYP.

MIXED GRASS PRAIRIE SEED MIX, TYP.

ENLARGEMENT 1 / L4

SHORT GRASS PRAIRIE SEED MIX OVERSEEDED WITH MOIST SWALE SEED MIX, TYP.

SHORT GRASS PRAIRIE SEED MIX, TYP.

MIXED GRASS PRAIRIE SEED MIX, TYP.

DITCH MAINTENANCE ROAD, TYP.

ENLARGEMENT 2 / L4

60' ROW

RTD ROW

LOWER BOULDER DITCH

MIXED GRASS PRAIRIE SEED MIX OVERSEEDED WITH MOIST SWALE SEED MIX

75' TRANSMISSION ESMT

NOTE: IF A CROSSING THROUGH THE RTD PROPERTY IS NOT PERMITTED, A POCKET PARK WILL BE DESIGNED IN PLACE OF LOT 1, BLOCK 2.

ENLARGEMENT 2 / L2

ENLARGEMENT 1 / L7

EXISTING OIL OPERATIONS WILL CONFORM TO MC REQUIREMENTS AT FINAL PLAT

FUTURE OIL OPERATIONS WILL CONFORM TO MC REQUIREMENTS AT FINAL PLAT

SOD, TYP.

MIXED GRASS PRAIRIE SEED MIX, TYP.

SHORT GRASS PRAIRIE SEED MIX, TYP.

SHORT GRASS PRAIRIE SEED MIX, TYP.

LEYNER COTTONWOOD DITCH

LEGEND

- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- DECIDUOUS TREES
- EVERGREEN TREES
- SHRUBS
- PROPERTY LINE
- SPLIT RAIL FENCE
- ORNAMENTAL IRON FENCE
- STREET LIGHT
- SOD - THERMAL BLUE BLEND
- SHORT GRASS PRAIRIE NATIVE SEED MIX
- MIXED GRASS PRAIRIE NATIVE SEED MIX
- MOIST SWALE SEED MIX
- ROCK MULCH - ¾"-1½" TAN
- WOOD MULCH - 1"-4" WOOD CHIP MULCH
- EDGING -3/16"X6" DEEP GREEN PAINTED STEEL

0' 75' 150' 300'

SCALE: 1" = 150'

N

No.	Revisions	Date	Init.	Appr.	Date

people creating spaces

pcs group inc. www.pcsgroupco.com
1001 16th Street - B-180 - denver co 80265
t 303 531 4905 f 303 531 4906

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
PRELIMINARY LANDSCAPE PLAN

SCALE: AS SHOWN
FILE NO:
DRAWN BY: CD
CHECKED BY: JP
DATE: 12-22-2014

SHEET NUMBER L1

Y:\ARCH\VEERIE-WISE PROPERTY\LANDSCAPE ARCHITECTURE\CURRENT DWGS\PRELIMINARY_LANDSCAPE_PLAN_COMBINED.DWG, CURTIS DAVIDSON, 12/22/14

EXISTING TREES TO BE REMOVED, TYP.

ENLARGEMENT 1 / L3

STREET LIGHT, TYP.

SIGHT LINE, TYP.

57&58

EXISTING HOMESTEAD

SWALE, TYP.

ACCESS DRIVE

59-79

DETENTION POND
MIXED GRASS PRAIRIE SEED MIX OVERSEEDED
WITH MOIST SWALE SEED MIX

TRACT M
290,680 S.F.
11.492 AC.

STREET E

STREET B

55' SIGHT LINE, TYP.

55' SIGHT LINE, TYP.

TRACT C
24,027 S.F.
0.552 AC.

8
8,566 S.F.
0.197 AC.

9
6,829 S.F.
0.157 AC.

10
8,799 S.F.
0.202 AC.

7
8,821 S.F.
0.202 AC.

8
6,855 S.F.
0.157 AC.

9
8,836 S.F.
0.203 AC.

11
7,150 S.F.
0.164 AC.

1
8,200 S.F.
0.188 AC.

19
8,929 S.F.
0.205 AC.

STREET LIGHT, TYP.

STREET LIGHT, TYP.

SOD - THERMAL BLUE MIX, TYP.

SPIT RAIL FENCE, TYP.

EDGING - 3/16" X 6" DEEP GREEN PAINTED STEEL, TYP.

1"-4" WOOD CHIP MULCH, TYP.

3/4"-1.5" TAN ROCK MULCH, TYP.

SHORT GRASS PRAIRIE NATIVE SEED MIX OVERSEEDED WITH MOIST SWALE MIX, TYP.

350'

6'

5'

SCALE: 1" = 40'

N

SCALE: 1"=40'

1 ENLARGEMENT

8' CONCRETE TRAIL W/ 4' CRUSHER FINES TRAIL ATTACHED TO NORTH SIDE, TYP.

6 'CONCRETE TRAIL

FUTURE TRAIL CONNECTION

6' CONCRETE TRAIL

TRACT A
106,917 S.F.
2.454 AC.

STREET X

STREET LIGHT, TYP.

1
41,759 S.F.
0.959 AC.

2
41,946 S.F.
0.963 AC.

DETENTION POND
MIXED GRASS PRAIRIE SEED MIX
OVERSEEDED WITH MOIST SWALE
SEED MIX

SHORT GRASS PRAIRIE
NATIVE SEE MIX , TYP.

SPIT RAIL FENCE, TYP.

75' TRANSMISSION ESMT.

SCALE: 1" = 40'

N

2 ENLARGEMENT

SCALE: 1"=40'

LEGEND

- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- DECIDUOUS TREES
- EVERGREEN TREES
- SHRUBS
- PROPERTY LINE
- SPLIT RAIL FENCE
- ORNAMENTAL IRON FENCE
- STREET LIGHT
- SOD - THERMAL BLUE BLEND
- SHORT GRASS PRAIRIE NATIVE SEED MIX
- MIXED GRASS PRAIRIE NATIVE SEED MIX
- MOIST SWALE SEED MIX
- ROCK MULCH - 3/4"-1 1/2" TAN
- WOOD MULCH - 1"-4" WOOD CHIP MULCH
- EDGING -3/16"X6" DEEP GREEN PAINTED STEEL

Y:\ARCHIVE\ERIE-WISE PROPERTY\LANDSCAPE ARCHITECTURE\CURRENT DWGS\PRELIMINARY_LANDSCAPE_PLAN_COMBINED.DWG, CURTIS DAVIDSON, 12/22/14

No.	Revisions	Date	Init.	Appr.	Date

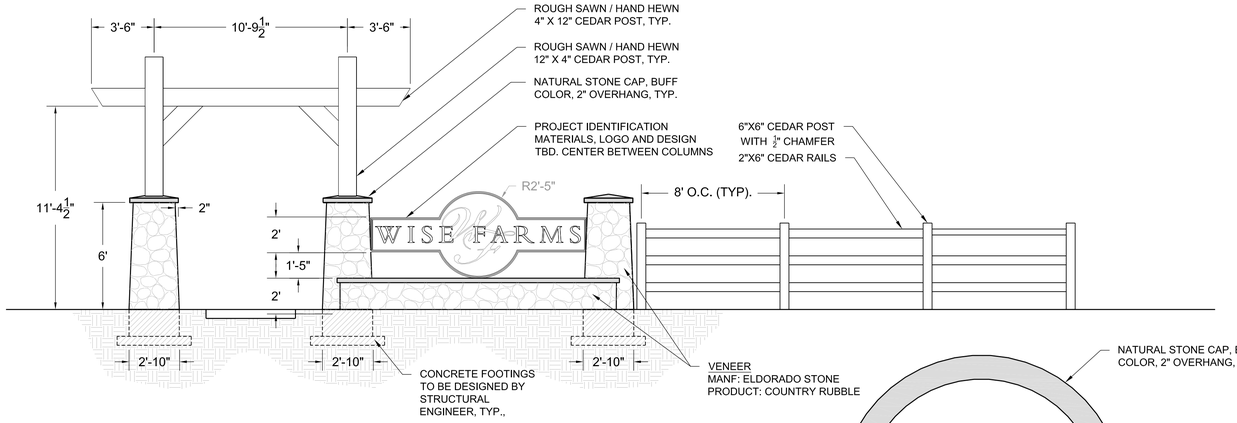
people creating spaces
pcs group inc. www.pcsgroupcs.com
1001 16th Street - B-180 - denver co 80265
t 303 531 4905 f 303 531 4906

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

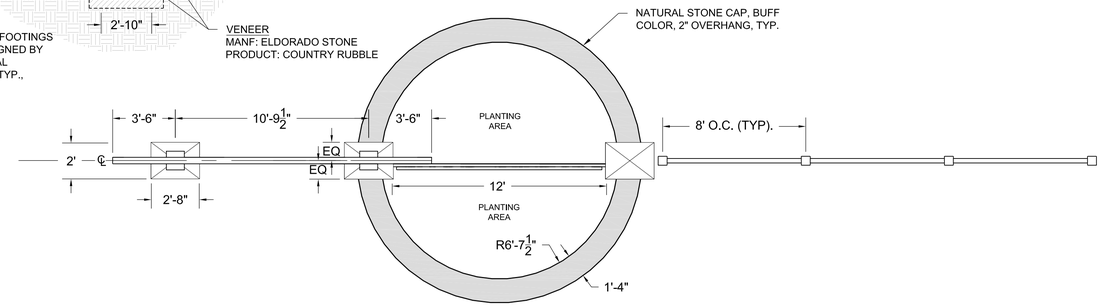
WISE FARMS
PRELIMINARY LANDSCAPE PLAN

SCALE: AS SHOWN
FILE NO:
DRAWN BY: CD
CHECKED BY: JP
DATE: 12-22-2014

SHEET NUMBER L2



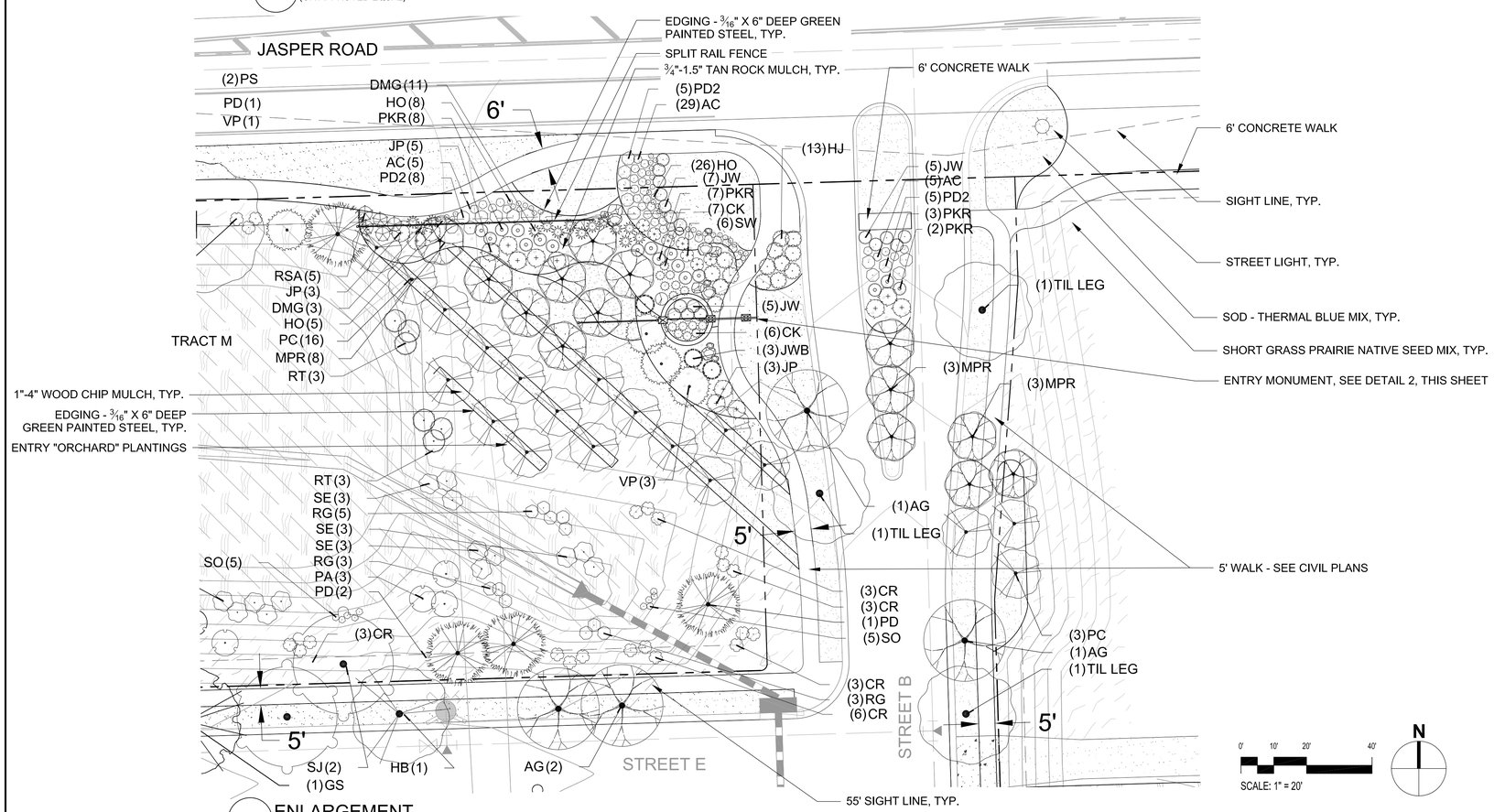
ELEVATION



PLAN

2 ENTRY MONUMENTATION
(OR APPROVED EQUAL)

SCALE: 1/4"=1'-0"



1 ENLARGEMENT

SCALE: 1"=20'

LEGEND

- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- DECIDUOUS TREES
- EVERGREEN TREES
- SHRUBS
- PROPERTY LINE
- SPLIT RAIL FENCE
- ORNAMENTAL IRON FENCE
- STREET LIGHT
- SOD - THERMAL BLUE BLEND
- SHORT GRASS PRAIRIE NATIVE SEED MIX
- MIXED GRASS PRAIRIE NATIVE SEED MIX
- MOIST SWALE SEED MIX
- ROCK MULCH - 3/4"-1 1/2" TAN
- WOOD MULCH - 1"-4" WOOD CHIP MULCH
- EDGING -3/16"X6" DEEP GREEN PAINTED STEEL

No.	Revisions	Date	Init.	Appr.	Date

people creating spaces
pcs group inc. www.pcsgroupcs.com
1001 16th Street - B-180 - denver co 80265
t 303 531 4905 f 303 531 4906

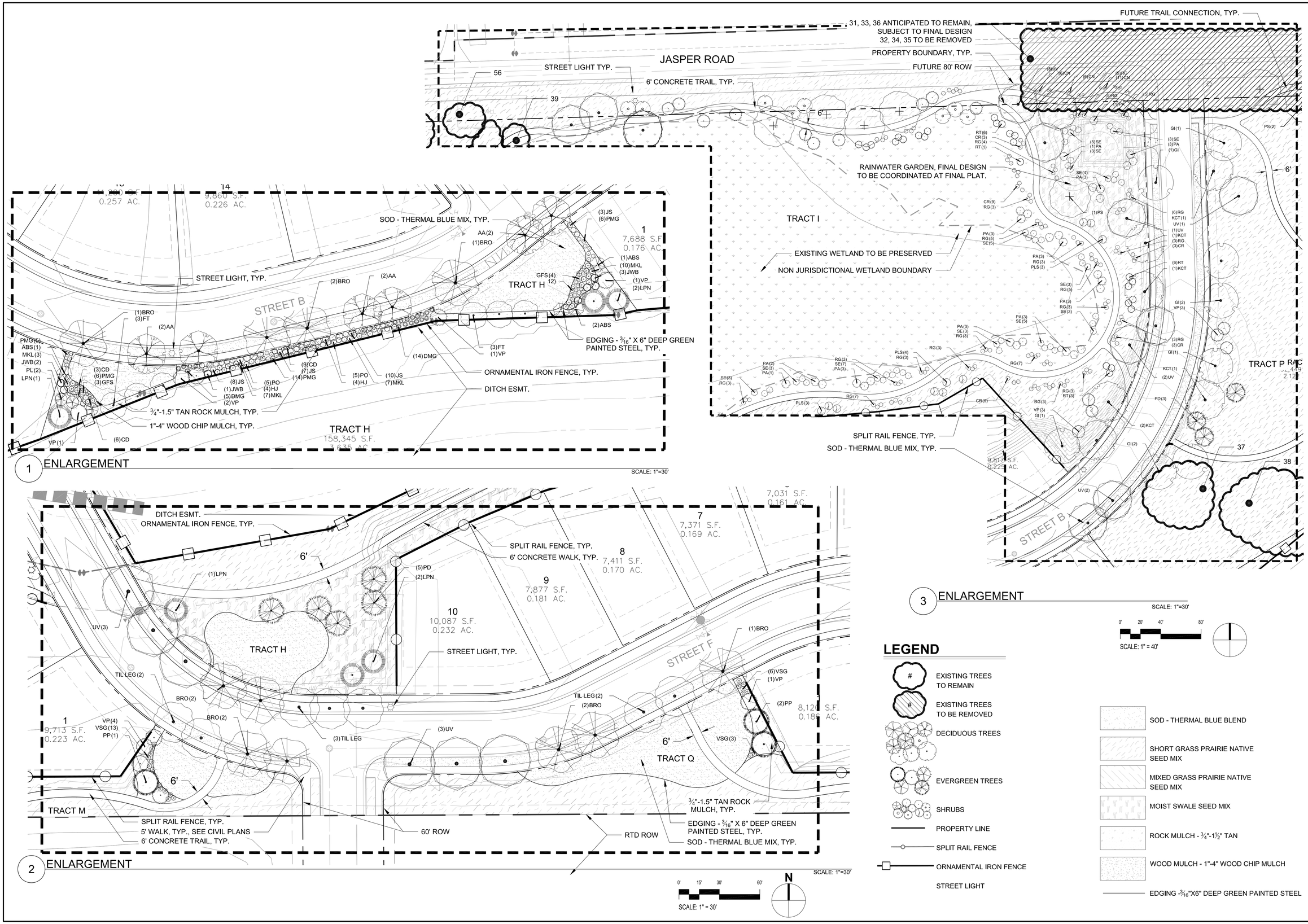
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
PRELIMINARY LANDSCAPE PLAN

SCALE: AS SHOWN
FILE NO:
DRAWN BY: CD
CHECKED BY: JP
DATE: 12-22-2014

SHEET NUMBER
L3

Y:\ARCHIVE\ERIE-WISE PROPERTY\LANDSCAPE ARCHITECTURE\CURRENT DWGS\PRELIMINARY_LANDSCAPE_PLAN_COMBINED.DWG, CURTIS DAVIDSON, 12/22/14



No.	Revisions	Date	Init.	Appr.	Date

people creating spaces
pcs group inc. www.pcsgroupcs.com
1001 16th Street - B-180 - denver co 80265
t 303.531.4905 f 303.531.4906

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
PRELIMINARY LANDSCAPE PLAN

SCALE: AS SHOWN
FILE NO:
DRAWN BY: CD
CHECKED BY: JP
DATE: 12-22-2014

SHEET NUMBER L4

Y:\ARCHIVE\ERIE-WISE PROPERTY\LANDSCAPE ARCHITECTURE\CURRENT DWGS\PRELIMINARY_LANDSCAPE_PLAN_COMBINED.DWG, CURTIS DAVIDSON, 12/22/14

POCKET PARK COMPONENTS:

SIZE: 0.45 ACRES
OWNERSHIP AND MAINTENANCE: HOA

A. INFRASTRUCTURE:

- BENCHES (2 PROVIDED)
- BICYCLE RACK (1 PROVIDED) SERVING 4 BIKES
- DOG PICK UP STATION (1 PROVIDED)
- IDENTIFICATION SIGN
- AUTOMATIC IRRIGATION SYSTEM
- OPEN TURF AREA (5,265 sf)
- SIDEWALKS (ADA ACCESSIBLE)
- TRASH RECEPTACLES (2 PROVIDED)
- PLANT MATERIALS (SEE PLANT SCHEDULE AND PLANT MATERIALS SUMMARY TABLE, THIS SHEET)

B. PRE SELECTED COMPONENTS:

- GROUP PICNIC SHELTER (625 sf) AND 4 PICNIC TABLES
- MULTI LEVEL PLAY STRUCTURE

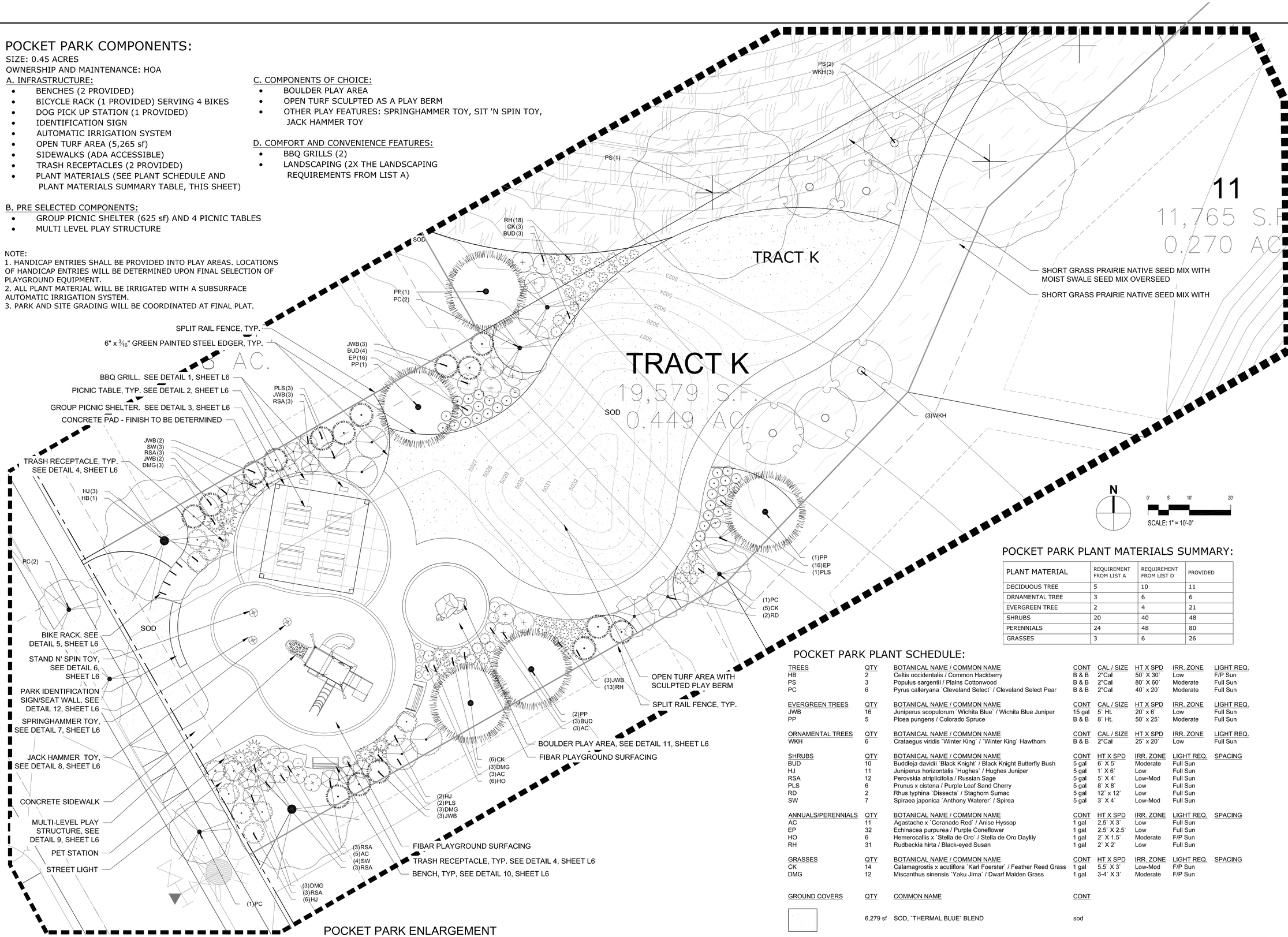
C. COMPONENTS OF CHOICE:

- BOULDER PLAY AREA
- OPEN TURF SCULPTED AS A PLAY BERM
- OTHER PLAY FEATURES: SPRINGHAMMER TOY, SIT 'N SPIN TOY, JACK HAMMER TOY

D. COMFORT AND CONVENIENCE FEATURES:

- BBQ GRILLS (2)
- LANDSCAPING (2X THE LANDSCAPING REQUIREMENTS FROM LIST A)

NOTE:
1. HANDICAP ENTRIES SHALL BE PROVIDED INTO PLAY AREAS. LOCATIONS OF HANDICAP ENTRIES WILL BE DETERMINED UPON FINAL SELECTION OF PLAYGROUND EQUIPMENT.
2. ALL PLANT MATERIAL WILL BE IRRIGATED WITH A SUBSURFACE AUTOMATIC IRRIGATION SYSTEM.
3. PARK AND SITE GRADING WILL BE COORDINATED AT FINAL PLAT.



POCKET PARK PLANT MATERIALS SUMMARY:

PLANT MATERIAL	REQUIREMENT FROM LIST A	REQUIREMENT FROM LIST D	PROVIDED
DECIDUOUS TREE	5	10	11
ORNAMENTAL TREE	3	6	6
EVERGREEN TREE	2	4	21
SHRUBS	20	40	48
PERENNIALS	24	48	80
GRASSES	3	6	26

POCKET PARK PLANT SCHEDULE:

TREES	QTY	BOTANICAL NAME / COMMON NAME	CONT	CAL / SIZE	HT X SPD	IRR. ZONE	LIGHT REQ.
HB	2	Celtis occidentalis / Common Hackberry	B & B	2"Cal	50' X 30'	Low	F/P Sun
PS	3	Populus sargentii / Plains Cottonwood	B & B	2"Cal	80' X 60'	Moderate	Full Sun
PC	6	Pyrus calleryana `Cleveland Select` / Cleveland Select Pear	B & B	2"Cal	40' x 20'	Moderate	Full Sun

EVERGREEN TREES	QTY	BOTANICAL NAME / COMMON NAME	CONT	CAL / SIZE	HT X SPD	IRR. ZONE	LIGHT REQ.
JWB	16	Juniperus scopulorum `Wichita Blue` / Wichita Blue Juniper	15 gal	5' Ht.	20' x 6'	Low	Full Sun
PP	5	Picea pungens / Colorado Spruce	B & B	8' Ht.	50' x 25'	Moderate	Full Sun

ORNAMENTAL TREES	QTY	BOTANICAL NAME / COMMON NAME	CONT	CAL / SIZE	HT X SPD	IRR. ZONE	LIGHT REQ.
WKH	6	Crataegus viridis `Winter King` / `Winter King` Hawthorn	B & B	2"Cal	25' x 20'	Low	Full Sun

SHRUBS	QTY	BOTANICAL NAME / COMMON NAME	CONT	HT X SPD	IRR. ZONE	LIGHT REQ.	SPACING
BUD	10	Buddleja davidii `Black Knight` / Black Knight Butterfly Bush	5 gal	6' X 5'	Moderate	Full Sun	
HJ	11	Juniperus horizontalis `Hughes` / Hughes Juniper	5 gal	1' X 6'	Low	Full Sun	
RSA	12	Perovskia atriplicifolia / Russian Sage	5 gal	5' X 4'	Low-Mod	Full Sun	
PLS	6	Prunus x cistena / Purple Leaf Sand Cherry	5 gal	8' X 8'	Low	Full Sun	
RD	2	Rhus typhina `Dissecta` / Staghorn Sumac	5 gal	12' x 12'	Low	Full Sun	
SW	7	Spiraea japonica `Anthony Waterer` / Spirea	5 gal	3' X 4'	Low-Mod	Full Sun	

ANNUALS/PERENNIALS	QTY	BOTANICAL NAME / COMMON NAME	CONT	HT X SPD	IRR. ZONE	LIGHT REQ.	SPACING
AC	11	Agastache x `Coranado Red` / Anise Hyssop	1 gal	2.5' X 3'	Low	Full Sun	
EP	32	Echinacea purpurea / Purple Coneflower	1 gal	2.5' X 2.5'	Low	Full Sun	
HO	6	Hemerocallis x `Stella de Oro` / Stella de Oro Daylily	1 gal	2' X 1.5'	Moderate	F/P Sun	
RH	31	Rudbeckia hirta / Black-eyed Susan	1 gal	2' X 2'	Low	Full Sun	

GRASSES	QTY	BOTANICAL NAME / COMMON NAME	CONT	HT X SPD	IRR. ZONE	LIGHT REQ.	SPACING
CK	14	Calamagrostis x acutiflora `Karl Foerster` / Feather Reed Grass	1 gal	5.5' X 3'	Low-Mod	F/P Sun	
DMG	12	Miscanthus sinensis `Yaku Jima` / Dwarf Maiden Grass	1 gal	3-4' X 3'	Moderate	F/P Sun	

GROUND COVERS	QTY	COMMON NAME	CONT
	6,279 sf	SOD, `THERMAL BLUE` BLEND	sod

POCKET PARK ENLARGEMENT

No.	Revisions	Date	Init.	Appr.	Date

people creating spaces
pcs group inc. www.pcsgroupcs.com
1001 16th Street - B-180 - denver co 80265
t 303 531 4905 f 303 531 4906

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
PRELIMINARY LANDSCAPE PLAN

SCALE: AS SHOWN
FILE NO:
DRAWN BY: CD
CHECKED BY: JP
DATE: 12-22-2014
SHEET NUMBER L5

Y:\ARCHIVE\ERIE-WISE PROPERTY\LANDSCAPE ARCHITECTURE\CURRENT DWGS\PRELIMINARY_LANDSCAPE_PLAN_COMBINED.DWG, CURTIS DAVIDSON, 12/22/14

PATTERSON-WILLIAMS
MODEL: 1140-00
POWDER COAT: FLAT BLACK
SIZE: 20"X15"X10"
SURFACE MOUNT

1 BBQ GRILL
AS SHOWN OR SIMILAR
SCALE: NTS

PATTERSON-WILLIAMS
MODEL: 1126-06
RECYCLED PLASTIC: SAND
POWDER COAT: BLACK
SURFACE MOUNT

2 PICNIC TABLE
AS SHOWN OR SIMILAR
SCALE: NTS

CLASSIC RECREATION SYSTEMS
MODEL: CHEYENNE

ROOF DIMENSIONS: 25'-0" X 25'-0"
COLUMN DIMENSIONS: 21'-0" X 21'-0"
MINIMUM CLEARANCE: 7'-6"
ROOF RIDGE HEIGHT: 14'-11"
GABLE ROOF: 6:12 PITCH
CUPOLA: FULL LENGTH
SQ FEET UNDER ROOF: 625

3 GROUP PICNIC SHELTER
AS SHOWN OR SIMILAR
SCALE: NTS

PATTERSON-WILLIAMS
MODEL: 1150
POWDER COAT: BLACK
RECYCLED PLASTIC: SAND
SURFACE MOUNT

4 TRASH RECEPACLE
AS SHOWN OR SIMILAR
SCALE: NTS

PATTERSON-WILLIAMS
MODEL: ROUND UP 1700-00
POWDER COAT: BLACK
SURFACE MOUNT

5 BICYCLE RACK
AS SHOWN OR SIMILAR
SCALE: NTS

LITTLE TIKES STAND 'N SPIN
AGES: 5-12

6 STAND N' SPIN TOY
AS SHOWN OR SIMILAR
SCALE: NTS

LITTLE TIKES SPRINGHAMMER
AGES: 5-12

7 SPRINGHAMMER TOY
AS SHOWN OR SIMILAR
SCALE: NTS

LITTLE TIKES JACK HAMMER
AGES: 5-12

8 JACK HAMMER TOY
AS SHOWN OR SIMILAR
SCALE: NTS

LITTLE TIKES NU-EDGE NE 1310
AGES: 5-12
PLAY EVENTS: 8
COMPONENTS:
DOUBLE WIDE SLIDE, ARCHED LOG CLIMBER, TALK TUBE
TREE STUMP CLIMBER, SINGLE WIDE SLIDE, LOG SLICE CLIMBER

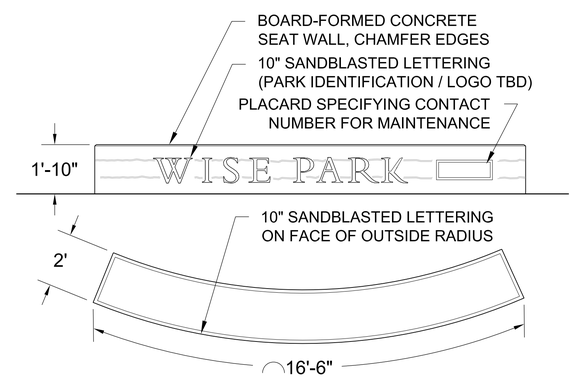
9 MULTI-LEVEL PLAY STRUCTURE
AS SHOWN OR SIMILAR
SCALE: NTS

PATTERSON-WILLIAMS
MODEL: 1111-06
RECYCLED PLASTIC: SAND
POWDER COAT: BLACK
SURFACE MOUNT

10 BENCH
AS SHOWN OR SIMILAR
SCALE: NTS

LITTLE TIKES FUN ROCK
AGES: 5-12

11 BOULDER PLAY AREA
AS SHOWN OR SIMILAR
SCALE: NTS



12 PARK IDENTIFICATION SIGN/SEAT WALL
(OR APPROVED EQUAL)
SCALE: 3/8" = 1'-0"

No.	Revisions	Date	Init.	Appr.	Date

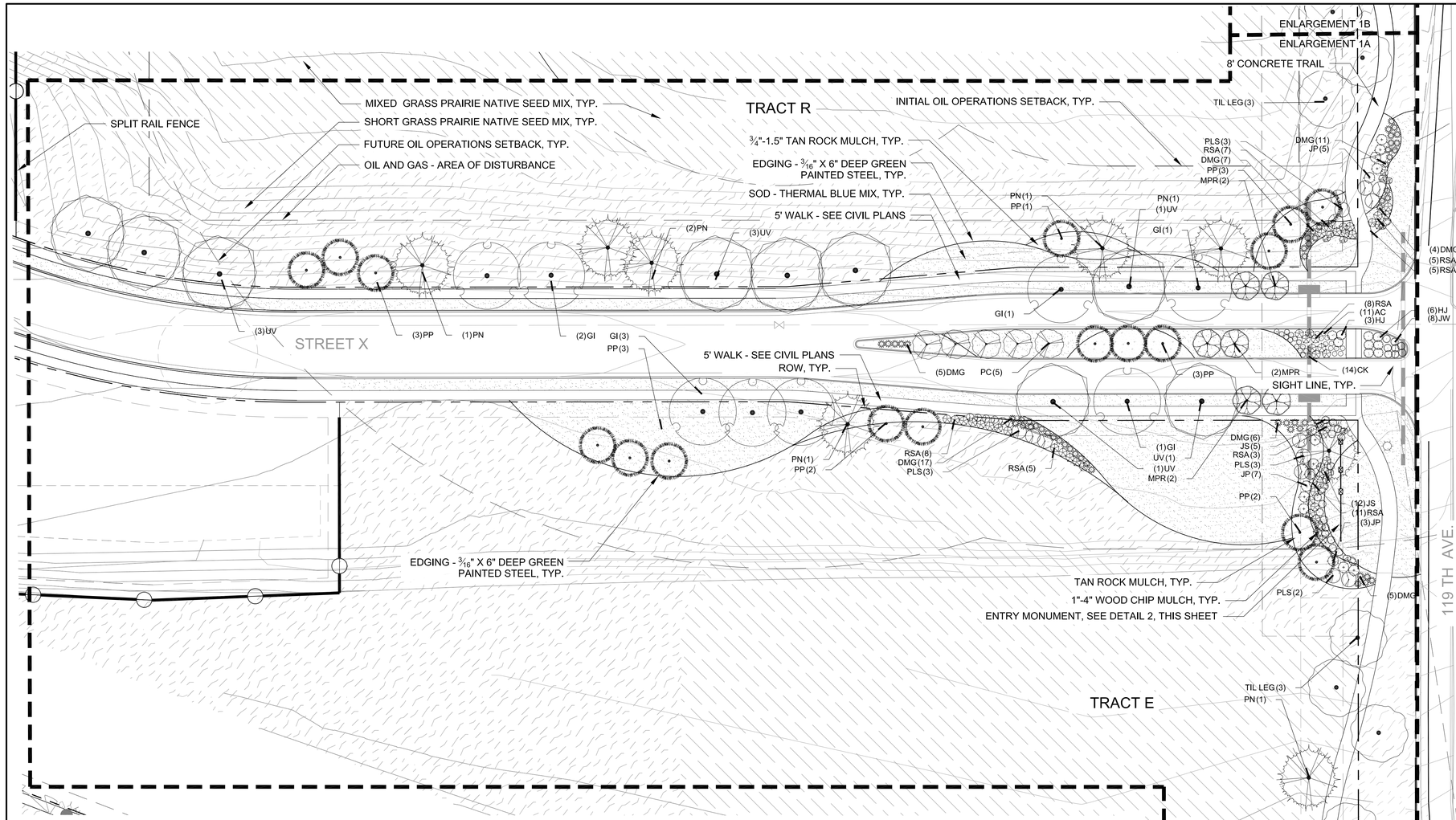
people creating spaces
pcs group inc. www.pcsgroupcs.com
1001 16th Street - B-180 - denver co 80265
t 303.531.4905 f 303.531.4906

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
PRELIMINARY LANDSCAPE PLAN

SCALE: AS SHOWN
FILE NO:
DRAWN BY: CD
CHECKED BY: JP
DATE: 12-22-2014
SHEET NUMBER L6

Y:\ARCHIVE\ERIE-WISE PROPERTY\LANDSCAPE ARCHITECTURE\CURRENT DWGS\PRELIMINARY_LANDSCAPE_PLAN_COMBINED.DWG, CURTIS DAVIDSON, 12/22/14



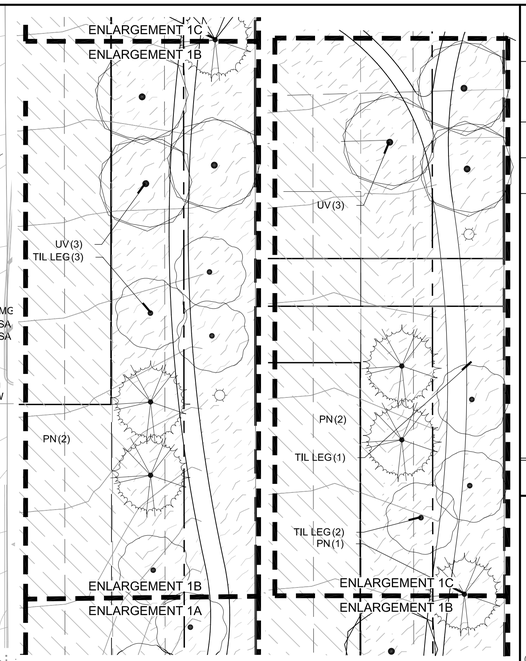
1A ENLARGEMENT

SCALE: 1"=20'

0' 10' 20' 40'

SCALE: 1" = 20'

N



1B ENLARGEMENT

SCALE: 1" = 40'

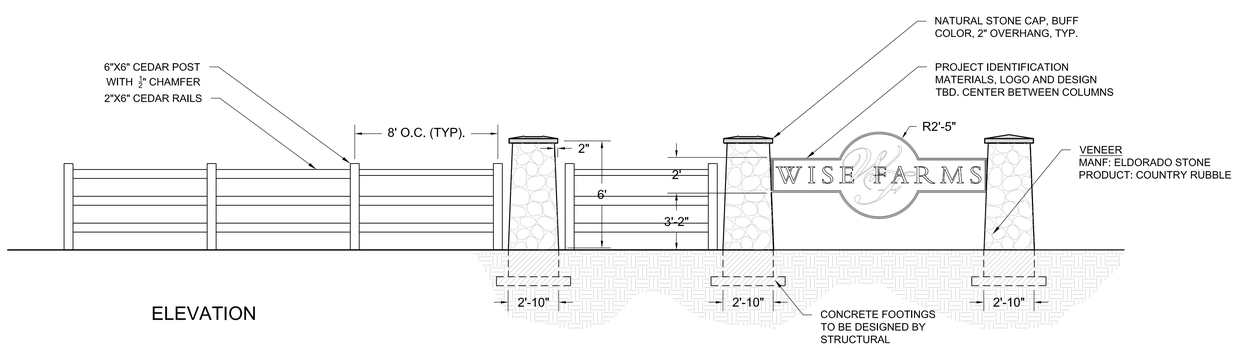
1C ENLARGEMENT

SCALE: 1" = 40'

0' 20' 40' 80'

SCALE: 1" = 40'

N



ELEVATION

2 ENTRY MONUMENTATION
(OR APPROVED EQUAL)

SCALE: 1/4"=1'-0"

LEGEND

- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- DECIDUOUS TREES
- EVERGREEN TREES
- SHRUBS
- PROPERTY LINE
- SPLIT RAIL FENCE
- ORNAMENTAL IRON FENCE
- STREET LIGHT
- SOD - THERMAL BLUE BLEND
- SHORT GRASS PRAIRIE NATIVE SEED MIX
- MIXED GRASS PRAIRIE NATIVE SEED MIX
- MOIST SWALE SEED MIX
- ROCK MULCH - ¾"-1½" TAN
- WOOD MULCH - 1"-4" WOOD CHIP MULCH
- EDGING -3/16"X6" DEEP GREEN PAINTED STEEL

No.	Revisions	Date	Init.	Appr.	Date

people creating spaces
pcs group inc. www.pcsgroupcs.com
1001 16th Street - B-180 , denver co 80265
t 303 531 4905 f 303 531 4906

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
PRELIMINARY LANDSCAPE PLAN

SCALE: AS SHOWN
FILE NO:
DRAWN BY: CD
CHECKED BY: JP
DATE: 12-22-2014

SHEET NUMBER L7

Y:\ARCHIVE\ERIE-WISE PROPERTY\LANDSCAPE ARCHITECTURE\CURRENT DWGS\PRELIMINARY_LANDSCAPE_PLAN_COMBINED.DWG, CURTIS DAVIDSON, 12/22/14

Project: Wise Farm Area: South property line along irrigation ditch Tree Numbers 1-30

Date: 3/27/2013

TREE #	SPECIES	DBH	HGT	SPEC %	COND. %	COMMENTS	REMOVE / PROTECT
S-001	RO	4.0	25	0.6	0.1	stump sprouts w/horizontal form. Dead central trunk	Remove
2	RO	18.0	40	0.6	0.1	Sever fire damage, prolific suckering	Remove
3	RO	8.0	30	0.6	0.1	Sever fire damage, prolific suckering	Remove
004A	RO	4.0	18	0.6	0.1	Sever fire damage, prolific suckering	Remove
004B	RO	8.0	20	0.6	0.1	Sever fire damage, prolific suckering	Remove
5	RO	10.0	35	0.6	0.1	Sever fire damage, prolific suckering	Remove
6	RO	9.0	35	0.6	0.3	Sever fire damage, prolific suckering	Remove
007A	RO	14.0	50	0.6	0.4	stump sprouts , three trunks from old root stock	Remove
007B	RO	10.0	50	0.6	0.4	stump sprouts, three trunks from old root stock	Remove
007C	RO	9.0	45	0.6	0.4	stump sprouts, three trunks from old root stock	Remove
008A	RO	6.0	20	0.6	0.3	2 codominant trunks from same base	Remove
008B	RO	12	35	0.6	0.3	2 codominant trunks from same base	Remove
009A	RO	8	25	0.6	0.3	4 stems from central root system	Remove
009B	RO	8	20	0.6	0.3	4 stems from central root system	Remove
009C	RO	8	30	0.6	0.3	4 stems from central root system	Remove
009D	RO	5	18	0.6	0.3	4 stems from central root system	Remove
10	CW	12	25	0.7	0.1	severe decay, fire scars	Protect in Place
011A	CW	26	55	0.7	0.4	fire scars, multiple stems from base, included bark	Protect in Place
011B	CW	19	50	0.7	0.2	fire scars, multiple stems from base, included bark	Protect in Place
011C	CW	18	45	0.7	0.2	fire scars, multiple stems from base, included bark	Protect in Place
011D	CW	10	25	0.7	0.1	fire scars, multiple stems from base, included bark	Protect in Place
012A	CW	29	55	0.7	0.6	multiple trunks from same base	Protect in Place
012B	CW	11	35	0.7	0.2	multiple trunks from same base	Protect in Place
012C	CW	12	35	0.7	0.2	multiple trunks from same base	Protect in Place
012D	CW	5	16	0.7	0.1	multiple trunks from same base	Protect in Place
013A	CW	13	35	0.7	0.1	5 stems from same base, included bark	Protect in Place
013B	CW	10	40	0.7	0.1	5 stems from same base, included bark	Protect in Place
013C	CW	15	45	0.7	0.2	5 stems from same base, included bark	Protect in Place
013D	CW	11	25	0.7	0.1	5 stems from same base, included bark	Protect in Place
013E	CW	12	35	0.7	0.1	5 stems from same base, included bark	Protect in Place
14	CW	9	40	0.7	0.4	partially overtopped, at headgate, limited root system	Protect in Place
15	CW	10	40	0.7	0.1	severe decay at base	Protect in Place
19	CW	13	40	0.7	0.2	severe lean to north	Protect in Place
017A	CW	22	50	0.7	0.2	old suckers from shared base, decay evident	Protect in Place
017B	CW	9	40	0.7	0.1	old suckers from shared base, decay evident	Protect in Place
017C	CW	15	30	0.7	0.1	old suckers from shared base, decay evident	Protect in Place
017D	CW	12	40	0.7	0.1	old suckers from shared base, decay evident	Protect in Place
017E	CW	12	40	0.7	0.1	old suckers from shared base, decay evident	Protect in Place
017F	CW	8	30	0.7	0.1	old suckers from shared base, decay evident	Protect in Place
017G	CW	24	50	0.7	0.2	old suckers from shared base, decay evident	Protect in Place
017H	CW	12	40	0.7	0.1	old suckers from shared base, decay evident	Protect in Place
018A	CW	19	45	0.7	0.1	all from central base, severe decay	Protect in Place
018B	CW	15	50	0.7	0.1	all from central base, severe decay	Protect in Place
018C	CW	17	50	0.7	0.1	all from central base, severe decay	Protect in Place
018D	CW	15	50	0.7	0.1	all from central base, severe decay	Protect in Place
018E	CW	14	45	0.7	0.1	all from central base, severe decay	Protect in Place
19	CW	14	45	0.7	0.4	minimal decay, lean to north	Protect in Place
020A	CW	26	60	0.7	0.4	minimal decay, lean to north	Protect in Place
020B	CW	9	25	0.7	0.1	decay and included bark at base	Protect in Place
020C	CW	15	45	0.7	0.1	decay and included bark at base	Protect in Place

TREE #	SPECIES	DBH	HGT	SPEC %	COND. %	COMMENTS	REMOVE / PROTECT
21	CW	14	45	0.7	0.4	partially overtopped with lean to west	Protect in Place
022A	CW	6	20	0.7	0.1	severe dieback and decay	Protect in Place
022B	CW	8	25	0.7	0.1	severe dieback and decay	Protect in Place
022C	CW	12	40	0.7	0.1	severe dieback and decay	Protect in Place
022D	CW	10	30	0.7	0.1	severe dieback and decay	Protect in Place
023A	CW	14	55	0.7	0.4	included bark at 3', lean to north	Protect in Place
032B	CW	18	55	0.7	0.2	included bark at 3', lean to north	Protect in Place
024A	CW	8	25	0.7	0.1	severe decay and fire scars	Protect in Place
024B	CW	13	40	0.7	0.1	severe decay and fire scars	Protect in Place
024C	CW	10	45	0.7	0.1	severe decay and fire scars	Protect in Place
025A	CW	12	35	0.7	0.1	severe decay and fire scars	Protect in Place
025B	CW	12	35	0.7	0.1	severe decay and fire scars	Protect in Place
025C	CW	14	40	0.7	0.1	severe decay and fire scars	Protect in Place
025D	CW	12	40	0.7	0.1	severe decay and fire scars	Protect in Place
025E	CW	12	35	0.7	0.1	severe decay and fire scars	Protect in Place
025F	CW	12	35	0.7	0.1	severe decay and fire scars	Protect in Place
026A	SE	10.0	45	0.6	0.1	severe decay, old stump sprouts	Protect in Place
026B	SE	10.0	45	0.6	0.1	severe decay, old stump sprouts	Protect in Place
026C	SE	8.0	45	0.6	0.1	severe decay, old stump sprouts	Protect in Place
026D	SE	8.0	25	0.6	0.1	severe decay, old stump sprouts	Protect in Place
027A	RO	5.0	16	0.6	0.1	radical pruning, decay present	Remove
027B	RO	9.0	40	0.6	0.1	radical pruning, decay present	Remove
028A	CW	29.0	65	0.7	0.3	included bark at 3', embedded fence, heavy lean to N.	Remove
028B	CW	20.0	60	0.7	0.1	heavy powerline pruning, topped at 20'	Remove
029A	CW	28.0	70	0.7	0.4	shared base, included bark	Protect in Place
029B	CW	20.0	60	0.7	0.3	shared base, included bark	Protect in Place
029C	CW	20.0	60	0.7	0.3	shared base, included bark	Protect in Place
029D	CW	16	35	0.7	0.2	shared base, included bark	Protect in Place
029E	CW	18	35	0.7	0.2	shared base, included bark	Protect in Place
029F	CW	23	65	0.7	0.4	shared base, included bark	Protect in Place
029G	CW	26	65	0.7	0.4	shared base, included bark	Protect in Place
029H	CW	9	18	0.7	0.1	shared base, included bark	Protect in Place
30	SE	40	70	0.6	0.1	severe decay, included bark, split central leader	Remove

NOTES:
1. Tree Species
   ASH = Ash
   SE = Siberian
   CW = Cottonwood
   RO = Russian Olive
   SE = Siberian Elm
   WIL = Willow

2. Tree mitigation inches and appraisal values per formulae from the "Guide for Plant Appraisal, 9th Edition, ISA.
3. Species factors per "Species Ratings and Appraisal Factors Guide", ISA Rocky Mountain Chapter.
4. Location factor based on farm locations in relationship to residential uses around the site.
5. Condition factors were generally low due to unmaintained conditions, significant presence of decay, irregular watering patterns over 100 years, and climatic impacts to trees.
6. Trees noted as hazardous should be considered for removal due to their location along a heavily traveled roadway.
7. Inventory is divided into two sections: 1) Southern boundary trees generally on the south half of the property; and 2) trees along Jasper Road and north half of the property.

MITIGATION NOTES:
1. ALL TREES BEING PROPOSED FOR REMOVAL ARE EITHER RUSSIAN OLIVES, OR ARE NOT HEALTHY (SEVERE DECAY, HAZARD TREE, ETC.). NO MITIGATION INCHES ARE REQUIRED.

EXISTING VEGETATION PROTECTION NOTES:
1. EXISTING TREES TO BE PROTECTED IN PLACE SHALL BE PROTECTED BY PROTECTIVE FENCING AND SIGNAGE.

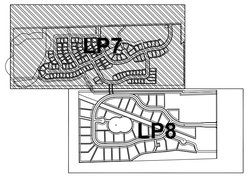
2. PROTECTIVE FENCING SHALL BE ORANGE VINYL CONSTRUCTION FENCING, CHAIN LINK FENCING, OR SNOW FENCING AT LEAST (4) FEET HIGH AND SUPPORTED AT (10) FOOT INTERVALS BY METAL T-POSTS. FENCING SHALL BE MAINTAINED UPRIGHT AND IN PLACE. ALL FENCING SHALL BE IN PLACE PRIOR TO COMMENCEMENT OF ANY SITE WORK AND REMAIN IN PLACE UNTIL ALL WORK HAS BEEN COMPLETED.

3. PROTECTIVE FENCING SHALL HAVE A WATERPROOF VEGETATION PROTECTION SIGH AFFIXED TO THE FENCE EVERY (20) FEET IN SUCH A MANNER TO BE CLEARLY VISIBLE TO WORKERS ON SITE. SIGNAGE SHALL BE MAINTAINED VISIBLE AND LEGIBLE. SIGNAGE SHALL BE WRITTEN IN BOTH SPANISH AN D ENGLISH AND READ AS FOLLOWS: "PROTECTED VEGETATION: NO TRAFFIC, VEHICLES, OR MATERIALS IN THIS AREA."

4. THE CONTRACTOR, IN CONJUNCTION WITH THE PUBLIC WORKS DIRECTOR OR DESIGNEE, SHALL IDENTIFY THE CRITICAL ROOT ZONE AREA BY ALL OF THE TREES THAT ARE TO BE PRESERVED ON THE SITE AND CREATE ADEQUATE TREE PROTECTION ZONES. THE CRITICAL ROOT ZONE SHALL BE DETERMINED BY WHICHEVER ENCOMPASSES THE GREATEST AREA: (1) THE IRREGULAR SHAPE FORMED AROUND A TREE BY A SERIES OR VERTICAL LINES THAT RUN THROUGH THE OUTERMOST PORTION OF THE CANOPY OF THE TREE AND EXTEND TO THE GROUND, OFTEN REFERRED TO AS THE DRIP LINE; OR (2) ONE AND A HALF (1½) FEET OF SPACE FROM THE TRUNK FOR EACH INCH OF TRUNK DIAMETER IN EVERY DIRECTION. THE CRITICAL ROOT ZONE DIMENSIONS WILL SERVE AS THE REQUIRED DIMENSIONS OF THE TREE PROTECTION ZONE.

5. TREE PROTECTION AND PRUNING REQUIREMENTS AS OUTLINED IN THE TOWN OF ERIE UNIFIED DEVELOPMENT CODE (UDC) AND THE TOWN OF ERIE STANDARDS AND SPECIFICATIONS (1012.00) SHALL BE MET.

TRAIL NOTE:
1. TRAIL AND SITE GRADING TO BE COORDINATED AT TIME OF FINAL PLAT.



KEY MAP

LEGEND

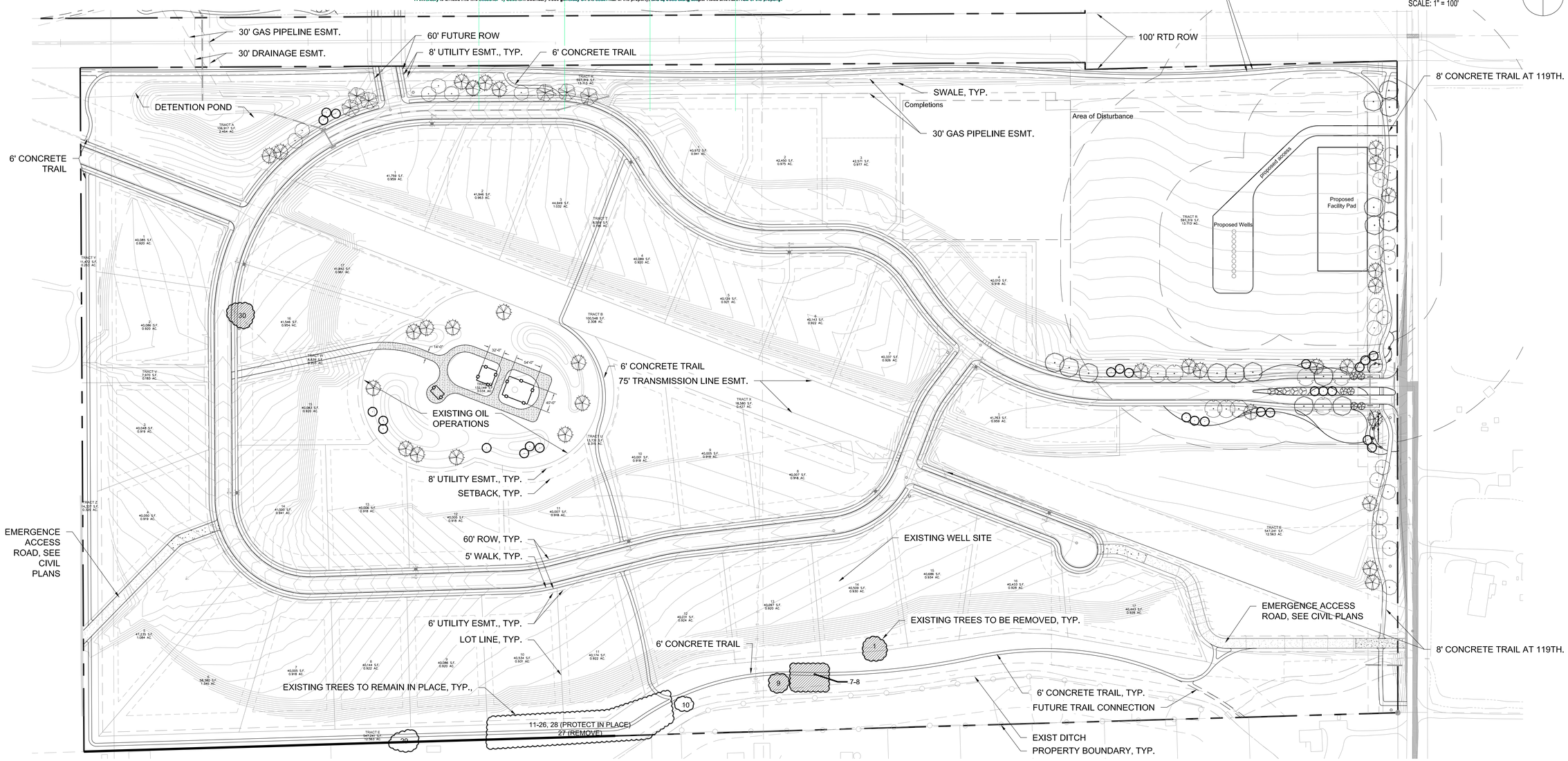
EXISTING TREES TO REMAIN

EXISTING TREES TO BE REMOVED

0' 50' 100' 200'
SCALE: 1" = 100'

N

30' TRAIL ESMT. PROVIDED FOR REGIONAL SPINE TRAIL. SPINE TRAIL TO BE 8'-WIDE CONCRETE TRAIL WITH 4' ATTACHED CRUSHER FINES TRAIL ON NORTH SIDE AND 2' BUFFER ON EACH SIDE. TRAIL TO BE CONSTRUCTED PER TOWN SPECIFICATIONS WITH THESE IMPROVEMENTS.



No.	Revisions	Date	Init.	Appr.	Date

pcs group inc. www.pcsgroupco.com
1001 16th Street - B-180 - denver co 80265
t 303 531 4905 f 303 531 4906

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
PRELIMINARY LANDSCAPE PLAN

SCALE: AS SHOWN
DRAWN BY: CD
CHECKED BY: JP
DATE: 12-22-2014
FILE NO:

SHEET NUMBER L8

Y:\ARCHIVE\ERIE-WISE PROPERTY\LANDSCAPE ARCHITECTURE\CURRENT DWGS\PRELIMINARY_LANDSCAPE_PLAN_COMBINED.DWG, CURTIS DAVIDSON, 12/22/14

Project:	Wise Farm	Area:	South property line	Tree Numbers 31-84				
Date:	3/27/2013							
31	CW	43.8	75	0.7	0.4		severe decay in upper trunk, conks, storm damage	Protect in Place
32	CW	56.3	75	0.7	0.3		hollow base, heavy lean to NW, severe decay	Remove
033A	CW	54.3	75	0.7	0.3		old storm damage, decay in base and upper branches	Protect in Place
033B	CW	18.2	40	0.7	0.1		old storm damage, decay in base and upper branches	Protect in Place
34	CW	41.7	65	0.7	0.1		old storm damage, decay in base and upper branches	Remove
35	CW	52.4	70	0.7	0.3		old storm damage, decay in base and upper branches	Remove
36	CW	34.8	60	0.7	0.1		old storm damage, decay in base and upper branches	Protect in Place
037A	WIL	12.0	22	0.6	0.1		Pollarded by drought stress, poor condition	Protect in Place
037B	WIL	10.0	22	0.6	0.1		Pollarded by drought stress, poor condition	Protect in Place
037C	WIL	7.0	16	0.6	0.1		Pollarded by drought stress, poor condition	Protect in Place
037D	WIL	9.0	18	0.6	0.1		Pollarded by drought stress, poor condition	Protect in Place
037E	WIL	6.0	25	0.6	0.1		Pollarded by drought stress, poor condition	Protect in Place
037F	WIL	12	12	0.6	0.1		Pollarded by drought stress, poor condition	Protect in Place
038A	CW	18	30	0.7	0.1		Hazard tree, severe decay	Protect in Place
038B	CW	28	30	0.7	0.1		Hazard tree, severe decay	Protect in Place
038C	CW	22	55	0.7	0.1		Hazard tree, severe decay	Protect in Place
038D	CW	12	35	0.7	0.1		Hazard tree, severe decay	Protect in Place
038E	CW	32	60	0.7	0.1		Hazard tree, severe decay	Protect in Place
038F	CW	26	55	0.7	0.1		Hazard tree, severe decay	Protect in Place
038G	CW	75.6	80	0.7	0.1		Hazard tree, severe decay	Protect in Place
039A	BE	7	30	0.65	0.1		Mill site, embedded metal, poor condition	Protect in Place
039B	BE	6	30	0.65	0.1		Mill site, embedded metal, poor condition	Protect in Place
040A	BE	8	20	0.65	0.2		included bark at base, debris embedded	Protect in Place
040B	BE	12	40	0.65	0.2		included bark at base, debris embedded	Protect in Place
040C	BE	11	45	0.65	0.2		included bark at base, debris embedded	Protect in Place
041A	CW	9	45	0.7	0.1		severe decay, imbedded debris, s. of mill bldng.	Protect in Place
041B	CW	10	45	0.7	0.1		severe decay, imbedded debris, s. of mill bldng.	Protect in Place
041C	CW	9	45	0.7	0.1		severe decay, imbedded debris, s. of mill bldng.	Protect in Place
041D	CW	10	45	0.7	0.1		severe decay, imbedded debris, s. of mill bldng.	Protect in Place
042A	CW	11	40	0.7	0.3		Shared root mass, on lincll at headgate	Protect in Place
042B	CW	9	40	0.7	0.2		Shared root mass, on lincll at headgate	Protect in Place
042C	CW	16	50	0.7	0.4		Shared root mass, on lincll at headgate	Protect in Place
042D	CW	8	35	0.7	0.1		Shared root mass, on lincll at headgate	Protect in Place
042E	CW	9	35	0.7	0.1		Shared root mass, on lincll at headgate	Protect in Place
042F	CW	18	55	0.7	0.4		Shared root mass, on lincll at headgate	Protect in Place
042G	CW	9	40	0.7	0.2		Shared root mass, on lincll at headgate	Protect in Place
042H	CW	16	40	0.7	0.3		Shared root mass, on lincll at headgate	Protect in Place
043A	SE	8	45	0.65	0.2		included bark at base	Protect in Place
043B	SE	8	45	0.65	0.3		included bark at base	Protect in Place
043C	SE	8	45	0.65	0.3		included bark at base	Protect in Place
044A	SE	11	45	0.65	0.1		severe decay at base	Protect in Place
044B	SE	10	45	0.65	0.1		severe decay at base	Protect in Place
045A	SE	6	35	0.65	0.2		Drought dieback, included bark	Protect in Place
045B	SE	8	35	0.65	0.2		Drought dieback, included bark	Protect in Place
046A	SE	9	45	0.65	0.2		Drought dieback, included bark	Protect in Place
046B	SE	10	45	0.65	0.2		Drought dieback, included bark	Protect in Place
47	CW	22	55	0.7	0.7		good condition, at edge of ditch	Protect in Place
048A	ASH	13	35	0.7	0.1		drought dieback, severe decay	Protect in Place
048B	ASH	7	0	0.7	0		drought dieback, severe decay	Protect in Place
49	ASH	11	30	0.7	0.1		drought dieback, severe decay	Protect in Place
050A	ASH	6	30	0.7	0.1		drought dieback, severe decay	Protect in Place
050B	ASH	7	30	0.7	0.1		drought dieback, severe decay	Protect in Place
51	ASH	8	0	0.7	0		dead	Remove
052A	ASH	15	0	0.7	0		dead	Remove
052B	ASH	12	0	0.7	0		dead	Remove
53	ASH	12	25	0.7	0.1		drought dieback, severe decay	Protect in Place
054A	ASH	7	25	0.7	0.1		drought dieback, severe decay	Protect in Place
054B	ASH	6	18	0.7	0.1		drought dieback, severe decay	Protect in Place
054C	ASH	12	25	0.7	0.1		drought dieback, severe decay	Protect in Place
55	ASH	18	25	0.7	0.1		drought dieback, severe decay	Protect in Place
56	ASH	24	25	0.7	0.1		severe decay, multiple stems, included bark, at mill	Protect in Place

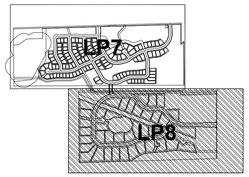
Project:	Wise Farm	Area:	South property line	Tree Numbers 31-84				
Date:	3/27/2013							
57	ASH	16	25	0.8		0	90% dead	Not Part of Inventory
58	ASH	10	25	0.8		0	90% dead	Not Part of Inventory
59	CW	61.8	80	0.7	0.1		HAZARDOUS TREE, severe decay	Remove
60	CW	39.3	70	0.7	0.3		HAZARDOUS TREE, severe decay	Remove
61	CW	61	70	0.7		0	HAZARDOUS TREE, severe decay	Remove
62	CW	58.8	80	0.7		0	HAZARDOUS TREE, severe decay	Remove
63	CW	51.7	50	0.7		0	dead	Remove
64	CW	36.6	35	0.6		0	HAZARDOUS TREE, severe decay	Remove
65	CW	57	65	0.6		0	HAZARDOUS TREE, severe decay	Remove
66	CW	50.4	80	0.6	0.1		HAZARDOUS TREE, severe decay	Remove
67	CW	51.9	70	0.6	0.1		HAZARDOUS TREE, severe decay	Remove
68	CW	48.9	70	0.6	0.1		HAZARDOUS TREE, severe decay	Remove
69	CW	42.4	55	0.6		0	HAZARDOUS TREE, severe decay	Remove
70	CW	52	25	0.7		0	HAZARDOUS TREE, severe decay	Remove
71	CW	58.7	80	0.7		0	HAZARDOUS TREE, severe decay	Remove
72	CW	46	80	0.7	0.1		HAZARDOUS TREE, severe decay	Remove
73	CW	76.4	90	0.7		0	HAZARDOUS TREE, severe decay	Remove
074A	BE	6	12	0.65	0.1		Fence row trees, embedded debris, multiple stems	Remove
074B	BE	8	35	0.65	0.1		Fence row trees, embedded debris, multiple stems	Remove
074C	BE	12	40	0.65	0.1		Fence row trees, embedded debris, multiple stems	Remove
074D	BE	10	40	0.65	0.1		Fence row trees, embedded debris, multiple stems	Remove
074E	BE	8	30	0.65	0.1		Fence row trees, embedded debris, multiple stems	Remove
75	BE	9	30	0.65	0.1		Fence row trees, embedded debris, multiple stems	Remove
76	BE	6	20	0.65	0.3		Fence row trees, embedded debris, multiple stems	Remove
77	BE	14	20	0.65	0.1		90% dead	Remove
78	BE	10	20	0.65	0.1		90% dead	Remove
79	CW	8	0	0.7		0	dead	Remove
80	CW	56.4	80	0.7		0	HAZARDOUS TREE, severe decay	Remove
81A	WIL	30	30	0.7		0	Cattle grazing pasture, compaction, root damage	Remove
81B	WIL	26	30	0.7		0	Cattle grazing pasture, compaction, root damage	Remove
82	RO	10	40	0.6	0.3		Cattle grazing pasture, compaction, root damage	Remove
083A	WIL	11	40	0.7	0.1		Cattle grazing pasture, compaction, root damage	Protect in Place
083B	WIL	10	40	0.7	0.1		Cattle grazing pasture, compaction, root damage	Protect in Place
083C	WIL	10	40	0.7	0.1		Cattle grazing pasture, compaction, root damage	Protect in Place
083D	WIL	14	40	0.7	0.1		Cattle grazing pasture, compaction, root damage	Protect in Place
84	CW	17	40	0.7	0.1		Cattle grazing pasture, compaction, root damage	Protect in Place

NOTES:
1. Tree Species
   - ASH = Ash
   - BE = Boxelder
   - CW = Cottonwood
   - RO = Russian Olive
   - SE = Siberian Elm
   - WIL = Willow

2. Tree mitigation inches and appraisal values per formulas from the "Guide for Plant Appraisal, 9th Edition, ISA.
3. Species factors per "Species Ratings and Appraisal Factors Guide", ISA Rocky Mountain Chapter.
4. Location factor based on farm locations in relationship to residential uses around the site.
5. Condition factors were generally low due to unmaintained conditions, significant presence of decay, irregular watering patterns over 100 years, and climatic impacts to trees.
6. Trees noted as hazardous should be considered for removal due to their location along a heavily travelled roadway.
7. Inventory is divided into two sections: 1) Southern boundary trees generally on the south half of the property; and 2) trees along Jasper Road and north half of the property.

MITIGATION NOTES:
1. ALL TREES BEING PROPOSED FOR REMOVAL ARE EITHER RUSSIAN OLIVES, OR ARE NOT HEALTHY (SEVERE DECAY, HAZARD TREE, ETC.). NO MITIGATION INCHES ARE REQUIRED.

TRAIL NOTE:
1. TRAIL AND SITE GRADING TO BE COORDINATED AT TIME OF FINAL PLAT.



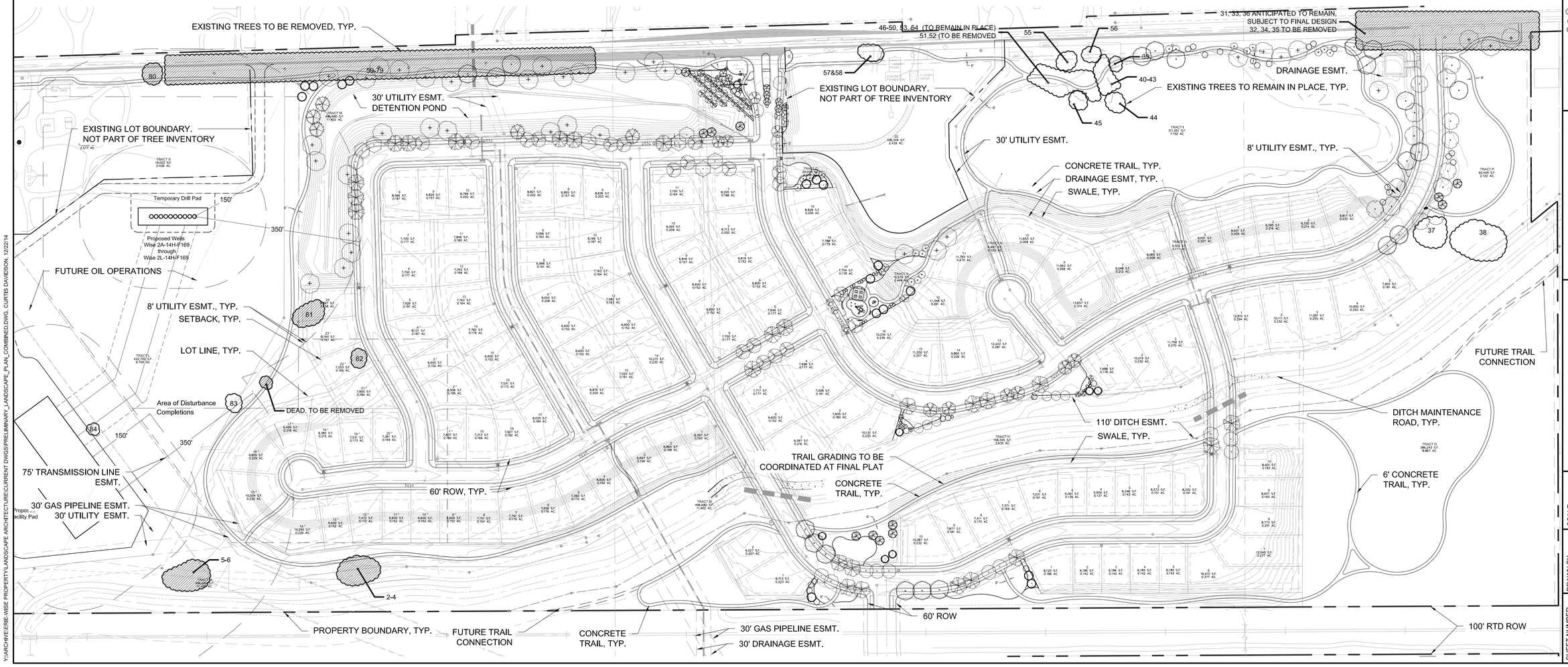
KEY MAP

LEGEND

- # EXISTING TREES TO REMAIN
- # EXISTING TREES TO BE REMOVED

0' 50' 100' 200'
SCALE: 1" = 100'

N



Y:\ARCHIVE\ERIE-WISE PROPERTY\LANDSCAPE ARCHITECTURE\CURRENT DWGS\PRELIMINARY_LANDSCAPE_PLAN_COMBINED.DWG, CURTIS DAVIDSON, 12/22/14

No.	Revisions	Date	Init.	Appr.	Date

people creating spaces
pcs group inc. www.pcsgroupco.com
1001 16th Street - B-180 - denver co 80265
t 303 531 4905 f 303 531 4906

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
PRELIMINARY LANDSCAPE PLAN

SCALE: AS SHOWN
DRAWN BY: CD
CHECKED BY: JP
FILE NO:
DATE: 12-22-2014

SHEET NUMBER
L9

PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL NAME / COMMON NAME	CONT	CAL / SIZE	HT X SPD	IRR, ZONE
	AA	6	ACER FREEMANII `AUTUMN BLAZE` / AUTUMN BLAZE MAPLE	B & B	2"CAL	50` X 40`	LOW-MOD
	AG	4	ACER GRANDIDENTATUM / BIGTOOTH MAPLE	B & B	2"CAL	30` X 30`	LOW-MOD
	HB	19	CELTIS OCCIDENTALIS / COMMON HACKBERRY	B & B	2"CAL	50` X 30`	LOW
	FT	6	FAGUS SYLVATICA `TRICOLOR` / TRICOLOR BEECH	B & B	2"CAL	30` X 25`	MODERATE
	GS	9	GLEDITSIA TRIACANTHOS INERMIS `SHADEMASTER` TM / SHADEMASTER LOCUST	B & B	2"CAL	50` X 35`	LOW
	GI	16	GLEDITSIA TRIACANTHOS `IMPERIAL` / IMPERIAL HONEYLOCUST	B & B	2"CAL	35` X 35`	LOW
	KCT	6	GYMNOCLADUS DIOICA / KENTUCKY COFFEE TREE	B & B	2"CAL	60` X 50`	LOW
	MPR	20	MALUS X `PROFUSION` / PROFUSION CRAB APPLE	B & B	2"CAL	15` X 15`	MODERATE
	PS	37	POPULUS SARGENTII / PLAINS COTTONWOOD	B & B	2"CAL	80` X 60`	MODERATE
	PC	30	PYRUS CALLERYANA `CLEVELAND SELECT` / CLEVELAND SELECT PEAR	B & B	2"CAL	40` X 20`	MODERATE
	BRO	22	QUERCUS MACROCARPA / BURR OAK	B & B	2"CAL	60` X 50`	LOW
	SJ	8	SOPHORA JAPONICA / JAPANESE PAGODA TREE	B & B	2"CAL	40` X 40`	MODERATE
	TIL LEG	35	TILIA AMERICANA `LEGEND` / AMERICAN LEGEND	B & B	2"CAL	45` X 35`	HIGH
	UV	36	ULMUS AMERICANA `VALLEY FORGE` / AMERICAN ELM	B & B	2"CAL	70` X 70`	LOW-MOD

EVERGREEN TREES	CODE	QTY	BOTANICAL NAME / COMMON NAME	CONT	CAL / SIZE	HT X SPD	IRR, ZONE
	JWB	26	JUNIPERUS SCOPULORUM `WICHITA BLUE` / WICHITA BLUE JUNIPER	15 GAL	5` HT.	20` X 6`	LOW
	PD	12	PICEA GLAUCA `DENSATA` / BLACK HILLS SPRUCE	B & B	8` HT.	30` X 30`	MODERATE
	PP	43	PICEA PUNGENS / COLORADO SPRUCE	B & B	8` HT.	50` X 25`	MODERATE
	LPN	6	PINUS FLEXILIS / LIMBER PINE	B & B	6` HT	70` X 25`	LOW
	VP	30	PINUS FLEXILIS `VANDERWOLF`S PYRAMID` / VANDERWOLF`S PYRAMID PINE	B & B	8` HT.	30` X 15`	LOW-MOD
	PL	3	PINUS HELDREICHII LEUCODERMIS / LEUCODERMIS PINE	B & B	8` HT.	25` X 12`	LOW
	PN	37	PINUS NIGRA / AUSTRIAN BLACK PINE	B & B	8` HT.	50` X 35`	LOW-MOD

ORNAMENTAL TREES	CODE	QTY	BOTANICAL NAME / COMMON NAME	CONT	CAL / SIZE	HT X SPD	IRR, ZONE
	ABS	4	AMELANCHIER CANADENSIS `AUTUMN BRILLIANCE` / AUTUMN BRILLIANCE SERVICEBERRY	B & B	2"CAL	20` X 15`	LOW
	WKH	19	CRATAEGUS VIRIDIS `WINTER KING` / `WINTER KING` HAWTHORN	B & B	2"CAL	25` X 20`	LOW

SHRUBS	CODE	QTY	BOTANICAL NAME / COMMON NAME	CONT	HT X SPD	IRR, ZONE	LIGHT REQ.
	BUD	10	BUDDLEJA DAVIDII `BLACK KNIGHT` / BLACK KNIGHT BUTTERFLY BUSH	5 GAL	6` X 5`	MODERATE	FULL SUN
	CD	18	CARYOPTERIS X CLANDONENSIS `DARK KNIGHT` / BLUE MIST SHRUB	5 GAL	2` X 2`	MEDIUM	FULL SUN
	CR	203	CHRYSOTHAMNUS NAUSEOSUS / RUBBER RABBITBRUSH	5 GAL	4` X 4`	LOW	FULL SUN
	CN	57	CHRYSOTHAMNUS NAUSEOSUS NAUCEOSUS / DWARF BLUE RABBITBRUSH	5 GAL	2` X 2`	LOW	FULL SUN
	HJ	57	JUNIPERUS HORIZONTALIS `HUGHES` / HUGHES JUNIPER	5 GAL	1` X 6`	LOW	FULL SUN
	JW	25	JUNIPERUS HORIZONTALIS `WILTONII` / BLUE RUG JUNIPER	5 GAL	8"X4`	LOW	FULL SUN
	JS	48	JUNIPERUS SABINA `SCANDIA` / SCANDIA JUNIPER	5 GAL	2` X 5`	LOW	FULL SUN
	JB	7	JUNIPERUS SQUAMATA `BLUE STAR` / BLUE STAR JUNIPER	5 GAL	3` X 4`	LOW-MOD	FULL SUN
	JP	29	JUNIPERUS X MEDIA `PFITZERANA COMPACTA` / COMPACT PFITZER JUNIPER	5 GAL	4` X 7`	LOW-MOD	FULL SUN
	RSA	73	PEROVSKIA ATRIPLICIFOLIA / RUSSIAN SAGE	5 GAL	5` X 4`	LOW-MOD	FULL SUN
	PO	10	PHYSOCARPUS OPULIFOLIUS `DART`S GOLD` / YELLOW NINEBARK	5 GAL	4` X 4`	LOW-MOD	F/P SUN
	PD2	18	POTENTILLA FRUTICOSA `GOLD DROP` / GOLD DROP POTENTILLA	5 GAL	3` X 3`	LOW-MOD	FULL SUN
	PA	112	PRUNUS AMERICANA / WILD PLUM	5 GAL	8` X 8`	MODERATE	FULL SUN
	PLS	111	PRUNUS X CISTENA / PURPLE LEAF SAND CHERRY	5 GAL	8` X 8`	LOW	FULL SUN
	RT	107	RHUS TRILOBATA / THREE-LEAF SUMAC	5 GAL	6` X 6`	LOW	FULL SUN
	RD	2	RHUS TYPHINA `DISSECTA` / STAGHORN SUMAC	5 GAL	12` X 12`	LOW	FULL SUN
	RG	266	RIBES AUREUM / GOLDEN CURRANT	5 GAL	4` X 4`	MODERATE	FULL SUN
	PKR	18	ROSA X `PINK KNOCKOUT` / ROSE	5 GAL	3` X 4`	LOW	FULL SUN
	SE	155	SALIX EXIGUA / SANDBAR WILLOW	5 GAL	6` X 6`	MODERATE	FULL SUN
	SW	22	SPIRAEA JAPONICA `ANTHONY WATERER` / SPIREA	5 GAL	3` X 4`	LOW-MOD	FULL SUN
	GFS	7	SPIRAEA JAPONICA `GOLDFLAME` / SPIREA	5 GAL	4` X 4`	MODERATE	FULL SUN
	SO	161	SYMPHORICARPOS OCCIDENTALIS / SNOWBERRY	5 GAL	2` X 2`	LOW-MOD	FULL SUN
	MKL	27	SYRINGA PATULA `MISS KIM` / MISS KIM LILAC	5 GAL	4` X 5`	LOW	FULL SUN

ANNUALS/PERENNIALS	CODE	QTY	BOTANICAL NAME / COMMON NAME	CONT	HT X SPD	IRR, ZONE	LIGHT REQ.
	AC	61	AGASTACHE X `CORANADO RED` / ANISE HYSSOP	1 GAL	2.5` X 3`	LOW	FULL SUN
	EP	32	ECHINACEA PURPUREA / PURPLE CONEFLOWER	1 GAL	2.5` X 2.5`	LOW	FULL SUN
	HO	45	HEMEROCALLIS X `STELLA DE ORO` / STELLA DE ORO DAYLILY	1 GAL	2` X 1.5`	MODERATE	F/P SUN
	RH	31	RUDBECKIA HIRTA / BLACK-EYED SUSAN	1 GAL	2` X 2`	LOW	FULL SUN

GRASSES	CODE	QTY	BOTANICAL NAME / COMMON NAME	CONT	HT X SPD	IRR, ZONE	LIGHT REQ.
	CK	42	CALAMAGROSTIS X ACUTIFLORA `KARL FOERSTER` / FEATHER REED GRASS	1 GAL	5.5` X 3`	LOW-MOD	F/P SUN
	PMG	44	MISCANTHUS SINENSIS `PURPURASCENS` / AUTUMN RED FLAME GRASS	1 GAL	5` X 3`	MODERATE	FULL SUN
	VSG	22	MISCANTHUS SINENSIS `VARIEGATUS` / VARIEGATED JAPANESE SILVER GRASS	1 GAL	5` X 3`	MODERATE	F/P SUN
	DMG	105	MISCANTHUS SINENSIS `YAKU JIMA` / DWARF MAIDEN GRASS	1 GAL	3-4` X 3`	MODERATE	F/P SUN

GROUND COVERS	QTY	COMMON NAME	CONT
	221,921 SF	EXISTING WETL. TO BE PRESERVED	SEED
	16,992 SF	3/4"-1.5" TAN ROCK MULCH	MULCH
	1,363,116 SF	SHORTGRASS PRAIRIE NATIVE SEED MIX	SEED
	805,517 SF	MIXED GRASS PRAIRIE NATIVE SEED MIX	SEED
	270,283 SF	MOIST SWALE SEED MIX	SEED
	90,321 SF	SOD, `THERMAL BLUE` BLEND	SOD
	4,666 SF	1"-4" WOOD CHIP MULCH	MULCH

NATIVE SEED MIXES

TOWN OF ERIE MIXED GRASS PRAIRIE NATIVE SEED MIXTURE				
COMMON NAME	SCIENTIFIC NAME	VARIETY	OZ/ACRE	PLS LBS/ACRE
BUFFALO GRASS	BUCHLOE DACTYLIODES	NATIVE, BISON OR TEXOKA		3
SIDEOATS GRAMA	BOUTELUA CURTIPENDULA	BUTTE, NINER OR EL RENO		5
PRAIRIE SANDREED	CALAMOVILFA LONGIFOLIA	GOSHEN OR BOWMAN		1
BLUE GRAMA	CHONDROSUM GRACILE	LOVINGTON, ALMA, NATIVE OR HACHITA		3
WESTERN WHEATGRASS	PASCOPYRUM SMITHII	ARRIBA, OAHE OR ROSANA		5
LITTLE BLUESTEM	SCHIZACHRYIUM SCOPARIUM	PASTURA, CIMARRON, ALDOUS CAMPER		4
ALKALI SACATON	SPOROBOLUS AIROIDES	COMMON		1
SAND DROPSEED	SPOROBOLUS CRYPTANDRUS	COMMON		1
SWITCHGRASS	PANICUM VIRGATUM	BLACKWELL		5
FRINGED SAGE*	ARTEMISIA FRIGIDA	COMMON	1	
PURPLE PRAIRIE CLOVER*	DALEA PURPUREA	COMMON	6	
BLANKETFLOWER*	GAILLARDIA ARISTATA	COMMON	6	
GAYFEATHER*	LIATRIS PUNCTATA	COMMON	4	
BLUE FLAX*	LINUM PERENNE	COMMON	3	
TANSY ASTER*	MACHAERANTHERA TANACETAFOLIA	COMMON	3	
PRAIRIE CONEFLOWER*	RATIBIDA COLUMNIFERA	COMMON	3	
YARROW*	ACHILLEA MILLEFOLIUM	WESTERN	2	
OUNCES			28	1.75
SEEDING RATE POUNDS PLS/ACRE				30.875

TOWN OF ERIE SHORTGRASS PRAIRIE NATIVE SEED MIXTURE				
COMMON NAME	SCIENTIFIC NAME	VARIETY	OZ/ACRE	PLS LBS/ACRE
BUFFALO GRASS	BUCHLOE DACTYLIODES	NATIVE, BISON OR TEXOKA		10
BLUE GRAMA	CHONDROSUM GRACILE	LOVINGTON, ALMA, NATIVE OR HACHITA		8
SAND DROPSEED	SPOROBOLUS CRYPTANDRUS	COMMON		4
PRAIRIE JUNEGRASS	LOELERIA MACRANTHA	COMMON		4
FRINGED SAGE*	ARTEMISIA FRIGIDA	COMMON	1	
PURPLE PRAIRIE CLOVER*	DALEA PURPUREA	COMMON	4	
GAYFEATHER*	LIATRIS PUNCTATA	COMMON	4	
TANSY ASTER*	MACHAERANTHERA TANACETAFOLIA	COMMON	3	
YARROW*	ACHILLEA MILLEFOLIUM	WESTERN	2	
OUNCES			14	0.88
SEEDING RATE POUNDS PLS/ACRE				30.875

TOWN OF ERIE MOIST SWALE SEED MIXTURE			
COMMON NAME	SCIENTIFIC NAME	VARIETY	PLS LBS/ACRE
WOOLLY SEDGE	CAREX LANUGINOSA	NATIVE	0.5
NEBRASKA SEDGE	CAREX NEBRASCENSIS	NATIVE	0.1
BLUE GRAMA	CHONDROSUM GRACILE	LOVINGTON, ALMA, NATIVE OR HACHITA	1.5
BUFFALO GRASS	BUCHLOE DACTYLIODES	NATIVE, BISON OR TEXOKA	0.5
INLAND SALTGRASS	DISTICHLIS STRICTA	NATIVE	0.5
BALTIC RUSH	JUNCUS BALTICUS	NATIVE	0.1
PRAIRIE CORDGRASS	SPARTINA PECTINATA	NATIVE	1
ALKALI SACATON	SPOROBOLUS AIROIDES	NATIVE	3
SWITCHGRASS	PANICUM VIRGATUM	BLACKWELL	3
WESTERN WHEATGRASS	PASCOPYRUM SMITHII	ARRIBA OR ROSANA	5
ASTER	ASTER LAEVIS		0.05
YARROW*	ACHILLEA MILLEFOLIUM	WESTERN	0.05
PRAIRIE CONEFLOWER	RATIBIDA COLUMNIFERA	WESTERN	0.05
SEEDING RATE POUNDS PLS/ACRE			15.35

STREE TREE REQUIREMENTS:

Location	Street Trees	
	Required	Provided
Jasper Road	49	50
119th	30	30
Internal Streets Adjacent to Open Space Tracts	160	184
Total:	**239**	**264**

TREE DIVERSITY:

TREES	Quantity	Botanical/Common	Species Diversity
AA	6	Acer freemanii `Autumn Blaze` / Autumn Blaze Maple	1.38%
AG	4	Acer grandidentatum / Bigtooth Maple	0.92%
HB	19	Celtis occidentalis / Common Hackberry	4.38%
FT	6	Fagus sylvatica `Tricolor` / Tricolor Beech	1.38%
GS	9	Gleditsia triacanthos inermis `Shademaster` TM / Shademaster Locust	2.07%
GI	16	Gleditsia triacanthos `Imperial` / Imperial Honeylocust	3.69%
KCT	6	Gymnocladus dioica / Kentucky Coffee Tree	1.38%
MPR	20	Malus x `Profusion` / Profusion Crab Apple	4.61%
PS	37	Populus sargentii / Plains Cottonwood	8.53%
PC	30	Pyrus calleryana `Cleveland Select` / Cleveland Select Pear	6.91%
BRO	22	Quercus macrocarpa / Burr Oak	5.07%
SJ	8	Sophora japonica / Japanese Pagoda Tree	1.84%
TIL LEG	35	Tilia americana `Legend` / American Legend	8.06%
UV	36	Ulmus americana `Valley Forge` / American Elm	8.29%
JWB	26	Juniperus scopulorum `Wichita Blue` / Wichita Blue Juniper	5.99%
PD	12	Picea glauca `Densata` / Black Hills Spruce	2.76%
PP	43	Picea pungens / Colorado Spruce	9.91%
LPN	6	Pinus flexilis / Limber Pine	1.38%
VP	30	Pinus flexilis `Vanderwolf`s Pyramid` / Vanderwolf`s Pyramid Pine	6.91%
PL	3	Pinus heldreichii leucodermis / Leucodermis Pine	0.69%
PN	37	Pinus nigra / Austrian Black Pine	8.53%
ABS	4	Amelanchier canadensis `Autumn Brilliance` / Autumn Brilliance Serviceberry	0.92%
WKH	19	Crataegus viridis `Winter King` / `Winter King` Hawthorn	4.38%
Total:	434		

NOTES:
1. NATIVE SEEDED AREAS TO BE TEMPORARILY IRRIGATED DURING THE WARRANTY PERIOD.

No.	Revisions	Date	Init.	Appr.	Date

people creating spaces
pcs group inc. www.pcsgroupcs.com
1001 16th Street - B-180 - denver co 80265
t 303 531 4905 f 303 531 4906

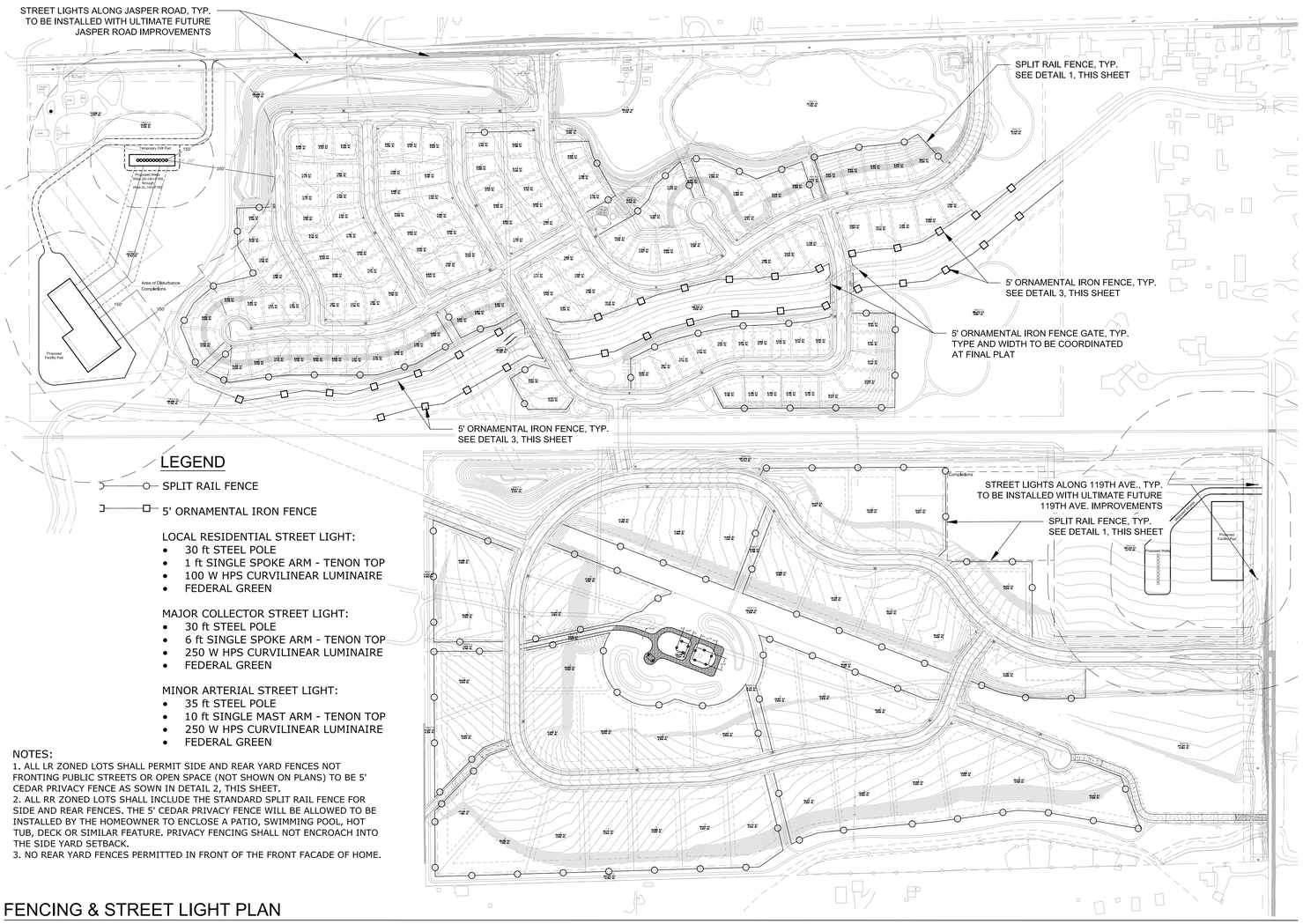
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
PRELIMINARY LANDSCAPE PLAN

SCALE: AS SHOWN
FILE NO:
DRAWN BY: CD
CHECKED BY: JP
DATE: 12-22-2014

SHEET NUMBER
L10

Y:\ARCHIVE\ERIE-WISE PROPERTY\LANDSCAPE ARCHITECTURE\CURRENT DWGS\PRELIMINARY_LANDSCAPE_PLAN_COMBINED.DWG, CURTIS DAVIDSON, 12/22/14



LEGEND

- SPLIT RAIL FENCE
- 5' ORNAMENTAL IRON FENCE

LOCAL RESIDENTIAL STREET LIGHT:
- 30 ft STEEL POLE
- 1 ft SINGLE SPOKE ARM - TENON TOP
- 100 W HPS CURVILINEAR LUMINAIRE
- FEDERAL GREEN

MAJOR COLLECTOR STREET LIGHT:
- 30 ft STEEL POLE
- 6 ft SINGLE SPOKE ARM - TENON TOP
- 250 W HPS CURVILINEAR LUMINAIRE
- FEDERAL GREEN

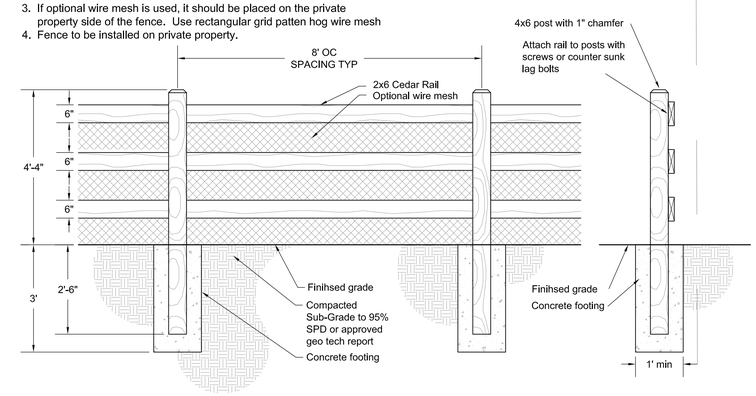
MINOR ARTERIAL STREET LIGHT:
- 35 ft STEEL POLE
- 10 ft SINGLE MAST ARM - TENON TOP
- 250 W HPS CURVILINEAR LUMINAIRE
- FEDERAL GREEN

NOTES:
1. ALL LR ZONED LOTS SHALL PERMIT SIDE AND REAR YARD FENCES NOT FRONTING PUBLIC STREETS OR OPEN SPACE (NOT SHOWN ON PLANS) TO BE 5' CEDAR PRIVACY FENCE AS SOWN IN DETAIL 2, THIS SHEET.
2. ALL RR ZONED LOTS SHALL INCLUDE THE STANDARD SPLIT RAIL FENCE FOR SIDE AND REAR FENCES. THE 5' CEDAR PRIVACY FENCE WILL BE ALLOWED TO BE INSTALLED BY THE HOMEOWNER TO ENCLOSE A PATIO, SWIMMING POOL, HOT TUB, DECK OR SIMILAR FEATURE. PRIVACY FENCING SHALL NOT ENCROACH INTO THE SIDE YARD SETBACK.
3. NO REAR YARD FENCES PERMITTED IN FRONT OF THE FRONT FACADE OF HOME.

FENCING & STREET LIGHT PLAN

SCALE: 1" = 200'

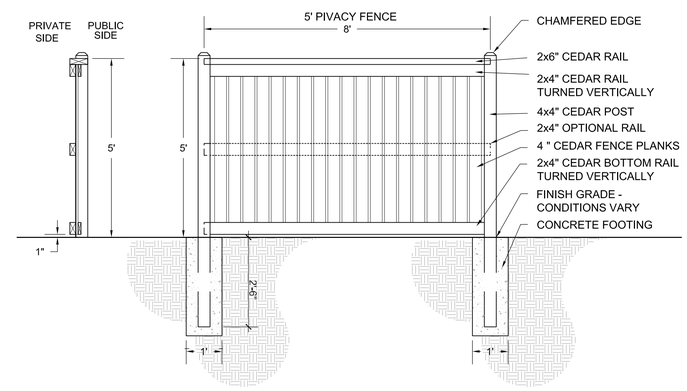
Notes:
1. All wood to be rough sawn cedar, or approved material from the landscape architect, owner, or owners rep.
2. Wood to be weather and rot resistant
3. If optional wire mesh is used, it should be placed on the private property side of the fence. Use rectangular grid patten hog wire mesh
4. Fence to be installed on private property.



1 SPLIT RAIL FENCE (3 RAIL)

(OR APPROVED EQUAL)

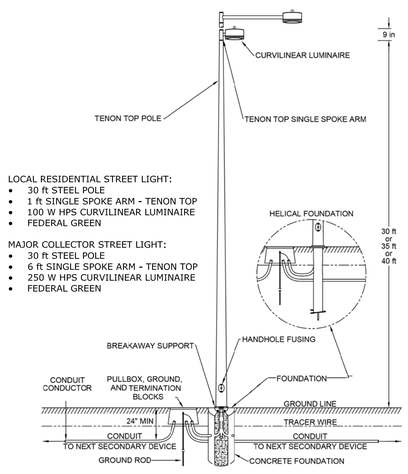
SCALE: 1"=2'-0"



2 5' PRIVACY FENCE

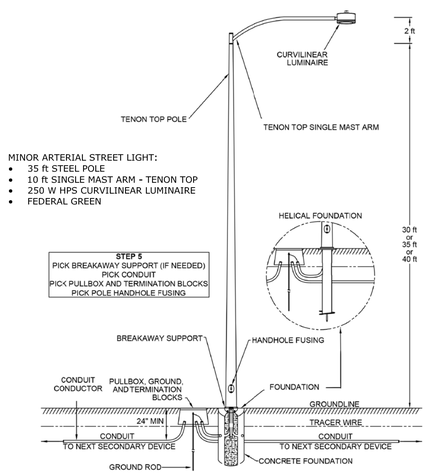
SIDE AND REAR YARDS NOT FRONTING PUBLIC STREETS OR OPEN SPACE (NOT SHOWN ON PLAN)
(OR APPROVED EQUAL)

SCALE: 1"=2'-0"



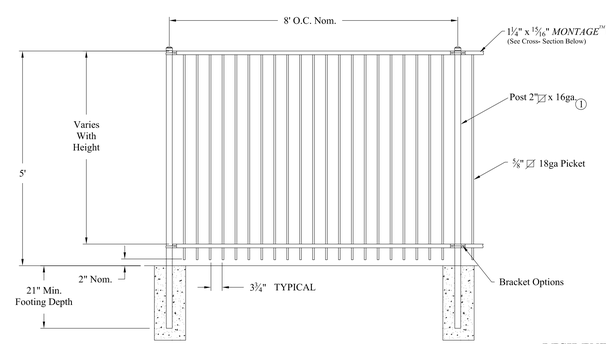
3 RESIDENTIAL/COLLECTOR STREET LIGHT

SCALE: N.T.S.

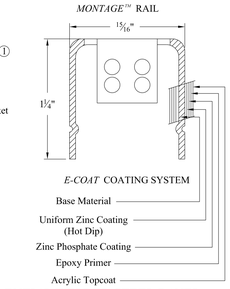


3 MINOR ARTERIAL STREET LIGHT

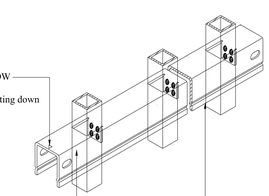
SCALE: N.T.S.



NOTES:
1.) Post size depends on fence height and wind loads. See *MONTAGE* specifications for post sizing chart.

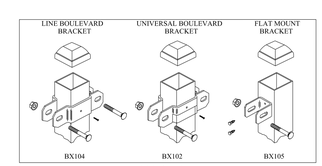


RAKING DIRECTIONAL ARROW
Welded panel can be raked 45° over 8' with arrow pointing down grade.



PROFUSION™ WELDING PROCESS
No exposed welds, Good Neighbor profile - Same appearance on both sides

MONTAGE™ RAIL
Specially formed high strength architectural shape.



RESIDENTIAL WELDED STEEL PANEL
PRE-ASSEMBLED
MONTAGE MAJESTIC 2/3-RAIL

AMERISTAR®
1555 N. Mingo
Tulsa, OK 74116
1-888-333-3422
www.ameristarfence.com

3 5' ORNAMENTAL IRON FENCE

SCALE: N.T.S.

No.	Revisions	Date	Init.	Appr.	Date

people creating spaces
pcs group inc. www.pcsgroupcs.com
1001 16th Street - B-180 - denver co 80265
t 303 531 4905 f 303 531 4906

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
PRELIMINARY LANDSCAPE PLAN

SCALE: AS SHOWN
FILE NO:
DRAWN BY: CD
CHECKED BY: JP
DATE: 12-22-2014
SHEET NUMBER L11

Y:\ARCHIVE\ERIE-WISE PROPERTY\LANDSCAPE ARCHITECTURE\CURRENT DWGS\PRELIMINARY_LANDSCAPE_PLAN_COMBINED.DWG, CURTIS DAVIDSON, 12/22/14

Wise Farms

PRELIMINARY UTILITY REPORT

Town of Erie, Colorado

Prepared for:

Jasper Land Investments, LLC.
Contact: Jim Dullea
9162 S. Kenwood Court
Highlands Ranch, Colorado 80126
Phone: (303) 902-5400

Prepared by:

CVL Consultants of Colorado, Inc.
Contact: Melinda E. Lundquist, PE, LEED AP
10333 E. Dry Creek Rd., Suite 240
Englewood, Colorado 80112
Phone: (720) 482-9526

January 28, 2014
Revised April 22, 2014
Revised August 1, 2014
Revised September 29, 2014
Revised December 29, 2014

Town Acceptance

This report has been reviewed and found to be in general compliance with the Town of Erie Standards and Specifications for Design and Construction and other Town requirements. THE ACCURACY AND VALIDITY OF THE ENGINEERING DESIGN, DETAILS, DIMENSIONS, QUANTITIES, AND CONCEPTS IN THIS REPORT REMAINS THE SOLE RESPONSIBILITY OF THE PROFESSIONAL ENGINEER WHOSE STAMP AND SIGNATURE APPEAR HEREON.

Accepted by: _____ _____

Deputy Public Works Director Date

If during the construction process or at any time within one year following the acceptance by the TOWN of the completed improvements, any deficiencies or errors are discovered in the construction plans, specifications, drainage reports, or the actual constructed improvements, the TOWN shall have the right to require the developer to make any and all corrections which may be deemed necessary by the TOWN.

Table of Contents

I) SITE LOCATION & DESCRIPTION

II) WATER DISTRIBUTION SYSTEM

III) SANITARY COLLECTION SYSTEM

IV) CONCLUSIONS

V) REFERENCES

VI) APPENDICES

I. SITE DESCRIPTION

The “Wise Farms” project is a planned single family residential subdivision, with a mixture of parks and open space. The project will be built in two phases, a north phase and a south phase.

The north phase is an 86 acre residential subdivision located in the Town of Erie, and bounded by Jasper Road to the north, N. 119th Street to the east and a RTD right-of-way spur to the south. The north phase is bisected by the Lower Boulder Ditch South Supply Channel. An electrical transmission line easement crosses the project site in the southwest corner, running from northwest to southeast. An existing sanitary sewer main and easement runs north to south near the west edge of the north phase.

The South phase is an 82 acre residential subdivision located in the Town of Erie and bounded by RTD right of way on the north, N 119th Street to the east, and Brownsville subdivision to the South. An existing 75 foot electrical easement and overhead transmission line crosses the project site running from the northwest corner to the southeast corner of the site. There is an existing 30’ regional trail easement, as well as a 15’ existing communication easement along the north edge of the site. A 30 foot Encana pipeline easement, 20 foot pipeline construction easement, and a 30 foot waterline easement are proposed in the northeast corner of the south phase

The project consists of the development of 125 home sites in the north phase and 38 home sites in the south, and the roadways and utility infrastructure to support them; which includes water, sanitary sewer, and storm sewer.

II. WATER DISTIBUTION SYSTEM

The water distribution system for this development will be tied into two existing water mains, one to the north and one to the south. This will provide a looped system for redundancy and consistent supply and quality.

The north connection is located at the south end of Lombardi Street in the Kenosha Farms subdivision. The existing main is zone 2 and is at an initial pressure of 90 psi. A water line will be installed from this connection point south through private property to Jasper Road. The Waterline will be installed along Jasper road to the site.

The south connection is located in N 119th Street at Tynan Drive just south of the site. The existing main is a zone 3 connection and is at an initial pressure of 90 psi. A water line will be installed from this connection point to the north along N 119th Street to the site.

A pressure reducing valve (PRV) will be installed on the water line from the south connection and is modeled at 61.1 PSI taking this water line from a zone 3 down to a zone 2. A connection will be made from the north phase to the south phase.

The water system is modeled using specifications from the town of Erie Standards and Specifications. This places the average demand at 140 gallons per capita per day. This demand was multiplied by an estimated 2.79 people per unit to an average demand per unit of 0.271 gallons per minute. The max demand was modeled as 2.6 times the average demand. The max hour demand was modeled as 3.9 times the average demand. The site demands as well as two existing dwelling units were included in the water model. In the south parcel of the site, accessory dwelling units are being proposed. The demands of these units are accounted for by assuming a demand 1.5 times the standard demand, which brings the demand for the south to 210 gallons per capita per day.

Seven scenarios were modeled, average day, max day, max hour day, fire flow analysis, fire flow demand with no flow from the north, fire flow demand with no flow from the south, and fire flow demand with fire flow at J15. Fire flow demands were modeled with max day flows and at 1000 gallons per minute at each fire flow node modeled.

WATER MODEL SUMMARY – NO FIRE FLOW				
SCENARIO	**MIN PRESSURE**	**MIN PRESSURE AT NODE**	**MAX ONSITE PRESSURE**	**MAX PRESSURE AT NODE**
AVERAGE DAY	55.0	J15	86.0	J55
MAX DAY	55.0	J15	85.9	J55
MAX HOUR	54.9	J15	85.9	J55

MINIMUM SYSTEM PRESSURES WITH FIRE FLOW				
SCENARIO	**FIRE FLOW AT NODE**	**RESIDUAL AT FIRE FLOW NODE**	**NODE WITH MIN SYSTEM PRESSURE**	**MIN SYSTEM PRESSURE**
FIRE FLOW	J18	51.2	J15	49.5
FIRE FLOW – NO NORTH CONNECTION	J18	50.3	J15	48.5
FIRE FLOW – NO SOUTH CONNECTION	J18	29.6	J15	27.9
FIRE FLOW AT J15	J15	46.0	J18	51.2

MIN RESIDUAL AT FIRE FLOW NODE		
SCENARIO	**FIRE FLOW NODE**	**RESIDUAL AT NODE**
FIRE FLOW	J15	46.0
FIRE FLOW – NO NORTH CONNECTION	J15	45.0
FIRE FLOW – NO NORTH CONNECTION	J15	24.4

III. SANITARY COLLECTION SYSTEM

The sanitary collection system for this development will be tied into two existing sanitary mains, both on the north end of the north phase of the site. These connections will serve both phases of the project. The western connection serves the western portion of the north phase, while the eastern connection serves the eastern portion of the north phase as well as the entire south phase.

The sanitary system is designed using specifications from the town of Erie Standards and Specifications. This places the average residential flow at 90 gallons per capita per day. This flow was multiplied by an estimated 2.79 people per unit to an average flow per unit of 251.1 gallons per day. In the south parcel, accessory dwelling units are being proposed. The flows of these units are accounted for by assuming 1.5 times the standard flow, which brings the average residential flow for the south to 135 gallons per capita per day or per unit, 376.7 gallons per day. The peaking factor was calculated using the equation (taken from the Erie Standards and Specifications):

$PF = 3.8 / (ADF)^{0.17}$ (where ADF = Annual average daily flow in MGD)

SANITARY FLOWS					
PIPE	NUMBER OF UNITS	AVERAGE FLOW (MGD)	PEAKING FACTOR	PEAK FLOW (MGD)	PIPE CAPACITY (MGD)
WESTERN CONNECTION 8” PVC	83	0.0208	7.34	0.1527	0.97
SOUTH CONNECTION 8” PVC	38	0.0147	7.79	0.1144	0.97
EAST + SOUTH CONNECTION 8” PVC	59	0.0197	7.41	0.1460	0.97
EASTERN CONNECTION 12” PVC	81	0.0252	7.10	0.1792	2.12

IV. CONSLUSIONS

The water system will be sufficient to supply greater than 45 psi during max hour conditions. The system will also be able to provide greater than 20 psi residual during max day and fire flow conditions at any node even if there is a water main break on either of the feed lines.

The proposed sanitary system will be sufficient for the collection of all sanitary flows even during peak flows.

Based on the findings of this report, the proposed infrastructure will support the requirements of the proposed development per the town of Erie Standards and Specifications.

V. REFERENCES

Standards and Specifications, Town of Erie, Colorado, www.erieco.gov

VI. APPENDIX

A. APPENDIX A – WATER SYSTEM CALCULATIONS
B. APPENDIX B – SANITARY SYSTEM CALCULATIONS

WATER SYSTEM DEMANDS

WATER DEMANDS

NODE	UNITS	EFFECTIVE UNITS*	AVERAGE DAY (GPM)	MAX DAY	MAX HOUR
J1	3	5	1.221	3.174	4.760
J2	2	3	0.814	2.116	3.174
J3	2	3	0.814	2.116	3.174
J4	4	6	1.628	4.232	6.347
J5	1	2	0.407	1.058	1.587
J6	0	0	0.000	0.000	0.000
J7	2	3	0.814	2.116	3.174
J8	4	6	1.628	4.232	6.347
J9	2	3	0.814	2.116	3.174
J10	3	5	1.221	3.174	4.760
J11	2	3	0.814	2.116	3.174
J12	3	5	1.221	3.174	4.760
J13	4	6	1.628	4.232	6.347
J14	0	0	0.000	0.000	0.000
J15	1	2	0.407	1.058	1.587
J16	0	0	0.000	0.000	0.000
J17	1	2	0.407	1.058	1.587
J18	1	2	0.407	1.058	1.587
J19	4	6	1.628	4.232	6.347
J20	5		1.356	3.526	5.289
J21	2		0.543	1.411	2.116
J22	3		0.814	2.116	3.174
J23	6		1.628	4.232	6.347
J24	3		0.814	2.116	3.174
J25	4		1.085	2.821	4.232
J26	2		0.543	1.411	2.116
J27	5		1.356	3.526	5.289
J28	0		0.000	0.000	0.000
J29	0		0.000	0.000	0.000
J30	0		0.000	0.000	0.000
J31	0		0.000	0.000	0.000
J32	7		1.899	4.937	7.405
J33	1		0.271	0.705	1.058
J34	3		0.814	2.116	3.174
J35	2		0.543	1.411	2.116
J36	4		1.085	2.821	4.232
J37	4		1.085	2.821	4.232
J38	1		0.271	0.705	1.058
J39	1		0.271	0.705	1.058
J40	3		0.814	2.116	3.174
J41	4		1.085	2.821	4.232
J42	6		1.628	4.232	6.347
J43	4		1.085	2.821	4.232
J44	3		0.814	2.116	3.174
J45	5		1.356	3.526	5.289
J46	6		1.628	4.232	6.347
J47	5		1.356	3.526	5.289
J48	3		0.814	2.116	3.174
J49	3		0.814	2.116	3.174
J50	5		1.356	3.526	5.289
J51	5		1.356	3.526	5.289
J52	5		1.356	3.526	5.289
J53	3		0.814	2.116	3.174
J54	0		0.000	0.000	0.000
J55	0		0.000	0.000	0.000
J56	5		1.356	3.526	5.289
J57	8		2.170	5.642	8.463
J58	0		0.000	0.000	0.000
J59	0		0.000	0.000	0.000
J60	0		0.000	0.000	0.000
J61	1		0.271	0.705	1.058
J62	0		0.000	0.000	0.000
J63	0		0.000	0.000	0.000
J64	0		0.000	0.000	0.000
J65	0		0.000	0.000	0.000

*EFFECTIVE UNITS INCLUDES ACCESSORY DWELLING UNITS

ASSUMPTIONS FOR MODEL:
140 GPCD
2.79 PEOPLE PER UNIT
MD/AD = 2.6
MH/AD = 3.9
HAZEN WILLIAMS FOR 8" AND 10" PIPE C = 100
HAZEN WILLIAMS FOR 16" PIPE C = 110
MANNINGS n = 0.011
DARCY-WEISENBACH E = 0.0009

WATER SYSTEM SCHEMATIC

AVERAGE DAY

WATER MODEL SCHEMATIC

Active Scenario: AVERAGE DAY

Current Time: 0.000 hours

Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J1	5,072.63	ZONE - 2	1.22	5,217.91	62.9
J2	5,065.30	ZONE - 2	0.81	5,217.91	66.0
J3	5,061.66	ZONE - 2	0.81	5,217.91	67.6
J4	5,057.00	ZONE - 2	1.63	5,217.92	69.6
J5	5,046.00	ZONE - 2	0.41	5,217.92	74.4
J7	5,047.09	ZONE - 2	0.81	5,217.92	73.9
J8	5,050.10	ZONE - 2	1.63	5,217.91	72.6
J9	5,060.13	ZONE - 2	0.81	5,217.91	68.3
J10	5,068.05	ZONE - 2	1.22	5,217.91	64.8
J11	5,079.59	ZONE - 2	0.81	5,217.91	59.8
J12	5,081.76	ZONE - 2	1.22	5,217.91	58.9
J13	5,084.81	ZONE - 2	1.63	5,217.91	57.6
J14	5,084.82	ZONE - 2	0.00	5,217.91	57.6
J15	5,090.86	ZONE - 2	0.41	5,217.91	55.0
J16	5,079.95	ZONE - 2	0.00	5,217.91	59.7
J18	5,086.86	ZONE - 2	0.41	5,217.91	56.7
J19	5,076.77	ZONE - 2	1.63	5,217.91	61.1
J20	5,034.14	ZONE - 2	1.36	5,217.92	79.5
J21	5,036.00	ZONE - 2	0.54	5,217.92	78.7
J22	5,031.73	ZONE - 2	0.81	5,217.92	80.6
J23	5,031.93	ZONE - 2	1.63	5,217.93	80.5
J24	5,029.32	ZONE - 2	0.81	5,217.93	81.6
J25	5,027.80	ZONE - 2	1.08	5,217.93	82.3
J26	5,028.35	ZONE - 2	0.54	5,217.93	82.0
J27	5,027.32	ZONE - 2	1.36	5,217.93	82.5
J28	5,028.65	ZONE - 2	0.00	5,217.92	81.9
J29	5,076.66	ZONE - 3	0.00	5,305.67	99.1
J30	5,009.00	ZONE - 2	0.00	5,218.00	90.4
J31	5,075.00	ZONE - 3	0.00	5,305.67	99.8
J32	5,029.83	ZONE - 2	1.90	5,217.93	81.4
J33	5,022.15	ZONE - 2	0.27	5,217.93	84.7
J34	5,024.23	ZONE - 2	0.81	5,217.93	83.8
J35	5,024.47	ZONE - 2	0.54	5,217.92	83.7
J36	5,027.21	ZONE - 2	1.08	5,217.92	82.5
J37	5,027.92	ZONE - 2	1.08	5,217.92	82.2
J38	5,032.68	ZONE - 2	0.27	5,217.92	80.1
J40	5,034.00	ZONE - 2	0.81	5,217.92	79.6
J41	5,034.81	ZONE - 2	1.08	5,217.92	79.2
J42	5,036.00	ZONE - 2	1.63	5,217.92	78.7
J43	5,033.01	ZONE - 2	1.08	5,217.92	80.0
J44	5,031.87	ZONE - 2	0.81	5,217.92	80.5
J45	5,031.00	ZONE - 2	1.36	5,217.92	80.9
J46	5,028.35	ZONE - 2	1.63	5,217.92	82.0
J47	5,026.27	ZONE - 2	1.36	5,217.92	82.9
J48	5,022.00	ZONE - 2	0.81	5,217.93	84.8
J49	5,026.46	ZONE - 2	0.81	5,217.93	82.8
J50	5,027.46	ZONE - 2	1.36	5,217.93	82.4
J51	5,029.63	ZONE - 2	1.36	5,217.92	81.5

Active Scenario: AVERAGE DAY

Current Time: 0.000 hours

Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J52	5,024.49	ZONE - 2	1.36	5,217.93	83.7
J53	5,027.58	ZONE - 2	0.81	5,217.93	82.4
J56	5,032.71	ZONE - 2	1.36	5,217.92	80.1
J57	5,030.65	ZONE - 2	2.17	5,217.92	81.0
J58	5,015.75	ZONE - 2	0.00	5,217.94	87.5
J59	5,019.00	ZONE - 2	0.00	5,217.93	86.1
J60	5,021.68	ZONE - 2	0.00	5,217.93	84.9
J54	5,036.70	ZONE - 2	0.00	5,217.92	78.4
J55	5,019.26	ZONE - 2	0.00	5,217.94	86.0
J65	5,028.35	ZONE - 2	0.00	5,217.92	82.0
J62	5,022.00	ZONE - 2	0.00	5,217.96	84.8
J63	5,043.00	ZONE - 2	0.00	5,217.97	75.7
J39	5,022.00	ZONE - 2	0.27	5,217.93	84.8
J61	5,060.00	ZONE - 2	0.27	5,217.93	68.3
J64	5,044.24	ZONE - 2	0.00	5,217.92	75.1
J6	5,063.59	ZONE - 2	0.00	5,217.91	66.8
J17	5,062.26	ZONE - 2	0.41	5,217.91	67.3

Active Scenario: AVERAGE DAY

Current Time: 0.000 hours

Label	Start Node	Stop Node	Length (Scaled) (ft)	Diameter (in)	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Headloss Gradient (ft/1000ft)
P1	J1	J2	215.55	8.0	-4.29	0.03	0.00	0.002
P2	J8	J9	331.55	8.0	5.48	0.03	0.00	0.001
P3	J14	J16	127.64	8.0	-3.07	0.02	0.00	0.000
P4	J16	J1	149.18	8.0	-3.07	0.02	0.00	0.000
P5	J14	J18	147.74	8.0	0.81	0.01	0.00	0.000
P6	J18	J15	262.80	8.0	0.41	0.00	0.00	0.000
P7	J20	J21	236.32	8.0	5.66	0.04	0.00	0.002
P8	J24	J25	157.42	8.0	1.08	0.01	0.00	0.000
P9	J24	J26	194.55	8.0	-3.98	0.03	0.00	0.003
P10	J26	J27	126.04	8.0	-4.53	0.03	0.00	0.000
P11	J27	J28	202.06	8.0	10.54	0.07	0.00	0.005
P12	J30	R1	19.71	12.0	-50.34	0.14	0.00	0.025
P13	J29	J31	2,548.73	12.0	0.00	0.00	0.00	0.000
P14	J31	R2	42.89	12.0	0.00	0.00	0.00	0.000
P15	J35	J36	275.63	8.0	2.49	0.02	0.00	0.000
P16	J36	J37	57.33	8.0	1.40	0.01	0.00	0.000
P17	J37	J38	172.86	8.0	0.32	0.00	0.00	0.000
P18	J40	J41	84.51	12.0	2.72	0.01	0.00	0.000
P19	J41	J42	155.74	12.0	1.63	0.00	0.00	0.000
P20	J40	J43	151.26	12.0	-3.48	0.01	0.00	0.000
P21	J44	J45	96.47	12.0	-5.38	0.02	0.00	0.000
P22	J45	J46	330.24	8.0	-0.76	0.00	0.00	0.000
P23	J46	J47	96.08	8.0	-2.38	0.02	0.00	0.000
P24	J34	J48	298.17	8.0	7.59	0.05	0.00	0.003
P25	J47	J48	226.69	8.0	-3.74	0.02	0.00	0.002
P26	J34	J49	192.16	8.0	7.24	0.05	0.00	0.003
P27	J49	J50	75.65	8.0	6.43	0.04	0.00	0.006
P28	J50	J51	241.61	8.0	5.07	0.03	0.00	0.002
P29	J51	J45	301.49	12.0	5.98	0.02	0.00	0.000
P30	J56	J20	165.65	8.0	7.02	0.04	0.00	0.003
P31	J28	J57	254.94	8.0	10.54	0.07	0.00	0.008
P32	PRV-1	J29	364.51	12.0	0.01	0.00	0.00	0.000
P33	J1	PRV-1	562.39	12.0	0.00	0.00	0.00	0.000
P34	J21	J54	116.43	8.0	5.12	0.03	0.00	0.000
P35	J54	J5	279.27	8.0	15.88	0.10	0.00	0.014
P36	J35	J48	316.47	8.0	-3.03	0.02	0.00	0.002
P37	J43	J44	111.40	12.0	-4.57	0.01	0.00	0.000
P38	J22	J51	307.77	8.0	-11.58	0.07	0.00	0.006
P39	J53	J23	297.13	8.0	-0.46	0.00	0.00	0.000
P40	J23	J24	271.07	8.0	-2.08	0.01	0.00	0.000
P41	J56	J57	222.47	8.0	-8.37	0.05	0.00	0.004
P42	J58	J55	259.09	8.0	18.32	0.12	0.00	0.019
P43	J55	J32	321.70	8.0	18.32	0.12	0.01	0.018
P44	J27	J32	306.80	8.0	-16.42	0.10	0.00	0.014
P45	J34	J33	275.29	8.0	-15.64	0.10	0.00	0.012
P46	J33	J59	208.50	12.0	-31.47	0.09	0.00	0.007
P47	J42	J65	151.48	12.0	0.00	0.00	0.00	0.000

Active Scenario: AVERAGE DAY

Current Time: 0.000 hours

Label	Start Node	Stop Node	Length (Scaled) (ft)	Diameter (in)	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Headloss Gradient (ft/1000ft)
P48	J8	J7	267.91	8.0	-7.11	0.05	0.00	0.004
P49	J10	J19	278.25	8.0	3.03	0.02	0.00	0.000
P50	J19	J11	200.39	8.0	1.41	0.01	0.00	0.000
P51	J11	J12	227.78	8.0	0.59	0.00	0.00	0.000
P52	J12	J13	305.10	8.0	-0.63	0.00	0.00	0.000
P53	J13	J14	230.92	8.0	-2.26	0.01	0.00	0.000
P54	J5	J4	445.03	8.0	7.55	0.05	0.00	0.003
P55	J4	J3	367.68	8.0	5.92	0.04	0.00	0.003
P56	J3	J2	293.42	8.0	5.11	0.03	0.00	0.002
P57	J33	J52	180.82	8.0	15.56	0.10	0.00	0.011
P58	J52	J53	188.19	8.0	14.20	0.09	0.00	0.013
P59	J51	J53	277.73	12.0	-13.84	0.04	0.00	0.002
P60	J38	J40	126.53	8.0	0.05	0.00	0.00	0.000
P61	J62	J58	949.52	12.0	50.34	0.14	0.02	0.016
P62	J30	J63	2,114.06	12.0	50.34	0.14	0.03	0.016
P63	J63	J62	2,668.75	16.0	50.34	0.08	0.01	0.003
P64	J22	J54	283.02	8.0	10.76	0.07	0.00	0.007
P65	J7	J5	375.40	8.0	-7.93	0.05	0.00	0.004
P66	J59	J39	1,532.53	12.0	0.28	0.00	0.00	0.000
P67	J39	J60	120.64	12.0	0.00	0.00	0.00	0.000
P68	J58	J61	1,058.17	12.0	32.02	0.09	0.01	0.007
P69	J61	J59	301.81	12.0	31.75	0.09	0.00	0.008
P70	J64	J7	376.94	6.0	0.00	0.00	0.00	0.000
P71	J9	J17	64.79	8.0	4.66	0.03	0.00	0.000
P72	J17	J10	166.79	8.0	4.25	0.03	0.00	0.003
P73	J6	J17	133.98	6.0	0.00	0.00	0.00	0.000

MAX DAY

Active Scenario: MAX DAY

Current Time: 0.000 hours

Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J1	5,072.63	ZONE - 2	3.17	5,217.89	62.8
J2	5,065.30	ZONE - 2	2.12	5,217.88	66.0
J3	5,061.66	ZONE - 2	2.12	5,217.87	67.6
J4	5,057.00	ZONE - 2	4.23	5,217.86	69.6
J5	5,046.00	ZONE - 2	1.06	5,217.85	74.4
J7	5,047.09	ZONE - 2	2.12	5,217.85	73.9
J8	5,050.10	ZONE - 2	4.23	5,217.85	72.6
J9	5,060.13	ZONE - 2	2.12	5,217.86	68.2
J10	5,068.05	ZONE - 2	3.17	5,217.86	64.8
J11	5,079.59	ZONE - 2	2.12	5,217.86	59.8
J12	5,081.76	ZONE - 2	3.17	5,217.86	58.9
J13	5,084.81	ZONE - 2	4.23	5,217.87	57.6
J14	5,084.82	ZONE - 2	0.00	5,217.88	57.6
J15	5,090.86	ZONE - 2	1.06	5,217.88	55.0
J16	5,079.95	ZONE - 2	0.00	5,217.88	59.7
J18	5,086.86	ZONE - 2	1.06	5,217.88	56.7
J19	5,076.77	ZONE - 2	4.23	5,217.86	61.0
J20	5,034.14	ZONE - 2	3.53	5,217.85	79.5
J21	5,036.00	ZONE - 2	1.41	5,217.85	78.7
J22	5,031.73	ZONE - 2	2.12	5,217.85	80.5
J23	5,031.93	ZONE - 2	4.23	5,217.85	80.4
J24	5,029.32	ZONE - 2	2.12	5,217.85	81.6
J25	5,027.80	ZONE - 2	2.82	5,217.85	82.2
J26	5,028.35	ZONE - 2	1.41	5,217.85	82.0
J27	5,027.32	ZONE - 2	3.53	5,217.85	82.4
J28	5,028.65	ZONE - 2	0.00	5,217.85	81.9
J29	5,076.66	ZONE - 3	0.00	5,305.62	99.1
J30	5,009.00	ZONE - 2	0.00	5,218.00	90.4
J31	5,075.00	ZONE - 3	0.00	5,305.67	99.8
J32	5,029.83	ZONE - 2	4.94	5,217.86	81.4
J33	5,022.15	ZONE - 2	0.70	5,217.86	84.7
J34	5,024.23	ZONE - 2	2.12	5,217.85	83.8
J35	5,024.47	ZONE - 2	1.41	5,217.85	83.7
J36	5,027.21	ZONE - 2	2.82	5,217.85	82.5
J37	5,027.92	ZONE - 2	2.82	5,217.85	82.2
J38	5,032.68	ZONE - 2	0.70	5,217.85	80.1
J40	5,034.00	ZONE - 2	2.12	5,217.85	79.5
J41	5,034.81	ZONE - 2	2.82	5,217.85	79.2
J42	5,036.00	ZONE - 2	4.23	5,217.85	78.7
J43	5,033.01	ZONE - 2	2.82	5,217.85	80.0
J44	5,031.87	ZONE - 2	2.12	5,217.85	80.5
J45	5,031.00	ZONE - 2	3.53	5,217.85	80.8
J46	5,028.35	ZONE - 2	4.23	5,217.85	82.0
J47	5,026.27	ZONE - 2	3.53	5,217.85	82.9
J48	5,022.00	ZONE - 2	2.12	5,217.85	84.7
J49	5,026.46	ZONE - 2	2.12	5,217.85	82.8
J50	5,027.46	ZONE - 2	3.53	5,217.85	82.4
J51	5,029.63	ZONE - 2	3.53	5,217.85	81.4

Active Scenario: MAX DAY

Current Time: 0.000 hours

Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J52	5,024.49	ZONE - 2	3.53	5,217.85	83.7
J53	5,027.58	ZONE - 2	2.12	5,217.85	82.3
J56	5,032.71	ZONE - 2	3.53	5,217.85	80.1
J57	5,030.65	ZONE - 2	5.64	5,217.85	81.0
J58	5,015.75	ZONE - 2	0.00	5,217.88	87.5
J59	5,019.00	ZONE - 2	0.00	5,217.86	86.0
J60	5,021.68	ZONE - 2	0.00	5,217.86	84.9
J54	5,036.70	ZONE - 2	0.00	5,217.85	78.4
J55	5,019.26	ZONE - 2	0.00	5,217.87	85.9
J65	5,028.35	ZONE - 2	0.00	5,217.85	82.0
J62	5,022.00	ZONE - 2	0.00	5,217.91	84.8
J63	5,043.00	ZONE - 2	0.00	5,217.93	75.7
J39	5,022.00	ZONE - 2	0.70	5,217.86	84.7
J61	5,060.00	ZONE - 2	0.70	5,217.86	68.3
J64	5,044.24	ZONE - 2	0.00	5,217.85	75.1
J6	5,063.59	ZONE - 2	0.00	5,217.86	66.7
J17	5,062.26	ZONE - 2	1.06	5,217.86	67.3

Active Scenario: MAX DAY

Current Time: 0.000 hours

Label	Start Node	Stop Node	Length (Scaled) (ft)	Diameter (in)	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Headloss Gradient (ft/1000ft)
P1	J1	J2	215.55	8.0	26.87	0.17	0.01	0.036
P2	J8	J9	331.55	8.0	-4.88	0.03	0.00	0.001
P3	J14	J16	127.64	8.0	-27.10	0.17	0.00	0.038
P4	J16	J1	149.18	8.0	-27.10	0.17	0.01	0.039
P5	J14	J18	147.74	8.0	2.12	0.01	0.00	0.000
P6	J18	J15	262.80	8.0	1.06	0.01	0.00	0.000
P7	J20	J21	236.32	8.0	-5.48	0.03	0.00	0.002
P8	J24	J25	157.42	8.0	2.82	0.02	0.00	0.000
P9	J24	J26	194.55	8.0	-9.42	0.06	0.00	0.005
P10	J26	J27	126.04	8.0	-10.83	0.07	0.00	0.008
P11	J27	J28	202.06	8.0	7.21	0.05	0.00	0.005
P12	J30	R1	19.71	12.0	-73.72	0.21	0.00	0.050
P13	J29	J31	2,548.73	12.0	-57.13	0.16	0.05	0.021
P14	J31	R2	42.89	12.0	-57.13	0.16	0.00	0.023
P15	J35	J36	275.63	8.0	3.68	0.02	0.00	0.000
P16	J36	J37	57.33	8.0	0.86	0.01	0.00	0.000
P17	J37	J38	172.86	8.0	-1.96	0.01	0.00	0.000
P18	J40	J41	84.51	12.0	7.06	0.02	0.00	0.000
P19	J41	J42	155.74	12.0	4.24	0.01	0.00	0.000
P20	J40	J43	151.26	12.0	-11.84	0.03	0.00	0.003
P21	J44	J45	96.47	12.0	-16.78	0.05	0.00	0.000
P22	J45	J46	330.24	8.0	3.12	0.02	0.00	0.000
P23	J46	J47	96.08	8.0	-1.11	0.01	0.00	0.000
P24	J34	J48	298.17	8.0	11.84	0.08	0.00	0.008
P25	J47	J48	226.69	8.0	-4.64	0.03	0.00	0.002
P26	J34	J49	192.16	8.0	8.89	0.06	0.00	0.005
P27	J49	J50	75.65	8.0	6.78	0.04	0.00	0.006
P28	J50	J51	241.61	8.0	3.25	0.02	0.00	0.000
P29	J51	J45	301.49	12.0	23.43	0.07	0.00	0.005
P30	J56	J20	165.65	8.0	-1.95	0.01	0.00	0.000
P31	J28	J57	254.94	8.0	7.21	0.05	0.00	0.002
P32	PRV-1	J29	364.51	12.0	-57.13	0.16	0.01	0.020
P33	J1	PRV-1	562.39	12.0	-57.14	0.16	0.01	0.021
P34	J21	J54	116.43	8.0	-6.89	0.04	0.00	0.000
P35	J54	J5	279.27	8.0	-15.86	0.10	0.00	0.014
P36	J35	J48	316.47	8.0	-5.09	0.03	0.00	0.003
P37	J43	J44	111.40	12.0	-14.66	0.04	0.00	0.000
P38	J22	J51	307.77	8.0	6.86	0.04	0.00	0.003
P39	J53	J23	297.13	8.0	-0.25	0.00	0.00	0.000
P40	J23	J24	271.07	8.0	-4.48	0.03	0.00	0.002
P41	J56	J57	222.47	8.0	-1.57	0.01	0.00	0.000
P42	J58	J55	259.09	8.0	26.51	0.17	0.01	0.036
P43	J55	J32	321.70	8.0	26.51	0.17	0.01	0.036
P44	J27	J32	306.80	8.0	-21.57	0.14	0.01	0.024
P45	J34	J33	275.29	8.0	-22.85	0.15	0.01	0.027
P46	J33	J59	208.50	12.0	-45.80	0.13	0.00	0.014
P47	J42	J65	151.48	12.0	0.00	0.00	0.00	0.000

Active Scenario: MAX DAY

Current Time: 0.000 hours

Label	Start Node	Stop Node	Length (Scaled) (ft)	Diameter (in)	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Headloss Gradient (ft/1000ft)
P48	J8	J7	267.91	8.0	0.64	0.00	0.00	0.000
P49	J10	J19	278.25	8.0	-11.23	0.07	0.00	0.007
P50	J19	J11	200.39	8.0	-15.46	0.10	0.00	0.015
P51	J11	J12	227.78	8.0	-17.58	0.11	0.00	0.015
P52	J12	J13	305.10	8.0	-20.75	0.13	0.01	0.024
P53	J13	J14	230.92	8.0	-24.99	0.16	0.01	0.032
P54	J5	J4	445.03	8.0	-18.40	0.12	0.01	0.019
P55	J4	J3	367.68	8.0	-22.63	0.14	0.01	0.027
P56	J3	J2	293.42	8.0	-24.75	0.16	0.01	0.032
P57	J33	J52	180.82	8.0	22.24	0.14	0.00	0.027
P58	J52	J53	188.19	8.0	18.72	0.12	0.00	0.018
P59	J51	J53	277.73	12.0	-16.85	0.05	0.00	0.002
P60	J38	J40	126.53	8.0	-2.67	0.02	0.00	0.000
P61	J62	J58	949.52	12.0	73.72	0.21	0.03	0.033
P62	J30	J63	2,114.06	12.0	73.72	0.21	0.07	0.033
P63	J63	J62	2,668.75	16.0	73.72	0.12	0.02	0.007
P64	J22	J54	283.02	8.0	-8.97	0.06	0.00	0.003
P65	J7	J5	375.40	8.0	-1.48	0.01	0.00	0.000
P66	J59	J39	1,532.53	12.0	0.71	0.00	0.00	0.000
P67	J39	J60	120.64	12.0	0.00	0.00	0.00	0.000
P68	J58	J61	1,058.17	12.0	47.21	0.13	0.02	0.015
P69	J61	J59	301.81	12.0	46.51	0.13	0.00	0.013
P70	J64	J7	376.94	6.0	0.00	0.00	0.00	0.000
P71	J9	J17	64.79	8.0	-6.99	0.04	0.00	0.008
P72	J17	J10	166.79	8.0	-8.06	0.05	0.00	0.003
P73	J6	J17	133.98	6.0	0.00	0.00	0.00	0.000

MAX HOUR

Active Scenario: MAX HOUR

Current Time: 0.000 hours

Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J1	5,072.63	ZONE - 2	4.76	5,217.87	62.8
J2	5,065.30	ZONE - 2	3.17	5,217.85	66.0
J3	5,061.66	ZONE - 2	3.17	5,217.82	67.6
J4	5,057.00	ZONE - 2	6.35	5,217.79	69.6
J5	5,046.00	ZONE - 2	1.59	5,217.77	74.3
J7	5,047.09	ZONE - 2	3.17	5,217.77	73.8
J8	5,050.10	ZONE - 2	6.35	5,217.77	72.5
J9	5,060.13	ZONE - 2	3.17	5,217.77	68.2
J10	5,068.05	ZONE - 2	4.76	5,217.78	64.8
J11	5,079.59	ZONE - 2	3.17	5,217.79	59.8
J12	5,081.76	ZONE - 2	4.76	5,217.80	58.9
J13	5,084.81	ZONE - 2	6.35	5,217.82	57.5
J14	5,084.82	ZONE - 2	0.00	5,217.84	57.6
J15	5,090.86	ZONE - 2	1.59	5,217.84	54.9
J16	5,079.95	ZONE - 2	0.00	5,217.85	59.7
J18	5,086.86	ZONE - 2	1.59	5,217.84	56.7
J19	5,076.77	ZONE - 2	6.35	5,217.78	61.0
J20	5,034.14	ZONE - 2	5.29	5,217.75	79.4
J21	5,036.00	ZONE - 2	2.12	5,217.75	78.6
J22	5,031.73	ZONE - 2	3.17	5,217.74	80.5
J23	5,031.93	ZONE - 2	6.35	5,217.74	80.4
J24	5,029.32	ZONE - 2	3.17	5,217.74	81.5
J25	5,027.80	ZONE - 2	4.23	5,217.74	82.2
J26	5,028.35	ZONE - 2	2.12	5,217.74	81.9
J27	5,027.32	ZONE - 2	5.29	5,217.75	82.4
J28	5,028.65	ZONE - 2	0.00	5,217.75	81.8
J29	5,076.66	ZONE - 3	0.00	5,305.53	99.0
J30	5,009.00	ZONE - 2	0.00	5,218.00	90.4
J31	5,075.00	ZONE - 3	0.00	5,305.67	99.8
J32	5,029.83	ZONE - 2	7.41	5,217.76	81.3
J33	5,022.15	ZONE - 2	1.06	5,217.75	84.6
J34	5,024.23	ZONE - 2	3.17	5,217.74	83.7
J35	5,024.47	ZONE - 2	2.12	5,217.74	83.6
J36	5,027.21	ZONE - 2	4.23	5,217.74	82.4
J37	5,027.92	ZONE - 2	4.23	5,217.74	82.1
J38	5,032.68	ZONE - 2	1.06	5,217.74	80.1
J40	5,034.00	ZONE - 2	3.17	5,217.74	79.5
J41	5,034.81	ZONE - 2	4.23	5,217.74	79.1
J42	5,036.00	ZONE - 2	6.35	5,217.74	78.6
J43	5,033.01	ZONE - 2	4.23	5,217.74	79.9
J44	5,031.87	ZONE - 2	3.17	5,217.74	80.4
J45	5,031.00	ZONE - 2	5.29	5,217.74	80.8
J46	5,028.35	ZONE - 2	6.35	5,217.74	81.9
J47	5,026.27	ZONE - 2	5.29	5,217.74	82.8
J48	5,022.00	ZONE - 2	3.17	5,217.74	84.7
J49	5,026.46	ZONE - 2	3.17	5,217.74	82.8
J50	5,027.46	ZONE - 2	5.29	5,217.74	82.3
J51	5,029.63	ZONE - 2	5.29	5,217.74	81.4

Active Scenario: MAX HOUR

Current Time: 0.000 hours

Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J52	5,024.49	ZONE - 2	5.29	5,217.75	83.6
J53	5,027.58	ZONE - 2	3.17	5,217.74	82.3
J56	5,032.71	ZONE - 2	5.29	5,217.75	80.1
J57	5,030.65	ZONE - 2	8.46	5,217.75	80.9
J58	5,015.75	ZONE - 2	0.00	5,217.79	87.4
J59	5,019.00	ZONE - 2	0.00	5,217.76	86.0
J60	5,021.68	ZONE - 2	0.00	5,217.76	84.8
J54	5,036.70	ZONE - 2	0.00	5,217.75	78.3
J55	5,019.26	ZONE - 2	0.00	5,217.78	85.9
J65	5,028.35	ZONE - 2	0.00	5,217.74	81.9
J62	5,022.00	ZONE - 2	0.00	5,217.85	84.7
J63	5,043.00	ZONE - 2	0.00	5,217.88	75.7
J39	5,022.00	ZONE - 2	1.06	5,217.76	84.7
J61	5,060.00	ZONE - 2	1.06	5,217.77	68.3
J64	5,044.24	ZONE - 2	0.00	5,217.77	75.1
J6	5,063.59	ZONE - 2	0.00	5,217.77	66.7
J17	5,062.26	ZONE - 2	1.59	5,217.77	67.3

Active Scenario: MAX HOUR

Current Time: 0.000 hours

Label	Start Node	Stop Node	Length (Scaled) (ft)	Diameter (in)	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Headloss Gradient (ft/1000ft)
P1	J1	J2	215.55	8.0	46.79	0.30	0.02	0.104
P2	J8	J9	331.55	8.0	-12.54	0.08	0.00	0.009
P3	J14	J16	127.64	8.0	-45.88	0.29	0.01	0.103
P4	J16	J1	149.18	8.0	-45.88	0.29	0.02	0.108
P5	J14	J18	147.74	8.0	3.17	0.02	0.00	0.000
P6	J18	J15	262.80	8.0	1.59	0.01	0.00	0.000
P7	J20	J21	236.32	8.0	-13.54	0.09	0.00	0.010
P8	J24	J25	157.42	8.0	4.23	0.03	0.00	0.000
P9	J24	J26	194.55	8.0	-14.88	0.09	0.00	0.013
P10	J26	J27	126.04	8.0	-16.99	0.11	0.00	0.015
P11	J27	J28	202.06	8.0	5.50	0.04	0.00	0.002
P12	J30	R1	19.71	12.0	-98.84	0.28	0.00	0.074
P13	J29	J31	2,548.73	12.0	-97.43	0.28	0.14	0.055
P14	J31	R2	42.89	12.0	-97.43	0.28	0.00	0.057
P15	J35	J36	275.63	8.0	5.10	0.03	0.00	0.002
P16	J36	J37	57.33	8.0	0.87	0.01	0.00	0.000
P17	J37	J38	172.86	8.0	-3.36	0.02	0.00	0.000
P18	J40	J41	84.51	12.0	10.58	0.03	0.00	0.000
P19	J41	J42	155.74	12.0	6.35	0.02	0.00	0.000
P20	J40	J43	151.26	12.0	-18.17	0.05	0.00	0.003
P21	J44	J45	96.47	12.0	-25.58	0.07	0.00	0.005
P22	J45	J46	330.24	8.0	5.41	0.03	0.00	0.001
P23	J46	J47	96.08	8.0	-0.94	0.01	0.00	0.000
P24	J34	J48	298.17	8.0	16.62	0.11	0.00	0.016
P25	J47	J48	226.69	8.0	-6.23	0.04	0.00	0.002
P26	J34	J49	192.16	8.0	10.99	0.07	0.00	0.008
P27	J49	J50	75.65	8.0	7.82	0.05	0.00	0.006
P28	J50	J51	241.61	8.0	2.53	0.02	0.00	0.000
P29	J51	J45	301.49	12.0	36.28	0.10	0.00	0.010
P30	J56	J20	165.65	8.0	-8.25	0.05	0.00	0.003
P31	J28	J57	254.94	8.0	5.50	0.04	0.00	0.002
P32	PRV-1	J29	364.51	12.0	-97.43	0.28	0.02	0.056
P33	J1	PRV-1	562.39	12.0	-97.43	0.28	0.03	0.056
P34	J21	J54	116.43	8.0	-15.66	0.10	0.00	0.017
P35	J54	J5	279.27	8.0	-35.52	0.23	0.02	0.061
P36	J35	J48	316.47	8.0	-7.22	0.05	0.00	0.003
P37	J43	J44	111.40	12.0	-22.40	0.06	0.00	0.000
P38	J22	J51	307.77	8.0	16.69	0.11	0.00	0.014
P39	J53	J23	297.13	8.0	-1.12	0.01	0.00	0.000
P40	J23	J24	271.07	8.0	-7.47	0.05	0.00	0.004
P41	J56	J57	222.47	8.0	2.96	0.02	0.00	0.002
P42	J58	J55	259.09	8.0	35.19	0.22	0.02	0.060
P43	J55	J32	321.70	8.0	35.19	0.22	0.02	0.061
P44	J27	J32	306.80	8.0	-27.79	0.18	0.01	0.040
P45	J34	J33	275.29	8.0	-30.79	0.20	0.01	0.046
P46	J33	J59	208.50	12.0	-61.53	0.17	0.00	0.023
P47	J42	J65	151.48	12.0	0.00	0.00	0.00	0.000

Active Scenario: MAX HOUR

Current Time: 0.000 hours

Label	Start Node	Stop Node	Length (Scaled) (ft)	Diameter (in)	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Headloss Gradient (ft/1000ft)
P48	J8	J7	267.91	8.0	6.20	0.04	0.00	0.004
P49	J10	J19	278.25	8.0	-22.07	0.14	0.01	0.025
P50	J19	J11	200.39	8.0	-28.42	0.18	0.01	0.041
P51	J11	J12	227.78	8.0	-31.59	0.20	0.01	0.049
P52	J12	J13	305.10	8.0	-36.35	0.23	0.02	0.064
P53	J13	J14	230.92	8.0	-42.70	0.27	0.02	0.087
P54	J5	J4	445.03	8.0	-34.09	0.22	0.03	0.057
P55	J4	J3	367.68	8.0	-40.44	0.26	0.03	0.077
P56	J3	J2	293.42	8.0	-43.61	0.28	0.03	0.090
P57	J33	J52	180.82	8.0	29.69	0.19	0.01	0.043
P58	J52	J53	188.19	8.0	24.40	0.16	0.01	0.031
P59	J51	J53	277.73	12.0	-22.35	0.06	0.00	0.004
P60	J38	J40	126.53	8.0	-4.42	0.03	0.00	0.004
P61	J62	J58	949.52	12.0	98.84	0.28	0.05	0.057
P62	J30	J63	2,114.06	12.0	98.84	0.28	0.12	0.057
P63	J63	J62	2,668.75	16.0	98.84	0.16	0.03	0.012
P64	J22	J54	283.02	8.0	-19.87	0.13	0.01	0.022
P65	J7	J5	375.40	8.0	3.02	0.02	0.00	0.000
P66	J59	J39	1,532.53	12.0	1.06	0.00	0.00	0.000
P67	J39	J60	120.64	12.0	0.00	0.00	0.00	0.000
P68	J58	J61	1,058.17	12.0	63.65	0.18	0.03	0.025
P69	J61	J59	301.81	12.0	62.59	0.18	0.01	0.024
P70	J64	J7	376.94	6.0	0.00	0.00	0.00	0.000
P71	J9	J17	64.79	8.0	-15.72	0.10	0.00	0.008
P72	J17	J10	166.79	8.0	-17.31	0.11	0.00	0.018
P73	J6	J17	133.98	6.0	0.00	0.00	0.00	0.000

MAX DAY WITH

FIRE FLOW

Active Scenario: MAX DAY WITH FIRE FLOW

Current Time: 0.000 hours

Label	Zone	Fire Flow Iterations	Is Fire Flow Run Balanced?	Satisfies Fire Flow Constraints ?	Fire Flow (Needed) (gpm)	Fire Flow (Available) (gpm)	Flow (Total Needed) (gpm)	Flow (Total Available) (gpm)	Pressure (Calculated Residual) (psi)	Pressure (System Lower Limit) (psi)	Pressure (Calculated System Lower Limit) (psi)	Junction w/Minimum Pressure (System)
J1	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.17	1,004.17	62.0	N/A	54.1	J15
J2	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	63.7	N/A	54.2	J15
J3	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	64.2	N/A	54.2	J15
J4	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.23	1,005.23	65.8	N/A	54.2	J15
J5	ZONE - 2	2	True	True	1,000.00	1,001.00	1,001.06	1,002.06	71.1	N/A	54.2	J15
J6	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J7	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	69.0	N/A	53.8	J15
J8	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.23	1,005.23	66.9	N/A	53.6	J15
J9	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	62.1	N/A	53.4	J15
J10	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.17	1,004.17	58.5	N/A	53.2	J15
J11	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	53.9	N/A	52.8	J15
J12	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.17	1,004.17	53.5	N/A	52.5	J15
J13	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.23	1,005.23	53.2	N/A	52.1	J15
J14	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.00	1,001.00	54.3	N/A	51.7	J15
J15	ZONE - 2	2	True	True	1,000.00	1,001.00	1,001.06	1,002.06	46.0	N/A	51.2	J18
J16	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.00	1,001.00	57.3	N/A	52.7	J15
J17	ZONE - 2	2	True	True	1,000.00	1,001.00	1,001.06	1,002.06	61.1	N/A	53.3	J15
J18	ZONE - 2	2	True	True	1,000.00	1,001.00	1,001.06	1,002.06	51.2	N/A	49.5	J15
J19	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.23	1,005.23	54.9	N/A	53.0	J15
J20	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	74.3	N/A	54.4	J15
J21	ZONE - 2	2	True	True	1,000.00	1,001.00	1,001.41	1,002.41	74.4	N/A	54.4	J15
J22	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	76.3	N/A	54.4	J15
J23	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.23	1,005.23	75.5	N/A	54.5	J15
J24	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	76.3	N/A	54.5	J15
J25	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.82	1,003.82	74.9	N/A	54.5	J15
J26	ZONE - 2	2	True	True	1,000.00	1,001.00	1,001.41	1,002.41	77.0	N/A	54.5	J15
J27	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	77.9	N/A	54.5	J15
J28	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.00	1,001.00	76.6	N/A	54.5	J15
J29	ZONE - 3	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J30	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)

Active Scenario: MAX DAY WITH FIRE FLOW

Current Time: 0.000 hours

Label	Zone	Fire Flow Iterations	Is Fire Flow Run Balanced?	Satisfies Fire Flow Constraints ?	Fire Flow (Needed) (gpm)	Fire Flow (Available) (gpm)	Flow (Total Needed) (gpm)	Flow (Total Available) (gpm)	Pressure (Calculated Residual) (psi)	Pressure (System Lower Limit) (psi)	Pressure (Calculated System Lower Limit) (psi)	Junction w/Minimum Pressure (System)
J31	ZONE - 3	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J32	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.94	1,005.94	76.4	N/A	54.5	J15
J33	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.70	1,001.70	80.9	N/A	54.5	J15
J34	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	79.4	N/A	54.5	J15
J35	ZONE - 2	2	True	True	1,000.00	1,001.00	1,001.41	1,002.41	77.7	N/A	54.5	J15
J36	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.82	1,003.82	76.5	N/A	54.5	J15
J37	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.82	1,003.82	76.3	N/A	54.5	J15
J38	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.70	1,001.70	74.8	N/A	54.5	J15
J39	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.70	1,001.70	78.2	N/A	54.5	J15
J40	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	74.9	N/A	54.5	J15
J41	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.82	1,003.82	74.4	N/A	54.5	J15
J42	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.23	1,005.23	73.6	N/A	54.5	J15
J43	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.82	1,003.82	75.5	N/A	54.5	J15
J44	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	76.1	N/A	54.5	J15
J45	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	76.6	N/A	54.5	J15
J46	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.23	1,005.23	76.5	N/A	54.5	J15
J47	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	77.4	N/A	54.5	J15
J48	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	79.8	N/A	54.5	J15
J49	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	78.0	N/A	54.5	J15
J50	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	77.6	N/A	54.5	J15
J51	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	77.6	N/A	54.5	J15
J52	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	79.4	N/A	54.5	J15
J53	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	78.4	N/A	54.5	J15
J54	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.00	1,001.00	74.8	N/A	54.3	J15
J55	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.00	1,001.00	81.5	N/A	54.5	J15
J56	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	74.6	N/A	54.4	J15
J57	ZONE - 2	2	True	True	1,000.00	1,001.00	1,005.64	1,006.64	75.4	N/A	54.4	J15
J58	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J59	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J60	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)

Active Scenario: MAX DAY WITH FIRE FLOW

Current Time: 0.000 hours

Label	Zone	Fire Flow Iterations	Is Fire Flow Run Balanced?	Satisfies Fire Flow Constraints ?	Fire Flow (Needed) (gpm)	Fire Flow (Available) (gpm)	Flow (Total Needed) (gpm)	Flow (Total Available) (gpm)	Pressure (Calculated Residual) (psi)	Pressure (System Lower Limit) (psi)	Pressure (Calculated System Lower Limit) (psi)	Junction w/Minimum Pressure (System)
J61	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.70	1,001.70	64.6	N/A	54.5	J15
J62	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J63	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J64	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J65	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)

MAX DAY WITH

FIRE FLOW AT J15

Active Scenario: MAX DAY FIRE FLOW AT J15

Current Time: 0.000 hours

Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J1	5,072.63	ZONE - 2	3.17	5,216.13	62.1
J2	5,065.30	ZONE - 2	2.12	5,216.06	65.2
J3	5,061.66	ZONE - 2	2.12	5,215.97	66.8
J4	5,057.00	ZONE - 2	4.23	5,215.86	68.7
J5	5,046.00	ZONE - 2	1.06	5,215.74	73.4
J7	5,047.09	ZONE - 2	2.12	5,214.85	72.6
J8	5,050.10	ZONE - 2	4.23	5,214.23	71.0
J9	5,060.13	ZONE - 2	2.12	5,213.47	66.3
J10	5,068.05	ZONE - 2	3.17	5,212.96	62.7
J11	5,079.59	ZONE - 2	2.12	5,211.94	57.3
J12	5,081.76	ZONE - 2	3.17	5,211.47	56.1
J13	5,084.81	ZONE - 2	4.23	5,210.86	54.5
J14	5,084.82	ZONE - 2	0.00	5,210.41	54.3
J15	5,090.86	ZONE - 2	1,001.06	5,197.13	46.0
J16	5,079.95	ZONE - 2	0.00	5,212.90	57.5
J18	5,086.86	ZONE - 2	1.06	5,205.20	51.2
J19	5,076.77	ZONE - 2	4.23	5,212.36	58.7
J20	5,034.14	ZONE - 2	3.53	5,216.14	78.7
J21	5,036.00	ZONE - 2	1.41	5,216.09	77.9
J22	5,031.73	ZONE - 2	2.12	5,216.21	79.8
J23	5,031.93	ZONE - 2	4.23	5,216.37	79.8
J24	5,029.32	ZONE - 2	2.12	5,216.37	80.9
J25	5,027.80	ZONE - 2	2.82	5,216.37	81.6
J26	5,028.35	ZONE - 2	1.41	5,216.38	81.4
J27	5,027.32	ZONE - 2	3.53	5,216.38	81.8
J28	5,028.65	ZONE - 2	0.00	5,216.32	81.2
J29	5,076.66	ZONE - 3	0.00	5,297.47	95.5
J30	5,009.00	ZONE - 2	0.00	5,217.99	90.4
J31	5,075.00	ZONE - 3	0.00	5,305.52	99.7
J32	5,029.83	ZONE - 2	4.94	5,216.49	80.8
J33	5,022.15	ZONE - 2	0.70	5,216.48	84.1
J34	5,024.23	ZONE - 2	2.12	5,216.40	83.1
J35	5,024.47	ZONE - 2	1.41	5,216.37	83.0
J36	5,027.21	ZONE - 2	2.82	5,216.37	81.8
J37	5,027.92	ZONE - 2	2.82	5,216.37	81.5
J38	5,032.68	ZONE - 2	0.70	5,216.37	79.5
J40	5,034.00	ZONE - 2	2.12	5,216.37	78.9
J41	5,034.81	ZONE - 2	2.82	5,216.37	78.5
J42	5,036.00	ZONE - 2	4.23	5,216.37	78.0
J43	5,033.01	ZONE - 2	2.82	5,216.37	79.3
J44	5,031.87	ZONE - 2	2.12	5,216.37	79.8
J45	5,031.00	ZONE - 2	3.53	5,216.37	80.2
J46	5,028.35	ZONE - 2	4.23	5,216.37	81.3
J47	5,026.27	ZONE - 2	3.53	5,216.37	82.2
J48	5,022.00	ZONE - 2	2.12	5,216.38	84.1
J49	5,026.46	ZONE - 2	2.12	5,216.38	82.2
J50	5,027.46	ZONE - 2	3.53	5,216.38	81.7
J51	5,029.63	ZONE - 2	3.53	5,216.37	80.8

Active Scenario: MAX DAY FIRE FLOW AT J15

Current Time: 0.000 hours

Label	Elevation (ft)	Zone	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
J52	5,024.49	ZONE - 2	3.53	5,216.43	83.0
J53	5,027.58	ZONE - 2	2.12	5,216.37	81.7
J56	5,032.71	ZONE - 2	3.53	5,216.19	79.4
J57	5,030.65	ZONE - 2	5.64	5,216.24	80.3
J58	5,015.75	ZONE - 2	0.00	5,216.72	87.0
J59	5,019.00	ZONE - 2	0.00	5,216.51	85.5
J60	5,021.68	ZONE - 2	0.00	5,216.51	84.3
J54	5,036.70	ZONE - 2	0.00	5,216.07	77.6
J55	5,019.26	ZONE - 2	0.00	5,216.61	85.4
J65	5,028.35	ZONE - 2	0.00	5,216.37	81.3
J62	5,022.00	ZONE - 2	0.00	5,217.05	84.4
J63	5,043.00	ZONE - 2	0.00	5,217.25	75.4
J39	5,022.00	ZONE - 2	0.27	5,216.51	84.2
J61	5,060.00	ZONE - 2	0.27	5,216.56	67.7
J64	5,044.24	ZONE - 2	0.00	5,214.85	73.8
J6	5,063.59	ZONE - 2	0.00	5,213.33	64.8
J17	5,062.26	ZONE - 2	0.41	5,213.33	65.4

Active Scenario: MAX DAY FIRE FLOW AT J15

Current Time: 0.000 hours

Label	Start Node	Stop Node	Length (Scaled) (ft)	Diameter (in)	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Headloss Gradient (ft/1000ft)
P1	J1	J2	215.55	8.0	87.95	0.56	0.07	0.338
P2	J8	J9	331.55	8.0	248.49	1.59	0.75	2.277
P3	J14	J16	127.64	8.0	-773.08	4.93	2.49	19.472
P4	J16	J1	149.18	8.0	-773.08	4.93	3.23	21.678
P5	J14	J18	147.74	8.0	1,002.12	6.40	5.22	35.314
P6	J18	J15	262.80	8.0	1,001.06	6.39	8.07	30.694
P7	J20	J21	236.32	8.0	68.78	0.44	0.05	0.211
P8	J24	J25	157.42	8.0	2.82	0.02	0.00	0.000
P9	J24	J26	194.55	8.0	-6.07	0.04	0.00	0.003
P10	J26	J27	126.04	8.0	-7.48	0.05	0.00	0.004
P11	J27	J28	202.06	8.0	81.48	0.52	0.06	0.295
P12	J30	R1	19.71	12.0	-265.12	0.75	0.01	0.446
P13	J29	J31	2,548.73	12.0	-864.18	2.45	8.05	3.159
P14	J31	R2	42.89	12.0	-864.18	2.45	0.15	3.574
P15	J35	J36	275.63	8.0	15.56	0.10	0.00	0.012
P16	J36	J37	57.33	8.0	12.74	0.08	0.00	0.017
P17	J37	J38	172.86	8.0	9.92	0.06	0.00	0.006
P18	J40	J41	84.51	12.0	7.05	0.02	0.00	0.000
P19	J41	J42	155.74	12.0	4.23	0.01	0.00	0.000
P20	J40	J43	151.26	12.0	0.04	0.00	0.00	0.000
P21	J44	J45	96.47	12.0	-4.89	0.01	0.00	0.000
P22	J45	J46	330.24	8.0	-13.78	0.09	0.00	0.010
P23	J46	J47	96.08	8.0	-18.01	0.11	0.00	0.020
P24	J34	J48	298.17	8.0	40.62	0.26	0.02	0.080
P25	J47	J48	226.69	8.0	-21.53	0.14	0.01	0.024
P26	J34	J49	192.16	8.0	40.10	0.26	0.02	0.079
P27	J49	J50	75.65	8.0	37.98	0.24	0.01	0.071
P28	J50	J51	241.61	8.0	34.45	0.22	0.01	0.059
P29	J51	J45	301.49	12.0	-5.36	0.02	0.00	0.000
P30	J56	J20	165.65	8.0	72.31	0.46	0.04	0.253
P31	J28	J57	254.94	8.0	81.48	0.52	0.07	0.289
P32	PRV-1	J29	364.51	12.0	-864.18	2.45	1.15	3.145
P33	J1	PRV-1	562.39	12.0	-864.21	2.45	1.77	3.145
P34	J21	J54	116.43	8.0	67.37	0.43	0.02	0.210
P35	J54	J5	279.27	8.0	176.41	1.13	0.33	1.196
P36	J35	J48	316.47	8.0	-16.97	0.11	0.00	0.015
P37	J43	J44	111.40	12.0	-2.78	0.01	0.00	0.000
P38	J22	J51	307.77	8.0	-111.16	0.71	0.16	0.508
P39	J53	J23	297.13	8.0	3.10	0.02	0.00	0.000
P40	J23	J24	271.07	8.0	-1.14	0.01	0.00	0.000
P41	J56	J57	222.47	8.0	-75.84	0.48	0.06	0.250
P42	J58	J55	259.09	8.0	97.43	0.62	0.10	0.398
P43	J55	J32	321.70	8.0	97.43	0.62	0.13	0.398
P44	J27	J32	306.80	8.0	-92.49	0.59	0.11	0.361
P45	J34	J33	275.29	8.0	-82.84	0.53	0.08	0.294
P46	J33	J59	208.50	12.0	-167.15	0.47	0.03	0.150
P47	J42	J65	151.48	12.0	0.00	0.00	0.00	0.000

Active Scenario: MAX DAY FIRE FLOW AT J15

Current Time: 0.000 hours

Label	Start Node	Stop Node	Length (Scaled) (ft)	Diameter (in)	Flow (gpm)	Velocity (ft/s)	Headloss (ft)	Headloss Gradient (ft/1000ft)
P48	J8	J7	267.91	8.0	-252.73	1.61	0.62	2.324
P49	J10	J19	278.25	8.0	242.79	1.55	0.60	2.158
P50	J19	J11	200.39	8.0	238.56	1.52	0.42	2.088
P51	J11	J12	227.78	8.0	236.45	1.51	0.47	2.056
P52	J12	J13	305.10	8.0	233.27	1.49	0.61	2.004
P53	J13	J14	230.92	8.0	229.04	1.46	0.45	1.937
P54	J5	J4	445.03	8.0	-79.49	0.51	0.12	0.273
P55	J4	J3	367.68	8.0	-83.72	0.53	0.11	0.300
P56	J3	J2	293.42	8.0	-85.84	0.55	0.09	0.315
P57	J33	J52	180.82	8.0	83.61	0.53	0.05	0.300
P58	J52	J53	188.19	8.0	80.08	0.51	0.05	0.278
P59	J51	J53	277.73	12.0	-74.87	0.21	0.01	0.033
P60	J38	J40	126.53	8.0	9.22	0.06	0.00	0.004
P61	J62	J58	949.52	12.0	265.12	0.75	0.33	0.352
P62	J30	J63	2,114.06	12.0	265.12	0.75	0.75	0.352
P63	J63	J62	2,668.75	16.0	265.12	0.42	0.19	0.073
P64	J22	J54	283.02	8.0	109.04	0.70	0.14	0.490
P65	J7	J5	375.40	8.0	-254.84	1.63	0.89	2.361
P66	J59	J39	1,532.53	12.0	0.27	0.00	0.00	0.000
P67	J39	J60	120.64	12.0	0.00	0.00	0.00	0.000
P68	J58	J61	1,058.17	12.0	167.69	0.48	0.16	0.151
P69	J61	J59	301.81	12.0	167.42	0.47	0.05	0.150
P70	J64	J7	376.94	6.0	0.00	0.00	0.00	0.000
P71	J9	J17	64.79	8.0	246.38	1.57	0.14	2.216
P72	J17	J10	166.79	8.0	245.97	1.57	0.37	2.213
P73	J6	J17	133.98	6.0	0.00	0.00	0.00	0.000

FIRE FLOW WITH

NO FLOW FROM THE SOUTH

Active Scenario: MAX DAY WITH FIRE FLOW - NO FLOW FROM SOUTH CONNECTION

Current Time: 0.000 hours

Label	Zone	Fire Flow Iterations	Is Fire Flow Run Balanced?	Satisfies Fire Flow Constraints ?	Fire Flow (Needed) (gpm)	Fire Flow (Available) (gpm)	Flow (Total Needed) (gpm)	Flow (Total Available) (gpm)	Pressure (Calculated Residual) (psi)	Pressure (System Lower Limit) (psi)	Pressure (Calculated System Lower Limit) (psi)	Junction w/Minimum Pressure (System)
J1	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.17	1,004.17	38.5	N/A	31.3	J15
J2	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	42.2	N/A	32.2	J15
J3	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	44.8	N/A	33.4	J15
J4	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.23	1,005.23	48.6	N/A	35.0	J15
J5	ZONE - 2	2	True	True	1,000.00	1,001.00	1,001.06	1,002.06	56.9	N/A	37.5	J15
J6	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J7	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	53.3	N/A	36.0	J15
J8	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.23	1,005.23	50.5	N/A	35.2	J15
J9	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	44.8	N/A	34.2	J15
J10	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.17	1,004.17	40.7	N/A	33.6	J15
J11	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	34.9	N/A	32.3	J15
J12	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.17	1,004.17	33.8	N/A	31.7	J15
J13	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.23	1,005.23	32.5	N/A	30.8	J15
J14	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.00	1,001.00	32.7	N/A	30.1	J15
J15	ZONE - 2	2	True	True	1,000.00	1,001.00	1,001.06	1,002.06	24.4	N/A	29.6	J18
J16	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.00	1,001.00	35.0	N/A	30.7	J15
J17	ZONE - 2	2	True	True	1,000.00	1,001.00	1,001.06	1,002.06	43.7	N/A	34.1	J15
J18	ZONE - 2	2	True	True	1,000.00	1,001.00	1,001.06	1,002.06	29.6	N/A	27.9	J15
J19	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.23	1,005.23	36.4	N/A	32.9	J15
J20	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	65.6	N/A	42.3	J15
J21	ZONE - 2	2	True	True	1,000.00	1,001.00	1,001.41	1,002.41	64.9	N/A	41.7	J15
J22	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	67.9	N/A	42.6	J15
J23	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.23	1,005.23	68.6	N/A	44.6	J15
J24	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	69.5	N/A	44.5	J15
J25	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.82	1,003.82	68.1	N/A	44.5	J15
J26	ZONE - 2	2	True	True	1,000.00	1,001.00	1,001.41	1,002.41	70.3	N/A	44.5	J15
J27	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	71.2	N/A	44.5	J15
J28	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.00	1,001.00	69.5	N/A	43.9	J15
J29	ZONE - 3	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J30	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)

Active Scenario: MAX DAY WITH FIRE FLOW - NO FLOW FROM SOUTH CONNECTION

Current Time: 0.000 hours

Label	Zone	Fire Flow Iterations	Is Fire Flow Run Balanced?	Satisfies Fire Flow Constraints ?	Fire Flow (Needed) (gpm)	Fire Flow (Available) (gpm)	Flow (Total Needed) (gpm)	Flow (Total Available) (gpm)	Pressure (Calculated Residual) (psi)	Pressure (System Lower Limit) (psi)	Pressure (Calculated System Lower Limit) (psi)	Junction w/Minimum Pressure (System)
J31	ZONE - 3	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J32	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.94	1,005.94	70.3	N/A	45.1	J15
J33	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.70	1,001.70	74.7	N/A	45.1	J15
J34	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	72.9	N/A	44.7	J15
J35	ZONE - 2	2	True	True	1,000.00	1,001.00	1,001.41	1,002.41	71.0	N/A	44.5	J15
J36	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.82	1,003.82	69.8	N/A	44.5	J15
J37	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.82	1,003.82	69.6	N/A	44.5	J15
J38	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.70	1,001.70	68.0	N/A	44.5	J15
J39	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.70	1,001.70	72.2	N/A	45.3	J15
J40	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	68.2	N/A	44.5	J15
J41	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.82	1,003.82	67.6	N/A	44.5	J15
J42	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.23	1,005.23	66.8	N/A	44.5	J15
J43	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.82	1,003.82	68.8	N/A	44.5	J15
J44	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	69.4	N/A	44.5	J15
J45	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	69.9	N/A	44.4	J15
J46	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.23	1,005.23	69.8	N/A	44.5	J15
J47	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	70.7	N/A	44.5	J15
J48	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	73.2	N/A	44.5	J15
J49	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	71.3	N/A	44.6	J15
J50	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	70.9	N/A	44.5	J15
J51	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	70.8	N/A	44.4	J15
J52	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	72.9	N/A	44.8	J15
J53	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	71.7	N/A	44.5	J15
J54	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.00	1,001.00	64.8	N/A	41.3	J15
J55	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.00	1,001.00	75.9	N/A	45.9	J15
J56	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	66.4	N/A	42.7	J15
J57	ZONE - 2	2	True	True	1,000.00	1,001.00	1,005.64	1,006.64	67.7	N/A	43.2	J15
J58	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J59	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J60	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)

Active Scenario: MAX DAY WITH FIRE FLOW - NO FLOW FROM SOUTH CONNECTION

Current Time: 0.000 hours

Label	Zone	Fire Flow Iterations	Is Fire Flow Run Balanced?	Satisfies Fire Flow Constraints ?	Fire Flow (Needed) (gpm)	Fire Flow (Available) (gpm)	Flow (Total Needed) (gpm)	Flow (Total Available) (gpm)	Pressure (Calculated Residual) (psi)	Pressure (System Lower Limit) (psi)	Pressure (Calculated System Lower Limit) (psi)	Junction w/Minimum Pressure (System)
J61	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.70	1,001.70	58.8	N/A	45.5	J15
J62	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J63	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J64	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J65	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)

FIRE FLOW WITH

NO FLOW FROM THE NORTH

Active Scenario: MAX DAY WITH FIRE FLOW - NO FLOW FROM NORTH CONNECTION

Current Time: 0.000 hours

Label	Zone	Fire Flow Iterations	Is Fire Flow Run Balanced?	Satisfies Fire Flow Constraints ?	Fire Flow (Needed) (gpm)	Fire Flow (Available) (gpm)	Flow (Total Needed) (gpm)	Flow (Total Available) (gpm)	Pressure (Calculated Residual) (psi)	Pressure (System Lower Limit) (psi)	Pressure (Calculated System Lower Limit) (psi)	Junction w/Minimum Pressure (System)
J1	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.17	1,004.17	61.6	N/A	53.7	J15
J2	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	62.4	N/A	53.4	J15
J3	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	61.9	N/A	53.2	J15
J4	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.23	1,005.23	62.0	N/A	53.0	J15
J5	ZONE - 2	2	True	True	1,000.00	1,001.00	1,001.06	1,002.06	65.1	N/A	52.8	J15
J6	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J7	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	64.3	N/A	52.6	J15
J8	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.23	1,005.23	62.9	N/A	52.4	J15
J9	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	58.8	N/A	52.2	J15
J10	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.17	1,004.17	55.7	N/A	52.1	J15
J11	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	51.9	N/A	51.7	J15
J12	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.17	1,004.17	51.8	N/A	51.5	J15
J13	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.23	1,005.23	51.9	N/A	51.2	J15
J14	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.00	1,001.00	53.4	N/A	50.8	J15
J15	ZONE - 2	2	True	True	1,000.00	1,001.00	1,001.06	1,002.06	45.0	N/A	50.3	J18
J16	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.00	1,001.00	56.6	N/A	51.9	J15
J17	ZONE - 2	2	True	True	1,000.00	1,001.00	1,001.06	1,002.06	57.9	N/A	52.2	J15
J18	ZONE - 2	2	True	True	1,000.00	1,001.00	1,001.06	1,002.06	50.3	N/A	48.5	J15
J19	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.23	1,005.23	52.5	N/A	51.9	J15
J20	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	63.4	N/A	52.8	J15
J21	ZONE - 2	2	True	True	1,000.00	1,001.00	1,001.41	1,002.41	64.1	N/A	52.8	J15
J22	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	64.8	N/A	52.8	J15
J23	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.23	1,005.23	62.0	N/A	51.4	J61
J24	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	63.0	N/A	51.5	J61
J25	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.82	1,003.82	61.6	N/A	51.5	J61
J26	ZONE - 2	2	True	True	1,000.00	1,001.00	1,001.41	1,002.41	63.9	N/A	51.6	J61
J27	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	64.8	N/A	51.7	J61
J28	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.00	1,001.00	64.2	N/A	52.2	J61
J29	ZONE - 3	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J30	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)

Active Scenario: MAX DAY WITH FIRE FLOW - NO FLOW FROM NORTH CONNECTION

Current Time: 0.000 hours

Label	Zone	Fire Flow Iterations	Is Fire Flow Run Balanced?	Satisfies Fire Flow Constraints ?	Fire Flow (Needed) (gpm)	Fire Flow (Available) (gpm)	Flow (Total Needed) (gpm)	Flow (Total Available) (gpm)	Pressure (Calculated Residual) (psi)	Pressure (System Lower Limit) (psi)	Pressure (Calculated System Lower Limit) (psi)	Junction w/Minimum Pressure (System)
J31	ZONE - 3	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J32	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.94	1,005.94	62.6	N/A	51.2	J61
J33	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.70	1,001.70	66.9	N/A	50.6	J61
J34	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	65.9	N/A	51.1	J61
J35	ZONE - 2	2	True	True	1,000.00	1,001.00	1,001.41	1,002.41	64.4	N/A	51.3	J61
J36	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.82	1,003.82	63.2	N/A	51.3	J61
J37	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.82	1,003.82	63.0	N/A	51.3	J61
J38	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.70	1,001.70	61.5	N/A	51.3	J61
J39	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.70	1,001.70	64.1	N/A	50.4	J61
J40	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	61.6	N/A	51.3	J61
J41	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.82	1,003.82	61.1	N/A	51.3	J61
J42	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.23	1,005.23	60.3	N/A	51.3	J61
J43	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.82	1,003.82	62.2	N/A	51.3	J61
J44	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	62.8	N/A	51.3	J61
J45	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	63.4	N/A	51.3	J61
J46	ZONE - 2	2	True	True	1,000.00	1,001.00	1,004.23	1,005.23	63.2	N/A	51.3	J61
J47	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	64.1	N/A	51.3	J61
J48	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	66.5	N/A	51.2	J61
J49	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	64.6	N/A	51.2	J61
J50	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	64.2	N/A	51.2	J61
J51	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	64.3	N/A	51.3	J61
J52	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	65.8	N/A	51.0	J61
J53	ZONE - 2	2	True	True	1,000.00	1,001.00	1,002.12	1,003.12	65.1	N/A	51.3	J61
J54	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.00	1,001.00	65.0	N/A	52.8	J15
J55	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.00	1,001.00	66.9	N/A	50.8	J61
J56	ZONE - 2	2	True	True	1,000.00	1,001.00	1,003.53	1,004.53	63.3	N/A	52.8	J15
J57	ZONE - 2	2	True	True	1,000.00	1,001.00	1,005.64	1,006.64	63.7	N/A	52.8	J61
J58	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J59	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J60	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)

Active Scenario: MAX DAY WITH FIRE FLOW - NO FLOW FROM NORTH CONNECTION

Current Time: 0.000 hours

Label	Zone	Fire Flow Iterations	Is Fire Flow Run Balanced?	Satisfies Fire Flow Constraints ?	Fire Flow (Needed) (gpm)	Fire Flow (Available) (gpm)	Flow (Total Needed) (gpm)	Flow (Total Available) (gpm)	Pressure (Calculated Residual) (psi)	Pressure (System Lower Limit) (psi)	Pressure (Calculated System Lower Limit) (psi)	Junction w/Minimum Pressure (System)
J61	ZONE - 2	2	True	True	1,000.00	1,001.00	1,000.70	1,001.70	50.2	N/A	52.8	J15
J62	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J63	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J64	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)
J65	ZONE - 2	(N/A)	(N/A)	(N/A)	1,000.00	(N/A)	(N/A)	(N/A)	(N/A)	N/A	(N/A)	(N/A)

SANITARY SEWER

CALCULATIONS

8" EAST LINE MAX DISCHARGE

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.011	
Channel Slope	0.40000	%
Normal Depth	7.30	in
Diameter	8.00	in

Results

Discharge	0.97	ft^3/s
Flow Area	0.33	ft^2
Wetted Perimeter	1.69	ft
Hydraulic Radius	2.37	in
Top Width	0.38	ft
Critical Depth	0.47	ft
Percent Full	91.3	%
Critical Slope	0.00655	ft/ft
Velocity	2.89	ft/s
Velocity Head	0.13	ft
Specific Energy	0.74	ft
Froude Number	0.54	
Maximum Discharge	0.97	ft^3/s
Discharge Full	0.90	ft^3/s
Slope Full	0.00459	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	91.25	%
Downstream Velocity	Infinity	ft/s

8" EAST LINE MAX DISCHARGE

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	7.30	in
Critical Depth	0.47	ft
Channel Slope	0.40000	%
Critical Slope	0.00655	ft/ft

12" EAST LINE MAX DISCHARGE

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.011	
Channel Slope	0.22000	%
Normal Depth	11.00	in
Diameter	12.00	in

Results

Discharge	2.12	ft^3/s
Flow Area	0.75	ft^2
Wetted Perimeter	2.56	ft
Hydraulic Radius	3.54	in
Top Width	0.55	ft
Critical Depth	0.62	ft
Percent Full	91.7	%
Critical Slope	0.00503	ft/ft
Velocity	2.81	ft/s
Velocity Head	0.12	ft
Specific Energy	1.04	ft
Froude Number	0.42	
Maximum Discharge	2.12	ft^3/s
Discharge Full	1.97	ft^3/s
Slope Full	0.00253	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	91.67	%
Downstream Velocity	Infinity	ft/s

12" EAST LINE MAX DISCHARGE

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	11.00	in
Critical Depth	0.62	ft
Channel Slope	0.22000	%
Critical Slope	0.00503	ft/ft

8" WEST LINE MAX DISCHARGE

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.011	
Channel Slope	0.40000	%
Normal Depth	7.30	in
Diameter	8.00	in

Results

Discharge	0.97	ft^3/s
Flow Area	0.33	ft^2
Wetted Perimeter	1.69	ft
Hydraulic Radius	2.37	in
Top Width	0.38	ft
Critical Depth	0.47	ft
Percent Full	91.3	%
Critical Slope	0.00655	ft/ft
Velocity	2.89	ft/s
Velocity Head	0.13	ft
Specific Energy	0.74	ft
Froude Number	0.54	
Maximum Discharge	0.97	ft^3/s
Discharge Full	0.90	ft^3/s
Slope Full	0.00459	ft/ft
Flow Type	SubCritical	

GVF Input Data

Downstream Depth	0.00	in
Length	0.00	ft
Number Of Steps	0	

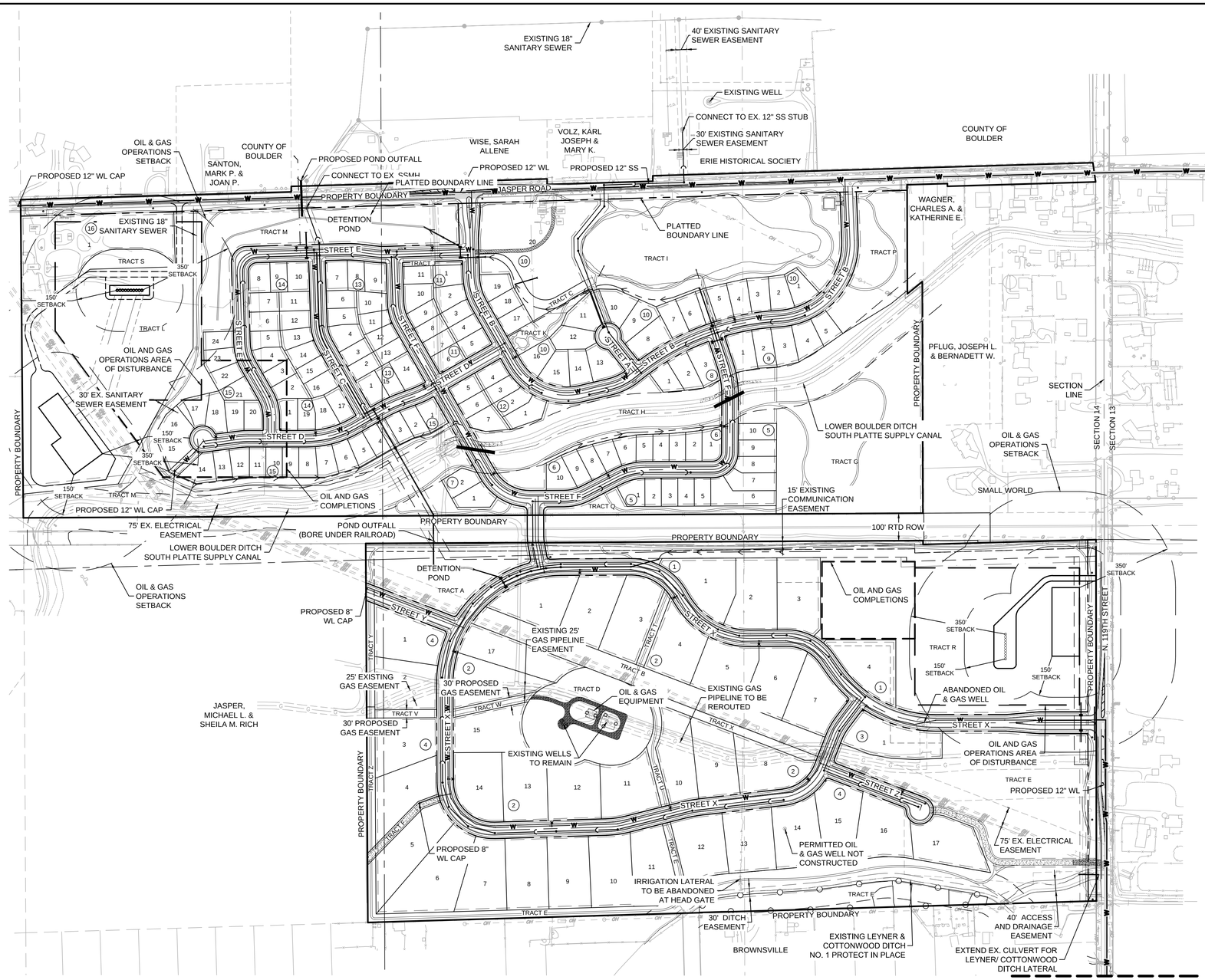
GVF Output Data

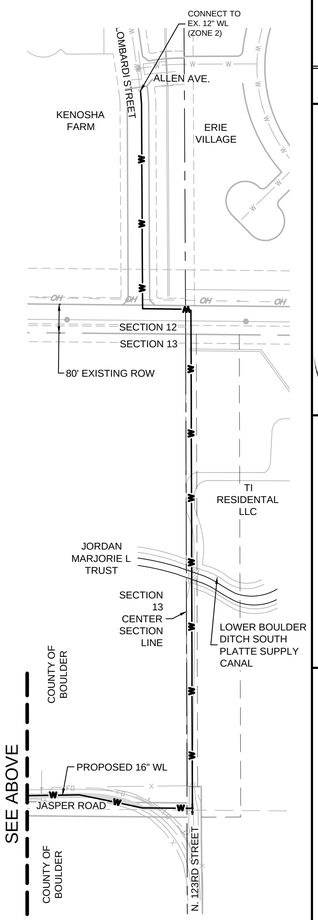
Upstream Depth	0.00	in
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	91.25	%
Downstream Velocity	Infinity	ft/s

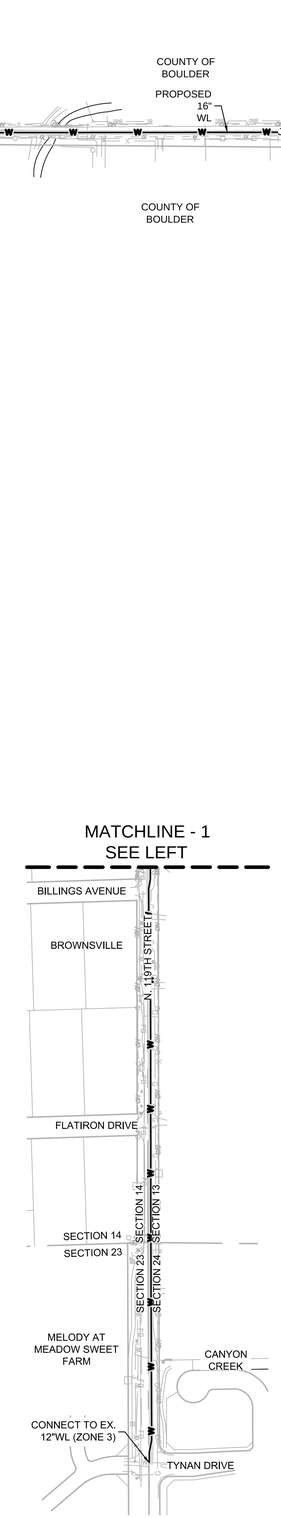
8" WEST LINE MAX DISCHARGE

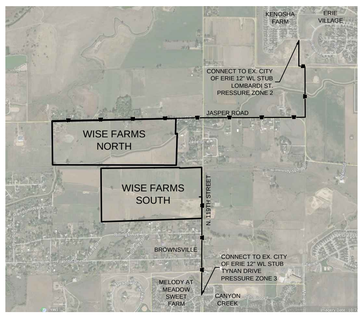
GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	7.30	in
Critical Depth	0.47	ft
Channel Slope	0.40000	%
Critical Slope	0.00655	ft/ft









UTILITY LEGEND

- PROPOSED 8" WATERLINE UNLESS OTHERWISE NOTED
- PROPOSED PRESSURE RELEASE VALVE
- PROPOSED 8" SANITARY SEWER WITH MANHOLE UNLESS OTHERWISE NOTED
- CENTERLINE
- RIGHT-OF-WAY
- PROPERTY LINE
- PROPERTY BOUNDARY
- PROPOSED WATER METER
- IRR — PROPOSED IRRIGATION
- PROPOSED UNDER DRAIN
- 6" FIRE HYDRANT ASSEMBLY
- PROPOSED BLOW OFF VALVE
- EXISTING TREE
- PROPOSED FLARED END SECTION
- PROPOSED STORM INLET
- PROPOSED STORM DRAIN WITH MANHOLE
- EASEMENT LINE
- PROPOSED SWALE
- PROPOSED AREA INLET
- PROPOSED GATE VALVE
- 11 — LOT NUMBER
- 6 — BLOCK NUMBER
- STREET LIGHT

NOTES

1. UNDERDRAINS WILL BE INSTALLED THROUGH THE ENTIRE SITE TO MITIGATE GROUNDWATER FLOODING.
2. THE WATER SERVICE FOR THE PROJECT SITE WILL CONNECT TO ZONE 2 IN KENOSHA FARMS TO THE NORTH AND ZONE 3 IN CANYON CREEK TO THE SOUTH.
3. WATER TIGHT SEWER WILL BE INSTALLED WHEN IN GROUNDWATER TO PROTECT THE GROUNDWATER.
4. THE EXISTING OVERHEAD POWER LINES LOCATED IN JASPER ROAD, ALONG THE PROJECT FRONTAGE; SHALL BE UNDERGROUNDED.
5. THE EXISTING OVERHEAD POWER LINES LOCATED IN THE NORTHEAST CORNER OF THE PROJECT SITE SHALL BE RELOCATED & UNDERGROUNDED WITHIN PROPOSED UTILITY EASEMENTS.
6. THE EXISTING OVERHEAD POWER LINES LOCATED ALONG THE N. 119TH STREET FRONTAGE, SHALL BE UNDERGROUNDED.

200 100 0 200 400

SCALE: 1" = 200'

No.	Revisions	Date	Init.	Aggr.	Date

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
PRELIMINARY DEVELOPMENT PLAN
PRELIMINARY UTILITY PLAN - OVERALL

SCALE: AS SHOWN
FILE NO: 8.13.0230801
DRAWN BY: AAP
CHECKED BY: KEK
DATE: DECEMBER 2014
SHEET NUMBER E8

N:\PROJECTS\30230801 WISE FARMS\CAD\ENGINEERING\SHEET SETS\WISE FARMS - PD\PRELIMINARY UTILITY PLAN.DWG, PATRICK PASSANISE, 12/29/14

PHASE II DRAINAGE REPORT

For

Wise Farms
Erie, Colorado

Prepared for:

Jasper Land Investments, LLC
Attn: Jim Dullea
9162 S. Kenwood Court
Highlands Ranch, Colorado 80126
Phone: (303) 902-5400

Prepared by:

CVL Consultants of Colorado, Inc.
Attn: Melinda E. Lundquist, P.E.

NOVEMBER 2013
REVISED: APRIL 2014
REVISED: JULY 2014
REVISED: OCTOBER 2014
REVISED: DECEMBER 2014

ENGINEER CERTIFICATION for WISE FARMS

Engineer's Certification

"I hereby certify that this **Phase II Drainage Report** for the design of **Wise Farms** was prepared by me (or under my direct supervision) in accordance with the provisions of the *Town of Erie Standards and Specifications for Design and Construction* for the owners thereof. I understand that the Town of Erie does not and will not assume liability for drainage facilities designed by others, including the designs presented in this report."

Melinda E. Lundquist
Registered Professional Engineer
State of Colorado No. **38413**

Town Acceptance

This report has been reviewed and found to be in general compliance with the *Town of Erie Standards and Specifications for Design and Construction* and other Town requirements. **THE ACCURACY AND VALIDITY OF THE ENGINEERING DESIGN, DETAILS, DIMENSIONS, QUANTITIES, AND CONCEPTS IN THIS REPORT REMAINS THE SOLE RESPONSIBILITY OF THE PROFESSIONAL ENGINEER WHOSE STAMP AND SIGNATURE APPEAR HEREON**.

Accepted by: _____ _____
Deputy Public Works Director Date

TABLE OF CONTENTS

I. GENERAL LOCATION AND DESCRIPTION 1
A. Location 1
B. Description of Property 1
II. DRAINAGE BASINS 2
A. Major Basin Description 2
B. Sub-Basin Description 2
III. DRAINAGE DESIGN CRITERIA 4
A. Development Design Criteria 4
B. Hydrological Criteria 4
C. Hydraulic Criteria 5
D. Adaptations from Criteria 5
IV. DRAINAGE FACILITY DESIGN 5
A. General Concept 5
B. Specific Details 7
V. SUMMARY 8
VI. REFERENCES 9
VII. APPENDIX 10

The following narrative details the drainage concept associated with Wise Farms, a 169-acre residential development south of and adjacent to Jasper Road and west of North 119th Street in Erie, Colorado.

I. GENERAL LOCATION AND DESCRIPTION

A. Location

Wise Farms is located adjacent to and south from Jasper Road, and west of North 119th Street in Erie, Colorado. It is part of the northeast one quarter of section 14, Township 1 North Range 69 West of the 6th principle meridian, Town of Erie, Boulder County, and State of Colorado. Boulder Creek lies north of Wise Farms, and Coal Creek lies to the east. The confluence of the two drainageways is northeast of the property. There are no major drainageways within or adjacent to the property, however there is an irrigation ditch running from west to east across the north portion of the site. An RTD right-of-way bisects the site, running east-west. For more detail of the surrounding streets and subdivisions see the enclosed Vicinity Map in the appendix.

B. Description of Property

The 169 acre "Wise Farms" project is proposed as a residential subdivision, with a mixture of parks, open space, and various sized residential single family detached lots. The project is located adjacent to and south of Jasper Road and west of North 119th Street in Erie, Colorado.

The northern portion of the site is bisected by the Lower Boulder Ditch South Platte Supply Canal, and an RTD right-of-way is located between the northern and southern portions of the property. An electrical transmission line easement also traverses the southern half of the site.

The undeveloped parcel of land lying south of the RTD right-of-way has topography that slopes to the north, toward the railroad tracks with grades in the range of 5.0%. The northern portion of the site is relatively flat, with several areas of natural depressions and apparent wetland-like areas that have been classified by the USACOE as non-jurisdictional. The slope of the natural terrain in this region of the project ranges as flat as 0.3%.

Initial research indicates the predominant hydrologic soils type for the project as type "B" Ascalon sandy loam and Manter sandy loam. A soils map is shown in the Appendix of this report.

The existing site's land use is agricultural and consists of several houses and ancillary buildings along Jasper Road. One set of houses and buildings are located in the northwest

corner of the site, adjacent to Jasper Road. The other set of houses and buildings are located in the middle of the property along the northern boundary; adjacent to Jasper Road. The intent is to leave the houses and ancillary buildings in-place.

II. DRAINAGE BASINS

A. Major Basin Description

The site and contributing areas will be divided into two major basins, the North and South basins. The South Basin is located to the south of the Railroad Transportation District (RTD) right-of-way and will drain to Pond 340, located in the northwest corner of the drainage basin and adjacent to the RTD right-of-way. The South Basin consists of a mixture of well sites, open space and large single family residential, detached lots. A well site is located in the west-central portion of the southern portion of the property. The Leyner Cottonwood Ditch runs along the southern boundary of the South Basin in the adjacent undeveloped parcel and will not be impacted by this project.

The North Basin is located to the north of the RTD right-of-way and will drain to Pond 370, located in the northwest corner of the basin. The North Basin consists of a mixture of parks, open space, and various sized single family residential, detached lots. Both Ponds 340 and 370 will work in conjunction with each other to provide water quality volume, excess urban runoff volume, and 100-year detention volume. The Lower Boulder Ditch South Platte Supply Canal runs along the southern boundary of the North Basin and will not be impacted by this project.

The project site is located on Flood Insurance Rate Map (FIRM) panel 08013C0437 J [Ref. 7] dated December 18, 2013. The map shows that the entire project site lies within "Zone X" which is described as an area determined to be outside the 500-year floodplain limits or shallow flooding areas with average depths of less than one foot or drainage areas less than one square mile. A FIRMette of the project area is provided in the Appendix.

Sub-Basin Description

The contributory area is historically divided into six sub-basins. Sub-basins 110, 115, and 120 comprise the southern 46 acres of the project site that are conveyed to Pond 340, located south of the RTD right-of-way. A layout for these catchments contains 38 lots. The rear of lots along the western perimeter of the property generally sheetflow offsite, undetained, which is similar to the historic condition.

Sub-basin 130 is the catchment in the southern portion of the project that is not tributary to Pond 340. Two access points to the property and the associated improvements from North

119th Street are essentially the only proposed improvements within this catchment. Runoff from the site generally sheetflows to the existing low point located along the RTD right-of-way.

Sub-basin 140 is the 9 acre catchment north of and between the RTD right-of-way and the Lower Boulder Ditch. Most of the site runoff sheetflows to the curb and gutter in Street F and is conveyed easterly and then northerly through the catchment. A swale is proposed at the rear of the lots; north of Street F, which will contribute to the Street F curb and gutter via curb and sidewalk chase. A culvert is proposed over the Lower Boulder Ditch to the north of this basin. The sub-basin's runoff will be conveyed over the culvert in the Street F curb and gutter as it continues into Sub-basin 145.

Sub-basin 145 consists of 9 acres and is the north-central catchment for the project. Runoff from the residential lots and the runoff from Sub-basin 140 are conveyed via curb and gutter to the inlets at the low point at the intersection of Street B and Street F. These flows are piped to the swale along the rear of the lots that are located along the northern perimeter of the catchment. These flows are conveyed via open channel to the culvert at Design Point 145 at the northwest corner of the catchment and are then piped to Pond 370. The north side of the swale has a minimum elevation of 1-foot greater than the 100-year design ponding elevation of Pond 370 to prevent overtopping the swale when the pond is full.

Sub-basin 150 consists of 28 acres of single-family residential development north of the Lower Boulder Ditch that contribute to Pond 370, which is also part of the basin. Developed runoff from Pond 340 and Sub-basins 140 and 145 are piped through Sub-basin 150 to Pond 370 as well.

Sub-basin 160 consists of 2 single family residential lots and the area northeast of these proposed lots that is associated with the eastern access improvements to Jasper Road. This 4 acre basin will address water quality in a rain garden west of the proposed access road. Flows in excess of the volume retained in the rain garden will overtop and continue westerly via sheetflow to the wet area, where it will be retained.

3.6 Dwelling Units / Acre was used to determine the 49% Imperviousness for the residential land use assumptions. An exhibit of Figure RO-3 from the *USCDM* [Ref. 3] is provided in the Appendix of this report to show the imperviousness evaluations noted above.

III. DRAINAGE DESIGN CRITERIA

A. Development Design Criteria

The technical criteria outlined in Section 800, Storm Drainage Facilities of the "*Standards and Specifications for Design and Construction of Public Improvements, Town of Erie*" [Ref. 1]. Since no report outline was specified, the Preliminary Drainage Report criteria from the *"Boulder County Storm Drainage Criteria Manual"* [Ref. 2] was utilized for the report sequencing. Additionally, the "Urban Storm Drainage Criteria Manual, Vol. 1, 2, and 3" (USCDM) [Ref. 3] was used for ancillary design criteria.

No known previous studies have been prepared for this project site. It does however lie within the area of study (Basins 614 and 615) for the *"Erie Outfall Systems Plan – Preliminary Design"* [Ref. 4].

Site runoff south of the Lower Boulder Ditch South Platte Supply Canal is designed to mitigate impacts to the existing RTD ROW track and said channel. There are two hydraulically disconnected wet areas at the low points in the northern portion of the site. Both of these locations are essentially left in-place, but the tributary area to both has been reduced. The existing residence near the eastern wetland area does not appear to be impacted by the retention taking place at this wet area. As the tributary area has been reduced, this residence should not be adversely impacted. Additionally, a berm is being implemented to the south and west of the residence to prevent the Pond 370 detention storage's backwater effect from flooding the residence. Lastly, the existing runoff for the project area north of the Lower Boulder Ditch South Platte Supply Canal is essentially retained. The *"Agreement - Drainage, Utility and Access Easements – Road Right of Way Dedication"* [Ref. 5] allows for a release rate from the project site to the wetlands area to the north of Jasper Road of up to 1.0 cfs per acre. Though the site is primarily Type B Hydrologic Soils, this report adheres to the maximum allowable release rate of 1.0 cfs per acre as the historic basins generate more than 1.0 cfs per acre, and the aforementioned Agreement allows for this rate.

B. Hydrological Criteria

The project site's hydrology design was primarily evaluated with the Urban Drainage and Flood Control District's CUHP 2005 version 1.4.2. Catchments were input as outlined in the *USCDM* [Ref. 3]. The 100-year storm event is the only rainfall event analyzed in this report since the USDCM's Full Spectrum Detention design guidelines were implemented rather than the minor storm event to mimic minor storm events up to the 10-year event since the outfall from the site discharges to wetlands. This should be less detrimental to downstream facilities than the "*Standards and Specifications for Design and Construction of Public Improvements, Town of Erie*" [Ref. 1] Water Quality, 10-year, and 100-year detention

standards. Additionally, Colorado Urban Hydrograph Procedure software was utilized in order to output to SWMM software rather than implementing the sequential detention procedure detailed in the "*Standards and Specifications for Design and Construction of Public Improvements, Town of Erie*" [Ref. 1]. The 2-year rainfall event will be utilized to evaluate the minor storm in the Final Drainage Report for this project.

The 100-year, 1-hour rainfall depth of 2.7 inches was implemented in the hydrologic analysis of the proposed design as presented in Table 800-2 of the "*Standards and Specifications for Design and Construction of Public Improvements, Town of Erie*" [Ref. 1].

C. Hydraulic Criteria

The Environmental Protection Agency's SWMM5 version 022 was primarily utilized for hydraulic evaluation of the project site. This software was utilized to route the 100-year hydrographs developed in the CUHP 1.4.2 design noted above. The six sub-basins were routed to two detention ponds – Pond 340 and 370. Detention volumes are preliminarily designed to accommodate the allowable release rate of 1.0 cfs/acre. Since the two ponds are in series, Pond 370 is designed accounts for the tributary area to Pond 340 in its allowable release rate consideration. The minor storm events will be accommodated in these ponds as detailed in the USDCM's Full Spectrum Detention design guidelines [Ref. 3]. The provided 100-year volume accommodates the 100-year design volume from SWMM5 plus one-half of the Excess Runoff Volume. Due to the area and grading constraints associated with Pond 340, it will release at greater than 1 cfs/acre. Pond 370 will accommodate the extra detention necessary to adhere to the 1 cfs/acre release rate that contributes to the downstream properties.

D. Adaptations from Criteria

As previously mentioned, the USDCM's Full Spectrum Detention design guidelines were implemented rather than the minor storm event to mimic minor storm events up to the 10-year event since the outfall from the site discharges to wetlands. Additionally, Colorado Urban Hydrograph Procedure software was utilized in order to output to SWMM software rather than implementing the sequential detention procedure detailed in the "*Standards and Specifications for Design and Construction of Public Improvements, Town of Erie*" [Ref. 1].

IV. DRAINAGE FACILITY DESIGN

A. General Concept

The storm drainage design concept envisioned for this project will follow the parameters set forth in the "*Agreement - Drainage, Utility and Access Easements – Road Right of Way*

Dedication" [Ref. 5] between the Wise Homestead LLC, the County of Boulder, and the Town of Erie, dated January 25, 2001. Said agreement recognizes that the historic drainage from the area contemplated as this Wise Farms development did drain onto the property to the north of Jasper, purchased by Boulder County. It further recognizes and anticipates that the runoff from the Wise Farms development area would be designed to discharge into the existing wetland areas on the County parcels north of Jasper Road. While precise details of this design were unknown at the time of the agreement, the agreement contemplated on-site detention on the Wise Farms project site to release at the rate of 1.0 cfs per acre.

The proposed drainage concept for this Wise Farms project follows those parameters set forth in the aforementioned agreement. The site is contemplated to be divided into two major drainage basins by the RTD right-of-way. Detention will be provided on each of these two major basins.

The northerly 46 acre basin will drain overland and through a series of storm sewer systems, culverts, and swales located in the streets and tracts of the development, to a detention facility – Pond 370 – located along Jasper Road in the northwest corner of the site. This approximately 7.5 acre-foot pond will accommodate the excess urban runoff volume as well as stormwater detention. The site development may be phased, and the area north of the RTD right-of-way will have to be constructed first. Until the area south of the RTD right-of-way is developed, the design release rate from this northern detention facility of approximately 46 cfs will be conveyed via storm drain under Jasper Road, to the wetland area north of Jasper Road described in the agreement discussed previously.

Due to the relatively flat grades associated with the northern half of the site, runoff associated with the roadway to the eastern access to Jasper Road cannot be conveyed to the site detention ponds. A rain garden is proposed to provide water quality treatment for this area. A historic wet area exists just south of Jasper Road, between the Street B loop; which the Town of Erie would like to preserve. In an effort to supplement the necessary water this area requires for sustainability, the drainage swale conveying stormwater runoff to the north detention pond (south of the wet area) will have a weir so that large storm events are conveyed to the detention pond, while the smaller events supply the wet area. Additionally, the rear yards of lots 1-5, block 11, east of Tract O, will drain directly towards the wet area.

The southern 60 acre basin is primarily proposed as a larger lot, single-family development and is being accounted for in the design of the northern half of the site. The southern basin will drain overland and through a series of storm drainage systems and swales located in the streets and tracts of the development to the southerly pond, located south of the rail corridor. Based on anticipated future design, approximately 3.5 acre-feet of detention storage will accommodate the excess urban runoff volume as well as a portion of the 100-year detention volume. This pond discharges at 1.5 cfs/acre due to the limited area of the tract containing

the pond. Pond 370 overdetains the excess release to attain the 1.0 cfs/acre allowable release from the site. The release rate of approximately 88 cfs will be conveyed by pipe under the railroad and under the Lower Boulder Ditch, and continue in the pipe to the south side of Jasper Road, where it will contribute to the northern detention pond.

When the area south of the RTD right-of-way is developed, the detained release shall be conveyed to Pond 370. The SWMM5 routing provided in the Appendix of this report shows that the future development does not require up-sizing Pond 370. The outlet works of the pond will have to be modified at that time to account for the increased Full Spectrum Detention and 100-year detention release rates. The Excess Urban Runoff Volume perforated plate will have to be sized to drain the combined volume of 3.8 acre-feet over 72 hours, and the 100-year release rate will be modified to 106 cfs for the release rate associated with 106 acres of tributary area.

The combined discharge from the two major onsite basins will cross under Jasper Road via a culvert, to the west of the two wetland areas discussed in the aforementioned agreement. This discharge will be limited to the 1.0 cfs as specified in the agreement, which represents the historic 100-year discharge from the Wise Farms parcel.

Emergency overflow from the future, southern detention pond (Pond 340) will follow the historic route northerly to the Lower Boulder Ditch South Platte Supply Canal. Emergency overflow from the northern detention facility (Pond 370) will be intercepted by a secondary outlet structure to convey the flows under Jasper Road, which again outfalls to the wetlands areas on the County open space property to the north.

All storm drainage facilities will be designed to meet the Criteria of the Urban Drainage and Flood Control District, the Town of Erie, and the United States Army Corps of Engineers relative to the impacts to jurisdictional wetlands. The design will also adhere to the requirements of the aforementioned agreement between the Wise Homestead, LLC, the County of Boulder, and the Town of Erie.

B. Specific Details

Challenges addressed during the design of the central portion of the site (Basin 140) included avoiding discharge into the Lower Boulder Ditch South Platte Supply Canal. Site runoff is conveyed via curb and gutter to the proposed inlets in Basin 145, which outfall to Pond 370. The detained release from future Pond 340 is piped under the Lower Boulder Ditch South Platte Supply Canal, Conduit 240, which will likely require boring under it and will be confirmed with the final design. The northern portion of the site has hydraulically disconnected/non-jurisdictional wet areas, which could be removed, but are primarily left in-place. The tributary area has, however, been reduced. There is an existing residence and

historic mill site that will be left in place. A berm will be provided in the final design to direct developed runoff around the residence and to prevent the Pond 370 backwater from inundating the residence. Lastly, there is currently no outfall to the north, and the existing Jasper Road is elevated several feet above the site. The proposed outfall will likely incorporate a shallow box culvert (likely a 4' rise) to provide adequate cover on Jasper Road.

Pond 340 accommodates the southern portion of the site as detailed in the General Concept portion of this report. This pond will likely be designed per the Extended Dry Detention Pond criteria as outlined in the *USCDM* [Ref. 3]. Pond 370 accommodates the remainder of the proposed development, again, as detailed in the General Concept portion of this report. Due to the minimal slope in the northern portion of the site, this pond may be designed per the Constructed Wetlands Basin pond criteria as outlined in the *USCDM* [Ref. 3], but it is currently designed per the aforementioned Extended Dry Detention concept. Both ponds will be detailed with the final drainage report for this site, and they will be maintained by the Home Owner's Association or Metropolitan District for Wise Farms.

V. SUMMARY

A. Compliance with Standards

The preceding narrative was prepared as outlined in the Preliminary Drainage Report criteria from the *"Boulder County Storm Drainage Criteria Manual"* [Ref. 2]. The associated preliminary design was prepared as outlined in Section 800, Storm Drainage Facilities of the *"Standards and Specifications for Design and Construction of Public Improvements, Town of Erie*" [Ref. 1]. Additionally, the "Urban Storm Drainage Criteria Manual, Vol. 1, 2, and 3" (USCDM) [Ref. 3] was used for ancillary design criteria.

The project site comprised portions of Basins 614 and 615 in the *"Erie Outfall Systems Plan – Preliminary Design"* [Ref. 4]. The proposed design generally complies with this OSP.

B. Drainage Concept

The proposed site provides two detention ponds for the proposed development. The developed runoff and outfall per the *"Agreement - Drainage, Utility and Access Easements – Road Right of Way Dedication"* [Ref. 5], which allows the project site to outfall to the wetlands area to the north of Jasper Road. The two non-jurisdictional wet areas, the existing residence, and the historic mill site will remain in-place. One storm crossing for each of the RTD ROW and of the Lower Boulder Ditch South Platte Supply Canal is required to convey developed runoff throughout the site.

VI. REFERENCES

1. **Standards and Specifications for Design and Construction of Public Improvements, Town of Erie**, Town of Erie, March 1969, Vol. 1&2 revised 2001, Vol. 3 revised Oct. 2005.

2. **Boulder County Storm Drainage Criteria Manual,** WRC Engineering, Inc., July 1984.

3. **Urban Storm Drainage Criteria Manual, Volumes 1,2,3**, Urban Drainage and Flood Control District, prepared by Urban Drainage and Flood Control District and CH2MHill, March 1969, Vol. 1&2 revised 2001, Vol. 3 revised Oct. 2005.

4. **Erie Outfall Systems Plan – Preliminary Design,** Love and Associates, Inc., May 2001.

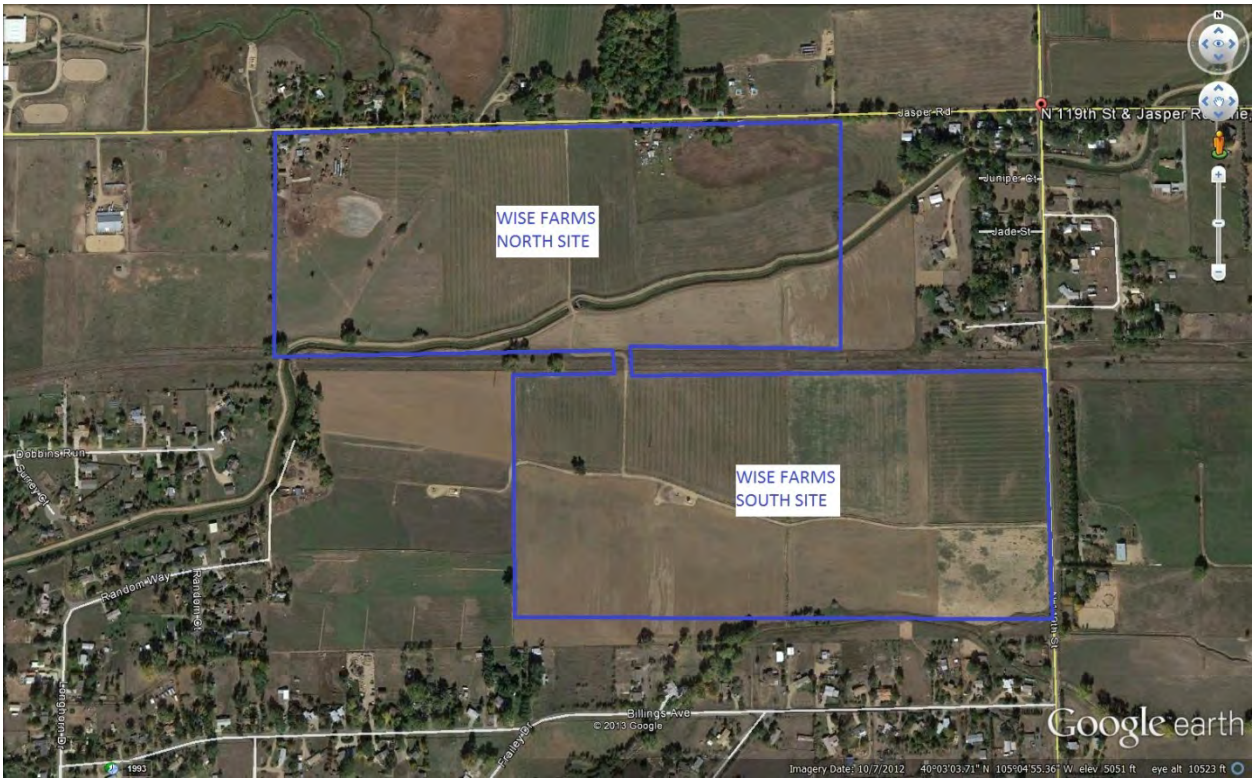
5. "**Agreement - Drainage, Utility and Access Easements – Road Right of Way Dedication,** The Wise Homestead LLC, the County of Boulder, and the Town of Erie, January 25, 2001.

6. **USDA NRCS Soil Survey**, retrieved 03-24-2008 from www.usda.gov

7. **Map Number 08013C0437J,** Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, Boulder County and Unincorporated Areas, Colorado Panel 437 of 615.

VII. APPENDIX

Vicinity Map



0230801 #50

2116552
Page: 1 of 11
02/06/2001 02:06P
Boulder County Clerk, CO AG R 0.00 D 0.00

AGREEMENT

DRAINAGE, UTILITY AND ACCESS EASEMENTS
ROAD RIGHT-OF-WAY DEDICATION

THIS AGREEMENT is made and entered into this 25th day of January, 2001, by and between **WISE HOMESTEAD LLC**, a Colorado Limited Liability Company, hereinafter referred to as "Wise", the **COUNTY OF BOULDER**, a body corporate and politic, hereinafter referred to as "County", and the **TOWN OF ERIE, COLORADO**, a Colorado Municipal Corporation, hereinafter referred to as "Town".

RECITALS

A. Wise and the County have entered into a Purchase Agreement and Division of Land dated September 19, 2000, wherein Wise is selling a parcel of land located north of Jasper Road to the County for open space/agricultural use, identified as Proposed Parcel 1 on attached Exhibit A, hereinafter referred to as "Parcel 1".

B. The County and Town intend to jointly own Parcel 1, with the Town to manage the area of Parcel 1 identified as "The Woods".

C. Wise will retain ownership to two lots north of Jasper Road identified as Proposed Lot A and Proposed Lot B on attached Exhibit A, hereinafter referred to as "Lot A and Lot B". In addition, Wise retains ownership of land located south of Jasper Road, which Wise intends to develop consistent with the Land Use Regulations of the Town. Lots A and B and the land located south of Jasper Road owned by Wise are sometimes referred to as the "Wise Property".

D. Historically, there has been some drainage of the property located south of Jasper Road onto the property located north of Jasper Road including Parcel 1.

E. The Town is in the process of identifying the location of an interceptor sanitary sewer line to serve the Town, which, in part, will be located within Parcel 1, but the exact location and other details of which are not yet known and will be agreed upon in a separate document solely between the County and Town.

F. Wise has submitted to the Town an application to plat the Wise property north of Jasper Road ("Wise Homestead Park")to create Parcel 1 to be able to convey it to the County and the

Rob

Town. However, because of the uncertainty as to the location and manner of drainage discharge, the parties are not able to designate specific drainage or utility easements on Parcel 1 as part of the Final Plat, other than the existing two wetlands which are identified as drainage easements on the Plat subject to the terms of this Agreement.

G. The parties now intend to enter into this Agreement for the purpose of agreeing upon how the drainage discharge will be handled in the future, at the time the Wise Property is developed. The parties agree that the intent is to allow some form of drainage from the property south of Jasper to Parcel 1 in a manner that:

(1) Does not significantly impact the agricultural functioning of the affected portion of Parcel 1 or Parcel 1 as a whole, as cropland, or if it does, Wise shall be required to repurchase the affected portion as set forth in this Agreement, or

(2) Does not adversely affect the functioning of either wetland as a whole, located on Parcel 1.

AGREEMENT

NOW, THEREFORE, in consideration of the recitals, promises, covenants and undertakings hereinafter set forth, and other good and valuable consideration, which is hereby acknowledged and receipted for, the parties agree as follows:

DRAINAGE EASEMENTS

1. The County and Town shall accept drainage discharge from the property south of Jasper Road subject to the following:

A. The parties shall work together to find a mutually acceptable location for the acceptance of drainage onto Parcel 1, based upon the intent of the parties as set forth in Recital G above. The parties agree that such drainage shall be either into the east or west wetlands located on Parcel 1, as shown on Exhibit A, or a combination thereof, to the extent permitted by the Corps of Engineers. In no event shall the County and Town be required to accept drainage from the Wise property south of Jasper Road onto Parcel 1 in a manner which would

substantially interfere with the intended use of Parcel 1 as agricultural cropland and parkland (the parkland is identified on Exhibit A as "The Woods"). However, should the specific agreed upon drainage facilities render a portion of Parcel 1, that is presently being used for agricultural purposes, unable to be farmed (such as an open ditch), Wise shall be required to buy back from the County and Town that portion of Parcel 1 which is no longer able to be farmed (as an outlot with no development rights) at a price based upon $27,000 per acre escalating at 5% per year from the date that the County and Town obtain title to Parcel 1. In such event Wise shall be responsible for constructing any facilities necessary (i.e. ditch crossing) for Parcel 1 to be farmed as one unit. Furthermore, the conveyance of said property to Wise shall contain a reservation of any easements necessary for the County over said property.

B. Any development on the Wise property south of Jasper Road will provide detention storage to discharge drainage at or less than the historic rate of flow from the developed area (1 cfs per acre).

C. The drainage flow will be discharged into the wetlands with adequate erosion control provisions and under proper permits from the Corps of Engineers so as to not adversely affect the functioning of either wetland as a whole.

D. Once a mutually acceptable location and manner of drainage has been agreed upon by the parties, as the owners of Parcel 1, the County and Town shall sign all necessary wetland permit applications and any other required permit applications to allow for the drainage discharge into the wetlands. Any required applications shall be prepared by Wise and Wise shall pay all costs associated with said permit applications.

E. All engineering and construction costs to discharge drainage generated from the Wise property south of Jasper Road to the wetlands on Parcel 1 will be borne by Wise.

F. Once a mutually acceptable location for the acceptance of drainage onto Parcel 1 has been approved by the parties based upon the intent of the parties as set forth in Recital G above, and a final drainage plan has been approved by the Town for the Wise property south of Jasper Road so that the exact location of the drainage discharge is known, and the specific agreed upon facilities do not interfere with the ability to farm the land, as owners of Parcel 1, the County and Town will grant Wise easements for said drainage and for the construction and maintenance of any required drainage facilities. With regard to the existing wetlands, any drainage into said wetlands shall be subject to the easement conditions and restrictions set forth in subparagraphs 1- 6 below. Wise shall not be required to pay for the easements over the existing wetlands, as shown on the Plat. However, should there be a net increase in acreage of the wetlands as determined by the Drainage Development Plan to be approved by the Town prior to development south of Jasper, Wise shall purchase an easement for the net increase in acreage as set forth below. Any approved drainage onto areas other than the wetlands, based upon the terms of this Agreement, shall also be subject to the terms and conditions of the easement restrictions set forth in subparagraphs 1- 6 below. Any and all easements required by Wise as set forth in this paragraph, except for the easements over the existing wetlands as shown on the Plat, shall be purchased at a price of $13,500.00 per acre escalating at 5% per year from the date the County and Town obtain title to Parcel 1. The easement restrictions and conditions that shall attach to any easement conveyed to Wise (the property to be covered by any easement shall hereinafter be referred to as the "Easement Property", the

term Parcel 1 shall continue to refer to the entire Parcel 1 as identified in Recital A, including the Easement Property) are as follows:

The Grantee of said easement/s shall:

1) Bury all pipes and underground facilities to a sufficient depth so as to not interfere with normal, sound agricultural practices.

2) Restore the surface of the Easement Property to its condition prior to installation, construction, maintenance, alteration or replacement of the drainage facilities and appurtenances thereto.

3) Restore fences, drain tile, irrigation systems, landscaping, private roads and other improvements, to the conditions existing prior to Wise's activities on the Easement Property.

4) Pay to the County and Town the actual damages to growing crops, livestock and other items caused by Wise's activities on the Easement Property, and to pay for losses occasioned by any inability to farm the Easement Property or Parcel 1 due to the Wise's activities in creating, constructing, repairing or maintaining said easement.

5) Be responsible for all costs associated with the construction, maintenance and repair or replacement of the drainage facilities on the Easement Property. The use by the County of Parcel 1 for agricultural practices, shall be deemed to not interfere with the drainage easement for Parcel 1. The cost of any maintenance or repairs needed on the Easement Property arising in whole or in part from normal, sound agricultural practices on Parcel 1, shall be at the sole expense of Wise. Wise shall assume liability for and indemnify the County and Town from any liability for damages to persons on Parcel 1 and/or the Easement Property or to property on Parcel 1 and/or the Easement Property

which may result or arise in whole or in part from Wise's activities on Parcel 1 and/or the Easement Property.

6) Wise shall assume liability and indemnify the County and Town from any liability or costs due to the violation of environmental laws or regulations in effect at the time of Wise's construction of the drainage facilities which impact Parcel 1 and/or the Easement Property and which arise from Wise's activities and from Wise's drainage onto Parcel 1.

2. Additionally, the County and Town shall accept drainage onto Parcel 1 from Lots A and B, the location and manner of which shall be determined and agreed upon by all parties. In no event shall the County and Town be required to accept drainage onto Parcel 1 from Lots A and B in a manner which would substantially interfere with the intended use of Parcel 1 as agricultural cropland and parkland. Wise shall pay any costs associated with such drainage and for any easement required for the drainage based upon the same price as set forth in Paragraph 1 above. However, no easement shall be required unless there is new development on Lots A and B which would require specific drainage facilities. Should said drainage discharge be into either of the wetlands on Parcel 1, the provisions of Paragraphs F(1-6) shall apply and Wise shall be responsible for all engineering and construction costs required to discharge drainage into the wetlands. At the time of new development, once a final drainage plan has been developed for Lot A and/or Lot B so that the exact location of the drainage discharge is known, as owners of Parcel 1, the County and Town shall grant easements for said drainage and for the construction and maintenance of any required drainage facilities, including the conditions set forth in F(1-6).

UTILITY EASEMENTS

3. The Town and County shall work together to agree upon final location of the interceptor sewer line. Once the location is agreed upon, the County and Town shall provide the necessary easements over Parcel 1 for the location of the sewer line, and for access for construction and maintenance of the sewer line.

4. Upon the Town and County's determination of the final location of the interceptor sewer line, the County and Town shall provide the necessary easements for Lot A, Lot B and the parcel identified on Exhibit A as the unplatted parcel belonging to Karl Joseph Volz and Mary Katherine Volz, to obtain access to the

interceptor sewer line. The location of the easements shall be such as to minimize the disruption and use of Parcel 1 as agricultural open space and park land. The owners of the lots receiving any private sewer service shall be responsible for all costs of construction and maintenance for said private sewer service, unless said lines become public sewer mains.

ROAD RIGHT-OF-WAY DEDICATION

5. The existing right-of-way for Jasper Road and N. 119th Street is 40 feet wide, 20 feet on each side of the section lines. The Town requires, as a part of the platting process, that the rights-of-way be increased to 80 feet in width, 40 feet on each side of the section lines. The parties agree Wise shall dedicate the existing 20 foot rights-of-way located on Parcel 1, Lot A and Lot B, plus the additional required 20 foot expansion of the right-of-way on Lot A and Lot B for no cash consideration. However, the additional required 20 foot expansion of the rights-of-way located on Parcel 1 shall be included in the total acreage that the County and Town are purchasing from Wise at the rate of $27,000.00 per acre.

6. The required expansion of the Jasper Road right-of-way to 80 feet in width will result in old Wise homestead structures being partially or totally located within the expanded right-of-way. The Town agrees to grant a license allowing the structures to remain within the expanded right-of-way, which license cannot be terminated by the Town prior to six (6) months after receipt by Wise of written notice of termination.

MISCELLANEOUS

7. All of the terms, conditions, covenants and agreements herein set forth and contained shall survive the closing of the sale-purchase of Parcel 1 from Wise to the County and Town, shall continue after said closing to be binding upon and inure to the benefit of the parties hereto, their successors and assigns, and shall be covenants and conditions running with the land.

8. The validity and effect of this Agreement shall be determined in accordance with the laws of the State of Colorado.

9. Wise agrees that all future development or use of Lot A and Lot B shall be in conformance with the requirements of all Town Ordinances, resolutions, codes and review procedures then in effect at the time of the proposed development or use of the property, and shall be restricted by the Conservation Easements to be granted to the County pursuant to the Purchase Agreement.

10. This Agreement is intended to benefit the parties to this Agreement with regard to their plans for their respective parcels of property as set forth in this Agreement. The

enforcement of the terms and conditions of this Agreement and all rights of action relating to this Agreement shall be strictly reserved to the parties to this Agreement and their successors and assigns and nothing contained in this Agreement shall give or allow any claim or right of action whatsoever by any other or third person. It is the express intent of the parties to this Agreement that any person receiving services or benefits under this Agreement shall be deemed an incidental beneficiary only.

11. This Agreement may be executed in any number of counter parts, each of which shall be deemed an original, and all of which shall constitute one and the same agreement. Facsimile signatures shall be acceptable to and binding upon all parties.

IN WITNESS WHEREOF, the parties have executed this Agreement on the dates set forth in their respective acknowledgments intending that this Agreement be effective as of the day and year first above set forth.

WISE HOMESTEAD LLC,
A Colorado Limited Liability Company

By: Alan C Wise
Alan C. Wise, Manager

By: Sarah Allene Wise
Sarah Allene Wise, Manager

STATE OF COLORADO)
) ss.
COUNTY OF BOULDER)

The foregoing Agreement was acknowledged before me this 15th day of JANUARY, 2001, by Alan C. Wise as Manager of Wise Homestead, LLC.

WITNESS my hand and official seal.
My commission expires: OCTOBER 24, 2003

Notary Public

JON F. KOTTKE NOTARY PUBLIC STATE OF COLORADO

STATE OF COLORADO)
) ss.
COUNTY OF BOULDER)

The foregoing Agreement was acknowledged before me this 15th day of JANUARY, 2001, by Sarah Allene Wise, as Manager of Wise Homestead, LLC.
WITNESS my hand and official seal.
My commission expires: OCTOBER 24, 2003

NOTARY PUBLIC STATE OF COLORADO

Notary Public

COUNTY OF BOULDER, a body corporate and politic

By: Ronald K Stewart
Ronald K. Stewart, ~~Chair~~

By: Jana L. Mendez
Jana L. Mendez, ~~Vice-Chair~~ CHAIR

By: Paul D. Danish
Paul D. Danish, Commissioner

STATE OF COLORADO)
) ss.
COUNTY OF BOULDER)

The foregoing Agreement was acknowledged before me this 23rd day of January, 2001, by Ronald K. Stewart, Chair, Jana L. Mendez, Vice-Chair, Paul D. Danish, Commissioner, of the Board County Commissioners of Boulder County.

WITNESS my hand and official seal.
My commission expires: 8/15/2003

CAROL L. GARDINIER NOTARY PUBLIC STATE OF COLORADO

Carol L. Gardinier
Notary Public

TOWN OF ERIE, COLORADO
A Colorado Municipal Corporation

By: _____
TOM VAN LONE - Mayor

ATTEST:
_____
LINDA SALAS - Clerk

STATE OF COLORADO)
) ss.
COUNTY OF BOULDER)

The foregoing Agreement was acknowledged before me this 25th day of January, 2001, by TOM VAN LONE as Mayor, and attested to by LINDA SALAS, as Clerk, of the Town of Erie, Colorado, a Colorado Municipal Corporation.

WITNESS my hand and official seal.
My commission expires: 04/14/2003

RHONDA K. ECKERT NOTARY PUBLIC STATE OF COLORADO

_____
Notary Public

2116552
Page: 11 of 11
02/06/2001 02:06P
D 0.00
R 0.00
Boulder County Clerk, CO RG

EXHIBIT A

SHEET 2 OF

UNPLATTED
BOULDER COUNTY
PARKS & OPEN SPACE

UNPLATTED
BOULDER COUNTY
PARKS & OPEN SPACE

POINT OF COMMENCEMENT
NE COR. SEC. 14
T1N, R69W, 6TH P.M.

N1/4 COR. SEC. 14

TOTAL AREA= 84.537 ACRES, MORE OR LESS.

PROPOSED PARCEL I

PROPOSED PARCEL II

NW1/4, NE1/4, SEC. 14

NE1/4, NE1/4, SEC. 14

N. 119TH STREET

"THE WOODS"

PROPOSED LOT A

PROPOSED LOT B

UNPLATTED

JASPER ROAD

SW COR NW1/4, NE1/4, SEC. 14

SW COR NE1/4, NE1/4, SEC. 14

SE COR. NE1/4, NE1/4, SEC. 14

E1/4 COR. SEC. 14

UNPLATTED
WISE HOMESTEAD, LLC

S88°17'40"W 1317.07'

S88°17'46"W 327.30'

S88°21'40"W 327.86'

S88°17'46"W 604.77'

N88°16'39"E 415.31'

DETAIL "A"

DETAIL "B"

RECORDER'S NOTE: 2-6-01
PORTION OF RECORDED DOCUMENT
MAY NOT REPRODUCE LEGIBLY.

MONUMENT KEY

FND FOUND #5 REBAR W/ 1" ALUM CAP MARKED "PLS 24305"

SET SET #5 REBAR W/ 2" ALUM CAP MARKED "PLS 24305"

SCALE: 1"=100'

ALTA/ACSM LAND TITLE SURVEY
OF A TRACT OF LAND LOCATED
THE N1/2 OF THE NE1/4 AND IN
THE NE1/4 OF THE NW1/4 OF
SECTION 14, T1N, R69W OF THE
6TH P.M., TOWN OF ERIE, COUNT
OF BOULDER, STATE OF COLORA
FOR: WISE HOMESTEAD, LLC

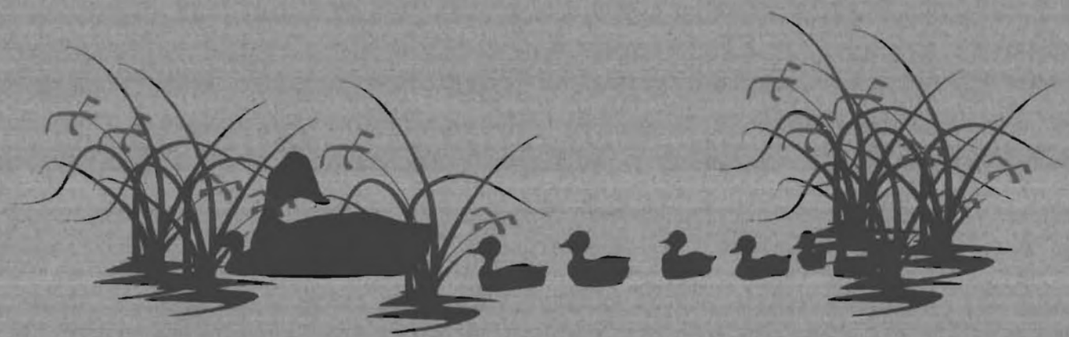
ABP ALBERS, DREXEL & POHLY, I

OCTOBER 31, 2000	FND	
1"=100'	FND	SHEET 2

ERIE OUTFALL SYSTEMS PLANNING

PRELIMINARY DESIGN

ERIE AND ADJACENT BOULDER AND WELD COUNTY AREAS



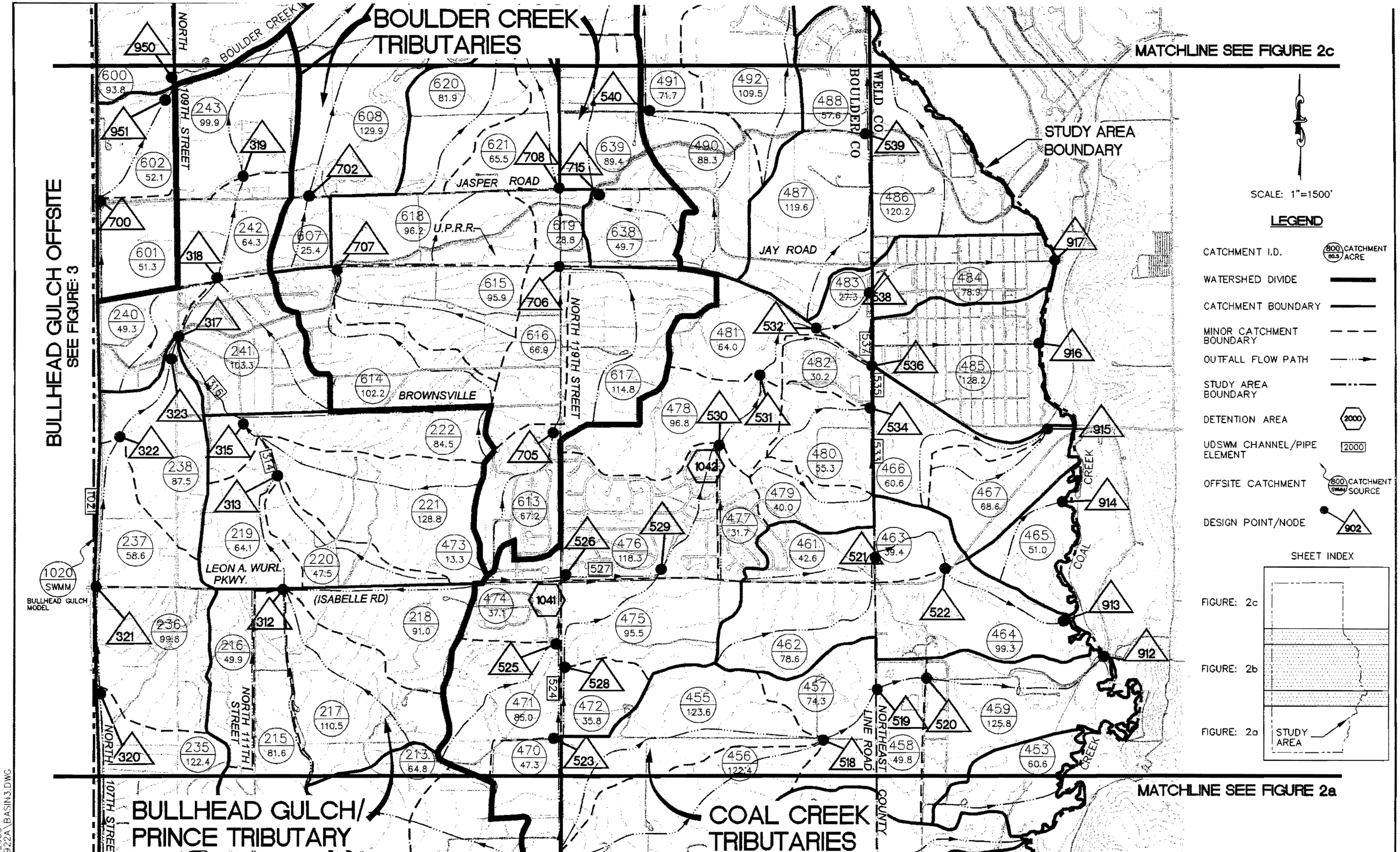
MAY 2001

TOWN OF ERIE
1874

Town of Erie
Urban Drainage and Flood Control District

URBAN DRAINAGE AND FLOODCONTROL DISTRICT

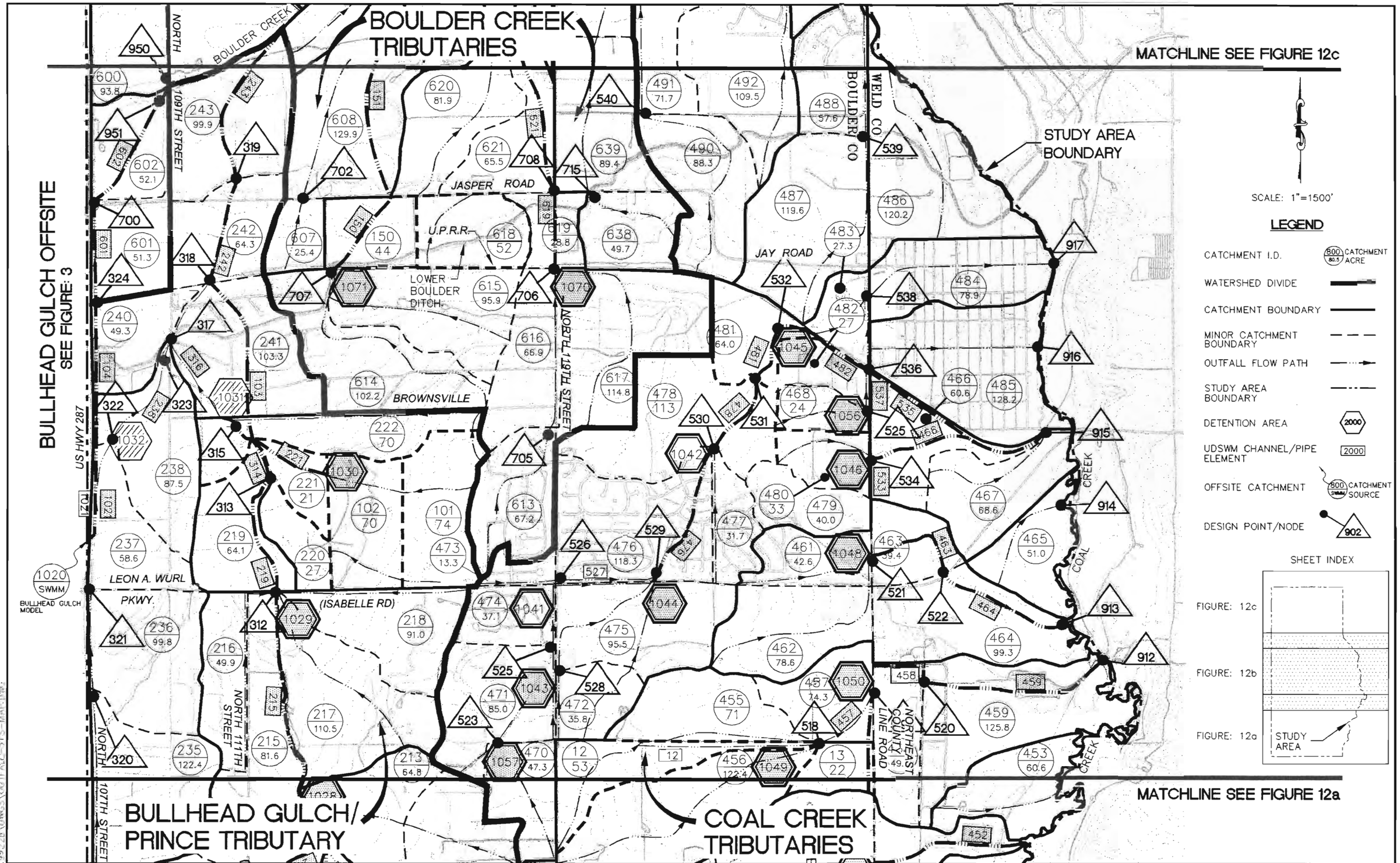
Love & Associates, Inc.
water resource consultants
841 Front Street
Louisville, Colorado 80027-1849
Phone: 303-673-9795 Fax: 303-673-9796
E-mail: nlove@loveassociates.com



DATE: MAY 22, 2000
C:\PROJECTS\99022A\BASIN3.DWG

Lowe & Associates, Inc. water resource consultants 841 Front Street Louisville, Colorado 80027-1849 Phone: 303-673-9795 Fax: 303-673-9796	DESIGNED: RJP DRAWN: DM CHECKED: DJL DATE: 5-00	TOWN OF ERIE URBAN DRAINAGE AND FLOOD CONTROL DISTRICT	ERIE AND ADJACENT AREAS OUTFALL SYSTEMS PLANNING	CATCHMENT DELINEATION AND SWMM ELEMENTS IN THE STUDY AREA

Figure 2b



Zone & Associates, Inc.
water resource consultants
841 Front Street
Louisville, Colorado 80027-0849
Phone: 303-673-9795
Fax: 303-673-9796

DESIGNED:	RJP
DRAWN:	DM
CHECKED:	DJL
DATE:	02--01

TOWN OF ERIE
URBAN DRAINAGE AND FLOOD CONTROL DISTRICT

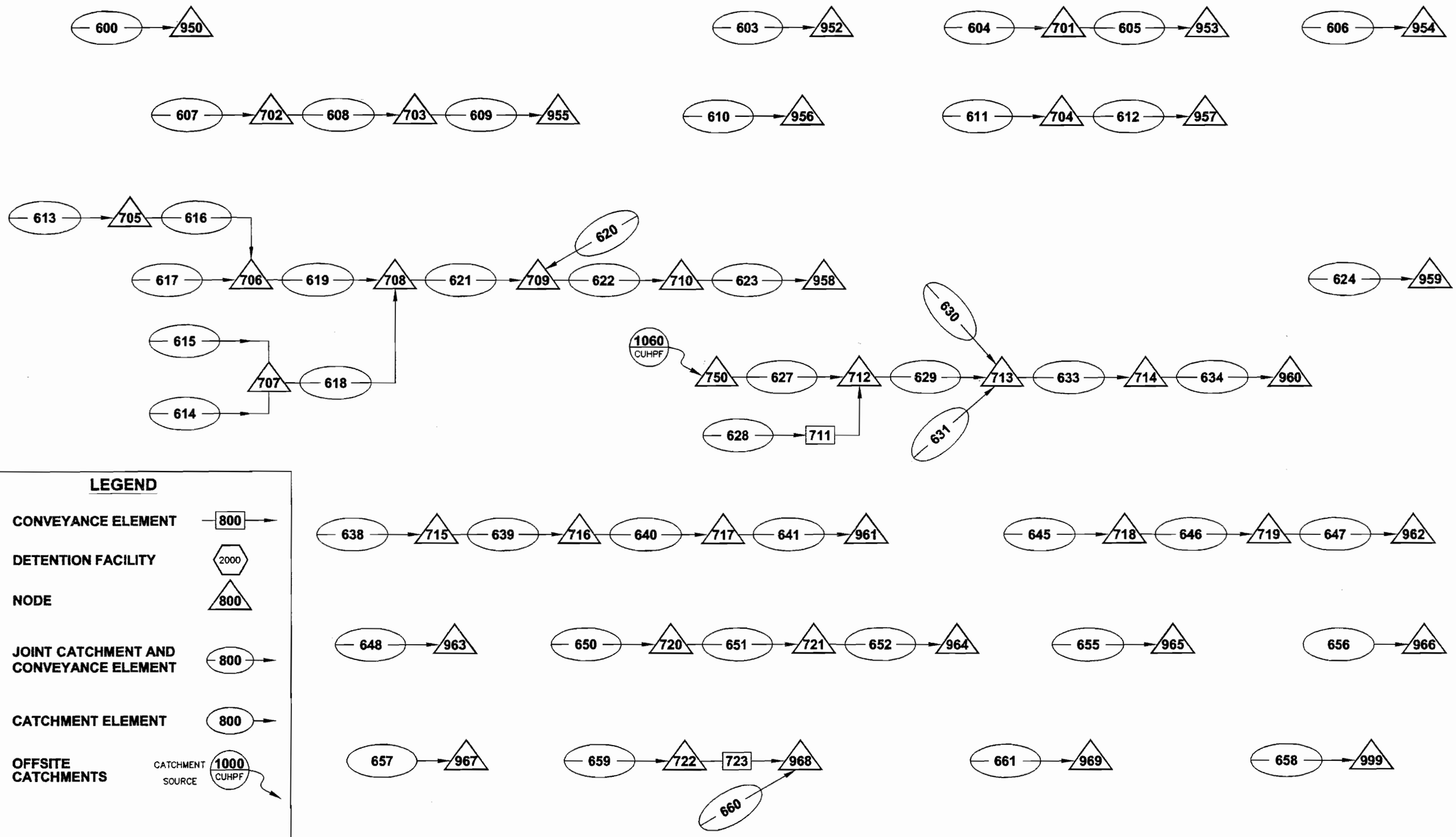
ERIE AND ADJACENT AREAS
OUTFALL SYSTEMS PLANNING

OUTFALL SYSTEMS MAP

Figure 12b
Page V - 4

DATE: FEBRUARY 2,2001
C:\PROJECTS\99-228\DWGS\OUTFALL-SYS-MAP.DWG

BOULDER CREEK TRIBUTARIES



DATE: MAY 30, 2000
E:\PROJECTS\9922A\DWGS\FLOWCHART.DWG

Lore & Associates, Inc
water resource consultants
841 Front Street
Louisville, Colorado 80027-1849
Phone: 303-673-9795
Fax: 303-673-9796

DESIGNED:	RJP
DRAWN:	DM
CHECKED:	DJL
DATE:	4-00

TOWN OF ERIE
BOULDER COUNTY
URBAN DRAINAGE AND FLOOD CONTROL DISTRICT

ERIE AND ADJACENT AREAS
OUTFALL SYSTEMS PLANNING

SWMM FLOW CHARTS
EXISTING AND FUTURE CONDITIONS

Figure A4

Table A9. UDSWM Basin and Conveyance Parameters, Outfall System

Bullhead Gulch/Prince Tributary

GUTTER NUMBER	GUTTER CONNECTION	NDP	NP		WIDTH OR DIAM (FT)	LENGTH (FT)	INVERT SLOPE (FT/FT)	SIDE SLOPES HORIZ L	SIDE SLOPES TO VERT R	MANNING N	OVERBANK/SURCHARGE DEPTH (FT)	JK
1025	305	5	2	PIPE	.0	0.	.0001	.0	.0	.001	.01	0
		RESERVOIR STORAGE IN ACRE-FEET VS SPILLWAY OUTFLOW										
		.0	.0	.7 30.0	2.1	60.0	4.5	108.0	5.0	200.0		
1026	210	10	2	PIPE	.0	0.	.0001	.0	.0	.001	.01	0
		RESERVOIR STORAGE IN ACRE-FEET VS SPILLWAY OUTFLOW										
		.0	.0	.5 18.0	2.2	26.0	5.1	32.0	7.4	35.0	8.9 106.0	
		11.0	300.0	13.1 494.0	13.5	777.0	13.8	1060.0				
1027	304	5	2	PIPE	.0	0.	.0001	.0	.0	.001	.01	0
		RESERVOIR STORAGE IN ACRE-FEET VS SPILLWAY OUTFLOW										
		.0	.0	5.2 100.0	14.4	200.0	23.6	264.0	35.0	400.0		
1028	311	7	2	PIPE	.0	0.	.0001	.0	.0	.001	.01	0
		RESERVOIR STORAGE IN ACRE-FEET VS SPILLWAY OUTFLOW										
		.0	.0	3.4 40.0	7.8	80.0	10.0	96.5	12.0	150.0	14.1 240.0	
		16.0	400.0									
1029	312	7	2	PIPE	.0	0.	.0001	.0	.0	.001	.01	0
		RESERVOIR STORAGE IN ACRE-FEET VS SPILLWAY OUTFLOW										
		.0	.0	6.8 40.0	15.6	80.0	20.0	96.5	24.0	150.0	28.2 240.0	
		32.0	400.0									
1030	221	7	2	PIPE	.0	0.	.0001	.0	.0	.001	.01	0
		RESERVOIR STORAGE IN ACRE-FEET VS SPILLWAY OUTFLOW										
		.0	.0	3.4 40.0	7.8	80.0	10.0	96.5	12.0	150.0	14.1 240.0	
		16.0	400.0									
1031	316	4	3		.0	0.	.0001	.0	.0	.001	.01	103
		DIVERSION TO GUTTER NUMBER 103 - TOTAL Q VS DIVERTED Q IN CFS										
		.0	.0	500.0 500.0	1000.0	500.0	5000.0	500.0				
103	318	0	4	CHANNEL	10.0	2600.	.0130	3.0	3.0	.044	4.00	0
				OVERFLOW	26.0	2600.	.0130	20.0	20.0	.056	10.00	
601	700	0	4	CHANNEL	8.0	1720.	.0060	3.0	3.0	.020	.50	0
				OVERFLOW	11.0	1720.	.0060	20.0	20.0	.044	10.00	
602	951	0	4	CHANNEL	8.0	2280.	.0060	3.0	3.0	.044	3.00	0
				OVERFLOW	26.0	2280.	.0060	20.0	20.0	.056	10.00	
700	602	0	3		.0	0.	.0001	.0	.0	.001	.01	0
951	1500	0	3		.0	0.	.0001	.0	.0	.001	.01	0
1032	325	4	3		.0	0.	.0001	.0	.0	.001	.01	104
		DIVERSION TO GUTTER NUMBER 104 - TOTAL Q VS DIVERTED Q IN CFS										
		.0	.0	1000.0 1000.0	2000.0	1000.0	5000.0	1000.0				
104	324	0	4	CHANNEL	20.0	2400.	.0090	4.0	4.0	.044	6.00	0
				OVERFLOW	26.0	2400.	.0090	20.0	20.0	.056	10.00	
324	601	0	3		.0	0.	.0001	.0	.0	.001	.01	0
325	238	0	3		.0	0.	.0001	.0	.0	.001	.01	0
1020	1021	17	3		.0	0.	.0001	.0	.0	.001	.01	-1
		TIME IN HRS VS INFLOW IN CFS										
		.0	.0	.3 12.8	.4	62.4	.8	1355.5	1.2	3612.7	1.3 3753.8	
		1.3	3746.0	1.4 3612.7	1.8	2523.5	2.0	1799.9	2.5	948.0	3.0 565.2	
		3.5	365.8	4.0 277.2	5.0	161.6	6.0	71.6	8.0	.0		

Boulder Creek Tributaries

SUBAREA NUMBER	GUTTER OR MANHOLE	WIDTH (FT)	AREA (AC)	PERCENT IMPERV.	SLOPE (FT/FT)	RESISTANCE FACTOR IMPERV.	RESISTANCE FACTOR PERV.	SURFACE STORAGE(IN) IMPERV.	SURFACE STORAGE(IN) PERV.	INFILTRATION RATE(IN/HR) MAXIMUM	INFILTRATION RATE(IN/HR) MINIMUM	DECAY RATE	GAGE NO
-1	0	2.	.0	1.0	1.0000	1.000	1.000	1.000	1.000	1.00	1.00	1.00000	
600	600	6156.	93.8	2.0	.0240	.020	.200	.100	.300	3.84	.56	.00180	1
603	603	6968.	103.6	5.6	.0200	.020	.200	.100	.300	3.42	.53	.00180	1
604	604	2203.	25.6	2.0	.0220	.020	.200	.100	.300	4.16	.58	.00180	1
605	605	9475.	116.8	6.8	.0210	.020	.200	.100	.300	3.98	.57	.00180	1
606	606	10579.	45.7	2.0	.0030	.020	.200	.100	.300	3.00	.50	.00180	1
607	607	4428.	25.4	4.9	.0110	.020	.200	.100	.300	4.50	.60	.00180	1
608	608	12037.	129.9	5.5	.0080	.020	.200	.100	.300	3.41	.53	.00180	1
609	609	4309.	75.5	2.0	.0010	.020	.200	.100	.300	3.17	.51	.00180	1
610	610	14382.	95.1	13.2	.0280	.020	.200	.100	.300	4.02	.57	.00180	1
611	611	10352.	65.9	19.9	.0290	.020	.200	.100	.300	3.63	.54	.00180	1
612	612	3132.	29.1	10.1	.0140	.020	.200	.100	.300	3.15	.51	.00180	1
613	613	10944.	67.2	46.6	.0120	.020	.200	.100	.300	4.50	.60	.00180	1
614	614	9967.	102.2	42.3	.0260	.020	.200	.100	.300	4.50	.60	.00180	1
615	615	12069.	95.9	40.0	.0190	.020	.200	.100	.300	4.50	.60	.00180	1
616	616	5832.	66.9	40.5	.0300	.020	.200	.100	.300	4.50	.60	.00180	1
617	617	15768.	114.8	42.7	.0190	.020	.200	.100	.300	4.50	.60	.00180	1
618	618	5544.	52.1	28.8	.0100	.020	.200	.100	.300	4.50	.60	.00180	1
619	619	4626.	28.8	28.8	.0260	.020	.200	.100	.300	4.50	.60	.00180	1
620	620	11713.	81.9	14.0	.0060	.020	.200	.100	.300	4.50	.60	.00180	1
621	621	12859.	65.5	18.5	.0040	.020	.200	.100	.300	4.50	.60	.00180	1
622	622	7339.	76.0	6.8	.0050	.020	.200	.100	.300	3.14	.51	.00180	1
623	623	2747.	44.6	2.0	.0070	.020	.200	.100	.300	3.00	.50	.00180	1
624	624	13334.	51.9	9.0	.0060	.020	.200	.100	.300	3.26	.52	.00180	1
627	627	5472.	105.4	4.2	.0050	.020	.200	.100	.300	3.59	.54	.00180	1
628	628	6782.	30.7	2.0	.0060	.020	.200	.100	.300	3.53	.54	.00180	1
629	629	5621.	80.6	5.1	.0230	.020	.200	.100	.300	3.65	.54	.00180	1
630	630	15503.	129.9	2.0	.0110	.020	.200	.100	.300	3.08	.51	.00180	1
631	631	6599.	59.6	2.0	.0120	.020	.200	.100	.300	3.96	.56	.00180	1
633	633	6955.	76.8	16.8	.0110	.020	.200	.100	.300	4.10	.57	.00180	1
634	634	8424.	46.7	4.5	.0090	.020	.200	.100	.300	3.32	.52	.00180	1
638	638	4486.	49.7	37.0	.0180	.020	.200	.100	.300	4.50	.60	.00180	1

Table A9. UDSWM Basin and Conveyance Parameters, Outfall System

Boulder Creek Tributaries

SUBAREA NUMBER	GUTTER OR MANHOLE	WIDTH (FT)	AREA (AC)	PERCENT IMPERV.	SLOPE (FT/FT)	RESISTANCE FACTOR IMPERV.	RESISTANCE FACTOR PERV.	SURFACE STORAGE(IN) IMPERV.	SURFACE STORAGE(IN) PERV.	INFILTRATION RATE(IN/HR) MAXIMUM	INFILTRATION RATE(IN/HR) MINIMUM	DECAY RATE	GAGE NO
639	639	8554.	89.4	34.8	.0090	.020	.200	.100	.300	4.50	.60	.00180	1
640	640	9007.	79.4	17.6	.0090	.020	.200	.100	.300	3.78	.55	.00180	1
641	641	6786.	29.5	5.4	.0020	.020	.200	.100	.300	3.00	.50	.00180	1
645	645	11952.	103.5	13.8	.0280	.020	.200	.100	.300	3.65	.54	.00180	1
646	646	2682.	41.5	3.1	.0050	.020	.200	.100	.300	3.15	.51	.00180	1
647	647	9090.	105.1	2.0	.0060	.020	.200	.100	.300	3.00	.50	.00180	1
648	648	8203.	80.4	2.0	.0020	.020	.200	.100	.300	3.14	.51	.00180	1
650	650	14058.	80.0	3.7	.0190	.020	.200	.100	.300	3.11	.51	.00180	1
651	651	6626.	87.6	10.1	.0220	.020	.200	.100	.300	3.56	.54	.00180	1
652	652	7956.	51.9	2.0	.0030	.020	.200	.100	.300	3.00	.50	.00180	1
655	655	11275.	121.5	2.0	.0080	.020	.200	.100	.300	3.26	.52	.00180	1
658	658	7258.	72.9	2.0	.0060	.020	.200	.100	.300	3.02	.50	.00180	1
659	659	12280.	130.0	2.0	.0180	.020	.200	.100	.300	3.15	.51	.00180	1
660	660	10546.	45.9	2.0	.0040	.020	.200	.100	.300	3.00	.50	.00180	1
661	661	10584.	41.9	2.0	.0040	.020	.200	.100	.300	3.00	.50	.00180	1
656	966	1620.	58.4	2.0	.0020	.020	.200	.100	.300	3.00	.50	.00180	1
657	967	540.	15.9	2.0	.0070	.020	.200	.100	.300	3.00	.50	.00180	1
150	150	7200.	44.1	28.8	.0060	.020	.200	.100	.300	4.50	.60	.00180	1

TOTAL TRIBUTARY AREA (ACRES), 3512.50

GUTTER NUMBER	GUTTER CONNECTION	NDP	NP		WIDTH OR DIAM (FT)	LENGTH (FT)	INVERT SLOPE (FT/FT)	SIDE SLOPES HORIZ L	SIDE SLOPES TO VERT R	MANNING N	OVERBANK/SURCHARGE DEPTH (FT)	JK
600	950	0	4	CHANNEL	8.0	2850.	.0240	3.0	3.0	.020	.50	0
				OVERFLOW	11.0	2850.	.0240	20.0	20.0	.044	10.00	
603	952	0	4	CHANNEL	5.0	2765.	.0270	3.0	3.0	.044	3.00	0
				OVERFLOW	23.0	2765.	.0270	20.0	20.0	.056	10.00	
604	701	0	4	CHANNEL	8.0	1020.	.0220	3.0	3.0	.020	.50	0
				OVERFLOW	11.0	1020.	.0220	20.0	20.0	.044	10.00	
605	953	0	4	CHANNEL	8.0	3290.	.0230	3.0	3.0	.044	3.00	0
				OVERFLOW	26.0	3290.	.0230	20.0	20.0	.056	10.00	
606	954	0	4	CHANNEL	5.0	3265.	.0030	3.0	3.0	.044	3.00	0
				OVERFLOW	23.0	3265.	.0030	20.0	20.0	.056	10.00	
607	702	0	4	CHANNEL	8.0	1230.	.0110	3.0	3.0	.035	3.00	0
				OVERFLOW	11.0	1230.	.0110	20.0	20.0	.056	10.00	
608	703	0	4	CHANNEL	8.0	3715.	.0080	3.0	3.0	.044	3.00	0
				OVERFLOW	26.0	3715.	.0080	20.0	20.0	.056	10.00	
609	955	0	4	CHANNEL	10.0	1995.	.0010	3.0	3.0	.044	3.00	0
				OVERFLOW	28.0	1995.	.0010	20.0	20.0	.056	10.00	
610	956	0	4	CHANNEL	5.0	3995.	.0250	3.0	3.0	.044	3.00	0
				OVERFLOW	23.0	3995.	.0250	20.0	20.0	.056	10.00	
611	704	0	4	CHANNEL	5.0	3195.	.0290	3.0	3.0	.044	3.00	0
				OVERFLOW	23.0	3195.	.0290	20.0	20.0	.056	10.00	
612	957	0	4	CHANNEL	8.0	870.	.0140	3.0	3.0	.044	3.00	0
				OVERFLOW	26.0	870.	.0140	20.0	20.0	.056	10.00	
613	705	0	4	CHANNEL	8.0	3040.	.0120	3.0	3.0	.020	.50	0
				OVERFLOW	11.0	3040.	.0120	20.0	20.0	.044	10.00	
614	707	0	4	CHANNEL	5.0	3955.	.0260	3.0	3.0	.044	3.00	0
				OVERFLOW	23.0	3955.	.0260	20.0	20.0	.056	10.00	
615	707	0	4	CHANNEL	8.0	3725.	.0190	3.0	3.0	.020	.50	0
				OVERFLOW	11.0	3725.	.0190	20.0	20.0	.044	10.00	
616	706	0	4	CHANNEL	8.0	2700.	.0300	3.0	3.0	.020	.50	0
				OVERFLOW	11.0	2700.	.0300	20.0	20.0	.044	10.00	
617	706	0	4	CHANNEL	8.0	4380.	.0190	3.0	3.0	.020	.50	0
				OVERFLOW	11.0	4380.	.0190	20.0	20.0	.044	10.00	
618	708	0	4	CHANNEL	8.0	2200.	.0100	3.0	3.0	.020	.50	0
				OVERFLOW	11.0	2200.	.0100	20.0	20.0	.044	10.00	
619	708	0	4	CHANNEL	8.0	1285.	.0260	3.0	3.0	.020	.50	0
				OVERFLOW	11.0	1285.	.0260	20.0	20.0	.044	10.00	
620	709	0	4	CHANNEL	5.0	3615.	.0060	3.0	3.0	.044	3.00	0
				OVERFLOW	23.0	3615.	.0060	20.0	20.0	.056	10.00	
621	709	0	4	CHANNEL	8.0	4465.	.0040	3.0	3.0	.020	.50	0
				OVERFLOW	11.0	4465.	.0040	20.0	20.0	.044	10.00	
622	710	0	4	CHANNEL	10.0	2265.	.0050	3.0	3.0	.044	3.00	0
				OVERFLOW	28.0	2265.	.0050	20.0	20.0	.056	10.00	
623	958	0	4	CHANNEL	10.0	1090.	.0070	3.0	3.0	.044	3.00	0
				OVERFLOW	28.0	1090.	.0070	20.0	20.0	.056	10.00	
624	959	0	4	CHANNEL	8.0	4630.	.0060	3.0	3.0	.020	.50	0
				OVERFLOW	11.0	4630.	.0060	20.0	20.0	.044	10.00	
627	712	0	4	CHANNEL	10.0	1900.	.0050	3.0	3.0	.044	3.00	0
				OVERFLOW	28.0	1900.	.0050	20.0	20.0	.056	10.00	
628	711	0	4	CHANNEL	8.0	3140.	.0060	3.0	3.0	.020	.50	0
				OVERFLOW	11.0	3140.	.0060	20.0	20.0	.044	10.00	
629	713	0	4	CHANNEL	10.0	1735.	.0230	3.0	3.0	.038	3.00	0
				OVERFLOW	28.0	1735.	.0230	20.0	20.0	.056	10.00	
630	713	0	4	CHANNEL	5.0	4785.	.0110	3.0	3.0	.044	3.00	0
				OVERFLOW	23.0	4785.	.0110	20.0	20.0	.056	10.00	
631	713	0	4	CHANNEL	5.0	3055.	.0120	3.0	3.0	.044	3.00	0
				OVERFLOW	23.0	3055.	.0120	20.0	20.0	.056	10.00	
633	714	0	4	CHANNEL	10.0	2415.	.0110	3.0	3.0	.038	3.00	0
				OVERFLOW	28.0	2415.	.0110	20.0	20.0	.056	10.00	
634	960	0	4	CHANNEL	10.0	2340.	.0090	3.0	3.0	.044	3.00	0
				OVERFLOW	28.0	2340.	.0090	20.0	20.0	.056	10.00	
638	715	0	4	CHANNEL	8.0	1780.	.0180	3.0	3.0	.020	.50	0
				OVERFLOW	11.0	1780.	.0180	20.0	20.0	.044	10.00	

Table A9. UDSWM Basin and Conveyance Parameters, Outfall System

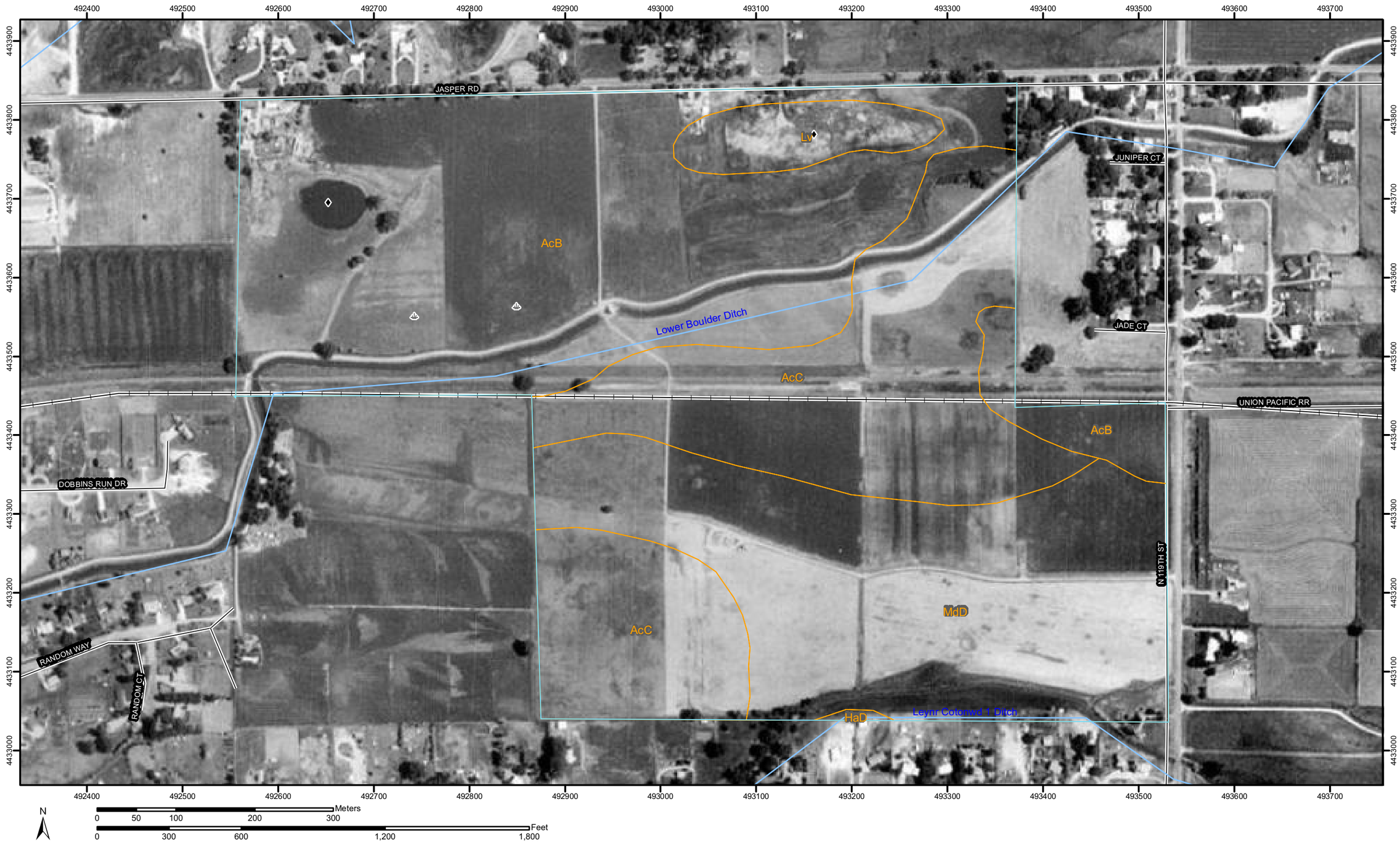
Boulder Creek Tributaries

GUTTER NUMBER	GUTTER CONNECTION	NDP	NP		WIDTH OR DIAM (FT)	LENGTH (FT)	INVERT SLOPE (FT/FT)	SIDE SLOPES HORIZ TO VERT L	R	OVERBANK/SURCHARGE MANNING N	DEPTH (FT)	JK
639	716	0	4	CHANNEL	8.0	2640.	.0090	3.0	3.0	.020	.50	0
				OVERFLOW	11.0	2640.	.0090	20.0	20.0	.044	10.00	
640	717	0	4	CHANNEL	10.0	2780.	.0090	3.0	3.0	.044	3.00	0
				OVERFLOW	28.0	2780.	.0090	20.0	20.0	.056	10.00	
641	961	0	4	CHANNEL	10.0	1885.	.0020	3.0	3.0	.044	3.00	0
				OVERFLOW	28.0	1885.	.0020	20.0	20.0	.056	10.00	
645	718	0	4	CHANNEL	5.0	3320.	.0280	3.0	3.0	.044	3.00	0
				OVERFLOW	23.0	3320.	.0280	20.0	20.0	.056	10.00	
646	719	0	4	CHANNEL	8.0	745.	.0050	3.0	3.0	.044	3.00	0
				OVERFLOW	26.0	745.	.0050	20.0	20.0	.056	10.00	
647	962	0	4	CHANNEL	10.0	2525.	.0060	3.0	3.0	.044	3.00	0
				OVERFLOW	28.0	2525.	.0060	20.0	20.0	.056	10.00	
648	963	0	4	CHANNEL	5.0	3255.	.0020	3.0	3.0	.044	3.00	0
				OVERFLOW	23.0	3255.	.0020	20.0	20.0	.056	10.00	
650	720	0	4	CHANNEL	5.0	3905.	.0190	3.0	3.0	.044	3.00	0
				OVERFLOW	23.0	3905.	.0190	20.0	20.0	.056	10.00	
651	721	0	4	CHANNEL	8.0	2045.	.0220	3.0	3.0	.044	3.00	0
				OVERFLOW	26.0	2045.	.0220	20.0	20.0	.056	10.00	
652	964	0	4	CHANNEL	10.0	2210.	.0030	3.0	3.0	.044	3.00	0
				OVERFLOW	28.0	2210.	.0030	20.0	20.0	.056	10.00	
655	965	0	4	CHANNEL	5.0	3915.	.0080	3.0	3.0	.044	3.00	0
				OVERFLOW	23.0	3915.	.0080	20.0	20.0	.056	10.00	
658	999	0	4	CHANNEL	8.0	3360.	.0060	3.0	3.0	.020	.50	0
				OVERFLOW	11.0	3360.	.0060	20.0	20.0	.044	10.00	
659	722	0	4	CHANNEL	8.0	5685.	.0180	3.0	3.0	.020	.50	0
				OVERFLOW	11.0	5685.	.0180	20.0	20.0	.044	10.00	
660	968	0	4	CHANNEL	5.0	3255.	.0040	3.0	3.0	.044	3.00	0
				OVERFLOW	23.0	3255.	.0040	20.0	20.0	.056	10.00	
661	969	0	4	CHANNEL	8.0	4900.	.0040	3.0	3.0	.020	.50	0
				OVERFLOW	11.0	4900.	.0040	20.0	20.0	.044	10.00	
150	151	0	4	CHANNEL	8.0	2000.	.0060	3.0	3.0	.020	.50	0
				OVERFLOW	11.0	2000.	.0060	20.0	20.0	.044	10.00	
151	703	0	4	CHANNEL	5.0	3400.	.0060	3.0	3.0	.044	3.00	0
				OVERFLOW	23.0	3400.	.0060	20.0	20.0	.056	10.00	
701	605	0	3		.0	0.	.0001	.0	.0	.001	.01	0
702	608	0	3		.0	0.	.0001	.0	.0	.001	.01	0
703	609	0	3		.0	0.	.0001	.0	.0	.001	.01	0
704	612	0	3		.0	0.	.0001	.0	.0	.001	.01	0
705	616	0	3		.0	0.	.0001	.0	.0	.001	.01	0
706	1070	0	3		.0	0.	.0001	.0	.0	.001	.01	0
707	1071	0	3		.0	0.	.0001	.0	.0	.001	.01	0
708	621	0	3		.0	0.	.0001	.0	.0	.001	.01	0
709	622	0	3		.0	0.	.0001	.0	.0	.001	.01	0
710	623	0	3		.0	0.	.0001	.0	.0	.001	.01	0
712	629	0	3		.0	0.	.0001	.0	.0	.001	.01	0
713	633	0	3		.0	0.	.0001	.0	.0	.001	.01	0
714	634	0	3		.0	0.	.0001	.0	.0	.001	.01	0
715	639	0	3		.0	0.	.0001	.0	.0	.001	.01	0
716	640	0	3		.0	0.	.0001	.0	.0	.001	.01	0
717	641	0	3		.0	0.	.0001	.0	.0	.001	.01	0
718	646	0	3		.0	0.	.0001	.0	.0	.001	.01	0
719	647	0	3		.0	0.	.0001	.0	.0	.001	.01	0
720	651	0	3		.0	0.	.0001	.0	.0	.001	.01	0
721	652	0	3		.0	0.	.0001	.0	.0	.001	.01	0
722	723	0	3		.0	0.	.0001	.0	.0	.001	.01	0
750	627	0	3		.0	0.	.0001	.0	.0	.001	.01	0
950	1500	0	3		.0	0.	.0001	.0	.0	.001	.01	0
952	1500	0	3		.0	0.	.0001	.0	.0	.001	.01	0
953	1500	0	3		.0	0.	.0001	.0	.0	.001	.01	0
954	1500	0	3		.0	0.	.0001	.0	.0	.001	.01	0
955	1500	0	3		.0	0.	.0001	.0	.0	.001	.01	0
956	1500	0	3		.0	0.	.0001	.0	.0	.001	.01	0
957	1500	0	3		.0	0.	.0001	.0	.0	.001	.01	0
958	1500	0	3		.0	0.	.0001	.0	.0	.001	.01	0
959	1500	0	3		.0	0.	.0001	.0	.0	.001	.01	0
960	1500	0	3		.0	0.	.0001	.0	.0	.001	.01	0
961	1500	0	3		.0	0.	.0001	.0	.0	.001	.01	0
962	1500	0	3		.0	0.	.0001	.0	.0	.001	.01	0
963	1500	0	3		.0	0.	.0001	.0	.0	.001	.01	0
964	1500	0	3		.0	0.	.0001	.0	.0	.001	.01	0
965	1500	0	3		.0	0.	.0001	.0	.0	.001	.01	0
966	1500	0	3		.0	0.	.0001	.0	.0	.001	.01	0
967	1500	0	3		.0	0.	.0001	.0	.0	.001	.01	0
968	1500	0	3		.0	0.	.0001	.0	.0	.001	.01	0
969	1500	0	3		.0	0.	.0001	.0	.0	.001	.01	0
999	1500	0	3		.0	0.	.0001	.0	.0	.001	.01	0
711	712	0	4	CHANNEL	5.0	1815.	.0120	3.0	3.0	.044	3.00	0
				OVERFLOW	23.0	1815.	.0120	20.0	20.0	.056	10.00	
723	968	0	4	CHANNEL	8.0	1925.	.0050	3.0	3.0	.020	.50	0
				OVERFLOW	11.0	1925.	.0050	20.0	20.0	.044	10.00	
1070	619	7	2	PIPE	.0	0.	.0001	.0	.0	.001	.01	0
		RESERVOIR STORAGE IN ACRE-FEET VS SPILLWAY OUTFLOW										
		.0	.0	2.0 60.0	13.0	120.0	32.0	180.0	44.0	215.0	46.0	240.0
		55.0	470.0									

Table A9. UDSWM Basin and Conveyance Parameters, Outfall System

Boulder Creek Tributaries

GUTTER NUMBER	GUTTER CONNECTION	NDP	NP		WIDTH OR DIAM (FT)	LENGTH (FT)	INVERT SLOPE (FT/FT)	SIDE SLOPES HORIZ TO VERT L	R	OVERBANK/SURCHARGE MANNING N	DEPTH (FT)	JK
1071	150	7	2	PIPE	.0	0.	.0001	.0	.0	.001	.01	0
		RESERVOIR STORAGE IN ACRE-FEET VS SPILLWAY OUTFLOW										
		.0	.0	1.0 40.0	3.0	80.0	8.0	120.0	15.0	160.0	24.5	200.0
		26.0	240.0									
1060	750	17	3		.0	0.	.0001	.0	.0	.001	.01	-1
		TIME IN HRS VS INFLOW IN CFS										
		.0	.0	.4 1.2	.5	58.6	.8	646.5	1.0	1240.4	1.2	1421.0
		1.3	1439.7	1.3 1414.2	1.8	1071.6	2.0	856.3	2.5	557.3	3.0	365.2
		3.5	239.4	4.0 157.0	5.0	67.5	6.0	29.0	8.0	.0		


492400
492500
492600
492700
492800
492900
493000
493100
493200
493300
493400
493500
493600
493700
4433900
4433800
4433700
4433600
4433500
4433400
4433300
4433200
4433100
4433000
JASPER RD
JUNIPER CT
JADE CT
UNION PACIFIC RR
DOBBINS RUN DR
RANDOM WAY
RANDOM CT
N 119TH ST
Lv
AcB
AcC
MdD
HaD
Lower Boulder Ditch
Leyner Colonwd 1 Ditch
N
Meters
0 50 100 200 300
Feet
0 300 600 1,200 1,800

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Units

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Gully

Short Steep Slope

Other

Political Features

Municipalities

Cities

Urban Areas

Water Features

Oceans

Streams and Canals

Transportation

Rails

Roads

Interstate Highways

US Routes

State Highways

Local Roads

Other Roads

MAP INFORMATION

Original soil survey map sheets were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. Please rely on the bar scale on each map sheet for proper map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 13N

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Boulder County Area, Colorado
Survey Area Data: Version 7, Jan 15, 2008

Date(s) aerial images were photographed: 1993

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Boulder County Area, Colorado (CO643)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
AcB	Ascalon sandy loam, 1 to 3 percent slopes	74.3	42.4%
AcC	Ascalon sandy loam, 3 to 5 percent slopes	47.5	27.1%
HaD	Hargreave fine sandy loam, 3 to 9 percent slopes	0.2	0.1%
Lv	Loveland soils	5.7	3.3%
MdD	Manter sandy loam, 3 to 9 percent slopes	47.5	27.1%
Totals for Area of Interest (AOI)		175.2	100.0%

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Units

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Gully

Short Steep Slope

Other

Political Features

Cities

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

MAP INFORMATION

Map Scale: 1:6,570 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 13N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Boulder County Area, Colorado
Survey Area Data: Version 9, May 1, 2009

Date(s) aerial images were photographed: 8/6/2005

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Boulder County Area, Colorado (CO643)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
AcB	Ascalon sandy loam, 1 to 3 percent slopes	95.3	48.3%
AcC	Ascalon sandy loam, 3 to 5 percent slopes	50.7	25.6%
Lv	Loveland soils	5.7	2.9%
MdD	Manter sandy loam, 3 to 9 percent slopes	45.8	23.2%
Totals for Area of Interest		**197.6**	**100.0%**

RUSLE2 Related Attributes

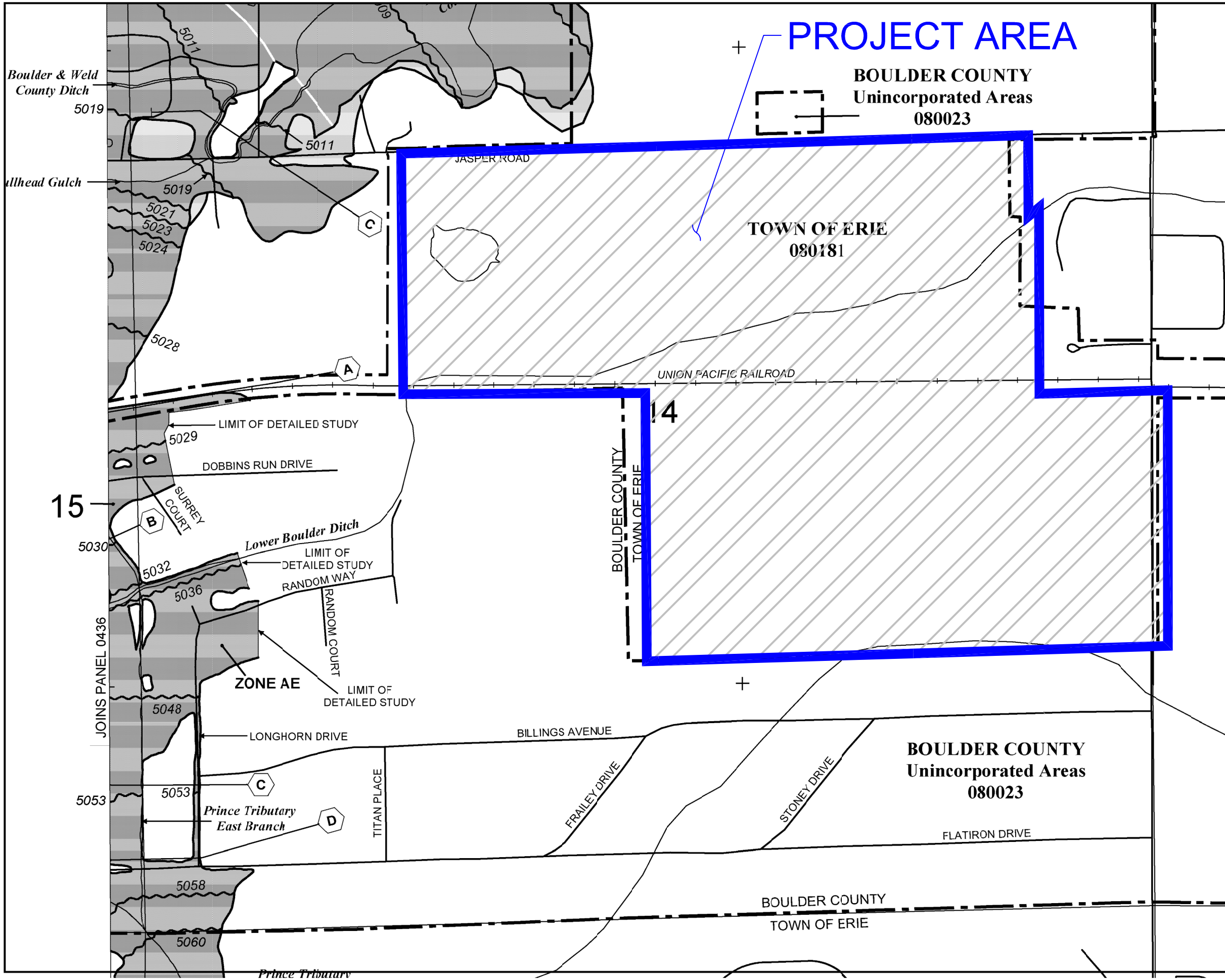
This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. The report includes the map unit symbol, the component name, and the percent of the component in the map unit. Soil property data for each map unit component include the hydrologic soil group, erosion factors Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the surface horizon.

Report—RUSLE2 Related Attributes

RUSLE2 Related Attributes– Boulder County Area, Colorado								
Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
AcB—Ascalon sandy loam, 1 to 3 percent slopes								
Ascalon	90	—	B	.24	5	66.6	23.4	10.0
AcC—Ascalon sandy loam, 3 to 5 percent slopes								
Ascalon	90	—	B	.24	5	66.6	23.4	10.0
Lv—Loveland soils								
Loveland	85	—	C	.20	3	33.3	31.7	35.0
MdD—Manter sandy loam, 3 to 9 percent slopes								
Manter	85	—	B	.20	5	65.9	19.1	15.0

Data Source Information

Soil Survey Area: Boulder County Area, Colorado
Survey Area Data: Version 9, May 1, 2009



MAP SCALE 1" = 500'

250 0 500 1000 FEET

METER

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0437J

FIRM

FLOOD INSURANCE RATE MAP

BOULDER COUNTY, COLORADO

AND INCORPORATED AREAS

PANEL 437 OF 615

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BOULDER COUNTY	080023	0437	J
ERIE, TOWN OF	080181	0437	J

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
08013C0437J

MAP REVISED
DECEMBER 18, 2012

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

TABLE 800-3

RUNOFF COEFFICIENTS (C) FOR RATIONAL METHOD

		FREQUENCY			
LAND USE OR SURFACE CHARACTERISTICS	PERCENT IMPERVIOUS	2	5	10	100
Business					
Commercial Areas	95	.87	.87	.88	.89
Neighborhood Areas	70	.60	.65	.70	.80
Residential					
Single-Family	*	.40	.45	.50	.60
Multi-Unit (detached)	50	.45	.50	.60	.70
Multi-Unit (attached)	70	.60	.65	.70	.80
1/2 Acre Lot or Larger	*	.30	.35	.40	.60
Apartments	70	.65	.70	.70	.80
Industrial					
Light Areas	80	.71	.72	.76	.82
Heavy Areas	90	.80	.80	.85	.90
Parks, Cemeteries	7	.10	.18	.25	.45
Playgrounds	13	.15	.20	.30	.50
Schools	50	.45	.50	.60	.70
Railroad Yard Areas	20	.20	.25	.35	.45
Undeveloped Areas					
Historic Flow Analysis	2	(See "Lawns")			
Greenbelts, Agricultural					
Offsite Flow Analysis					
(when land use not defined)	45	.43	.47	.55	.65
Streets					
Paved	100	.87	.88	.90	.93
Gravel	40	.40	.45	.50	.60
Drives and Walks	96	.87	.87	.88	.89
Roofs	90	.80	.85	.90	.90
Lawns, Sandy Soil	0	.00	.01	.05	.20
Lawns, Clay Soil	0	.05	.15	.25	.50

Note: These Rational Formula coefficients may not be valid for large basins.

* Refer to Urban Storm Drainage Criteria Manual for percent impervious values.

813.06 Rainfall Intensities

The rainfall intensities to be used in the computation of runoff using the Rational Method shall be obtained from the Rainfall Intensity Duration Curves for the Town of Erie, included in these STANDARDS AND SPECIFICATIONS.

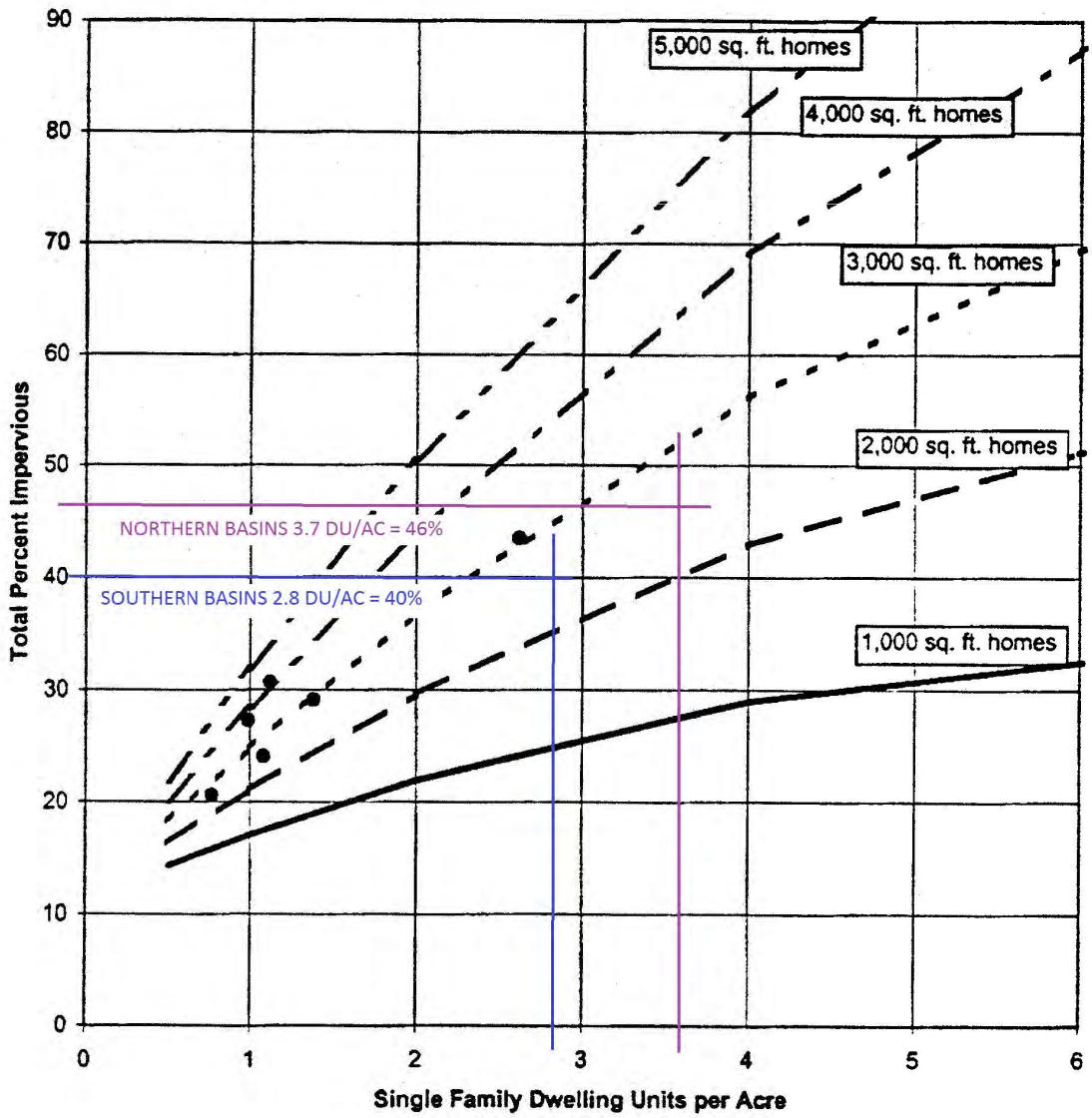


Figure RO-3— Watershed Imperviousness, Single-Family Residential Ranch Style Houses

COMPOSITE BASIN COEFFICIENTS

Subdivision Wise Farms Subdivision
Location Erie, CO

Project Name: Wise Farms
Project No. 8.13.0230801
Calculated By: JJC
Checked By: JJC
Date: 4/23/2014

Assumes All Soils Are Type B Hydrologic Group

Basin 110	**7.44**	**acres**									
Land Use	Imp.	C_2	C_5	C_{10}	C_{100}	Area	% Imp.	% C_2	% C_5	% C_{10}	% C_{100}
Rear yard	10	0.06	0.14	0.22	0.40	2.40	3	0.02	0.04	0.07	0.13
Open Space	5	0.04	0.10	0.19	0.38	5.05	3	0.03	0.07	0.13	0.26
Right-of-Way South	85	0.63	0.66	0.69	0.75	0.00	0	0.00	0.00	0.00	0.00
TOTAL						**7.44**	**7**	**0.04**	**0.11**	**0.20**	**0.39**

Basin 115	**21.69**	**acres**									
Land Use	Imp.	C_2	C_5	C_{10}	C_{100}	Area	% Imp.	% C_2	% C_5	% C_{10}	% C_{100}
Roof - South	95	0.79	0.81	0.83	0.88	1.45	6	0.05	0.05	0.06	0.06
Frontage	50	0.29	0.35	0.40	0.52	2.17	5	0.03	0.03	0.04	0.05
Rear yard	10	0.06	0.14	0.22	0.40	10.91	5	0.03	0.07	0.11	0.20
Industrial	80	0.71	0.72	0.76	0.82	0.51	2	0.02	0.02	0.02	0.02
Open Space	5	0.04	0.10	0.19	0.38	2.92	1	0.01	0.01	0.03	0.05
Right-of-Way South	85	0.63	0.66	0.69	0.75	3.74	15	0.11	0.11	0.12	0.13
TOTAL						**21.69**	**34**	**0.24**	**0.30**	**0.37**	**0.51**

Basin 120	**30.67**	**acres**									
Land Use	Imp.	C_2	C_5	C_{10}	C_{100}	Area	% Imp.	% C_2	% C_5	% C_{10}	% C_{100}
Roof - South	95	0.79	0.81	0.83	0.88	2.58	8	0.07	0.07	0.07	0.07
Frontage	50	0.29	0.35	0.40	0.52	3.87	6	0.04	0.04	0.05	0.07
Rear yard	10	0.06	0.14	0.22	0.40	15.52	5	0.03	0.07	0.11	0.20
Industrial	80	0.71	0.72	0.76	0.82	2.22	6	0.05	0.05	0.06	0.06
Offsite - South	45	0.26	0.32	0.38	0.51	2.32	3	0.02	0.02	0.03	0.04
Open Space	5	0.04	0.10	0.19	0.38	0.75	0	0.00	0.00	0.00	0.01
Right-of-Way South	85	0.63	0.66	0.69	0.75	3.40	9	0.07	0.07	0.08	0.08
TOTAL						**30.67**	**38**	**0.27**	**0.33**	**0.40**	**0.53**

COMPOSITE BASIN COEFFICIENTS

Subdivision Wise Farms Subdivision
Location Erie, CO

Project Name: Wise Farms
Project No. 8.13.0230801
Calculated By: JJC
Checked By: JJC
Date: 4/23/2014

Assumes All Soils Are Type B Hydrologic Group

Basin 130 **15.88** **acres**

Land Use	Imp.	C_2	C_5	C_{10}	C_{100}	Area	% Imp.	% C_2	% C_5	% C_{10}	% C_{100}
Roof - South	95	0.79	0.81	0.83	0.88	0.00	0	0.00	0.00	0.00	0.00
Frontage	50	0.29	0.35	0.40	0.52	0.00	0	0.00	0.00	0.00	0.00
Rear yard	10	0.06	0.14	0.22	0.40	5.90	4	0.02	0.05	0.08	0.15
Industrial	80	0.71	0.72	0.76	0.82	0.00	0	0.00	0.00	0.00	0.00
Paved	100	0.89	0.90	0.92	0.96	0.80	5	0.04	0.05	0.05	0.05
Open Space	5	0.04	0.10	0.19	0.38	9.17	3	0.02	0.06	0.11	0.22
Right-of-Way South	85	0.63	0.66	0.69	0.75	0.00	0	0.00	0.00	0.00	0.00
TOTAL						**15.88**	**12**	**0.09**	**0.15**	**0.24**	**0.42**

Basin 140 **8.91** **acres**

Land Use	Imp.	C_2	C_5	C_{10}	C_{100}	Area	% Imp.	% C_2	% C_5	% C_{10}	% C_{100}
Residential	49	0.45	0.50	0.60	0.70	4.79	26	0.24	0.27	0.32	0.38
Open Space	5	0.05	0.15	0.25	0.50	3.80	2	0.02	0.06	0.11	0.21
Right-of-Way	100	0.87	0.88	0.90	0.93	0.32	4	0.03	0.03	0.03	0.03
TOTAL						**8.91**	**32**	**0.29**	**0.36**	**0.46**	**0.62**

Basin 145 **8.84** **acres**

Land Use	Imp.	C_2	C_5	C_{10}	C_{100}	Area	% Imp.	% C_2	% C_5	% C_{10}	% C_{100}
Residential	49	0.45	0.50	0.60	0.70	4.38	24	0.22	0.25	0.30	0.35
Open Space	5	0.05	0.15	0.25	0.50	4.17	2	0.02	0.07	0.12	0.24
Right-of-Way	100	0.87	0.88	0.90	0.93	0.29	3	0.03	0.03	0.03	0.03
TOTAL						**8.84**	**30**	**0.27**	**0.35**	**0.44**	**0.61**

COMPOSITE BASIN COEFFICIENTS

Subdivision Wise Farms Subdivision
Location Erie, CO

Project Name: Wise Farms
Project No. 8.13.0230801
Calculated By: JJC
Checked By: JJC
Date: 4/23/2014

Assumes All Soils Are Type B Hydrologic Group

Basin 150	**28.32**	**acres**									
Land Use	Imp.	C_2	C_5	C_{10}	C_{100}	Area	% Imp.	% C_2	% C_5	% C_{10}	% C_{100}
Residential	49	0.45	0.50	0.60	0.70	19.50	34	0.31	0.34	0.41	0.48
Open Space	5	0.05	0.15	0.25	0.50	7.27	1	0.01	0.04	0.06	0.13
Right-of-Way	100	0.87	0.88	0.90	0.93	1.55	5	0.05	0.05	0.05	0.05
TOTAL						**28.32**	**40**	**0.37**	**0.43**	**0.53**	**0.66**

Basin 160	**3.74**	**acres**									
Land Use	Imp.	C_2	C_5	C_{10}	C_{100}	Area	% Imp.	% C_2	% C_5	% C_{10}	% C_{100}
Residential	49	0.45	0.50	0.60	0.70	0.48	6	0.06	0.06	0.08	0.09
Open Space	5	0.05	0.15	0.25	0.50	2.58	3	0.03	0.10	0.17	0.34
Right-of-Way	100	0.87	0.88	0.90	0.93	0.69	18	0.16	0.16	0.17	0.17
TOTAL						**3.74**	**28**	**0.25**	**0.33**	**0.41**	**0.60**

BASIN SUMMARY
POND SUMMARY

Subdivision Wise Farms Subdivision
Location Erie, CO

Project Name: Wise Farms
Project No. 8.13.0230801
Calculated By: ILG
Checked By: JJC
Date: 4/23/2014

Assumes All Soils Are Type B Hydrologic Group
For HSG B: EURVB=(0.1178i-0.0042)*Area

$$V_i = K_i A \qquad \text{(SO-1)}$$

$$K_{100} = \frac{(1.78\,I - 0.002\,I^2 - 3.56)}{900} \qquad \text{(SO-2)}$$

BASIN	AREA (ACRE)	Imperviousness (%)	$EURV_B$	100-YEAR VOLUME			100-YEAR RELEASE RATE (CFS)
				V=KA (AC-FT)	SWMM5	V100+1/2 EURV (AC-FT)	
NORTH		**PROPOSED**					
140	8.9	32					
145	8.8	30					
150	28.3	40					
POND 370	46.1	37	1.80	3.03	4.07	**4.97**	46.1
SOUTH		**FUTURE**					
110	7.4	7					
115	21.7	34					
120	30.7	38					
POND 340	59.8	33	2.04	3.47	2.46	**3.48**	59.8
NORTH		**FUTURE**					
140	8.9	32					
145	8.8	30					
150	28.3	40					
POND 370	46.1	37	1.80	3.03	6.57	**7.47**	105.9
TOTAL	105.9	34					105.9

POND 340 IS DESIGNED AS 1.96 AC-FT WITH A RELEASE RATE OF 97 CFS
TO MAX OUT THE AREA PROIVDED. POND 370 OVERDETAINS TO ACCOMMODATE.

POND 340 VOLUME
STAGE-STORAGE DESIGN

Subdivision Wise Farms Subdivision
Location Erie, CO

Project Name: Wise Farms
Project No. 8.13.0230801
By: JLR
Checked By: JJC
Date: 7/31/2014

Volume=1/3 x Depth x (A+B+(A*B)^0.5)
A - Upper Surface
B - Lower Surface

Elevation	Surface Area (square feet)	A+B+(A*B)^0.5	1/3	Depth (feet)	Volume (cubic feet)	CumulativeVolume (cubic feet)
5,031.0	0	0	0	0	0	0
5,032.0	1,829	1,829	610	1.0	610	610
5,033.0	4,400	9,064	3,021	1	3,021	3,631
5,034.0	8,964	19,644	6,548	1	6,548	10,179
5,035.0	11,234	30,233	10,078	1	10,078	20,257
5,036.0	13,881	37,602	12,534	1	12,534	32,791
5,037.0	17,624	47,146	15,715	1	15,715	48,506
5,038.0	22,125	59,496	19,832	1	19,832	68,338
5,039.0	25,868	71,916	23,972	1	23,972	92,310
5,040.0	29,791	83,418	27,806	1	27,806	120,116
5,041.0	33,880	95,441	31,814	1	31,814	151,930
5,042.0	38,569	108,598	36,199	1	36,199	188,129

	PROPOSED EURV @	5,038.86	FOR	2.04	ACRE-FEET
0.893847567	PROPOSED 100 YR + 1/2 EURV @	5,040.99	FOR	3.48	ACRE-FEET

POND 370 VOLUME
STAGE-STORAGE DESIGN

Subdivision Wise Farms Subdivision
Location Erie, CO

Project Name: Wise Farms
Project No. 8.13.0230801
By: JLR
Checked By: JJC
Date: 7/31/2014

Volume=1/3 x Depth x (A+B+(A*B)^0.5)
A - Upper Surface
B - Lower Surface

Elevation	Surface Area (square feet)	A+B+(A*B)^0.5	1/3	Depth (feet)	Volume (cubic feet)	CumulativeVolume (cubic feet)
5,013.7	0	0	0	0	0	0
5,014.0	929	929	310	0.3	93	93
5,015.0	25,372	31,156	10,385	1	10,385	10,478
5,016.0	61,583	126,483	42,161	1	42,161	52,639
5,017.0	75,175	204,798	68,266	1.0	68,266	120,905
5,018.0	88,867	245,776	81,925	1	81,925	202,831
5,019.0	103,376	288,090	96,030	1	96,030	298,861
5,020.0	103,376	310,128	103,376	1	103,376	402,236

PROPOSED EURV @	5,016.38	FOR	1.80	ACRE-FEET
PROPOSED 100 YR + 1/2 EURV @	5,019.26	FOR	7.47	ACRE-FEET

Design Procedure Form: Rain Garden (RG)

Sheet 1 of 2

Designer:	**J. Tann**
Company:	**BMP, Inc.**
Date:	**November 24, 2010**
Project:	**Shops at 56th**
Location:	**NW corner of 56th Ave. and 27th St.**

1. Basin Storage Volume	
A) Effective Imperviousness of Tributary Area, I_a (100% if all paved and roofed areas upstream of rain garden)	I_a = 95.0 %
B) Tributary Area's Imperviousness Ratio ($i = I_a/100$)	i = 0.950
C) Water Quality Capture Volume (WQCV) for a 12-hour Drain Time ($WOCV= 0.8 * (0.91* i^3 - 1.19 * i^2 + 0.78 * i)$)	WQCV = 0.36 watershed inches
D) Contributing Watershed Area (including rain garden area)	Area = 32,000 sq ft
E) Water Quality Capture Volume (WQCV) Design Volume Vol = (WQCV / 12) * Area	V_{WQCV} = 954 cu ft
F) For Watersheds Outside of the Denver Region, Depth of Average Runoff Producing Storm	d_6 = _____ in
G) For Watersheds Outside of the Denver Region, Water Quality Capture Volume (WQCV) Design Volume	$V_{WOCV\ OTHER}$ = _____ cu ft
H) User Input of Water Quality Capture Volume (WQCV) Design Volume (Only if a different WQCV Design Volume is desired)	$V_{WQCV\ USER}$ = _____ cu ft
2. Basin Geometry	
A) WQCV Depth (12-inch maximum)	D_{WOCV} = 12 in
B) Rain Garden Side Slopes (Z = 4 min., horiz. dist per unit vertical) (Use "0" if rain garden has vertical walls)	Z = 0.00 ft / ft
C) Mimimum Flat Surface Area	A_{Min} = 636 sq ft
D) Actual Flat Surface Area	A_{Actual} = 955 sq ft
E) Area at Design Depth (Top Surface Area)	A_{Top} = 955 sq ft
F) Rain Garden Total Volume ($V_T= ((A_{Top} + A_{Actual}) / 2) * Depth$)	V_T= 955 cu ft
3. Growing Media	Choose One: (●) 18" Rain Garden Growing Media ( ) Other (Explain):
4. Underdrain System	
A) Are underdrains provided?	Choose One: (●) YES ( ) NO
B) Underdrain system orifice diameter for 12 hour drain time	
i) Distance From Lowest Elevation of the Storage Volume to the Center of the Orifice	y = 2.7 ft
ii) Volume to Drain in 12 Hours	Vol_{12} = 954 cu ft
iii) Orifice Diameter, 3/8" Minimum	D_O = 0.67 in

Design Procedure Form: Rain Garden (RG)

Sheet 2 of 2

Designer:	J. Tann
Company:	BMP, Inc.
Date:	November 24, 2010
Project:	Shops at 56th
Location:	NW corner of 56th Ave. and 27th St.

5. Impermeable Geomembrane Liner and Geotextile Separator Fabric A) Is an impermeable liner provided due to proximity of structures or groundwater contamination?	Choose One ○ YES ○ NO
6. Inlet / Outlet Control A) Inlet Control	Choose One ○ Sheet Flow- No Energy Dissipation Required ◉ Concentrated Flow- Energy Dissipation Provided
7. Vegetation	Choose One ◉ Seed (Plan for frequent weed control) ○ Plantings ○ Sand Grown or Other High Infiltration Sod
8. Irrigation A) Will the rain garden be irrigated?	Choose One ◉ YES ○ NO NO SPRINKLER HEADS ON THE FLAT SURFACE

Notes:

References

Erickson, Andy. 2009. Field Applications of Enhanced Sand Filtration. University of Minnesota *Stormwater Management Practice Assessment Project Update*. http://wrc.umn.edu.

Guo, James C.Y., PhD, Anu Ramaswami, PhD, and Shauna M. Kocman, PhD Candidate. 2010. *Sustainable Design of Urban Porous Landscape Detention Basin.* University of Colorado Denver

Mazzerolle, Marc J. 2002. *Detrimental Effects of Peat Mining on Amphibian Abundance and Species Richness in Bogs.* Elsevier Science Limited.

Design Procedure Form: Rain Garden (RG)

Designer:	**JJC**
Company:	**CVL Consultants, Inc.**
Date:	**April 11, 2014**
Project:	**Wise Farms - East Jasper Access - SWMM Basin 160**
Location:	**Erie, CO**

1. Basin Storage Volume	
A) Effective Imperviousness of Tributary Area, I_a (100% if all paved and roofed areas upstream of rain garden)	I_a = 25.2 %
B) Tributary Area's Imperviousness Ratio ($i = I_a/100$)	i = 0.252
C) Water Quality Capture Volume (WQCV) for a 12-hour Drain Time ($WQCV= 0.8 * (0.91* i^3 - 1.19 * i^2 + 0.78 * i)$)	WQCV = 0.11 watershed inches
D) Contributing Watershed Area (including rain garden area)	Area = 143,636 sq ft
E) Water Quality Capture Volume (WQCV) Design Volume Vol = (WQCV / 12) * Area	V_{WQCV} = 1,299 cu ft
F) For Watersheds Outside of the Denver Region, Depth of Average Runoff Producing Storm	d_6 = _____ in
G) For Watersheds Outside of the Denver Region, Water Quality Capture Volume (WQCV) Design Volume	$V_{WQCV\ OTHER}$ = _____ cu ft
H) User Input of Water Quality Capture Volume (WQCV) Design Volume (Only if a different WQCV Design Volume is desired)	$V_{WQCV\ USER}$ = _____ cu ft
2. Basin Geometry	
A) WQCV Depth (12-inch maximum)	D_{WQCV} = 12 in
B) Rain Garden Side Slopes (Z = 4 min., horiz. dist per unit vertical) (Use "0" if rain garden has vertical walls)	Z = 4.00 ft / ft
C) Mimimum Flat Surface Area	A_{Min} = 866 sq ft
D) Actual Flat Surface Area	A_{Actual} = 1024 sq ft
E) Area at Design Depth (Top Surface Area)	A_{Top} = 1600 sq ft
F) Rain Garden Total Volume ($V_T= ((A_{Top} + A_{Actual}) / 2) * Depth$)	V_T= 1,312 cu ft
3. Growing Media	Choose One ○ 18" Rain Garden Growing Media ○ Other (Explain):
4. Underdrain System	Choose One
A) Are underdrains provided?	○ YES ◉ NO
B) Underdrain system orifice diameter for 12 hour drain time	
i) Distance From Lowest Elevation of the Storage Volume to the Center of the Orifice	y = N/A ft
ii) Volume to Drain in 12 Hours	Vol_{12} = N/A cu ft
iii) Orifice Diameter, 3/8" Minimum	D_O = N/A in

Design Procedure Form: Rain Garden (RG)

Designer: JJC
Company: CVL Consultants, Inc.
Date: April 11, 2014
Project: Wise Farms - East Jasper Access - SWMM Basin 160
Location: Erie, CO

5. Impermeable Geomembrane Liner and Geotextile Separator Fabric A) Is an impermeable liner provided due to proximity of structures or groundwater contamination?	Choose One ○ YES ◉ NO
6. Inlet / Outlet Control A) Inlet Control	Choose One ○ Sheet Flow- No Energy Dissipation Required ○ Concentrated Flow- Energy Dissipation Provided
7. Vegetation	Choose One ○ Seed (Plan for frequent weed control) ○ Plantings ○ Sand Grown or Other High Infiltration Sod
8. Irrigation A) Will the rain garden be irrigated?	Choose One ○ YES ○ NO

Notes:

Description

A BMP that utilizes bioretention is an engineered, depressed landscape area designed to capture and filter or infiltrate the water quality capture volume (WQCV). BMPs that utilize bioretention are frequently referred to as rain gardens or porous landscape detention areas (PLDs). The term PLD is common in the Denver metropolitan area as this manual first published the BMP by this name in 1999. In an effort to be consistent with terms most prevalent in the stormwater industry, this document generally refers to the treatment process as *bioretention* and to the BMP as a *rain garden*.

Photograph B-1. This recently constructed rain garden provides bioretention of pollutants, as well as an attractive amenity for a residential building. Treatment should improve as vegetation matures.

The design of a rain garden may provide detention for events exceeding that of the WQCV. There are generally two ways to achieve this. The design can provide the flood control volume above the WQCV water surface elevation, with flows bypassing the filter usually by overtopping into an inlet designed to restrict the peak flow for a larger event (or events). Alternatively, the design can provide and slowly release the flood control volume in an area downstream of one or more rain gardens.

This infiltrating BMP requires consultation with a geotechnical engineer when proposed near a structure. A geotechnical engineer can assist with evaluating the suitability of soils, identifying potential impacts, and establishing minimum distances between the BMP and structures.

Bioretention (Rain Garden)	
Functions	
LID/Volume Red.	Yes
WQCV Capture	Yes
WQCV+Flood Control	Yes
Fact Sheet Includes EURV Guidance	No
Typical Effectiveness for Targeted Pollutants[3]	
Sediment/Solids	Very Good[1]
Nutrients	Moderate
Total Metals	Good
Bacteria	Moderate
Other Considerations	
Life-cycle Costs[4]	Moderate

[1] Not recommended for watersheds with high sediment yields (unless pretreatment is provided).

[3] Based primarily on data from the International Stormwater BMP Database (www.bmpdatabase.org).

[4] Based primarily on BMP-REALCOST available at www.udfcd.org. Analysis based on a single installation (not based on the maximum recommended watershed tributary to each BMP).

Terminology

The term *bioretention* refers to the treatment process although it is also frequently used to describe a BMP that provides biological uptake and retention of the pollutants found in stormwater runoff. This BMP is frequently referred to as a *porous landscape detention (PLD) area* or *rain garden*.

Benefits

- Bioretention uses multiple treatment processes to remove pollutants, including sedimentation, filtering, adsorption, evapotranspiration, and biological uptake of constituents.
- Volumetric stormwater treatment is provided within portions of a site that are already reserved for landscaping.
- There is a potential reduction of irrigation requirements by taking advantage of site runoff.

Limitations

- Additional design and construction steps are required for placement of any ponding or infiltration area near or upgradient from a building foundation and/or when expansive (low to high swell) soils exist. This is discussed in the design procedure section.
- In developing or otherwise erosive watersheds, high sediment loads can clog the facility.

Site Selection

Bioretention can be provided in a variety of areas within new developments, or as a retrofit within an existing site. This BMP allows the WQCV to be treated within areas designated for landscape (see design step 7 for appropriate vegetation). In this way, it is an excellent alternative to extended detention basins for small sites. A typical rain garden serves a tributary area of one impervious acre or less, although they can be designed for larger tributary areas. Multiple installations can be used within larger sites. Rain gardens should not be used when a baseflow is anticipated. They are typically small and installed in locations such as:

- Parking lot islands
- Street medians
- Landscape areas between the road and a detached walk
- Planter boxes that collect roof drains

Bioretention requires a stable watershed. Retrofit applications are typically successful for this reason. When the watershed includes phased construction, sparsely vegetated areas, or steep slopes in sandy soils, consider another BMP or provide pretreatment before runoff from these areas reaches the rain garden. The surface of the rain garden should be flat. For this reason, rain gardens can be more difficult to incorporate into steeply sloping terrain; however, terraced applications of these facilities have been successful in other parts of the country.

When bioretention (and other BMPs used for infiltration) are located adjacent to buildings or pavement areas, protective measures should be implemented to avoid adverse impacts to these structures. Oversaturated subgrade soil underlying a structure can cause the structure to settle or result in moisture-related problems. Wetting of expansive soils or bedrock can cause swelling, resulting in structural movements. A geotechnical engineer should evaluate the potential impact of the BMP on adjacent structures based on an evaluation of the subgrade soil, groundwater, and bedrock conditions at the site. Additional minimum requirements include:

- In locations where subgrade soils do not allow infiltration, the growing medium should be underlain by an underdrain system.
- Where infiltration can adversely impact adjacent structures, the filter layer should be underlain by an underdrain system designed to divert water away from the structure.
- In locations where potentially expansive soils or bedrock exist, placement of a rain garden adjacent to structures and pavement should only be considered if the BMP includes an underdrain designed to divert water away from the structure and is lined with an essentially impermeable geomembrane liner designed to restrict seepage.

Designing for Maintenance

Recommended maintenance practices for all BMPs are in Chapter 6 of this manual. During design, the following should be considered to ensure ease of maintenance over the long-term:

- Do not put a filter sock on the underdrain. This is not necessary and can cause the BMP to clog.
- The best surface cover for a rain garden is full vegetation. Do not use rock mulch within the rain garden because sediment build-up on rock mulch tends to inhibit infiltration and require frequent cleaning or removal and replacement. Wood mulch handles sediment build-up better than rock mulch; however, wood mulch floats and may clog the overflow depending on the configuration of the outlet, settle unevenly, or be transported downstream. Some municipalities may not allow wood mulch for this reason.
- Consider all potential maintenance requirements such as mowing (if applicable) and replacement of the growing medium. Consider the method and equipment for each task required. For example, in a large rain garden where the use of hand tools is not feasible, does the shape and configuration of the rain garden allow for removal of the growing medium using a backhoe?
- Provide pre-treatment when it will reduce the extent and frequency of maintenance necessary to maintain function over the life of the BMP. For example, if the site is larger than 2 impervious acres, prone to debris or the use of sand for ice control, consider a small forebay.
- Make the rain garden as shallow as possible. Increasing the depth unnecessarily can create erosive side slopes and complicate maintenance. Shallow rain gardens are also more attractive.
- Design and adjust the irrigation system (temporary or permanent) to provide appropriate water for the establishment and maintenance of selected vegetation.

Is Pretreatment Needed

Designing the inflow gutter to the rain garden at a minimal slope of 0.5% can facilitate sediment and debris deposition prior to flows entering the BMP. Be aware, this will reduce maintenance of the BMP, but may require more frequent sweeping of the gutter to ensure that the sediment does not impede flow into the rain garden.

Design Procedure and Criteria

The following steps outline the design procedure and criteria, with Figure B-1 providing a corresponding cross-section.

1. **Basin Storage Volume**: Provide a storage volume based on a 12-hour drain time.
   - Find the required WQCV (watershed inches of runoff). Using the imperviousness of the tributary area (or effective imperviousness where LID elements are used upstream), use Figure 3-2 located in Chapter 3 of this manual to determine the WQCV based on a 12-hour drain time.
   - Calculate the design volume as follows:

$$V = \left[\frac{\text{WQCV}}{12}\right] A \qquad \text{Equation B-1}$$

Where:

V= design volume (ft^3)

A = area of watershed tributary to the rain garden (ft^2)

2. **Basin Geometry:** A maximum WQCV ponding depth of 12 inches is recommended to maintain vegetation properly. Provide an inlet or other means of overflow at this elevation. Depending on the type of vegetation planted, a greater depth may be utilized to detain larger (more infrequent) events. The bottom surface of the rain garden, also referred to here as the filter area, should be flat. Sediment will reside on the filter area of the rain garden; therefore, if the filter area is too small, it may clog prematurely. Increasing the filter area will reduce clogging and decrease the frequency of maintenance. Equation B-2 provides a **minimum** filter area allowing for some of the volume to be stored beyond the area of the filter (i.e., above the sideslopes of the rain garden).

   Note that the total surcharge volume provided by the design must also equal or exceed the design volume. Use vertical walls or slope the sides of the basin to achieve the required volume. Use the rain garden growing medium described in design step 3 only on the filter area because this material is more erosive than typical site soils. Sideslopes should be no steeper than 4:1 (horizontal:vertical).

$$A \geq (2/3)\frac{\mathrm{V}}{1\ \mathrm{foot}} \qquad \text{Equation B-2}$$

   Where:

   V= design volume (ft^3)

   A = minimum filter area (flat surface area) (ft^2)

   The one-foot dimension in this equation represents the maximum recommended WQCV depth in the rain garden. The actual design depth may differ; however, it is still appropriate to use a value of one foot when calculating the minimum filter area.

3. **Growing Medium:** For partial and no infiltration sections, provide a minimum of 18 inches of growing medium to enable establishment of the roots of the vegetation (see Figure B-1). Previous versions of this manual recommended a mix of 85% sand and 15% peat (by volume). Peat is a material that typically requires import to Colorado and mining peat has detrimental impacts to the environment (Mazerolle 2002). UDFCD partnered with the University of Colorado to perform a study to find a sustainable material to replace peat. The study was successful in finding a replacement that performed well for filtering ability, clogging characteristics, as well as seed germination. This mixture consists of 85% coarse sand and a 15% compost/shredded paper mixture (by volume). The study used thin (approximately 1/4 inch) strips of loosely packed shredded paper mixed with an equal volume of compost. Based on conversations with local suppliers, compost

Benefits of Shredded Paper in Rain Garden Growing Media

- Shredded paper, similar to other woody materials, captures nutrients from the compost and slowly releases them as the paper decomposes. Compost alone will leach more nutrients than desired.
- As the paper decomposes, nutrients stored in the material are available to the vegetation.
- Paper temporarily slows the infiltration rate of the media and retains moisture, providing additional time for a young root system to benefit from moisture in the growing media.

containing shredded paper is not an uncommon request, although not typically provided in the proportions recommended in this BMP Fact Sheet. Compost suppliers have access to shredded paper through document destruction companies and can provide a mixture of Class 1 compost and shredded paper. The supplier should provide the rain garden compost mixture premixed with coarse sand. On-site mixing is not recommended.

Rain Garden Compost Mixture (by volume)

- 50% Class 1 STA registered compost (approximate bulk density 1000 lbs/CY)
- 50% loosely packed shredded paper (approximate bulk density 50 to 100 lbs/CY)

When using diamond cut shredded paper or tightly packed paper, use the bulk densities provided to mix by weight.

Rain Garden Growing Medium

The supplier should premix the rain garden compost mixture (above) with coarse sand, in the following proportions, prior to delivery to the site:

- 15% rain garden compost mixture described above (by volume)
- 85% coarse sand (either Class C Filter Material per Table B-2 or sand meeting ASTM C-33) (by volume)

Table B-1 provides detailed information on Class 1 compost. Be aware, regular testing is not required to allow a compost supplier to refer to a product as a specific STA class. However, regular testing is required and performed through the United States Compost Council (USCC) Seal of Testing Assurance (STA) Program to be a STA registered compost. To ensure Class 1 characteristics, look for a Class 1 STA registered compost.

Other Rain Garden Growing Medium Amendments

The growing medium described above is designed for filtration ability, clogging characteristics, and vegetative health. It is important to preserve the function provided by the rain garden growing medium when considering additional materials for incorporation into the growing medium or into the standard section shown in Figure B-1. When desired, amendments may be included to improve water quality or to benefit vegetative health as long as they do not add nutrients, pollutants, or modify the infiltration rate. For example, a number of products, including steel wool, capture and retain dissolved phosphorus (Erickson 2009). When phosphorus is a target pollutant, proprietary materials with similar characteristics may be considered. Do not include amendments such as top soil, sandy loam, and additional compost.

Full Infiltration Sections

A full infiltration section retains the WQCV onsite. For this section, it is not necessary to use the prescribed rain garden growing medium. Amend the soils to provide adequate nutrients to establish vegetation. Typically, 3 to 5 cubic yards of soil amendment (compost) per 1,000 square feet, tilled 6 inches into the soil, is required for vegetation to thrive. Additionally, inexpensive soil tests can be conducted to determine required soil amendments. (Some local governments may also require proof of soil amendment in landscaped areas for water conservation reasons.)

Table B-1. Class 1 Compost

Characteristic	**Criteria**
Minimum Stability Indicator (Respirometry)	Stable to Very Stable
Maturity Indicator Expressed as Ammonia N / Nitrate N Ratio	< 4
Maturity Indicator Expressed as Carbon to Nitrogen Ratio	< 12
Maturity Indicator Expressed as Percentage of Germination/Vigor	80+ / 80+
pH – Acceptable Range	6.0 – 8.4
Soluble Salts – Acceptable Range (1:5 by weight)	0 – 5 mmhos/cm
Testing and Test Report Submittal Requirement	Seal of Testing Assurance (STA)/Test Methods for the Examination of Composting and Compost (TMECC)
Chemical Contaminants	Equal or better than US EPA Class A Standard, 40 CFR 503.13, Tables 1 & 3 levels
Pathogens	Meet or exceed US EPA Class A standard, 40 CFR 503.32(a) levels

4. **Underdrain System**: Underdrains are often necessary and should be provided if infiltration tests show percolation drawdown rates slower than 2 times the rate needed to drain the WQCV over 12 hours, or where required to divert water away from structures as determined by a professional engineer. Percolation tests should be performed or supervised by a licensed professional engineer and conducted at a minimum depth equal to the bottom of the bioretention facility. Additionally, underdrains are required where impermeable membranes are used. Similar to the terminology used for permeable pavement sections, there are three basic sections for bioretention facilities:

   - **No-Infiltration Section:** This section includes an underdrain and an impermeable liner that does not allow for any infiltration of stormwater into the subgrade soils. It is appropriate to use a no-infiltration system when either of the following is true:

     - Land use or activities could contaminate groundwater when stormwater is allowed to infiltrate, or

     - The BMP is located over potentially expansive soils or bedrock and is adjacent (within 10 feet) to structures.

   - **Partial Infiltration Section:** This section does not include an impermeable liner and, therefore; allows for some infiltration. Stormwater that does not infiltrate will be collected and removed by an underdrain system.

- **Full Infiltration Section:** This section is designed to infiltrate all of the water stored into the subgrade below. Overflows are managed via perimeter drainage to a downstream conveyance element. UDFCD recommends a minimum infiltration rate of 2 times the rate needed to drain the WQCV over 12 hours.

When using an underdrain system, provide a control orifice sized to drain the design volume in 12 hours or more (see Equation B-3). Use a minimum orifice size of 3/8 inch to avoid clogging. This will provide detention and slow release of the WQCV, providing water quality benefits and reducing impacts to downstream channels. Space underdrain pipes a maximum of 20 feet on center. Provide cleanouts to enable maintenance of the underdrain. Cleanouts can also be used to conduct an inspection (by camera) of the underdrain system to

Important Design Considerations

The potential for impacts to adjacent buildings can be significantly reduced by locating the bioretention area at least 10 feet away from the building, beyond the limits of backfill placed against the building foundation walls, and by providing positive surface drainage away from the building.

The BMP should not restrict surface water from flowing away from the buildings. This can occur if the top of the perimeter wall for the BMP impedes flow away from the building.

Always adhere to the slope recommendations provided in the geotechnical report. In the absence of a geotechnical report, the following general recommendations should be followed for the first 10 feet from a building foundation.

1) Where feasible, provide a slope of 10% for a distance of 10 feet away from a building foundation.

2) In locations where non-expansive soil or bedrock conditions exist, the slope for the surface within 10 feet of the building should be at least 5% away from the building for unpaved (landscaped) surfaces.

3) In locations where potentially expansive soil or bedrock conditions exist, the design slope should be at least 10% away from the building for unpaved (landscaped) surfaces.

4) For paved surfaces, a slope of at least 2% away from the building is adequate. Where accessibility requirements or other design constraints do not apply, use an increased minimum design slope for paved areas (2.5% where non-expansive soil or bedrock conditions exist).

ensure that the pipe was not crushed or disconnected during construction.

Calculate the diameter of the orifice for a 12-hour drain time using Equation B-3 (Use a minimum orifice size of 3/8 inch to avoid clogging.):

$$D_{12\text{ hour drain time}} = \sqrt{\frac{V}{1414\,y^{0.41}}} \qquad \text{Equation B-3}$$

Where:

D = orifice diameter (in)

y = distance from the lowest elevation of the storage volume (i.e., surface of the filter) to the center of the orifice (ft)

V = volume (WQCV or the portion of the WQCV in the rain garden) to drain in 12 hours (ft^3)

In previous versions of this manual, UDFCD recommended that the underdrain be placed in an aggregate layer and that a geotextile (separator fabric) be placed between this aggregate and the growing medium. This version of the manual replaces that section with materials that, when used together, eliminate the need for a separator fabric.

The underdrain system should be placed within an 6-inch-thick section of CDOT Class C filter material meeting the gradation in Table B-2. Use slotted pipe that meets the slot dimensions provided in Table B-3.

Table B-2. Gradation Specifications for CDOT Class C Filter Material
(Source: CDOT Table 703-7)

Sieve Size	Mass Percent Passing Square Mesh Sieves
19.0 mm (3/4”)	100
4.75 mm (No. 4)	60 – 100
300 µm (No. 50)	10 – 30
150 µm (No. 100)	0 – 10
75 µm (No. 200)	0 - 3

Table B-3. Dimensions for Slotted Pipe

Pipe Diameter	Slot Length[1]	Maximum Slot Width	Slot Centers[1]	Open Area[1] (per foot)
4”	1-1/16”	0.032”	0.413”	1.90 in^2
6”	1-3/8”	0.032”	0.516”	1.98 in^2

[1] Some variation in these values is acceptable and is expected from various pipe manufacturers. Be aware that both increased slot length and decreased slot centers will be beneficial to hydraulics but detrimental to the structure of the pipe.

5. **Impermeable Geomembrane Liner and Geotextile Separator Fabric:** For no-infiltration sections, install a 30 mil (minimum) PVC geomembrane liner, per Table B-5, on the bottom and sides of the basin, extending up at least to the top of the underdrain layer. Provide at least 9 inches (12 inches if possible) of cover over the membrane where it is attached to the wall to protect the membrane from UV deterioration. The geomembrane should be field-seamed using a dual track welder, which allows for non-destructive testing of almost all field seams. A small amount of single track and/or adhesive seaming should be allowed in limited areas to seam around pipe perforations, to patch seams removed for destructive seam testing, and for limited repairs. The liner should be installed with slack to prevent tearing due to backfill, compaction, and settling. Place CDOT Class B geotextile separator fabric above the geomembrane to protect it from being punctured during the placement of the filter material above the liner. If the subgrade contains angular rocks or other material that could puncture the geomembrane, smooth-roll the surface to create a suitable surface. If smooth-rolling the surface does not provide a suitable surface, also place the separator fabric between the geomembrane and the underlying subgrade. This should only be done when necessary because fabric placed under the geomembrane can increase seepage losses through pinholes or other geomembrane defects. Connect the geomembrane to perimeter concrete walls around the basin perimeter, creating a watertight seal between the geomembrane and the walls using a continuous batten bar and anchor connection (see Figure B-3). Where the need for the impermeable membrane is not as critical, the membrane can be attached with a nitrile-based vinyl adhesive. Use watertight PVC boots for underdrain pipe penetrations through the liner (see Figure B-2).

Table B-4. Physical Requirements for Separator Fabric[1]

Property	Class B		Test Method
	Elongation < 50%[2]	Elongation > 50%[2]	
Grab Strength, N (lbs)	800 (180)	510 (115)	ASTM D 4632
Puncture Resistance, N (lbs)	310 (70)	180 (40)	ASTM D 4833
Trapezoidal Tear Strength, N (lbs)	310 (70)	180 (40)	ASTM D 4533
Apparent Opening Size, mm (US Sieve Size)	AOS < 0.3mm (US Sieve Size No. 50)		ASTM D 4751
Permittivity, sec^{-1}	0.02 default value, must also be greater than that of soil		ASTM D 4491
Permeability, cm/sec	k fabric > k soil for all classes		ASTM D 4491
Ultraviolet Degradation at 500 hours	50% strength retained for all classes		ASTM D 4355

[1] Strength values are in the weaker principle direction
[2] As measured in accordance with ASTM D 4632

Table B-5. Physical Requirements for Geomembrane

Property	Thickness 0.76 mm (30 mil)	Test Method
Thickness, % Tolerance	±5	ASTM D 1593
Tensile Strength, kN/m (lbs/in) width	12.25 (70)	ASTM D 882, Method B
Modulus at 100% Elongation, kN/m (lbs/in)	5.25 (30)	ASTM D 882, Method B
Ultimate Elongation, %	350	ASTM D 882, Method A
Tear Resistance, N (lbs)	38 (8.5)	ASTM D 1004
Low Temperature Impact, °C (°F)	-29 (-20)	ASTM D 1790
Volatile loss, % max.	0.7	ASTM D 1203, Method A
Pinholes, No. Per 8 m^2 (No. per 10 sq. yds.) max.	1	N/A
Bonded Seam Strength, % of tensile strength	80	N/A

6. **Inlet/Outlet Control:** In order to provide the proper drain time, the bioretention area can be designed without an underdrain (provided it meets the requirements in step 4) or the outlet can be controlled by an orifice plate. Equation B-3 is a simplified equation for sizing an orifice plate for a 12-hour drain time.

Photograph B-2. The curb cut shown allows flows to enter this rain garden while excess flows bypass the facility. Note: trees are not recommended inside a rain garden

7. How flow enters and exits the BMP is a function of the overall drainage concept for the site. Inlets at each rain garden may or may not be needed. Curb cuts can be designed to both allow stormwater into the rain garden as well as to provide release of stormwater in excess of the WQCV. Roadside rain gardens located on a steep site might pool and overflow into downstream cells with a single curb cut, level spreader, or outlet structure located at the most downstream cell. When selecting the type and location of the outlet structure, ensure that the runoff will not short-circuit the rain garden. This is a frequent problem when using a curb inlet located outside the rain garden for overflow.

   For rain gardens with concentrated points of inflow, provide for energy dissipation. When rock is used, provide separator fabric between the rock and growing medium to minimize subsidence.

8. **Vegetation:** UDFCD recommends that the filter area be vegetated with drought tolerant species that thrive in sandy soils. Table B-6 provides a suggested seed mix for sites that will not need to be irrigated after the grass has been established.

   All seed must be well mixed and broadcast, followed by hand raking to cover seed and then mulched. Hydromulching can be effective for large areas. Do not place seed when standing water or snow is present or if the ground is frozen. Weed control is critical in the first two to three years, especially when starting with seed.

   Do not use conventional sod. Conventional sod is grown in clay soil that will seal the filter area, greatly reducing overall function of the BMP. Several successful local installations have started with seed.

Designing for Flood Protection

Provide the WQCV in rain gardens that direct excess flow into to a landscaped area providing the flood control volume. Design the flood control outlet to meter the major event (100-year event) and slowly release the difference in volume between the EURV and the WQCV. (This assumes that the runoff treated by the rain gardens is routed directly into the outlet or infiltrates.) Providing treatment in this manner will reduce inundation in the landscaped area to a few times per year, resulting in an area better suited for multipurpose uses.

When using an impermeable liner, select plants with diffuse (or fibrous) root systems, not taproots. Taproots can damage the liner and/or underdrain pipe. Avoid trees and large shrubs that may interfere with restorative maintenance. Trees and shrubs can be planted outside of the area of growing medium. Use a cutoff wall to ensure that roots do not grow into the underdrain or place trees and shrubs a conservative distance from the underdrain.

9. **Irrigation:** Provide spray irrigation at or above the WQCV elevation or place temporary irrigation on top of the rain garden surface. Do not place sprinkler heads on the flat surface. Remove temporary irrigation when vegetation is established. If left in place this will become buried over time and will be damaged during maintenance operations.

   Irrigation schedules should be adjusted during the growing season to provide the minimum water necessary to maintain plant health and to maintain the available pore space for infiltration.

Table B-6. Native Seed Mix for Rain Gardens [2]

Common Name	Scientific Name	Variety	PLS[2] lbs per Acre	Ounces per Acre
Sand bluestem	Andropogon hallii	Garden	3.5	
Sideoats grama	Bouteloua curtipendula	Butte	3	
Prairie sandreed	Calamovilfa longifolia	Goshen	3	
Indian ricegrass	Oryzopsis hymenoides	Paloma	3	
Switchgrass	Panicum virgatum	Blackwell	4	
Western wheatgrass	Pascopyrum smithii	Ariba	3	
Little bluestem	Schizachyrium scoparium	Patura	3	
Alkali sacaton	Sporobolus airoides		3	
Sand dropseed	Sporobolus cryptandrus		3	
Pasture sage[1]	Artemisia frigida			2
Blue aster[1]	Aster laevis			4
Blanket flower[1]	Gaillardia aristata			8
Prairie coneflower[1]	Ratibida columnifera			4
Purple prairieclover[1]	Dalea (Petalostemum) purpurea			4
Sub-Totals:			27.5	22
Total lbs per acre:			**28.9**	

[1] Wildflower seed (optional) for a more diverse and natural look.
[2] PLS = Pure Live Seed.

Aesthetic Design

In addition to providing effective stormwater quality treatment, rain gardens can be attractively incorporated into a site within one or several landscape areas. Aesthetically designed rain gardens will typically either reflect the character of their surroundings or become distinct features within their surroundings. Guidelines for each approach are provided below.

Reflecting the Surrounding

- Determine design characteristics of the surrounding. This becomes the context for the drainage improvement. Use these characteristics in the structure.
- Create a shape or shapes that "fix" the forms surrounding the improvement. Make the improvement part of the existing surrounding.
- The use of material is essential in making any new improvement an integral part of the whole. Select materials that are as similar as possible to the surrounding architectural/engineering materials. Select materials from the same source if possible. Apply materials in the same quantity, manner, and method as original material.
- Size is an important feature in seamlessly blending the addition into its context. If possible, the overall size of the improvement should look very similar to the overall sizes of other similar objects in the improvement area.
- The use of the word texture in terms of the structure applies predominantly to the selection of plant material. The materials used should as closely as possible, blend with the size and texture of other plant material used in the surrounding. The plants may or may not be the same, but should create a similar feel, either individually or as a mass.

Reflective Design

A reflective design borrows the characteristics, shapes, colors, materials, sizes and textures of the built surroundings. The result is a design that fits seamlessly and unobtrusively in its environment.

Creating a Distinct Feature

Designing the rain garden as a distinct feature is limited only by budget, functionality, and client preference. There is far more latitude in designing a rain garden that serves as a distinct feature. If this is the intent, the main consideration beyond functionality is that the improvement create an attractive addition to its surroundings. The use of form, materials, color, and so forth focuses on the improvement itself and does not necessarily reflect the surroundings, depending on the choice of the client or designer.

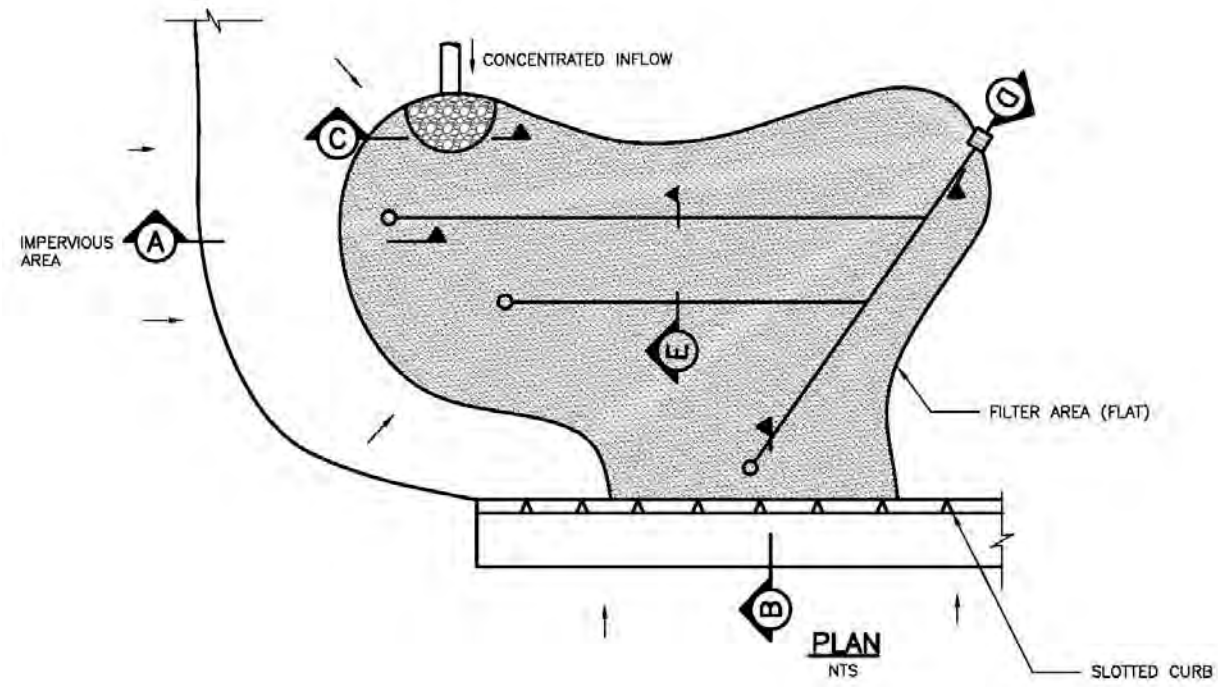
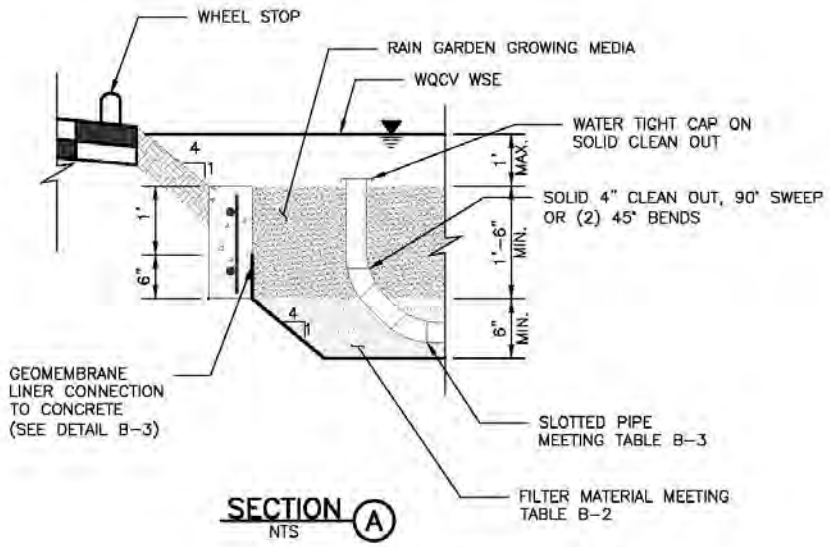
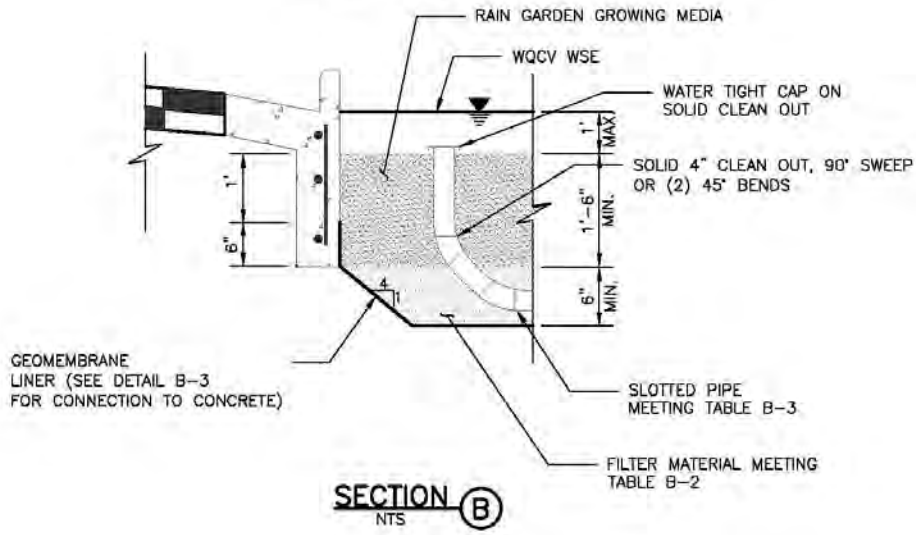


Figure B-1 – Typical Rain Garden Plan and Sections

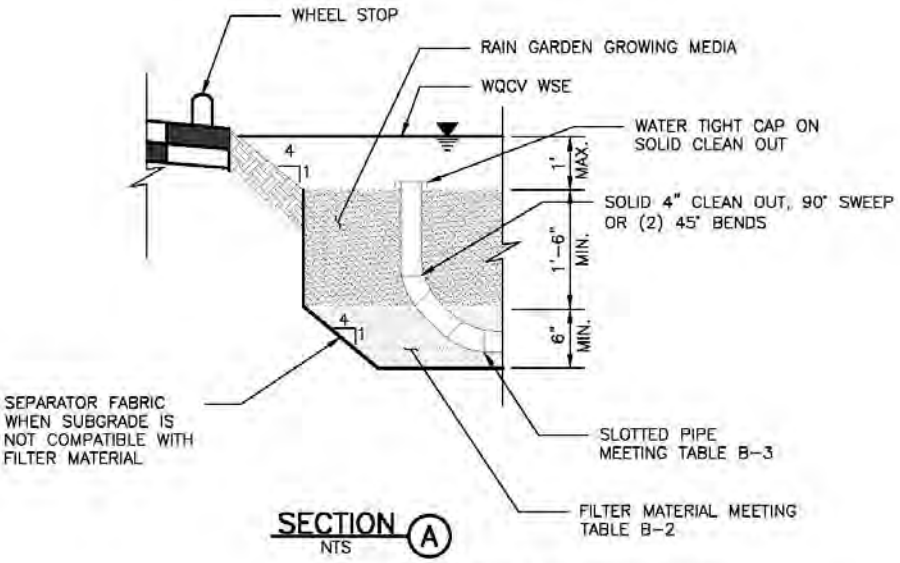


SECTION A
NTS

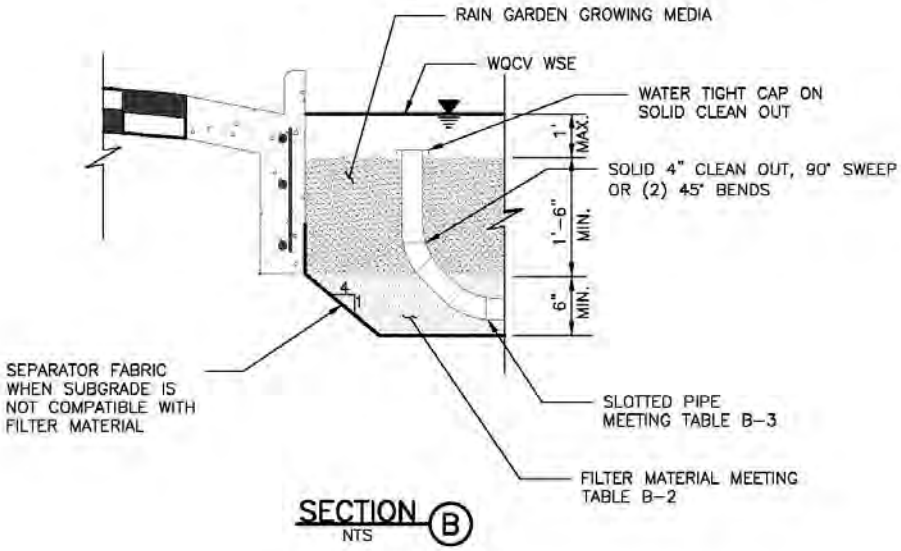


SECTION B
NTS

NO-INFILTRATION SECTIONS

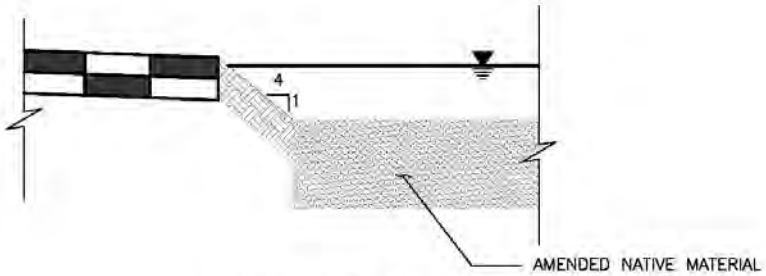


SECTION A
NTS



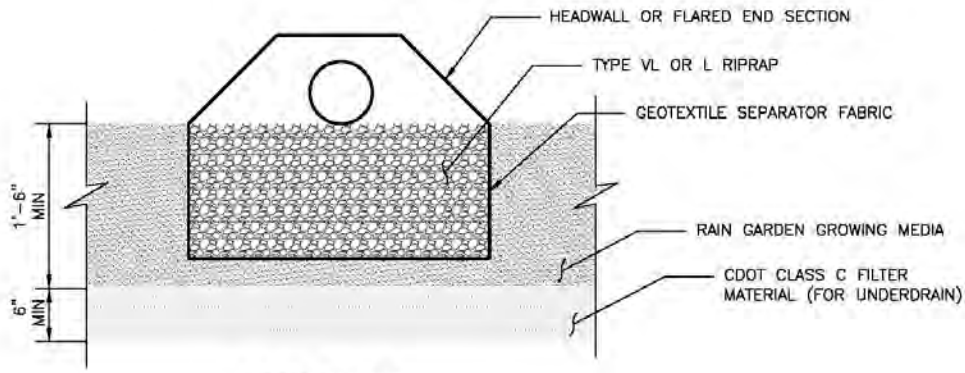
SECTION B
NTS

PARTIAL INFILTRATION SECTIONS

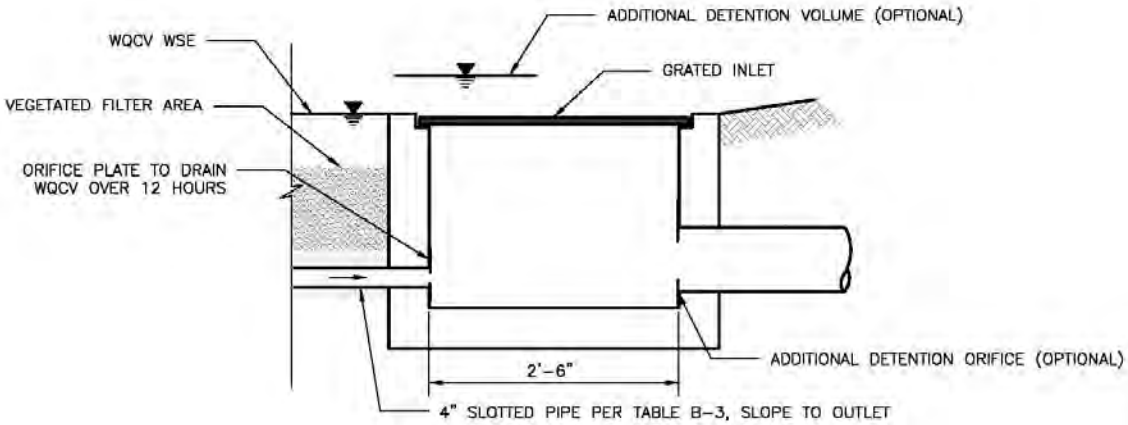


SECTION A
NTS

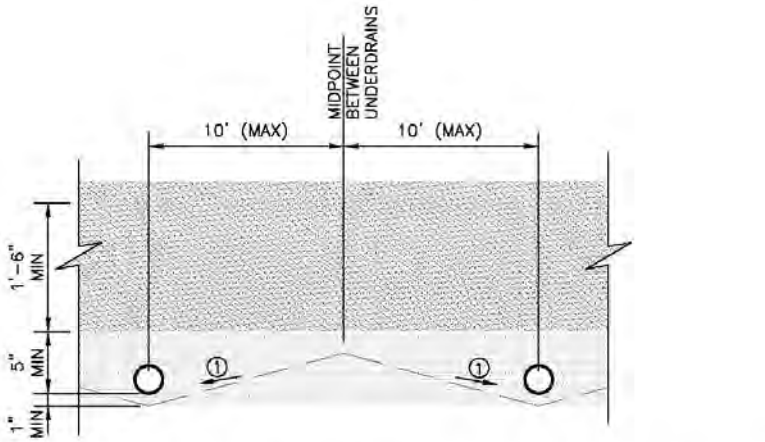
FULL INFILTRATION SECTION



SECTION C
NTS



SECTION D
NTS



① SLOPE (STRAIGHT GRADE) SUBGRADE (2–10%) TO UNDERDRAIN TO REDUCE SATURATED SOIL CONDITIONS BETWEEN STORM EVENTS (OPTIONAL)

SECTION E
NTS

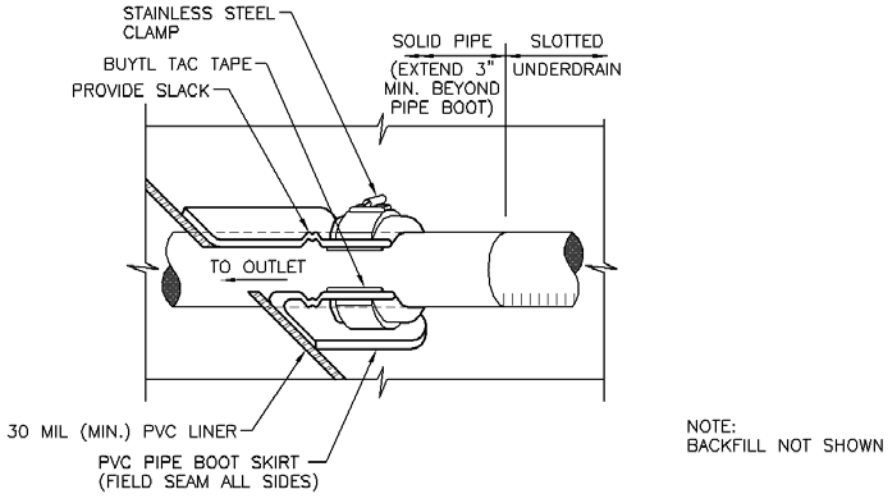


Figure B-2. Geomembrane Liner/Underdrain Penetration Detail

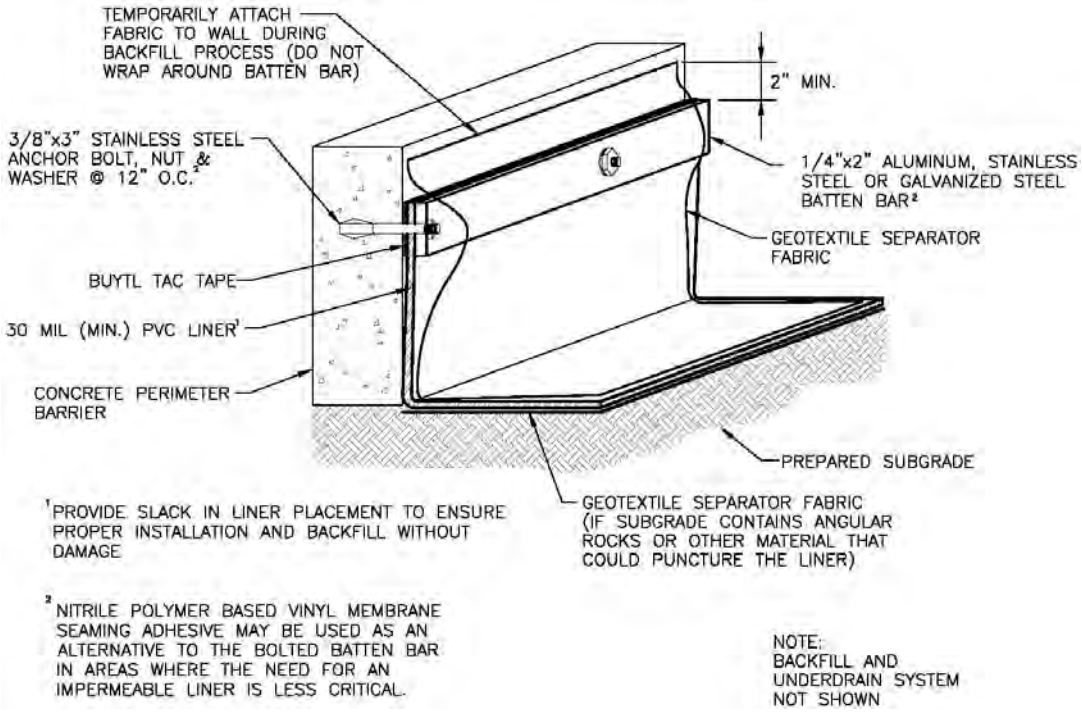


Figure B-3. Geomembrane Liner/Concrete Connection Detail

Construction Considerations

Proper construction of rain gardens involves careful attention to material specifications, final grades, and construction details. For a successful project, implement the following practices:

- Protect area from excessive sediment loading during construction. This is the most common cause of clogging of rain gardens. The portion of the site draining to the rain garden must be stabilized before allowing flow into the rain garden. This includes completion of paving operations.
- Avoid over compaction of the area to preserve infiltration rates (for partial and full infiltration sections).
- Provide construction observation to ensure compliance with design specifications. Improper installation, particularly related to facility dimensions and elevations and underdrain elevations, is a common problem with rain gardens.
- When using an impermeable liner, ensure enough slack in the liner to allow for backfill, compaction, and settling without tearing the liner.
- Provide necessary quality assurance and quality control (QA/QC) when constructing an impermeable geomembrane liner system, including but not limited to fabrication testing, destructive and non-destructive testing of field seams, observation of geomembrane material for tears or other defects, and air lace testing for leaks in all field seams and penetrations. QA/QC should be overseen by a professional engineer. Consider requiring field reports or other documentation from the engineer.
- Provide adequate construction staking to ensure that the site properly drains into the facility, particularly with respect to surface drainage away from adjacent buildings. Photo B-3 and Photo B-4 illustrate a construction error for an otherwise correctly designed series of rain gardens.

Photograph B-3. Inadequate construction staking may have contributed to flows bypassing this rain garden.

Photograph B-4. Runoff passed the upradient rain garden, shown in Photo B-3, and flooded this downstream rain garden.

Construction Example

Photograph B-5. Rain garden is staked out at the low point of the parking area prior to excavation.

Photograph B-6. Curb and gutter is installed. Flush curbs with wheel stops or a slotted curb could have been used in lieu of the solid raised curb with concentrated inflow.

Photograph B-7. The aggregate layer is covered with a geotextile and growing media. This photo shows installation of the geotextile to separate the growing media from the aggregate layer below. Cleanouts for the underdrain system are also shown. Note: The current design section does not require this geotextile.

Photograph B-8. Shrubs and trees are placed outside of the ponding area and away from geotextiles.

Photograph B-9. This photo was taken during the first growing season of this rain garden. Better weed control in the first two to three years will help the desired vegetation to become established.

Design Example

The *UD-BMP* workbook, designed as a tool for both designer and reviewing agency is available at www.udfcd.org. This section provides a completed design form from this workbook as an example.

Output Summary

Summary of Unit Hydrograph Parameters Used By Program and Calculated Results (Version 1.4.2)

		Unit Hydrograph Parameters and Results									Excess Precip.		Storm Hydrograph			
Catchment Name/ID	User Comment for Catchment	Ct	Cp	W50 (min.)	W50 Before Peak	W75 (min.)	W75 Before Peak	Time to Peak (min.)	Peak (cfs)	Volume (c.f)	Excess (inches)	Excess (c.f.)	Time to Peak (min.)	Peak Flow (cfs)	Total Volume (c.f.)	Runoff per Unit Area (cfs/acre)
110		0.361	0.156	74.1	10.39	38.5	7.34	17.3	5	27,007	1.66	44,750	65.0	7	44,738	0.90
115		0.181	0.257	28.3	7.09	14.7	5.01	11.8	36	78,735	2.00	157,624	45.0	45	157,702	2.06
120		0.159	0.301	23.8	7.01	12.4	4.95	11.7	59	108,356	2.05	222,562	40.0	71	222,188	2.38
130	119th & RTD	0.254	0.166	33.8	5.80	17.6	4.10	9.7	22	57,644	1.72	99,094	45.0	26	99,076	1.63
140		0.245	0.212	16.3	4.15	8.5	2.93	6.9	25	31,000	1.98	61,257	35.0	25	61,037	2.93
145		0.243	0.204	44.5	8.48	23.2	5.99	14.1	10	33,686	1.95	65,691	50.0	14	65,624	1.47
150		0.159	0.318	17.8	5.85	9.3	4.14	9.8	75	104,145	2.08	216,627	40.0	81	215,554	2.83
160	NE Entrance	0.342	0.167	21.4	4.24	11.1	3.00	7.1	7	11,979	1.92	23,051	40.0	8	22,902	2.36

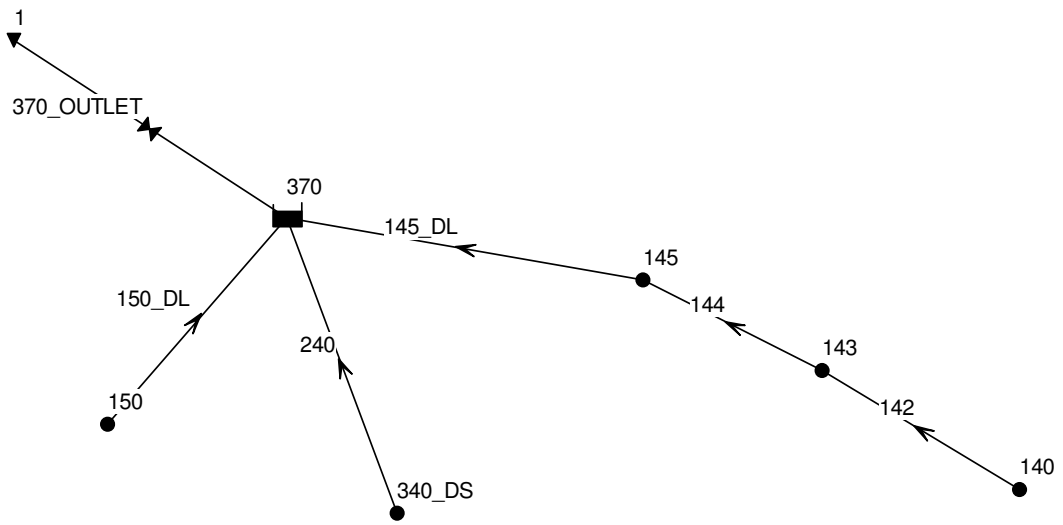
Input Summary

Summary of CUHP Input Parameters (Version 1.4.2)

								Depression Storage		Horton's Infiltration Parameters			DCIA Level and Fractions			
Catchment Name/ID	SWMM Node/ID	Raingage Name/ID	Area (sq.mi.)	Dist. to Centroid (miles)	Length (miles)	Slope (ft./ft.)	Percent Imperv.	Pervious (inches)	Imperv. (inches)	Initial Rate (in./hr.)	Final Rate (in.hr.)	Decay Coeff. (1/sec.)	DCIA Level	Dir. Con'ct Imperv. Fraction	Receiv. Perv. Fraction	Percent Eff. Imperv.
110	110	100-YR	0.012	0.189	0.308	0.017	7.0	0.40	0.10	4.50	0.50	0.0018	0.00	0.14	0.07	6.28
115	115	100-YR	0.034	0.241	0.465	0.024	34.0	0.40	0.10	4.50	0.50	0.0018	0.00	0.68	0.18	32.69
120	120	100-YR	0.047	0.284	0.492	0.023	38.0	0.40	0.10	4.50	0.50	0.0018	0.00	0.76	0.19	36.83
130	130	100-YR	0.025	0.137	0.284	0.035	12.0	0.40	0.10	4.50	0.50	0.0018	0.00	0.24	0.11	10.93
140	140	100-YR	0.013	0.064	0.159	0.015	32.0	0.40	0.10	4.50	0.50	0.0018	0.00	0.64	0.18	30.64
145	145	100-YR	0.015	0.169	0.314	0.007	30.0	0.40	0.10	4.50	0.50	0.0018	0.00	0.60	0.17	28.61
150	150	100-YR	0.045	0.140	0.365	0.008	40.0	0.40	0.10	4.50	0.50	0.0018	0.00	0.80	0.20	38.93
160	160	100-YR	0.005	0.078	0.098	0.031	28.0	0.40	0.10	4.50	0.50	0.0018	0.00	0.56	0.16	26.60

Wise Farms - 100-Year, North Only, SWMM5

01/01/2005 00:01:00



```
EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.006)
--------------------------------------------------------------

Wise Farms - 100-Year, North Only, SWMM5
By CVL Consultants, Inc. - April 2014
WARNING 08: elevation drop exceeds length for Conduit 145_DL
WARNING 08: elevation drop exceeds length for Conduit 150_DL
WARNING 02: maximum depth increased for Node 340_DS
WARNING 02: maximum depth increased for Node 140

*********************************************************
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
*********************************************************

****************
Analysis Options
****************
Flow Units ............... CFS
Process Models:
  Rainfall/Runoff ........ NO
  RDII ................... NO
  Snowmelt ............... NO
  Groundwater ............ NO
  Flow Routing ........... YES
  Ponding Allowed ........ NO
  Water Quality .......... NO
Flow Routing Method ...... KINWAVE
Starting Date ............ JAN-01-2005 00:00:00
Ending Date .............. JAN-01-2005 02:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 00:01:00
Routing Time Step ........ 60.00 sec
```

```
**************************        Volume         Volume
Flow Routing Continuity        acre-feet       10^6 gal
**************************     ---------      ---------
Dry Weather Inflow .......         0.000          0.000
Wet Weather Inflow .......         0.000          0.000
Groundwater Inflow .......         0.000          0.000
RDII Inflow ..............         0.000          0.000
External Inflow ..........         7.485          2.439
External Outflow .........         4.465          1.455
Internal Outflow .........         0.000          0.000
Evaporation Loss .........         0.000          0.000
Seepage Loss .............         0.000          0.000
Initial Stored Volume ....         0.000          0.000
Final Stored Volume ......         3.027          0.986
Continuity Error (%) .....        -0.102


*********************************
Highest Flow Instability Indexes
*********************************
Link 144 (5)
Link 150_DL (1)
Link 142 (1)
Link 145_DL (1)
Link 370_OUTLET (1)


*************************
Routing Time Step Summary
*************************
Minimum Time Step           :    60.00 sec
Average Time Step           :    60.00 sec
Maximum Time Step           :    60.00 sec
Percent in Steady State     :     0.00
Average Iterations per Step :     1.00
Percent Not Converging      :     0.00
```

```
  ******************
  Node Depth Summary
  ******************

  -----------------------------------------------------------------------
                                Average  Maximum  Maximum  Time of Max
                                  Depth    Depth      HGL   Occurrence
  Node                 Type        Feet     Feet     Feet  days hr:min
  -----------------------------------------------------------------------
  145                  JUNCTION    1.01     1.90  5018.90     0  00:44
  150                  JUNCTION    0.10     0.10  5014.10     0  00:01
  340_DS               JUNCTION    0.00     0.00  5024.50     0  00:00
  140                  JUNCTION    0.26     0.46  5023.46     0  00:35
  143                  JUNCTION    1.06     1.94  5020.94     0  00:36
  1                    OUTFALL     0.00     0.00  5011.73     0  00:00
  370                  STORAGE     2.40     4.06  5016.56     0  01:21


  *******************
  Node Inflow Summary
  *******************

  -------------------------------------------------------------------------------------------------
                                Maximum  Maximum                  Lateral       Total        Flow
                                Lateral    Total  Time of Max      Inflow      Inflow     Balance
                                 Inflow   Inflow   Occurrence      Volume      Volume       Error
  Node                 Type         CFS      CFS  days hr:min    10^6 gal    10^6 gal     Percent
  -------------------------------------------------------------------------------------------------
  145                  JUNCTION    13.64    36.69     0  00:45       0.407       0.849       0.000
  150                  JUNCTION    81.10    81.10     0  00:40        1.58        1.58       0.000
  340_DS               JUNCTION     0.00     0.00     0  00:00           0           0       0.000
gal
  140                  JUNCTION    25.01    25.01     0  00:35       0.451       0.451       0.000
  143                  JUNCTION     0.00    24.83     0  00:36           0       0.448       0.000
  1                    OUTFALL      0.00    45.60     0  01:21           0        1.45       0.000
  370                  STORAGE      0.00   114.60     0  00:40           0        2.43      -0.008
```

```
**********************
Node Surcharge Summary
**********************

Surcharging occurs when water rises above the top of the highest conduit.
-------------------------------------------------------------------------
                                              Max. Height   Min. Depth
                                   Hours      Above Crown    Below Rim
Node                  Type      Surcharged          Feet         Feet
-------------------------------------------------------------------------
150                   JUNCTION        2.02         0.000        0.900
370                   STORAGE         0.23         0.064       15.936


*********************
Node Flooding Summary
*********************

No nodes were flooded.


**********************
Storage Volume Summary
**********************

-----------------------------------------------------------------------------------------------
                        Average     Avg  Evap Infil       Maximum     Max    Time of Max    Maximum
                         Volume    Pcnt  Pcnt  Pcnt        Volume    Pcnt     Occurrence    Outflow
Storage Unit           1000 ft3    Full  Loss  Loss      1000 ft3    Full    days hr:min        CFS
-----------------------------------------------------------------------------------------------
370                     104.586      12     0     0       177.091      20       0  01:20      45.60
```

```
************************
Outfall Loading Summary
************************
```

Outfall Node	Flow Freq Pcnt	Avg Flow CFS	Max Flow CFS	Total Volume 10^6 gal
1	94.21	28.59	45.60	1.455
System	94.21	28.59	45.60	1.455

```
********************
Link Flow Summary
********************
```

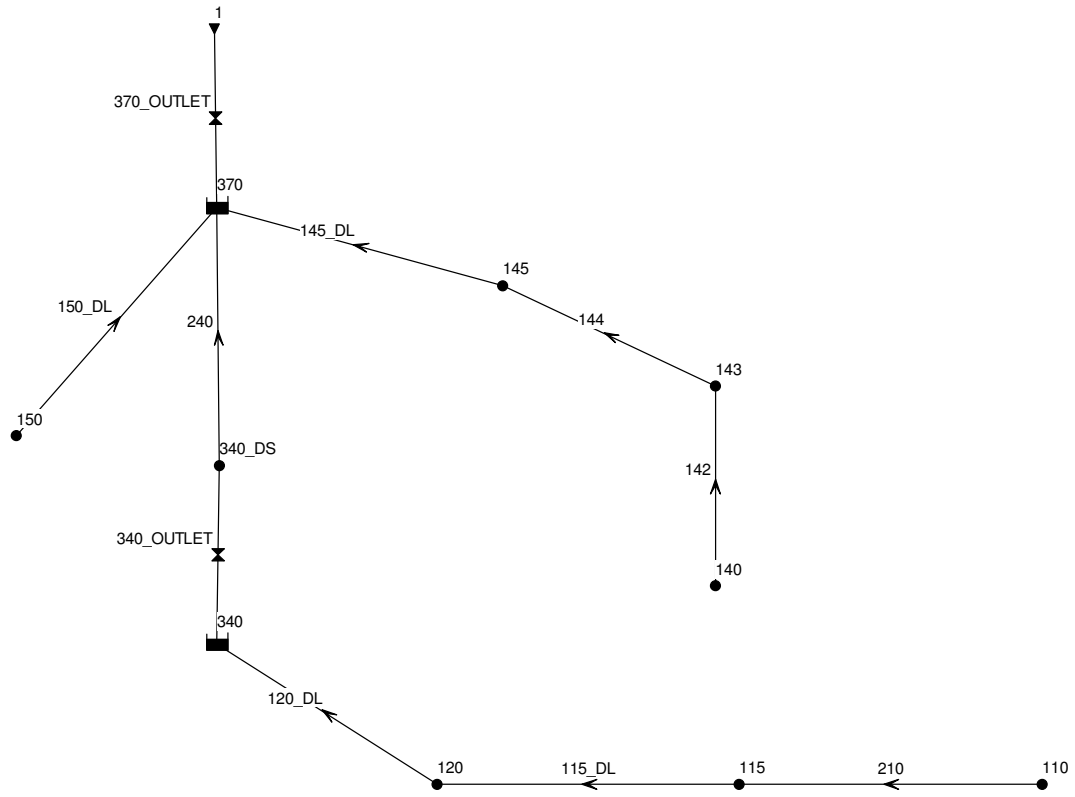
Link	Type	Maximum |Flow| CFS	Time of Max Occurrence days	hr:min	Maximum |Veloc| ft/sec	Max/ Full Flow	Max/ Full Depth
145_DL	DUMMY	36.69	0	00:45			
150_DL	DUMMY	81.10	0	00:40			
240	CONDUIT	0.00	0	00:00	0.00	0.00	0.00
142	CONDUIT	24.83	0	00:36	4.61	0.03	0.12
144	CONDUIT	23.56	0	00:44	2.23	0.08	0.38
370_OUTLET	DUMMY	45.60	0	01:21			

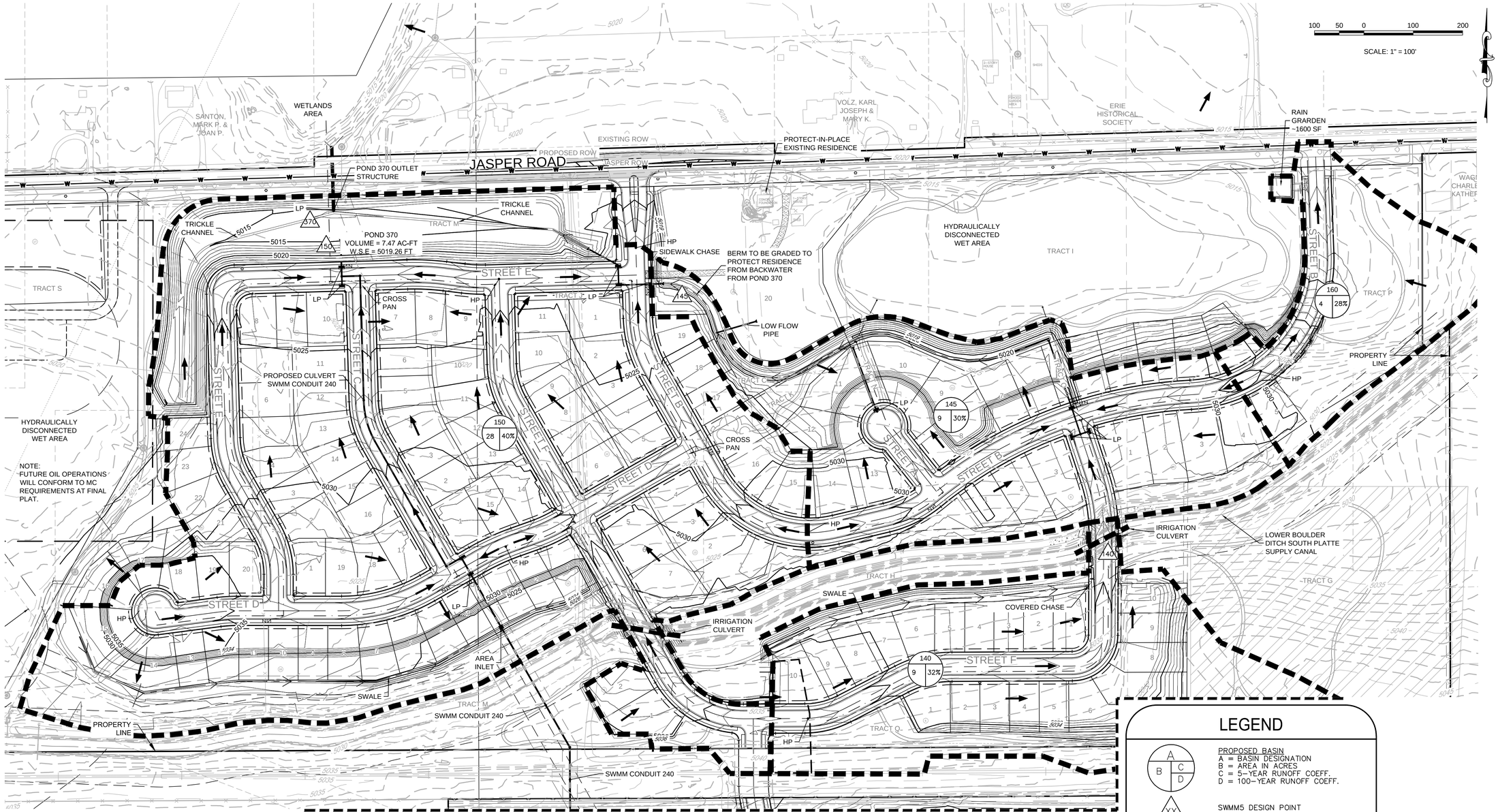
```
*************************
Conduit Surcharge Summary
*************************

No conduits were surcharged.


Analysis begun on:  Thu Jul 31 15:35:22 2014
Analysis ended on:  Thu Jul 31 15:35:22 2014
Total elapsed time: < 1 sec
```

Wise Farms - 100-Year Full Buildout SWMM5





DESIGN POINT SUMMARY TABLE		
ID	PROPOSED 100-YEAR FLOW (CFS)	FUTURE 100-YEAR FLOW (CFS)
110	-	7
115	-	50
120	-	120
140	25	25
142	25	25
143	25	25
144	-	25
145	37	37
150	81	81
210	-	7
240	-	88
340	-	120
370	115	172
OUT	46	106

POND SUMMARY TABLE				
POND	TRIBUTARY AREA (AC)	EXCESS URBAN RUNOFF VOLUME (AC-FT)	100-YEAR VOLUME + 1/2 EURV (AC-FT)	100-YEAR RELEASE RATE (CFS)
PROPOSED				
370	46	1.8	5.0	46
FUTURE				
340	60	2.0	3.5	60
370	106	1.8	7.5	106

LEGEND

PROPOSED BASIN
A = BASIN DESIGNATION
B = AREA IN ACRES
C = 5-YEAR RUNOFF COEFF.
D = 100-YEAR RUNOFF COEFF.

SWMM5 DESIGN POINT

FLOW ARROW

PROPOSED BASIN BOUNDARY LINE

PROPOSED MANHOLE

PROPOSED STORM DRAINAGE PIPE

PROPOSED TYPE R INLET

EXISTING INDEX CONTOURS

EXISTING INTERMEDIATE CONTOURS

PROPOSED INDEX CONTOURS

PROPOSED INTERMEDIATE CONTOURS

PREPARED UNDER THE SUPERVISION OF

MELINDA ERIN LUNDQUIST
COLORADO P.E. 38413

No.	Revisions	Date	Init.	Appr.	Date
-					
-					
-					
-					

10333 East Dry Creek Road
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546
CVL CONSULTANTS

JASPER INVESTMENTS, LLC
C/O JIM DULLEA
SOUTH KENWOOD COURT
HIGHLANDS RANCH, CO 80123

WISE FARMS SUBDIVISION
DRAINAGE MAP
NORTHERN MAP

SCALE: AS SHOWN
FILE NO: 8.10.0230901
DRAWN BY: ILG
CHECKED BY: JJC
DATE: OCTOBER 2014
SHEET NUMBER D1

LEGEND

PROPOSED BASIN
A = BASIN DESIGNATION
B = AREA IN ACRES
C = 5–YEAR RUNOFF COEFF.
D = 100–YEAR RUNOFF COEFF.

SWMM5 DESIGN POINT

FLOW ARROW

PROPOSED BASIN BOUNDARY LINE

PROPOSED MANHOLE

PROPOSED STORM DRAINAGE PIPE

PROPOSED TYPE R INLET

EXISTING INDEX CONTOURS

EXISTING INTERMEDIATE CONTOURS

PROPOSED INDEX CONTOURS

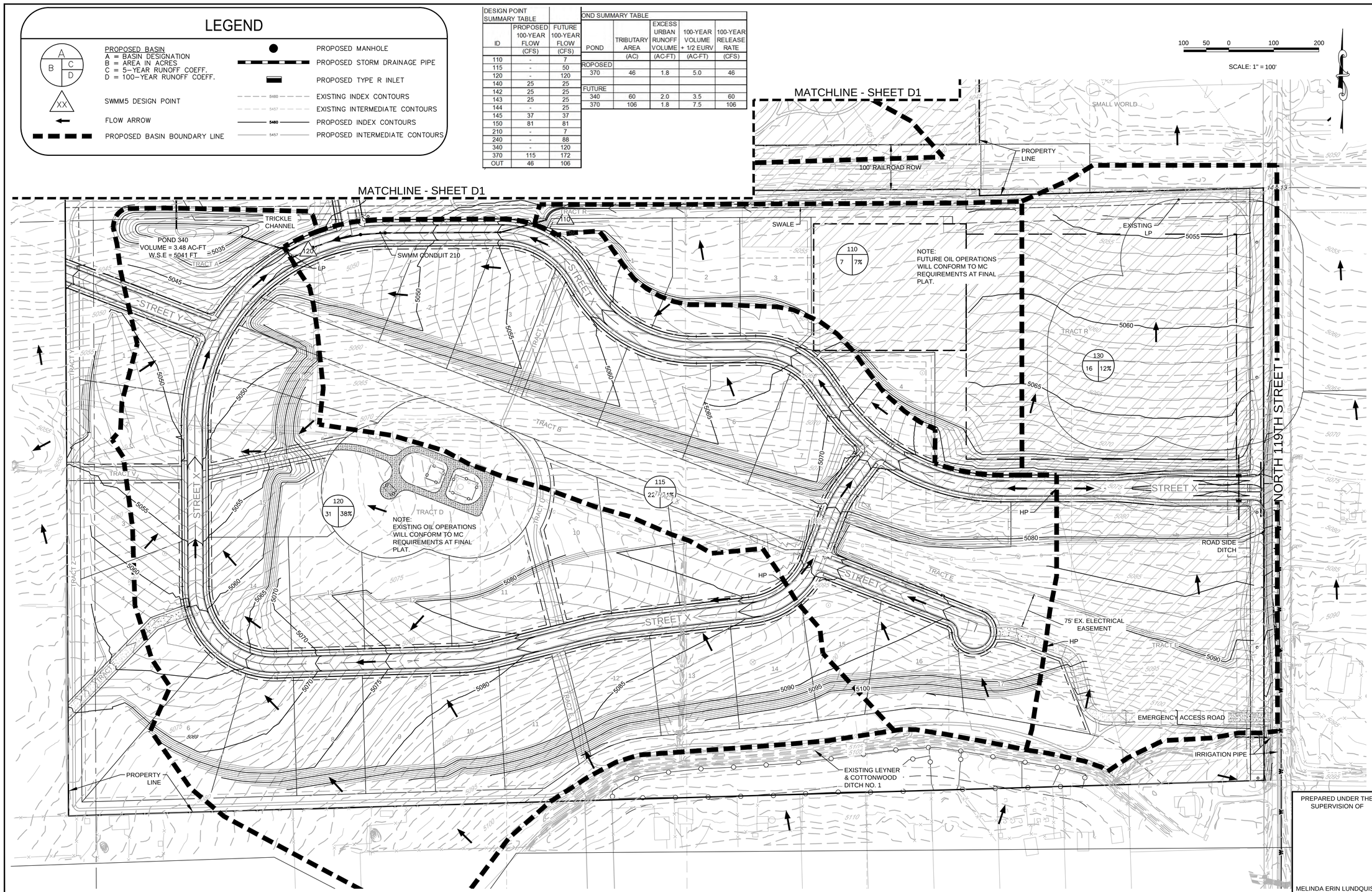
PROPOSED INTERMEDIATE CONTOURS

DESIGN POINT SUMMARY TABLE

ID	PROPOSED 100-YEAR FLOW (CFS)	FUTURE 100-YEAR FLOW (CFS)
110	-	7
115	-	50
120	-	120
140	25	25
142	25	25
143	25	25
144	-	25
145	37	37
150	81	81
210	-	7
240	-	88
340	-	120
370	115	172
OUT	46	106

POND SUMMARY TABLE

POND	TRIBUTARY AREA (AC)	EXCESS URBAN RUNOFF VOLUME (AC-FT)	100-YEAR VOLUME + 1/2 EURV (AC-FT)	100-YEAR RELEASE RATE (CFS)
ROPOSED				
370	46	1.8	5.0	46
FUTURE				
340	60	2.0	3.5	60
370	106	1.8	7.5	106



No.	Revisions	Date	Init.	Appr.	Date
-					
-					
-					
-					

10333 East Dry Creek Road
Suite 200
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546
CVL CONSULTANTS

JASPER INVESTMENTS, LLC
C/O JIM DULLEA
SOUTH KERWOOD COURT
HIGHLANDS RANCH, CO 80123

WISE FARMS SUBDIVISION
DRAINAGE MAP
SOUTHERN MAP

SCALE: AS SHOWN
FILE NO: 8.93.0230.001

DRAWN BY: ILG
CHECKED BY: JJC
DATE: OCTOBER 2014

SHEET NUMBER D2

PREPARED UNDER THE SUPERVISION OF

MELINDA ERIN LUNDQUIST
COLORADO P.E. 38413

Wise Farms

STORMWATER MANAGEMENT PLAN

Town of Erie, Colorado

Prepared for:

Jasper Land Investments, LLC.
Contact: Jim Dullea
9162 S. Kenwood Court
Highlands Ranch, Colorado 80126
Phone: (303) 902-5400

Prepared by:

CVL Consultants of Colorado, Inc.
Contact: Melinda Lundquist, PE, LEED AP
10333 E. Dry Creek Rd., Suite 240
Englewood, Colorado 80112
Phone: (720) 482-9526

July 2014

Table of Contents

I) SITE DESCRIPTION

II) SITE MAP

III) BMPs FOR STORMWATER POLLUTION PREVENTION
- a. Erosion and Sediment Controls
- b. Materials Handling and Spill Prevention

IV) FINAL STABILIZATION AND LONG-TERM STORMWATER MANAGEMENT

V) OTHER CONTROLS

VI) INSPECTION AND MAINTENANCE

VII) REFERENCES

APPENDICES

- a. APPENDIX A – MAPS / SOIL INFORMATION
- b. APPENDIX B – BEST MANAGEMENT PRACTICES SPECIFICATION SHEETS
- c. APPENDIX C – CHAIN OF COMMAND
- d. APPENDIX D – EROSION AND SEDIMENT CONTROL INSPECTION CHECKLIST
- e. APPENDIX E – SUBCONTRACTOR SIGNATURE SHEET
- f. APPENDIX F – PLAN DEVIATIONS RECORDING FORM

I. SITE DESCRIPTION

a) The 169 acre "Wise Farms" project is a planned single family residential subdivision, with a mixture of parks and open space. The project site is located in the Town of Erie and bounded by Jasper Road to the north, N. 119th Street to the east and a RTD right-of-way spur bisecting the site.

The Lower Boulder Ditch South Supply Channel traverses through the northern parcel. An electrical transmission line easement crosses the southern parcel of project site and through the southwest corner of the northern parcel, running from northwest to southeast. An existing sanitary sewer main and easement runs north to south near the west edge of the northern parcel.

b) The northern portion of the site, north of the railroad tracks and north of the Lower Boulder Ditch, is relatively flat, with several areas of natural depressions and apparent wet areas that have been classified by the USACOE as non-jurisdictional. The slope of the natural terrain in this portion of the project ranges as flat as 0.3%.

The predominant hydrologic soils type for the project is type "B" Ascalon sandy loam and Manter sandy loam.

c) The existing site's land use is agricultural and consists of several houses and ancillary buildings along Jasper Road. One set of houses and buildings is located in the northwest corner of the site, adjacent to Jasper Road. The other set of houses and buildings is located in the middle of the property along the northern boundary adjacent to Jasper Road. The intent is to leave the houses and ancillary buildings in place.

d) The project consists of the development of 166 homesites and the roadways and utility infrastructure; which includes water, sanitary sewer and storm sewer; to support them.

This Stormwater Management Plan (SWMP) addresses the Best Management Practices (BMPs) required for development of the project site in its entirety.

e) The sequence of activities for this project will begin with the installation of the property boundary control measures (silt fence or sediment control logs) along the downstream portions of the site. Installation of protective BMPs (sediment control logs and diversion ditches) along the above described ditches will also take place during the initial phase.

The staging and storage area will be prepared to accommodate the construction trailer, a vehicle fueling area, material storage and construction equipment. The concrete washout area will be constructed nearby.

The earthwork operations will require soils to be imported from an offsite source.

Utility work will follow the grading operations. A utility bore will be done at the Lower Boulder Ditch crossing and across Jasper Road. Once the utility work is complete, concrete paving for curb, gutter and sidewalk will be done. Asphalt paving will follow.

In the interim phase of construction, two sediment basins will be constructed along with permanent swales; these sediment basins will be converted to the permanent detention pond during the final phases of construction. Sediment control logs will be placed along the rights-of-way of the constructed streets to keep sediment from being carried onto the roads. After paving is complete, new inlet protection will be installed.

In the final phase of construction, all areas disturbed during construction, which will be developed into homesites or are considered open space will be seeded and mulched to establish temporary vegetation until home construction commences. All slopes 4:1 or greater will be blanketed with an erosion control mat. The Final Landscape Plan will be implemented.

f) Currently, there is no vehicle fueling or storage of fertilizers or chemicals onsite, however construction operations may warrant the use of said items. In this case, proper procedures for the storage, maintenance and cleanup of spills, if necessary, are described in Appendix B of this report.

g) There are not any anticipated sources of water expected to occur onsite except the use of water from a water truck for dust mitigation.

h) The stormwater runoff on site will drain overland and through a series of storm drainage systems, culverts and swales located in the streets and tracts of the development to the two constructed detention ponds, ultimately draining under Jasper Road.

The stormwater runoff from the project will be collected in two detention facilities, one located just south of the RTD right-of-way and the downstream pond located near the northwest corner of the project site, abutting Jasper Road.

The discharge from the two major onsite basins will cross under Jasper Road via a culvert, to the existing wet area on the County parcels north of Jasper Road.

The permanent detention ponds will settle out any suspended particles or oils before the runoff is discharged.

II. SITE MAP

A site map is enclosed in the back of this report. This map depicts the project site, the construction and grading limits, drainage patterns, and the location of proposed erosion and sediment control features.

III. BMPs FOR STORMWATER POLLUTION PREVENTION

A. Erosion and Sediment Controls

The site plans address the erosion and sediment control measures needed to prepare for grading activity, manage erosion and sediment control during construction, and establish vegetation post construction. Erosion control measures have been described below in greater detail.

Prior to any earth disturbing activities, the following BMP's will be installed:

- Staging and Storage Area (SSA): A Staging/Storage Area will be installed in the northeast area of the project site south of the intersection of Street B and Jasper Road.

- Boundary Control (Silt Fence (SF) or Straw Waddles (SCL)): Silt fence will placed along Jasper Road to prevent sediment transport onto the existing paved surface. The existing buildings located west of proposed Street B will be protected with perimeter silt fence. Sediment control logs will be installed on the west side of the project site along the grading limits.

- Vehicle Tracking Control (VTC): Two locations for construction access will be designated at the intersection of Jasper Road and Street B as well as Street X and 119th. Vehicle tracking control pads will be installed at these locations.

- Concrete Washout Area (CWA): The concrete washout area for the proposed street construction will be located near the SSA.

- Swales: Swales with RCD's are shown in areas that need grading to divert runoff to the sediment pond areas. These swales will be installed prior to any grading operations as a perimeter control, as well as a measure to protect the Lower Boulder Ditch Supply Canal. These swales will be a permanent BMP feature to the project site.

- Sediment Basins (SB): Two sediment basins will be installed, one located in the northwest corner of the property adjacent to Jasper Road and the other just south of RTD. These sediment basins will provide capture of potentially sediment laden runoff occurring from the relative upstream project construction.

Once the curb, gutter, and sidewalk is constructed and streets are paved, inlet protection (IP) shall be installed, and the vehicle tracking control pads (VTC) can be removed.

- Sediment Basin (SB): The sediment basins will be converted to permanent detention facilities.

- Reinforced Rock Berms for Culvert Protection (RRC): These BMP's will be installed at all the proposed culvert crossings to slow the flow water through the drainage swales.

- Sediment Control Logs (SCL): Sediment control logs will be placed at the upstream end of all culvert crossings to reduce potential sediment transport into the drainage facilities.

During the construction completion, some of the BMP measures will be removed. The silt fence used for perimeter control along Jasper Road shall be removed. The sediment control logs used along the west side of the project site shall be removed once the residential lot landscaping is complete.

As mentioned previously, the sediment basins will be converted to permanent detention facilities. The swales depicted in the site plan will become permanent BMP's for the project site.

Seeding and mulching shall be installed across all overlot graded areas.

StormWater Management Plan Administrator: Jim Dullea

This person is responsible for developing, implementing, maintaining, and revising the SWMP.

B. Materials Handling and Spill Prevention

The contractor is responsible for maintaining good house keeping practices on the construction site. This includes the following:

- Garbage/trash/construction debris shall be removed on a regular basis.
- Proper cleanup procedures shall be used for spilled materials.
- Cleanup of drips or leaks from equipment or machinery at the site.
- Minimizing the amount of unneeded materials stored on-site.
- Mark locations for spill cleanup equipment and materials.
- Fertilizers and other chemicals are applied only in the quantity required.
- Portable toilet facilities are properly maintained.
- Storage containers, drums, and bags shall be stored away from direct traffic routes to prevent accidental spills.

- Containers shall be stored on pallets or similar devices to prevent corrosion of the containers.
- All chemical substances used in the work place shall be listed, and the Material Safety Data Sheet (MSDS) obtained for each. The MSDS's will be readily available for use; i.e., posted at the locations where the materials are stored and handled.
- All containers shall be labeled to show the name and type of substance, stock number, expiration date, health hazards, including reactivity, corrosivity, ignitability and toxicity, suggestions for handling, and first aid information. (This information can usually be found on the MSDS. Unlabeled chemicals and chemicals with deteriorated labels are often disposed of unnecessarily or improperly.)

Instructions and materials/equipment for spill cleanup procedures shall be readily available on the construction site. This includes notification of the appropriate agency or department; i.e., downstream water users, SWMP Administrator, Colorado Department of Public Health and Environment, etc.

IV. FINAL STABILIZATION AND LONG-TERM STORMWATER MANAGEMENT

All remaining disturbed areas will be stabilized with grasses as a measure to achieve final stabilization of the site. The contractor is required to maintain the new landscaping until vegetation is firmly rooted and a healthy growth has occurred.

V. OTHER CONTROLS

The contractor shall dispose of waste/trash regularly following good housekeeping procedures. The contractor shall limit off-site soils tracking through the maintenance of vehicle tracking control pads and street cleaning on an as-needed basis to prevent stormwater contamination.

VI. INSPECTION AND MAINTENANCE

The contractor shall perform a thorough inspection of the stormwater management system every 14 days and after any precipitation or snowmelt event that causes surface runoff. This includes inspecting and maintaining all sediment and erosion controls.

The contractor shall have a preventative maintenance program, which shall include the following:

- Identification of equipment, sediment and erosion controls, and site areas that should be inspected.
- Appropriate and timely maintenance, repair or replacement of control measures and equipment.

- Maintenance of complete records on inspections, equipment and systems.

The contractor shall maintain a logbook or record keeping system of construction activities with respect to the stormwater management plan. The following list of activities and information shall be recorded in a SWMP daily logbook.

- A record of spills, leaks, or overflows, including time and date, weather conditions, etc.
- Implementation of specific items in the SWMP and erosion control plan.
- Training events (given or attended).
- Events involving material storage and handling.
- Contacts with regulatory agencies and personnel.
- Notes of employee activities, contact, notifications, etc.
- Maintenance and repair of stormwater management controls.
- Preventative maintenance activities.
- Inspection activities.

Additional information such as dated photographs, field notebooks, drawings and maps, etc. can also be included where appropriate.

VII. REFERENCES

Design Criteria Manual Volumes 1, 2, & 3., Urban Drainage and Flood Control District

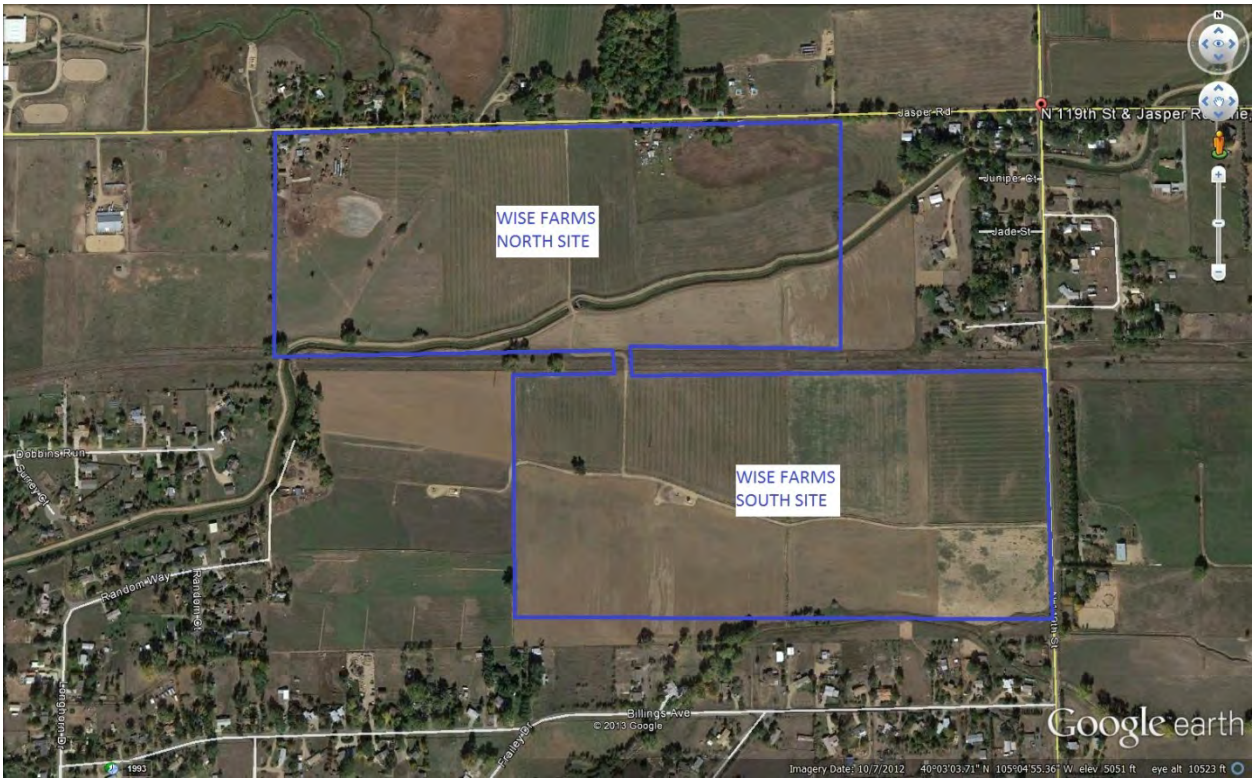
USDA NRCS Soil Survey, retrieved 03-24-2008 from www.usda.gov

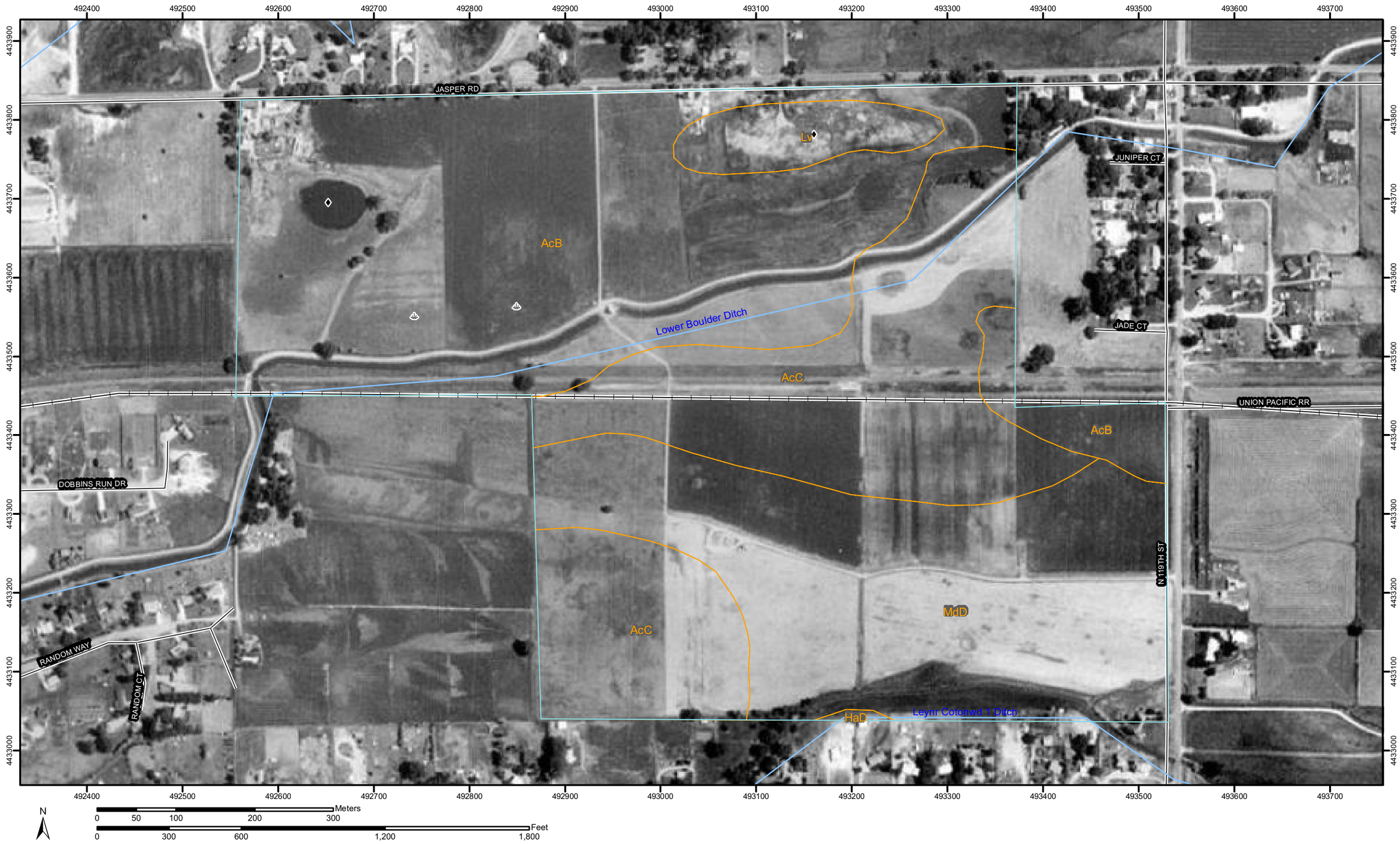
Map Number 08013C0437J, Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, Boulder County and Unincorporated Areas, Colorado Panel 437 of 615.

Stormwater Management Plan Preparation Guidance, State of Colorado, Colorado Department of Public Health and Environment, www.cdphe.wqstorm@state.co.us.

VIII. APPENDIX

Vicinity Map




492400
492500
492600
492700
492800
492900
493000
493100
493200
493300
493400
493500
493600
493700
4433900
4433800
4433700
4433600
4433500
4433400
4433300
4433200
4433100
4433000
JASPER RD
JUNIPER CT
JADE CT
UNION PACIFIC RR
DOBBINS RUN DR
RANDOM WAY
RANDOM CT
N 119TH ST
Lv
AcB
AcC
MdD
HaD
Lower Boulder Ditch
Leyner Colonwd 1 Ditch
N
Meters
0 50 100 200 300
Feet
0 300 600 1,200 1,800

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Units

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Gully

Short Steep Slope

Other

Political Features

Municipalities

Cities

Urban Areas

Water Features

Oceans

Streams and Canals

Transportation

Rails

Roads

Interstate Highways

US Routes

State Highways

Local Roads

Other Roads

MAP INFORMATION

Original soil survey map sheets were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. Please rely on the bar scale on each map sheet for proper map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 13N

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Boulder County Area, Colorado
Survey Area Data: Version 7, Jan 15, 2008

Date(s) aerial images were photographed: 1993

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Boulder County Area, Colorado (CO643)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
AcB	Ascalon sandy loam, 1 to 3 percent slopes	74.3	42.4%
AcC	Ascalon sandy loam, 3 to 5 percent slopes	47.5	27.1%
HaD	Hargreave fine sandy loam, 3 to 9 percent slopes	0.2	0.1%
Lv	Loveland soils	5.7	3.3%
MdD	Manter sandy loam, 3 to 9 percent slopes	47.5	27.1%
Totals for Area of Interest (AOI)		175.2	100.0%

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Units

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Gully

Short Steep Slope

Other

Political Features

Cities

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

MAP INFORMATION

Map Scale: 1:6,570 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 13N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Boulder County Area, Colorado
Survey Area Data: Version 9, May 1, 2009

Date(s) aerial images were photographed: 8/6/2005

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Boulder County Area, Colorado (CO643)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
AcB	Ascalon sandy loam, 1 to 3 percent slopes	95.3	48.3%
AcC	Ascalon sandy loam, 3 to 5 percent slopes	50.7	25.6%
Lv	Loveland soils	5.7	2.9%
MdD	Manter sandy loam, 3 to 9 percent slopes	45.8	23.2%
Totals for Area of Interest		**197.6**	**100.0%**

RUSLE2 Related Attributes

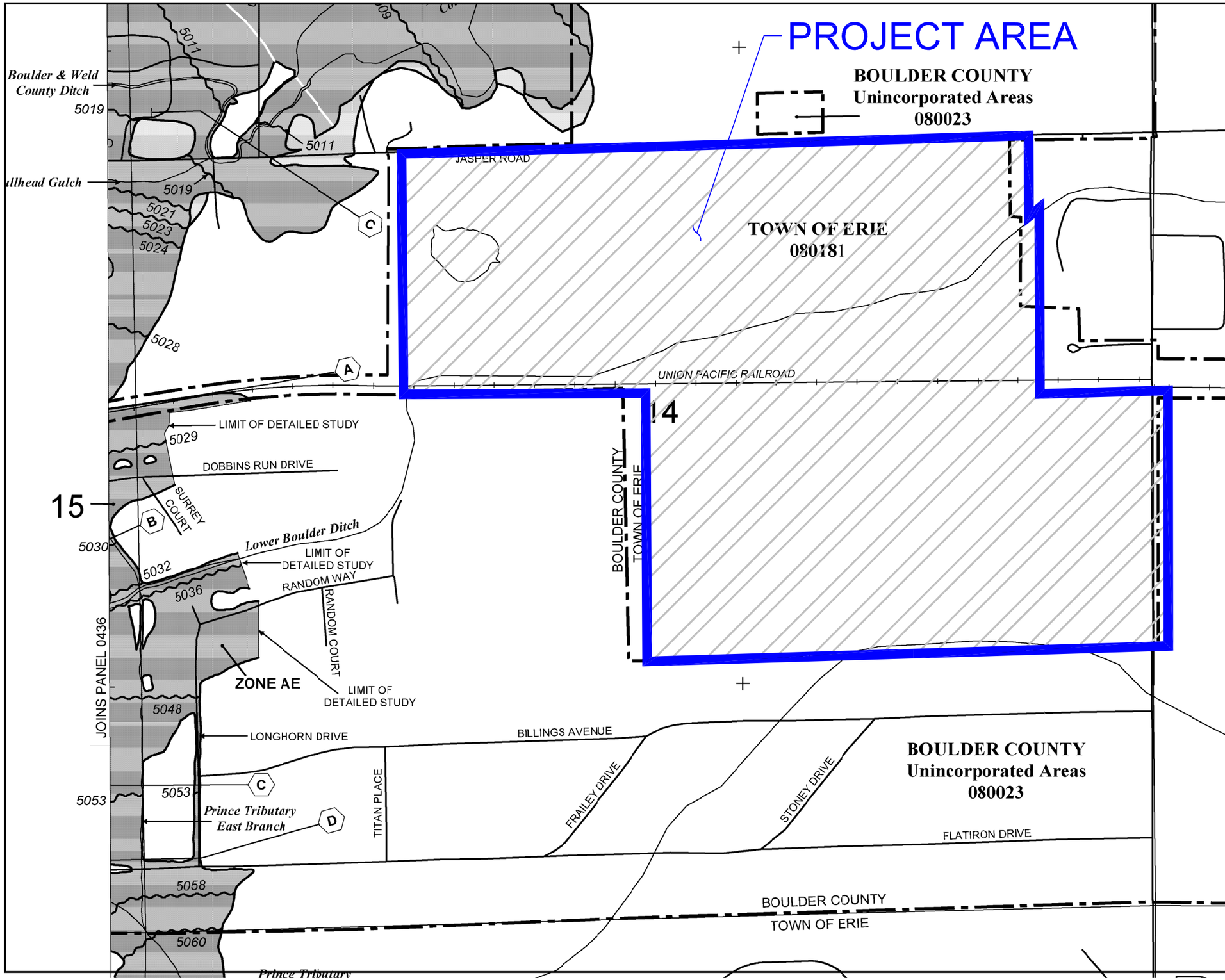
This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. The report includes the map unit symbol, the component name, and the percent of the component in the map unit. Soil property data for each map unit component include the hydrologic soil group, erosion factors Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the surface horizon.

Report—RUSLE2 Related Attributes

RUSLE2 Related Attributes– Boulder County Area, Colorado								
Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
AcB—Ascalon sandy loam, 1 to 3 percent slopes								
Ascalon	90	—	B	.24	5	66.6	23.4	10.0
AcC—Ascalon sandy loam, 3 to 5 percent slopes								
Ascalon	90	—	B	.24	5	66.6	23.4	10.0
Lv—Loveland soils								
Loveland	85	—	C	.20	3	33.3	31.7	35.0
MdD—Manter sandy loam, 3 to 9 percent slopes								
Manter	85	—	B	.20	5	65.9	19.1	15.0

Data Source Information

Soil Survey Area: Boulder County Area, Colorado
Survey Area Data: Version 9, May 1, 2009



MAP SCALE 1" = 500'

250 0 500 1000 FEET

METER

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0437J

FIRM

FLOOD INSURANCE RATE MAP

BOULDER COUNTY, COLORADO

AND INCORPORATED AREAS

PANEL 437 OF 615

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BOULDER COUNTY	080023	0437	J
ERIE, TOWN OF	080181	0437	J

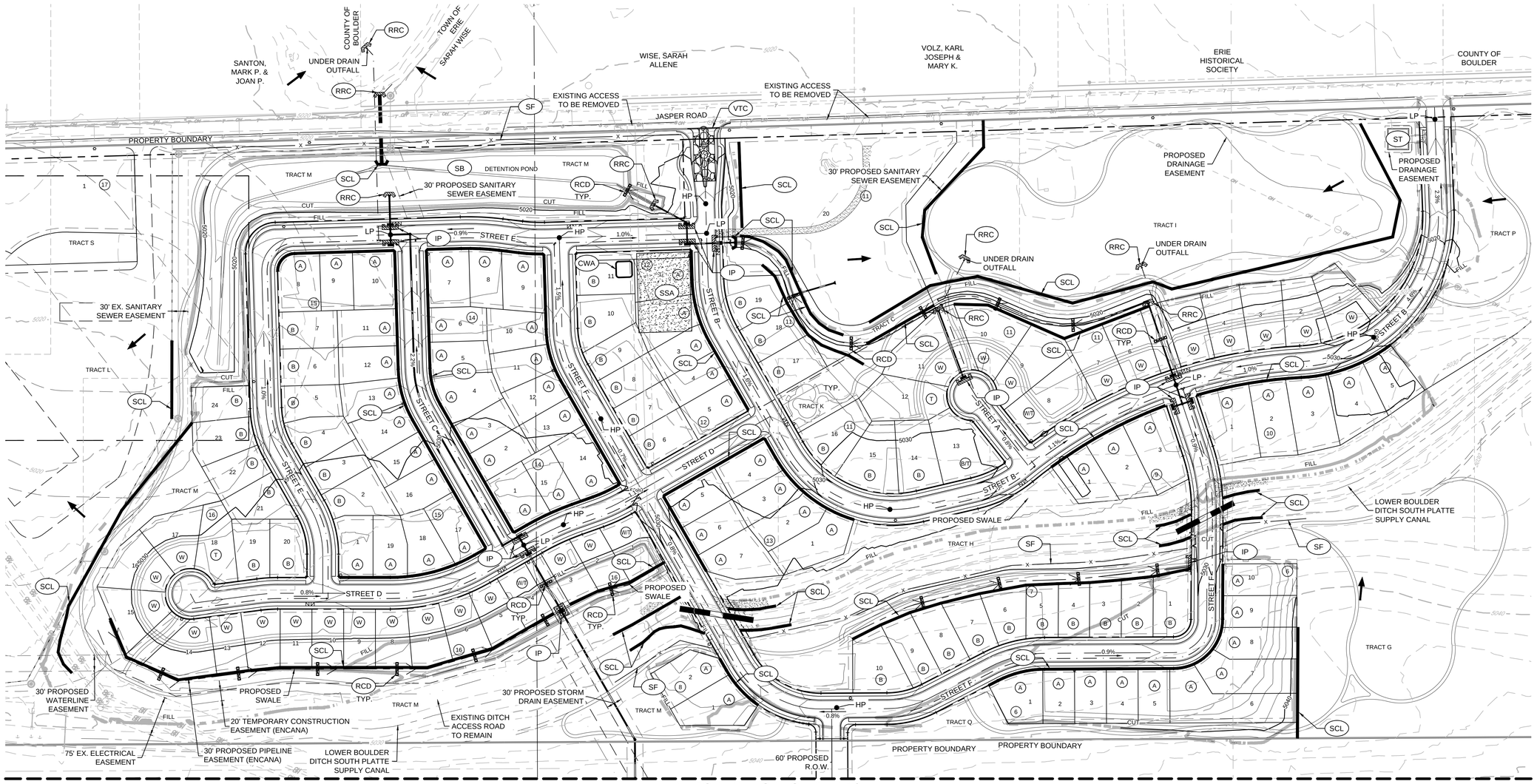
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
08013C0437J

MAP REVISED
DECEMBER 18, 2012

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



MATCHLINE - SEE SHEET E13

EROSION CONTROL LEGEND

IP — INLET PROTECTION	CENTERLINE
RRC — REINFORCED ROCK BERM FOR CULVERT PROTECTION	RIGHT-OF-WAY
RCD — REINFORCED CHECK DAM	LOT LINE
ST — SEDIMENT TRAP	PROPERTY BOUNDARY
SSA — STAGING / STORAGE AREA	PROPOSED DIRECTION OF FLOW
SCL — SEDIMENT CONTROL LOG	EXISTING 10' CONTOUR
CWA — CONCRETE WASHOUT AREA	EXISTING 2' CONTOUR
SF — SILT FENCE	PROPOSED 10' CONTOUR
FLOW DIRECTION ARROW	PROPOSED 2' CONTOUR
5000 — EXISTING ELEVATION	PROPOSED STORM DRAIN
5000 — PROPOSED DESIGN ELEVATION	PROPOSED FLARED END SECTION
11 — LOT NUMBER	PROPOSED STORM INLET
6 — BLOCK NUMBER	PROPOSED AREA INLET
A — LOT TYPE	PROPOSED SWALE
	CUT / FILL LINE

EARTHWORK

TOTAL CUT VOLUME	238,098 C.Y.
TOTAL FILL VOLUME (15% ADJUSTMENT FOR COMPACTION)	414,148 C.Y.
NET (IMPORT)	176,050 C.Y.

EROSION CONTROL NOTES

1. ALL DISTURBED AREAS WILL RECEIVE SURFACE ROUGHENING AND SEEDING AND MULCHING FOLLOWING GRADING OPERATIONS.
2. ALL SLOPES GREATER THAN 4:1 REQUIRE EROSION CONTROL BLANKET.

200 100 0 200 400

SCALE: 1" = 200'

No.	Revisions	Date	Init.	Aggr.	Date

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

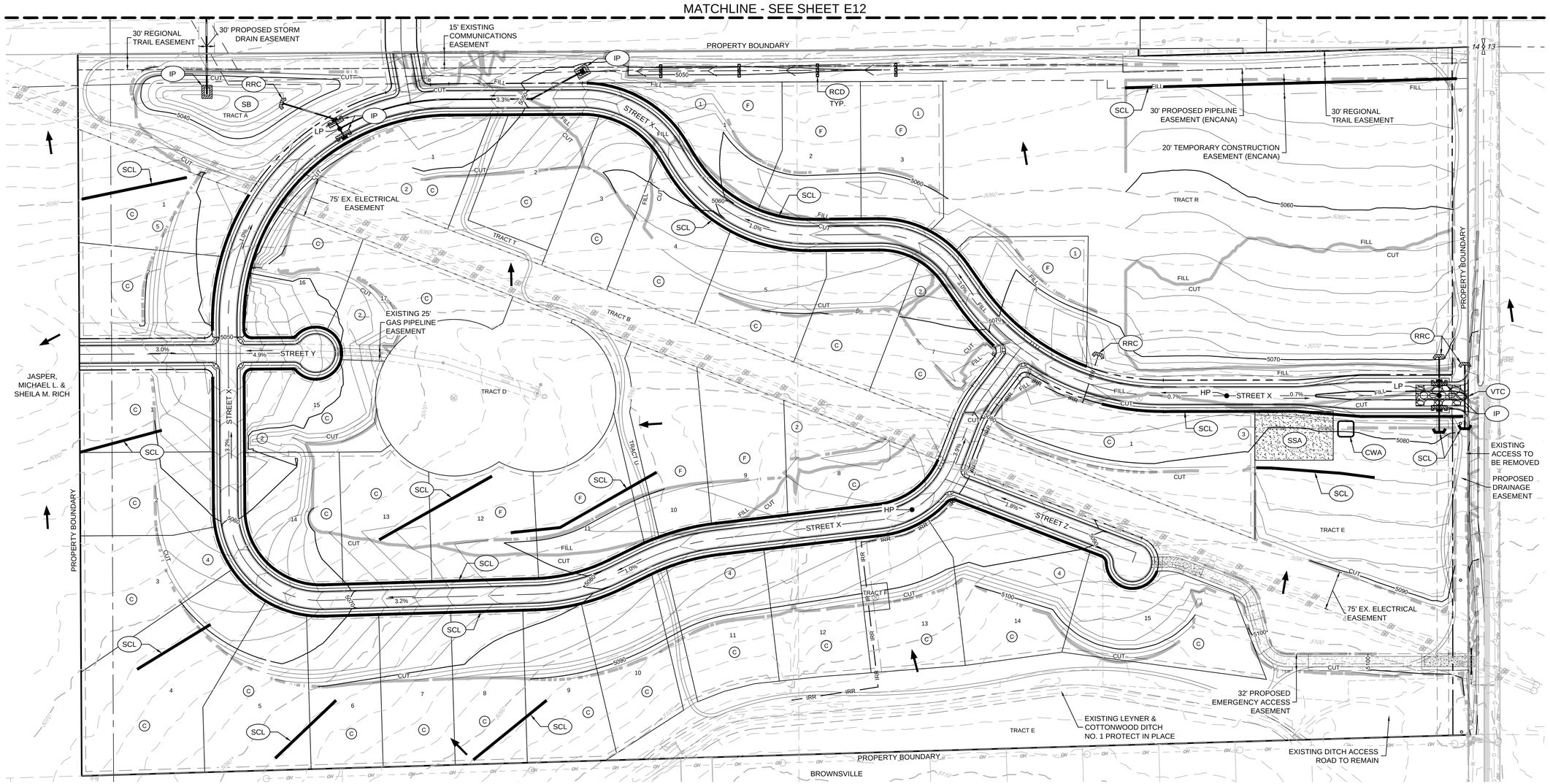
TI RESIDENTIAL, LLC
3131 S. VAUGHN WAY, #301
AURORA, CO 80014

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
1041 PERMIT APPLICATION
PRELIMINARY EROSION CONTROL
PLAN - NORTH

SCALE: AS SHOWN
FILE NO: 8.13.0230801
DRAWN BY: BPC
CHECKED BY: MEL
DATE: AUGUST 1, 2014
SHEET NUMBER E12

N:\PROJECTS\0230801 WISE FARMS\CAD\ENGINEERING\SHEET SETS\WISE FARMS - PDP\PRELIMINARY GESC.DWG, JENNIFER SAVACOOL, 7/31/14



EROSION CONTROL LEGEND

IP — INLET PROTECTION	CENTERLINE
RRC — REINFORCED ROCK BERM FOR CULVERT PROTECTION	RIGHT-OF-WAY
RCD — REINFORCED CHECK DAM	LOT LINE
ST — SEDIMENT TRAP	PROPERTY BOUNDARY
SSA — STAGING / STORAGE AREA	PROPOSED DIRECTION OF FLOW
SCL — SEDIMENT CONTROL LOG	EXISTING 10' CONTOUR
CWA — CONCRETE WASHOUT AREA	EXISTING 2' CONTOUR
SF — SILT FENCE	PROPOSED 10' CONTOUR
FLOW DIRECTION ARROW	PROPOSED 2' CONTOUR
5000 — EXISTING ELEVATION	PROPOSED STORM DRAIN
5000 — PROPOSED DESIGN ELEVATION	PROPOSED FLARED END SECTION
11 — LOT NUMBER	PROPOSED STORM INLET
6 — BLOCK NUMBER	PROPOSED AREA INLET
A — LOT TYPE	PROPOSED SWALE
	CUT / FILL LINE

EARTHWORK

TOTAL CUT VOLUME	238,098 C.Y.
TOTAL FILL VOLUME (15% ADJUSTMENT FOR COMPACTION)	414,148 C.Y.
NET (IMPORT)	176,050 C.Y.

EROSION CONTROL NOTES

1. ALL DISTURBED AREAS WILL RECEIVE SURFACE ROUGHENING AND SEEDING AND MULCHING FOLLOWING GRADING OPERATIONS.
2. ALL SLOPES GREATER THAN 4:1 REQUIRE EROSION CONTROL BLANKET.

200 100 0 200 400

SCALE: 1" = 200'

No.	Revisions	Date	Init.	Appr.	Date

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

TI RESIDENTIAL, LLC
3131 S. VAUGHN WAY, #301
AURORA, CO 80014
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
1041 PERMIT APPLICATION
PRELIMINARY EROSION CONTROL
PLAN - SOUTH

SCALE: AS SHOWN
FILE NO: 8.13.0230801
DRAWN BY: BPC
CHECKED BY: MEL
DATE: AUGUST 1, 2014
SHEET NUMBER E13

N:\PROJECTS\0230801 WISE FARMS\CAD\ENGINEERING\SHEET SETS\WISE FARMS - PDP\PRELIMINARY GESC.DWG , JENNIFER SAVACOOL , 7/31/14

WESTERN ECOLOGICAL RESOURCE, INC.
711 Walnut Street
Boulder, Colorado 80302
(303) 449-9009
Fax (303) 449-9038
mail@westerneco.com

March 15, 2005

Mr. Terry McKee
U.S. Army Corps of Engineers
Denver Regulatory Office
9307 South Wadsworth Blvd
Littleton, CO 80128-6901

RE: Wise Property, Erie, Colorado

Via Fax and Mail

Dear Terry:

In June of 1999 we submitted a Wetland Delineation Report for the Wise Homestead located just west of Erie in Boulder County, Colorado. Specifically, the project is located in Township 1 North, Range 69 West, Section 14 (Figure 1). The wetland delineation has now expired and we believe the wetlands may be isolated and hence non-jurisdictional. An approved jurisdictional determination is requested. We would like to meet you on the project site at your earliest convenience.

Sincerely,

David Johnson

DJ/ro

Enclosure

Cc: James Dullea

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
DENVER REGULATORY OFFICE, 9307 SOUTH WADSWORTH BOULEVARD
LITTLETON, COLORADO 80128-6901

March 30, 2005

Mr. David Johnson
Western Ecological Resource, Inc.
711 Walnut Street
Boulder, CO 80302

RE: Approved Jurisdictional Determination, Wise Property, Erie, Colorado
Corps File No. 200580180

Dear Mr. Johnson:

Reference is made to the March 28, 2005 site meeting by Mr. Terry McKee of this office with Ms. Rea Orthner of your office. This project was reviewed on behalf of the Wise Homestead. This project is located in Section 14, T1N, R69W, Boulder County, Colorado. This review was in accordance with Section 404 of the Clean Water Act under which the U.S. Army Corps of Engineers regulates the discharge of dredged and fill material, and any excavation activities associated with a dredged and fill project, into waters of the United States. Waters of the United States include ephemeral, intermittent and perennial streams, their surface connected wetlands and adjacent wetlands and certain lakes, ponds, irrigation and drainage ditches that have a nexus to interstate commerce.

Approved jurisdictional determination: Based upon the ruling by the Supreme Court in the matter of Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, No. 99-1178 (January 9, 2001), the Department of the Army's (DA) regulatory authority over isolated, non-navigable, intrastate waters has been eliminated **if** the sole nexus to interstate commerce was use of the waters by migratory birds. It is apparent under the ruling above that the DA does not have the authority to regulate work in wetlands 1, 2, 3, 4, 5, the Boulder and Weld County Ditch, the Lower Boulder Ditch and the Leyner Cottonwood Ditch. These areas are not waters of the U.S. and therefore non-jurisdictional. No permit or other authorization by the DA is required for work in these areas.

This approved jurisdictional determination and delineation is valid for a period of five years from the date of this letter unless new information warrants revision of the determination.

The attached **Jurisdictional Determination** form provides the basis of jurisdiction for wetlands 1, 2, 3, 4, 5, the Boulder and Weld County Ditch, the Lower Boulder Ditch and the Leyner Cottonwood Ditch. If the applicant wishes to appeal this approved jurisdictional determination, the attached **Notification of Administrative Appeal Options** form should be completed and sent to Mr. Mores Bergman at the address noted on the form.

Although a DA permit will not be required for work in wetlands 1, 2, 3, 4, 5, the Boulder and Weld County Ditch, the Lower Boulder Ditch and the Leyner Cottonwood Ditch, this does not eliminate the requirement that you obtain any other applicable Federal, state, tribal or local permits as required.

There are no other aquatic sites or jurisdictional waters of the U.S. on this property.

If you have any questions call **Mr. Terry McKee** at **(303) 979-4120** and reference **Corps File No. 200580180**.

Sincerely,

Timothy T. Carey
Chief, Denver Regulatory Office

tm

JURISDICTIONAL DETERMINATION

U.S. Army Corps of Engineers

Revised 8/13/04

DISTRICT OFFICE: **Omaha District Denver Regulatory Office**
FILE NUMBER: 200580180
PROJECT LOCATION INFORMATION:
State: **Colorado**
County: Boulder
Center coordinates of site (latitude/longitude): 40 03 09 105 04 53
Approximate size of area (parcel) reviewed, including uplands: __300____ acres.
Name of nearest waterway: Boulder Creek
Name of watershed: St. Vrain

JURISDICTIONAL DETERMINATION

Completed: Desktop determination ☐ Date:
Site visit(s) ☒ Date(s): March 28, 2005

Jurisdictional Determination (JD):

☐ Preliminary JD - Based on available information, ☐ *there appear to be* (or) ☐ *there appear to be no* "waters of the United States" and/or "navigable waters of the United States" on the project site. A preliminary JD is not appealable (Reference 33 CFR part 331).

☒ Approved JD – An approved JD is an appealable action (Reference 33 CFR part 331).
Check all that apply:
☐ *There are* "navigable waters of the United States" (as defined by 33 CFR part 329 and associated guidance) within the reviewed area. Approximate size of jurisdictional area: _____.
☐ *There are* "waters of the United States" (as defined by 33 CFR part 328 and associated guidance) within the reviewed area. Approximate size of jurisdictional area: _____.
☒ *There are "isolated, non-navigable, intra-state* waters or wetlands" within the reviewed area.
☒ Decision supported by SWANCC/Migratory Bird Rule Information Sheet for Determination of No Jurisdiction.

BASIS OF JURISDICTIONAL DETERMINATION:

A. Waters defined under 33 CFR part 329 as "navigable waters of the United States":

☐ The presence of waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

B. Waters defined under 33 CFR part 328.3(a) as "waters of the United States":

☐ (1) The presence of waters, which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.
☐ (2) The presence of interstate waters including interstate wetlands[1].
☐ (3) The presence of other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate commerce including any such waters (check all that apply):
☐ (i) which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ (ii) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ (iii) which are or could be used for industrial purposes by industries in interstate commerce.
☐ (4) Impoundments of waters otherwise defined as waters of the US.
☐ (5) The presence of a tributary to a water identified in (1) – (4) above.
☐ (6) The presence of territorial seas.
☐ (7) The presence of wetlands adjacent[2] to other waters of the US, except for those wetlands adjacent to other wetlands.

Rationale for the Basis of Jurisdictional Determination (applies to any boxes checked above). *If the jurisdictional water or wetland is not itself a navigable water of the United States, describe connection(s) to the downstream navigable waters. If B(1) or B(3) is used as the Basis of Jurisdiction, document navigability and/or interstate commerce connection (i.e., discuss site conditions, including why the waterbody is navigable and/or how the destruction of the waterbody could affect interstate or foreign commerce). If B(2, 4, 5 or 6) is used as the Basis of Jurisdiction, document the rationale used to make the determination. If B(7) is used as the Basis of Jurisdiction, document the rationale used to make adjacency determination:*

Lateral Extent of Jurisdiction: (Reference: 33 CFR parts 328 and 329)

☐ Ordinary High Water Mark indicated by:
☐ clear, natural line impressed on the bank
☐ the presence of litter and debris
☐ changes in the character of soil
☐ destruction of terrestrial vegetation
☐ shelving
☐ other:

☐ High Tide Line indicated by:
☐ oil or scum line along shore objects
☐ fine shell or debris deposits (foreshore)
☐ physical markings/characteristics
☐ tidal gages
☐ other:

☐ Mean High Water Mark indicated by:
☐ survey to available datum; ☐ physical markings; ☐ vegetation lines/changes in vegetation types.

☐ Wetland boundaries, as shown on the attached wetland delineation map and/or in a delineation report prepared by:

Basis For Not Asserting Jurisdiction:

- ☐ The reviewed area consists entirely of uplands.
- ☐ Unable to confirm the presence of waters in 33 CFR part 328(a)(1, 2, or 4-7).
- ☐ Headquarters declined to approve jurisdiction on the basis of 33 CFR part 328.3(a)(3).
- ☒ The Corps has made a case-specific determination that the following waters present on the site are not Waters of the United States:
  - ☐ Waste treatment systems, including treatment ponds or lagoons, pursuant to 33 CFR part 328.3.
  - ☐ Artificially irrigated areas, which would revert to upland if the irrigation ceased.
  - ☐ Artificial lakes and ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing.
  - ☐ Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons.
  - ☐ Water-filled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States found at 33 CFR 328.3(a).
  - ☒ Isolated, intrastate wetland with no nexus to interstate commerce.
  - ☐ Prior converted cropland, as determined by the Natural Resources Conservation Service. Explain rationale:
  - ☒ Non-tidal drainage or irrigation ditches excavated on dry land. Explain rationale: Boulder and Weld County Ditch terminates in upland 200380105 Feb 24, 03 field verification, Lower Boulder Ditch terminates in upland 200180398 Jun 5, 01 field verification and Leyner Cottonwood Ditch terminates in upland 200480567 Oct 20, 04 field verification
  - ☒ Other (explain): Wetlands 1, 2, and 5 are neither adjacent to nor surface connected to waters of the U.S. They are surrounded by uplands with upland vegetation. Wetlands 3 and 4 are surface connected only to the non-jurisdictional Boulder and Weld County Ditch

DATA REVIEWED FOR JURSIDICTIONAL DETERMINATION (mark all that apply):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant.
- ☐ Data sheets prepared/submitted by or on behalf of the applicant.
  - ☐ This office concurs with the delineation report, dated _____,prepared by (company):
  - ☐ This office does not concur with the delineation report, dated _____, prepared by (company):
- ☐ Data sheets prepared by the Corps.
- ☐ Corps' navigable waters' studies:
- ☐ U.S. Geological Survey Hydrologic Atlas:
- ☒ U.S. Geological Survey 7.5 Minute Topographic maps: erie
- ☐ U.S. Geological Survey 7.5 Minute Historic quadrangles:
- ☐ U.S. Geological Survey 15 Minute Historic quadrangles:
- ☐ USDA Natural Resources Conservation Service Soil Survey:
- ☐ National wetlands inventory maps:
- ☐ State/Local wetland inventory maps:
- ☐ FEMA/FIRM maps (Map Name & Date):
- ☐ 100-year Floodplain Elevation is: (NGVD)
- ☐ Aerial Photographs (Name & Date):
- ☐ Other photographs (Date):
- ☐ Advanced Identification Wetland maps:
- ☒ Site visit/determination conducted on: March 28, 05
- ☐ Applicable/supporting case law:
- ☐ Other information (please specify):

---

[1]Wetlands are identified and delineated using the methods and criteria established in the Corps Wetland Delineation Manual (87 Manual) (i.e., occurrence of hydrophytic vegetation, hydric soils and wetland hydrology).

[2]The term "adjacent" means bordering, contiguous, or neighboring. Wetlands separated from other waters of the U.S. by man-made dikes or barriers, natural river berms, beach dunes, and the like are also adjacent.

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Wise Homestead		File Number: 200580180	Date: Mar 30, 2005
Attached is:			See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)		A
	PROFFERED PERMIT (Standard Permit or Letter of permission)		B
	PERMIT DENIAL		C
X	APPROVED JURISDICTIONAL DETERMINATION		D
	PRELIMINARY JURISDICTIONAL DETERMINATION		E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://usace.army.mil/inet/functions/cw/cecwo/reg or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.

- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

Timothy T. Carey
Chief, Denver Regulatory Office
9307 South Wadsworth Boulevard
Littleton, CO 80128
(303) 979-4120

If you only have questions regarding the appeal process you may also contact:

US Army Corps of Engineers
Northwestern Division
Attn: Mores Bergman, Appeal Officer
12565 West Center Road
Omaha, Nebraska 68144-3869
Telephone (402) 697-2533

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

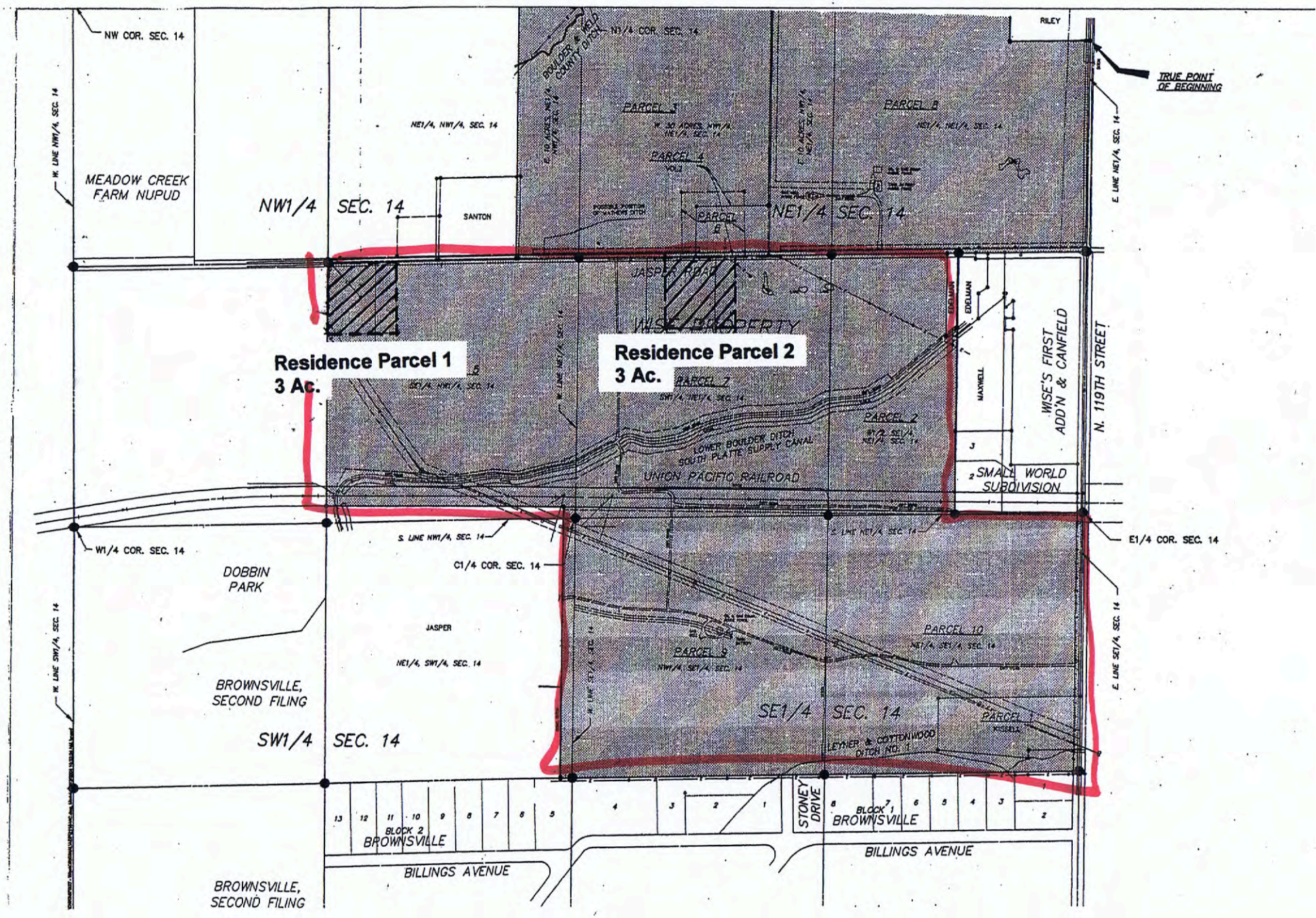

NW COR. SEC. 14
N1/4 COR. SEC. 14
RILEY
TRUE POINT OF BEGINNING
W. LINE NW1/4, SEC. 14
E. LINE NE1/4, SEC. 14
MEADOW CREEK FARM NUPUD
NW1/4 SEC. 14
NE1/4, NW1/4, SEC. 14
SANTON
BOULDER & WELD COUNTY DITCH
PARCEL 3
PARCEL 4
PARCEL 8
NE1/4, NE1/4, SEC. 14
NE1/4 SEC. 14
JASPER ROAD
WISE PROPERTY
Residence Parcel 1
3 Ac.
Residence Parcel 2
3 Ac.
PARCEL 7
PARCEL 2
EDELMAN
MAXWELL
WISE'S FIRST ADD'N & CANFIELD
N. 119TH STREET
LOWER BOULDER DITCH
SOUTH PLATTE SUPPLY CANAL
UNION PACIFIC RAILROAD
SMALL WORLD SUBDIVISION
S. LINE NW1/4, SEC. 14
S. LINE NE1/4, SEC. 14
E1/4 COR. SEC. 14
W1/4 COR. SEC. 14
C1/4 COR. SEC. 14
DOBBIN PARK
JASPER
NE1/4, SW1/4, SEC. 14
PARCEL 10
PARCEL 9
BROWNSVILLE, SECOND FILING
SE1/4 SEC. 14
PARCEL 1
LEYNER & COTTONWOOD DITCH NO. 1
W. LINE SW1/4, SEC. 14
E. LINE SE1/4, SEC. 14
SW1/4 SEC. 14
STONEY DRIVE
BLOCK 2 BROWNSVILLE
BLOCK 1 BROWNSVILLE
BILLINGS AVENUE
BROWNSVILLE, SECOND FILING

Exhibit B

Basis For Not Asserting Jurisdiction:

- ☐ The reviewed area consists entirely of uplands.
- ☐ Unable to confirm the presence of waters in 33 CFR part 328(a)(1, 2, or 4-7).
- ☐ Headquarters declined to approve jurisdiction on the basis of 33 CFR part 328.3(a)(3).
- ☒ The Corps has made a case-specific determination that the following waters present on the site are not Waters of the United States:
  - ☐ Waste treatment systems, including treatment ponds or lagoons, pursuant to 33 CFR part 328.3.
  - ☐ Artificially irrigated areas, which would revert to upland if the irrigation ceased.
  - ☐ Artificial lakes and ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing.
  - ☐ Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons.
  - ☐ Water-filled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States found at 33 CFR 328.3(a).
  - ☒ Isolated, intrastate wetland with no nexus to interstate commerce.
  - ☐ Prior converted cropland, as determined by the Natural Resources Conservation Service. Explain rationale:
  - ☒ Non-tidal drainage or irrigation ditches excavated on dry land. Explain rationale: Boulder and Weld County Ditch terminates in upland 200380105 Feb 24, 03 field verification, Lower Boulder Ditch terminates in upland 200180398 Jun 5, 01 field verification and Leyner Cottonwood Ditch terminates in upland 200480567 Oct 20, 04 field verification
  - ☒ Other (explain): Wetlands 1, 2, and 5 are neither adjacent to nor surface connected to waters of the U.S. They are surrounded by uplands with upland vegetation. Wetlands 3 and 4 are surface connected only to the non-jurisdictional Boulder and Weld County Ditch

DATA REVIEWED FOR JURSIDICTIONAL DETERMINATION (mark all that apply):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant.
- ☐ Data sheets prepared/submitted by or on behalf of the applicant.
  - ☐ This office concurs with the delineation report, dated _____,prepared by (company):
  - ☐ This office does not concur with the delineation report, dated _____, prepared by (company):
- ☐ Data sheets prepared by the Corps.
- ☐ Corps' navigable waters' studies:
- ☐ U.S. Geological Survey Hydrologic Atlas:
- ☒ U.S. Geological Survey 7.5 Minute Topographic maps: erie
- ☐ U.S. Geological Survey 7.5 Minute Historic quadrangles:
- ☐ U.S. Geological Survey 15 Minute Historic quadrangles:
- ☐ USDA Natural Resources Conservation Service Soil Survey:
- ☐ National wetlands inventory maps:
- ☐ State/Local wetland inventory maps:
- ☐ FEMA/FIRM maps (Map Name & Date):
- ☐ 100-year Floodplain Elevation is: (NGVD)
- ☐ Aerial Photographs (Name & Date):
- ☐ Other photographs (Date):
- ☐ Advanced Identification Wetland maps:
- ☒ Site visit/determination conducted on: March 28, 05
- ☐ Applicable/supporting case law:
- ☐ Other information (please specify):

---

[1]Wetlands are identified and delineated using the methods and criteria established in the Corps Wetland Delineation Manual (87 Manual) (i.e., occurrence of hydrophytic vegetation, hydric soils and wetland hydrology).

[2]The term "adjacent" means bordering, contiguous, or neighboring. Wetlands separated from other waters of the U.S. by man-made dikes or barriers, natural river berms, beach dunes, and the like are also adjacent.

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Wise Homestead		File Number: 200580180	Date: Mar 30, 2005
Attached is:			See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)		A
	PROFFERED PERMIT (Standard Permit or Letter of permission)		B
	PERMIT DENIAL		C
X	APPROVED JURISDICTIONAL DETERMINATION		D
	PRELIMINARY JURISDICTIONAL DETERMINATION		E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://usace.army.mil/inet/functions/cw/cecwo/reg or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

Timothy T. Carey
Chief, Denver Regulatory Office
9307 South Wadsworth Boulevard
Littleton, CO 80128
(303) 979-4120

If you only have questions regarding the appeal process you may also contact:

US Army Corps of Engineers
Northwestern Division
Attn: Mores Bergman, Appeal Officer
12565 West Center Road
Omaha, Nebraska 68144-3869
Telephone (402) 697-2533

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

ERO Resources Corp.

July 25, 2014

To: John Prestwich

From: Mary L. Powell

Re: Wise Farm Isolated Wetland

At your request, ERO Resources Corporation (ERO) delineated the wetland boundary of the isolated, depressional wetland in the northern part of the Wise Farm parcel (Figures 1 and 2). The wetland was previously assessed by Western Ecological Resource, Inc. for its jurisdictional status under Section 404 of the Clean Water Act. Based on the assessment, the U.S. Army Corps of Engineers determined that the depressional wetland is isolated and not a jurisdictional water of the U.S. The jurisdictional determination is valid from December 14, 2012 to December 13, 2017. ERO also evaluated whether wetlands are present in shrub thicket down-gradient of the Lower Boulder Ditch.

Wetland Delineation

On July 7, 2014, Mary L. Powell, a senior natural resource specialist with ERO surveyed the project area for wetlands. Using methods outlined in the 1987 *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region V. 2)* (U.S. Army Corps of Engineers (Corps) 2010), wetlands were determined based on the presence of three wetland indicators: hydrophytic vegetation, hydric soils, and wetland hydrology. Hydric soils were identified using field observation for hydric soil indicators accepted by the Corps. A Munsell soil color chart was used to determine soil color. The wetland indicator status and taxonomy of plant species was identified using the *North American Digital Flora: National Wetland Plant List* (Natural Resources Conservation Service 2012).

Wetland boundaries were determined by a dominance of wetland indicator species, topographic changes, and other visible distinctions between wetlands and uplands. The boundaries of wetlands were mapped using a Trimble GEOXT Global Positioning System (GPS) unit or were drawn onto aerial photography when appropriate. Data were differentially corrected using the CompassCom base station. All differential corrections were completed using Trimble Pathfinder Office 4.20 software. All GPS information was recorded as NAD 1983 UTM coordinates. GPS data were incorporated onto aerial photography using ARC Geographic Information System software at a scale of 1 inch equals 400 feet. Wetland boundaries are shown on Figure 2.

Results

The shrub thicket down-gradient from the Lower Boulder Ditch is dominated by sandbar willow (*Salix exigua*) at its west end and chokecherry (*Prunus virginiana*) at its east end. Although sandbar willow is a facultative-wet (FACW) species that is most often found in wetlands, the understory in the willow area is dominated by crested wheatgrass

Denver
1842 Clarkson St.
Denver, CO 80218
303.830.1188

Boise
3314 Grace St.
Boise, ID 83703
208.373.7983

Durango
1015 ½ Main Avenue
Durango, CO 81301
970.422.2136

Western Slope
P.O. Box 932
161 South 2nd St.
Hotchkiss, CO 81419
970.872.3020

www.eroresources.com

(*Agropyron christatum*) and smooth brome (*Bromus inermis*), both upland species. Chokecherry is a facultative-upland (FACU) plant that is found most often in uplands. Based on the vegetation, the shrub thicket does not meet criteria for being considered a wetland.

The vegetation in the center and lowest part of the depressional wetland is dominated by cattail (*Typha latifolia*) an obligate wetland species (OBL). As the ground surface elevation increases slightly, different species dominate at different elevations. This situation is common with seasonal or vernal wetlands that change size over the course of a growing season, or over years, as the elevations of saturated soils and ground water fluctuate. The next ring of vegetation is dominated by Pennsylvania smartweed (*Polygonum pensylvanicum*), an annual facultative wetland species (FACW). The next ring of vegetation is dominated by lambsquarter (*Chenopodium album*), an annual facultative upland species (FACU). The highest ring of wetland vegetation is reed canarygrass (*Phalaris arundinacea*), a deep-rooted perennial facultative wetland species (FACW). Above the reed canarygrass, smooth brome and some Canada thistle (*Cirsium arvense*) become the dominant upland species.

Although lambsquarter, which is most often present in uplands is lower than the reed canarygrass, a species most often found in wetlands, lambsquarter is an annual that establishes quickly during drier years and is absent during wetter years. The root system of reed canarygrass allows it to persist over a number of dry years. At the time of the delineation, wetland hydrology was only present in the smartweed community.

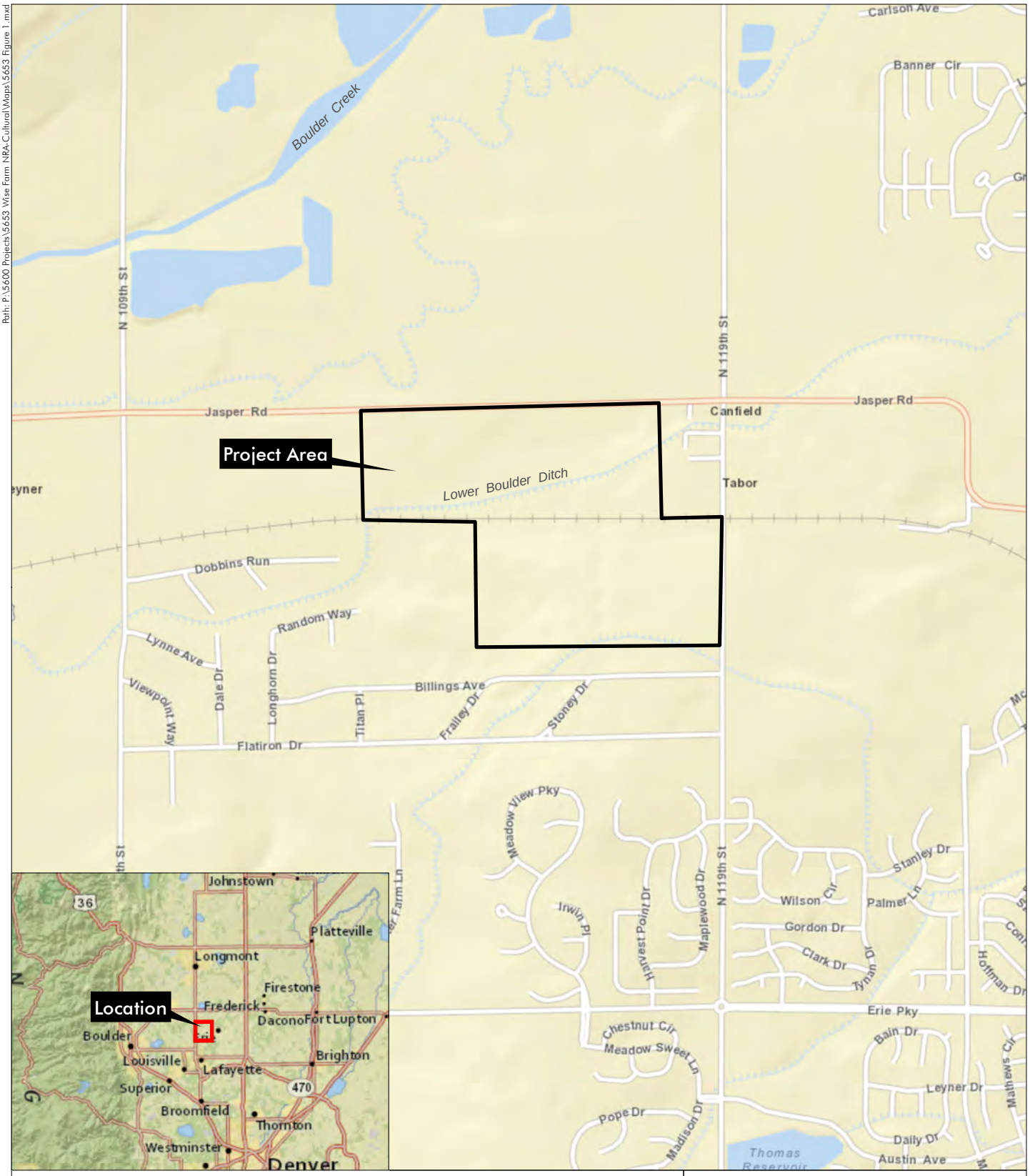
The wetland boundary delineated by ERO is generally a conservative boundary that includes the lambsquarter and some of the reed canarygrass. This conservative boundary was determined based on the variability of the site's hydrology and was based on the likely wetland boundary during a wetter growing season.

Because of the seasonal variation of the wetland hydrology, wetland species change over time as well. The change in plant communities prevents a well-established, non-weedy, native wetland from developing, but the seasonal wetland does provide habitat for a variety of species throughout the year. This wetland type is found throughout the Boulder Creek valley and in other areas with a high water table or an impervious subsurface that holds water at the surface.

Effect of Development

The grading of the rear of the lots adjacent to the wetland has been designed to direct water to the wetland to provide an additional water source. Areas disturbed by grading will be revegetated with native wetland species. With the additional water source, the wetland will likely have reduced fluctuations in hydrology, which will allow higher quality native wetland species to establish and create a higher-quality wetland overall.

Path: P:\5600 Projects\5653 Wise Farm NRA-Cultural\Maps\5653 Figure 1.mxd



Wise Farm Natural and Cultural Resources Assessment

Section 14, T1N, R69W; 6th PM

UTM NAD 83: Zone 13N; 493084mE, 4433465mN

Latitude, Longitude: 40.0513965°N, 105.081087°W

USGS Erie, CO Quadrangle

Boulder County, Colorado

0 750 1,500 Feet

N

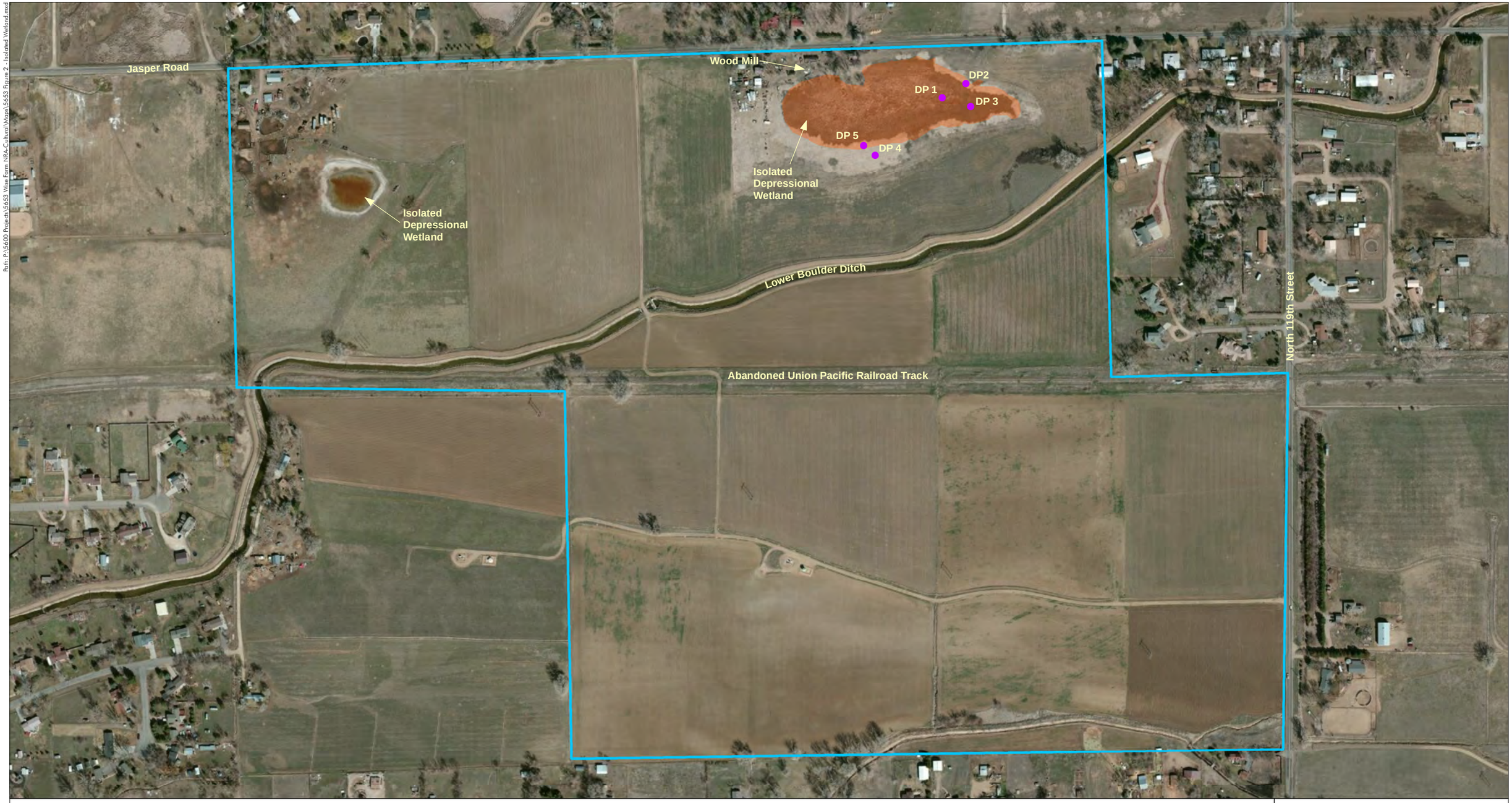
Figure 1
Vicinity Map

Prepared for: PCS Group, Inc.
File: 5653 Figure 1.mxd (GS)
February 5, 2014

ERO Resources Corp.

Portions of this document include intellectual property of ESRI and its licensors and are used herein under license. Copyright © 2013 ESRI and its licensors. All rights reserved.

Path: P:\5600 Projects\5653 Wise Farm NRA-Cultural\Maps\5653 Figure 2 - Isolated Wetland.mxd



Wise Farm Natural and Cultural Resources Assessment

- Data Point
- Isolated Wetland
- Project Area Boundary

Image Source: Microsoft©, March 2012

0 125 250 Feet

N

Figure 2

Prepared for: PCS Group, Inc.
File: 5653 Figure 2 - Isolated Wetland.mxd (GS)
July 21, 2014

ERO Resources Corp.

Portions of this document include intellectual property of ESRI and its licensors and are used herein under license. Copyright © 2013 ESRI and its licensors. All rights reserved.

ERO Resources Corp.

July 25, 2014

To: John Prestwich

From: Mary L. Powell

Re: Wise Farm Isolated Wetland

At your request, ERO Resources Corporation (ERO) delineated the wetland boundary of the isolated, depressional wetland in the northern part of the Wise Farm parcel (Figures 1 and 2). The wetland was previously assessed by Western Ecological Resource, Inc. for its jurisdictional status under Section 404 of the Clean Water Act. Based on the assessment, the U.S. Army Corps of Engineers determined that the depressional wetland is isolated and not a jurisdictional water of the U.S. The jurisdictional determination is valid from December 14, 2012 to December 13, 2017. ERO also evaluated whether wetlands are present in shrub thicket down-gradient of the Lower Boulder Ditch.

Wetland Delineation

On July 7, 2014, Mary L. Powell, a senior natural resource specialist with ERO surveyed the project area for wetlands. Using methods outlined in the 1987 *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region V. 2)* (U.S. Army Corps of Engineers (Corps) 2010), wetlands were determined based on the presence of three wetland indicators: hydrophytic vegetation, hydric soils, and wetland hydrology. Hydric soils were identified using field observation for hydric soil indicators accepted by the Corps. A Munsell soil color chart was used to determine soil color. The wetland indicator status and taxonomy of plant species was identified using the *North American Digital Flora: National Wetland Plant List* (Natural Resources Conservation Service 2012).

Wetland boundaries were determined by a dominance of wetland indicator species, topographic changes, and other visible distinctions between wetlands and uplands. The boundaries of wetlands were mapped using a Trimble GEOXT Global Positioning System (GPS) unit or were drawn onto aerial photography when appropriate. Data were differentially corrected using the CompassCom base station. All differential corrections were completed using Trimble Pathfinder Office 4.20 software. All GPS information was recorded as NAD 1983 UTM coordinates. GPS data were incorporated onto aerial photography using ARC Geographic Information System software at a scale of 1 inch equals 400 feet. Wetland boundaries are shown on Figure 2.

Results

The shrub thicket down-gradient from the Lower Boulder Ditch is dominated by sandbar willow (*Salix exigua*) at its west end and chokecherry (*Prunus virginiana*) at its east end. Although sandbar willow is a facultative-wet (FACW) species that is most often found in wetlands, the understory in the willow area is dominated by crested wheatgrass

Denver
1842 Clarkson St.
Denver, CO 80218
303.830.1188

Boise
3314 Grace St.
Boise, ID 83703
208.373.7983

Durango
1015 ½ Main Avenue
Durango, CO 81301
970.422.2136

Western Slope
P.O. Box 932
161 South 2nd St.
Hotchkiss, CO 81419
970.872.3020

www.eroresources.com

(*Agropyron christatum*) and smooth brome (*Bromus inermis*), both upland species. Chokecherry is a facultative-upland (FACU) plant that is found most often in uplands. Based on the vegetation, the shrub thicket does not meet criteria for being considered a wetland.

The vegetation in the center and lowest part of the depressional wetland is dominated by cattail (*Typha latifolia*) an obligate wetland species (OBL). As the ground surface elevation increases slightly, different species dominate at different elevations. This situation is common with seasonal or vernal wetlands that change size over the course of a growing season, or over years, as the elevations of saturated soils and ground water fluctuate. The next ring of vegetation is dominated by Pennsylvania smartweed (*Polygonum pensylvanicum*), an annual facultative wetland species (FACW). The next ring of vegetation is dominated by lambsquarter (*Chenopodium album*), an annual facultative upland species (FACU). The highest ring of wetland vegetation is reed canarygrass (*Phalaris arundinacea*), a deep-rooted perennial facultative wetland species (FACW). Above the reed canarygrass, smooth brome and some Canada thistle (*Cirsium arvense*) become the dominant upland species.

Although lambsquarter, which is most often present in uplands is lower than the reed canarygrass, a species most often found in wetlands, lambsquarter is an annual that establishes quickly during drier years and is absent during wetter years. The root system of reed canarygrass allows it to persist over a number of dry years. At the time of the delineation, wetland hydrology was only present in the smartweed community.

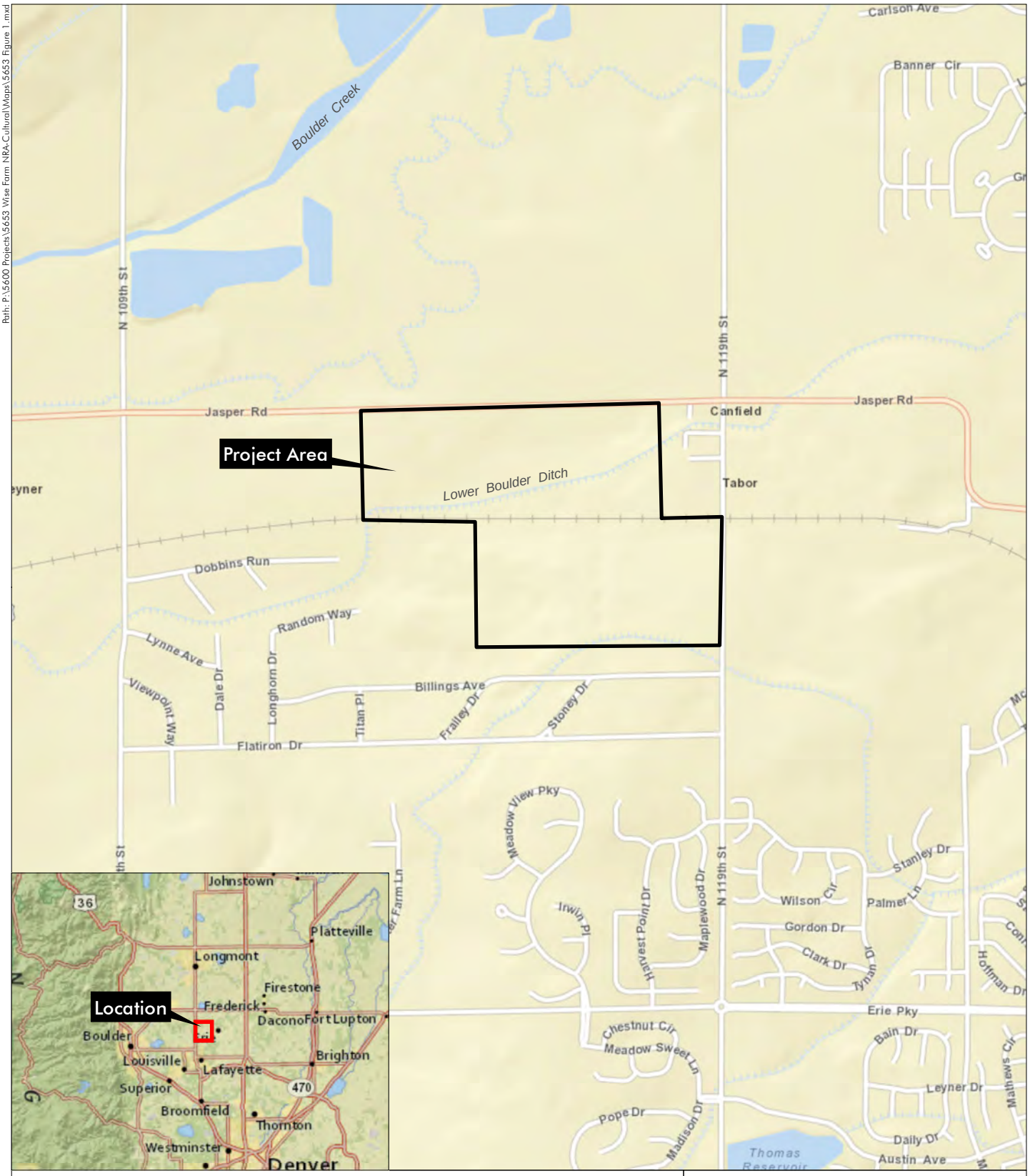
The wetland boundary delineated by ERO is generally a conservative boundary that includes the lambsquarter and some of the reed canarygrass. This conservative boundary was determined based on the variability of the site's hydrology and was based on the likely wetland boundary during a wetter growing season.

Because of the seasonal variation of the wetland hydrology, wetland species change over time as well. The change in plant communities prevents a well-established, non-weedy, native wetland from developing, but the seasonal wetland does provide habitat for a variety of species throughout the year. This wetland type is found throughout the Boulder Creek valley and in other areas with a high water table or an impervious subsurface that holds water at the surface.

Effect of Development

The grading of the rear of the lots adjacent to the wetland has been designed to direct water to the wetland to provide an additional water source. Areas disturbed by grading will be revegetated with native wetland species. With the additional water source, the wetland will likely have reduced fluctuations in hydrology, which will allow higher quality native wetland species to establish and create a higher-quality wetland overall.

Path: P:\5600 Projects\5653 Wise Farm NRA-Cultural\Maps\5653 Figure 1.mxd



Wise Farm Natural and Cultural Resources Assessment

Section 14, T1N, R69W; 6th PM

UTM NAD 83: Zone 13N; 493084mE, 4433465mN

Latitude, Longitude: 40.0513965°N, 105.081087°W

USGS Erie, CO Quadrangle

Boulder County, Colorado

0 750 1,500 Feet

N

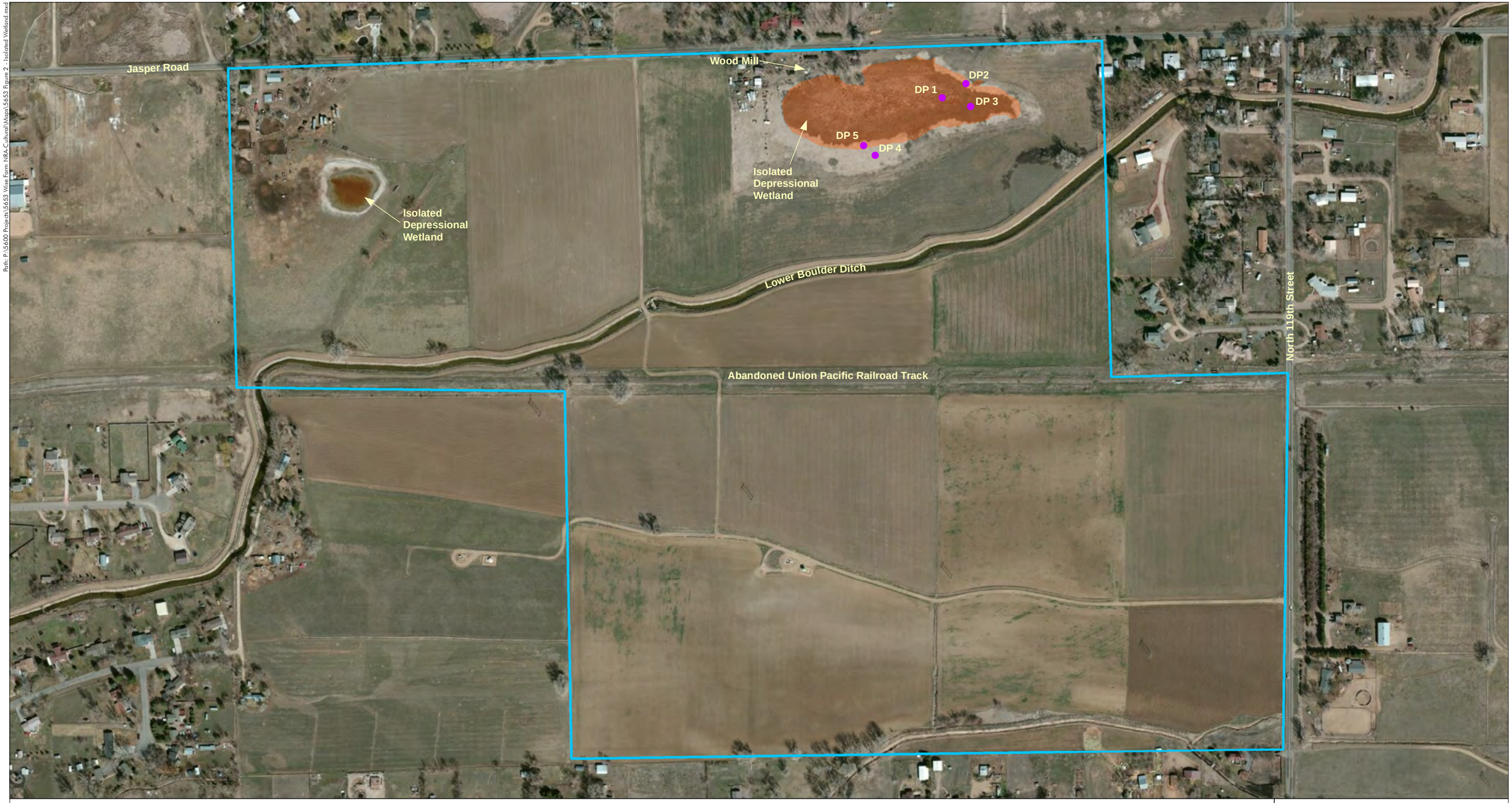
Figure 1
Vicinity Map

Prepared for: PCS Group, Inc.
File: 5653 Figure 1.mxd (GS)
February 5, 2014

ERO Resources Corp.

Portions of this document include intellectual property of ESRI and its licensors and are used herein under license. Copyright © 2013 ESRI and its licensors. All rights reserved.

Path: P:\5600 Projects\5653 Wise Farm NRA-Cultural\Maps\5653 Figure 2 - Isolated Wetland.mxd



Wise Farm Natural and Cultural Resources Assessment

- Data Point
- Isolated Wetland
- Project Area Boundary

Image Source: Microsoft©, March 2012

0 125 250 Feet

N

Figure 2

Prepared for: PCS Group, Inc.
File: 5653 Figure 2 - Isolated Wetland.mxd (GS)
July 21, 2014

ERO Resources Corp.

Portions of this document include intellectual property of ESRI and its licensors and are used herein under license. Copyright © 2013 ESRI and its licensors. All rights reserved.

7377 Osage Road
Larkspur, Colorado 80118
303-681-2492 Phone/FAX

Forestree Development, LLC

August 11, 2013

Mr. John Prestwich VIA EMAIL
PCS Group, Inc.
#3- 8- 180 Independence Plaza, 1001 16th Street
Denver, Colorado 80265

RE: Wise Farm Tree Inventory

Dear Mr. Prestwich:

The tree inventory for Wise Farm is attached for your review. I've also attached a brief bio with my general arboricultural background.

A summary page is included with the inventory, along with notes referencing my recommended values for "species", "location" and "condition" factors used to adjust the total caliper inches. Two references were used to calculate the values. These were:

1. Guide for Plant Appraisal, 9th Edition (ISA); and
2. Species Ratings & Appraisal Factors Guide, 2011 (ISA-RMC)

Please keep me posted as planning progresses and more details become available. If trees are to be retained on the site, these should be inspected more closely for their suitability in the built environment. I look forward to working with your development team as Wise Farm proceeds through the planning and development process.

Please let me know if you need additional information or clarification. The best way to contact me during the day is via my cell phone at 720-530-6527.

Respectfully,

Keith Worley
ISA Certified Arborist (RM-2213A),
Forester, and Land Development Consultant

Attachments: Wise Farm Inventory and Bio for Keith Worley

Project: Wise Farm Area: South property line along irrigation ditch Tree Numbers 1-30
Date: 3/27/2013
By: Keith Worley, Forester

TREE #	SPECIES	DBH	HGT	AGE	SPEC %	LOC. %	COND.%	MITIGATION INCHES	$ VALUE	COMMENTS
S-001	RO	4.0	25		0.6	0.5	0.1	0.4	$ 34	stump sprouts w/horizontal form. Dead central trunk
2	RO	18.0	40		0.6	0.5	0.1	1.8	$ 317	Sever fire damage, prolific suckering
3	RO	8.0	30		0.6	0.5	0.1	0.8	$ 78	Sever fire damage, prolific suckering
004A	RO	4.0	18		0.6	0.5	0.1	0.4	$ 34	Sever fire damage, prolific suckering
004B	RO	8.0	20		0.6	0.5	0.1	0.8	$ 78	Sever fire damage, prolific suckering
5	RO	10.0	35		0.6	0.5	0.1	1.0	$ 111	Sever fire damage, prolific suckering
6	RO	9.0	35		0.6	0.5	0.3	2.7	$ 281	Sever fire damage, prolific suckering
007A	RO	14.0	50		0.6	0.5	0.4	5.6	$ 797	stump sprouts , three trunks from old root stock
007B	RO	10.0	50		0.6	0.5	0.4	4.0	$ 444	stump sprouts, three trunks from old root stock
007C	RO	9.0	45		0.6	0.5	0.4	3.6	$ 374	stump sprouts, three trunks from old root stock
008A	RO	6.0	20		0.6	0.5	0.3	1.8	$ 157	2 codominant trunks from same base
008B	RO	10	35		0.6	0.5	0.3	3.0	$ 333	2 codominant trunks from same base
009A	RO	6	25		0.6	0.5	0.3	1.8	$ 157	4 stems from central root system
009B	RO	6	20		0.6	0.5	0.3	1.8	$ 157	4 stems from central root system
009C	RO	8	30		0.6	0.5	0.3	2.4	$ 234	4 stems from central root system
009D	RO	5	18		0.6	0.5	0.3	1.5	$ 126	4 stems from central root system
10	CW	12	25		0.7	0.5	0.1	1.2	$ 172	severe decay, fire scars
011A	CW	26	55		0.7	0.5	0.4	10.4	$ 2,970	fire scars, multiple stems from base, included bark
011B	CW	18	50		0.7	0.5	0.2	3.6	$ 730	fire scars, multiple stems from base, included bark
011C	CW	18	45		0.7	0.5	0.2	3.6	$ 730	fire scars, multiple stems from base, included bark
011D	CW	10	25		0.7	0.5	0.1	1.0	$ 125	fire scars, multiple stems from base, included bark
012A	CW	29	55		0.7	0.5	0.6	17.4	$ 5,516	multiple trunks from same base
012B	CW	11	35		0.7	0.5	0.2	2.2	$ 295	multiple trunks from same base
012C	CW	12	35		0.7	0.5	0.2	2.4	$ 344	multiple trunks from same base
012D	CW	6	16		0.7	0.5	0.1	0.6	$ 56	multiple trunks from same base
013A	CW	13	35		0.7	0.5	0.1	1.3	$ 199	5 stems from same base, included bark
013B	CW	10	40		0.7	0.5	0.1	1.0	$ 125	5 stems from same base, included bark
013C	CW	16	45		0.7	0.5	0.2	3.2	$ 584	5 stems from same base, included bark
013D	CW	11	25		0.7	0.5	0.1	1.1	$ 147	5 stems from same base, included bark
013E	CW	12	35		0.7	0.5	0.1	1.2	$ 172	5 stems from same base, included bark
14	CW	9	40		0.7	0.5	0.4	3.6	$ 418	paritally overtopped, at headgate, limited root system
15	CW	10	40		0.7	0.5	0.1	1.0	$ 125	severe decay at base
16	CW	13	40		0.7	0.5	0.2	2.6	$ 398	severe lean to north
017A	CW	22	50		0.7	0.5	0.2	4.4	$ 1,073	old suckers from shared base, decay evident
017B	CW	9	40		0.7	0.5	0.1	0.9	$ 105	old suckers from shared base, decay evident
017C	CW	15	30		0.7	0.5	0.1	1.5	$ 259	old suckers from shared base, decay evident
017D	CW	12	40		0.7	0.5	0.1	1.2	$ 172	old suckers from shared base, decay evident
017E	CW	12	40		0.7	0.5	0.1	0.8	$ 172	old suckers from shared base, decay evident
017F	CW	8	30		0.7	0.5	0.1	0.8	$ 86	old suckers from shared base, decay evident
017G	CW	24	50		0.7	0.5	0.2	4.8	$ 1,271	old suckers from shared base, decay evident
017H	CW	12	40		0.7	0.5	0.1	1.2	$ 172	old suckers from shared base, decay evident
018A	CW	19	45		0.7	0.5	0.1	1.9	$ 405	all from central base, severe decay
018B	CW	16	50		0.7	0.5	0.1	1.6	$ 292	all from central base, severe decay
018C	CW	17	50		0.7	0.5	0.1	1.7	$ 328	all from central base, severe decay
018D	CW	15	50		0.7	0.5	0.1	1.5	$ 259	all from central base, severe decay
018E	CW	14	45		0.7	0.5	0.1	1.4	$ 228	all from central base, severe decay
19	CW	14	45		0.7	0.5	0.4	5.6	$ 912	minimal decay, lean to north
020A	CW	26	60		0.7	0.5	0.4	10.4	$ 2,970	minimal decay, lean to north
020B	CW	9	25		0.7	0.5	0.1	0.9	$ 105	decay and included bark at base
020C	CW	16	45		0.7	0.5	0.1	1.6	$ 292	decay and included bark at base
21	CW	14	45		0.7	0.5	0.4	5.6	$ 912	partially overtopped with lean to west
022A	CW	6	20		0.7	0.5	0.1	0.6	$ 56	severe dieback and decay
022B	CW	8	25		0.7	0.5	0.1	0.8	$ 86	severe dieback and decay
022C	CW	12	40		0.7	0.5	0.1	1.2	$ 172	severe dieback and decay
022D	CW	10	30		0.7	0.5	0.1	1.0	$ 125	severe dieback and decay
023A	CW	14	55		0.7	0.5	0.4	5.6	$ 912	included bark at 3', lean to north
032B	CW	18	55		0.7	0.5	0.2	3.6	$ 730	included bark at 3', lean to north
024A	CW	8	25		0.7	0.5	0.1	0.8	$ 86	severe decay and fire scars
024B	CW	13	40		0.7	0.5	0.1	1.3	$ 199	severe decay and fire scars
024C	CW	10	45		0.7	0.5	0.1	1.0	$ 125	severe decay and fire scars
025A	CW	12	35		0.7	0.5	0.1	1.2	$ 172	severe decay and fire scars
025B	CW	12	35		0.7	0.5	0.1	1.2	$ 172	severe decay and fire scars
025C	CW	14	40		0.7	0.5	0.1	1.4	$ 228	severe decay and fire scars
025D	CW	12	40		0.7	0.5	0.1	1.2	$ 172	severe decay and fire scars
025E	CW	12	35		0.7	0.5	0.1	1.2	$ 172	severe decay and fire scars
025F	CW	12	35		0.7	0.5	0.1	1.2	$ 172	severe decay and fire scars
Total Inches		818.0							$ -	
SUBTOTAL FOR MITIGATION INCHES								**161.9**	**$ 30,410**	

TREE #	SPECIES	DBH	HGT	AGE	SPEC %	LOC. %	COND.%	MITIGATION INCHES	$ VALUE	COMMENTS
026A	SE	10.0	45		0.6	0.5	0.1	1.0	$ 111	severe decay, old stump sprouts
026B	SE	10.0	45		0.6	0.5	0.1	1.0	$ 111	severe decay, old stump sprouts
026C	SE	8.0	45		0.6	0.5	0.1	0.8	$ 78	severe decay, old stump sprouts
026D	SE	8.0	25		0.6	0.5	0.1	0.8	$ 78	severe decay, old stump sprouts
027A	RO	5.0	16		0.6	0.5	0.1	0.5	$ 42	radical pruning, decay present
027B	RO	9.0	40		0.6	0.5	0.1	0.9	$ 94	radical pruning, decay present
028A	CW	29.0	65		0.7	0.5	0.3	8.7	$ 2,758	included bark at 3', embedded fence, heavy lean to N.
028B	CW	20.0	60		0.7	0.5	0.1	2.0	$ 447	heavy powerline pruning, topped at 20'
029A	CW	28.0	70		0.7	0.5	0.4	11.2	$ 3,433	shared base, included bark
029B	CW	20.0	60		0.7	0.5	0.3	6.0	$ 1,340	shared base, included bark
029C	CW	20.0	60		0.7	0.5	0.3	6.0	$ 1,340	shared base, included bark
029D	CW	16	35		0.7	0.5	0.2	3.2	$ 584	shared base, included bark
029E	CW	18	35		0.7	0.5	0.2	3.6	$ 730	shared base, included bark
029F	CW	23	65		0.7	0.5	0.4	9.2	$ 2,340	shared base, included bark
029G	CW	26	65		0.7	0.5	0.4	10.4	$ 2,970	shared base, included bark
029H	CW	9	18		0.7	0.5	0.1	0.9	$ 105	shared base, included bark
30	SE	40	70		0.6	0.5	0.1	4.0	$ 1,489	severe decay, included bark, split central leader
Total Inches		299.0								
SUBTOTAL FOR MITIGATION INCHES								**70.2**	**$ 18,049**	

Wise Farm, Northern section, south of Jasper Road Tree Numbers 31-84

TREE #	SPECIES	DBH	HGT	AGE	SPEC %	LOC. %	COND.%	MITIGATION INCHES	$ VALUE	COMMENTS
31	CW	43.8	75		0.7	0.5	0.4	17.5	$ 8,298	severe decay in upper trunk, conks, storm damage
32	CW	56.3	75		0.7	0.5	0.3	16.9	$ 10,248	hollow base, heavy lean to NW, severe decay
033A	CW	54.3	75		0.7	0.5	0.3	16.3	$ 9,536	old storm damage, decay in base and upper branches
033B	CW	18.2	40		0.7	0.5	0.1	1.8	$ 373	old storm damage, decay in base and upper branches
34	CW	41.7	65		0.7	0.5	0.1	4.2	$ 1,882	old storm damage, decay in base and upper branches
35	CW	52.4	70		0.7	0.5	0.3	15.7	$ 8,884	old storm damage, decay in base and upper branches
36	CW	34.8	60		0.7	0.5	0.1	3.5	$ 1,316	old storm damage, decay in base and upper branches
037A	WIL	12.0	22		0.6	0.5	0.1	1.2	$ 151	Pollarded by drought stress, poor condition
037B	WIL	10.0	22		0.6	0.5	0.1	1.0	$ 111	Pollarded by drought stress, poor condition
037C	WIL	7.0	16		0.6	0.5	0.1	0.7	$ 64	Pollarded by drought stress, poor condition
037D	WIL	9.0	18		0.6	0.5	0.1	0.9	$ 94	Pollarded by drought stress, poor condition
037E	WIL	16.0	25		0.6	0.5	0.1	1.6	$ 254	Pollarded by drought stress, poor condition
037F	WIL	12	12		0.6	0.5	0.1	1.2	$ 151	Pollarded by drought stress, poor condition
038A	CW	18	18		0.7	0.5	0.1	1.8	$ 365	Hazard tree, severe decay
038B	CW	28	30		0.7	0.5	0.1	2.8	$ 858	Hazard tree, severe decay
038C	CW	22	55		0.7	0.5	0.1	2.2	$ 537	Hazard tree, severe decay
038D	CW	12	35		0.7	0.5	0.1	1.2	$ 172	Hazard tree, severe decay
038E	CW	32	60		0.7	0.5	0.1	3.2	$ 1,116	Hazard tree, severe decay
038F	CW	26	55		0.7	0.5	0.1	2.6	$ 742	Hazard tree, severe decay
038G	CW	75.6	80		0.7	0.5	0.1	7.6	$ 6,145	Hazard tree, severe decay
039A	BE	7	30		0.65	0.5	0.1	0.7	$ 67	Mill site, embedded metal, poor condition
039B	BE	6	30		0.65	0.5	0.1	0.6	$ 54	Mill site, embedded metal, poor condition
040A	BE	8	20		0.65	0.5	0.2	1.6	$ 164	included bark at base, debris embedded
040B	BE	12	40		0.65	0.5	0.2	2.4	$ 324	included bark at base, debris embedded
040C	BE	11	45		0.65	0.5	0.2	2.2	$ 278	included bark at base, debris embedded
041A	CW	9	45		0.7	0.5	0.1	0.9	$ 105	severe decay, imbedded debris, s. of mill bldng.
041B	CW	10	45		0.7	0.5	0.1	1.0	$ 125	severe decay, imbedded debris, s. of mill bldng.
041C	CW	9	45		0.7	0.5	0.1	0.9	$ 105	severe decay, imbedded debris, s. of mill bldng.
041D	CW	10	45		0.7	0.5	0.1	1.0	$ 125	severe decay, imbedded debris, s. of mill bldng.
042A	CW	11	40		0.7	0.5	0.3	3.3	$ 442	Shared root mass, on knoll at headgate
042B	CW	9	40		0.7	0.5	0.2	1.8	$ 209	Shared root mass, on knoll at headgate
042C	CW	16	50		0.7	0.5	0.4	6.4	$ 1,169	Shared root mass, on knoll at headgate
042D	CW	8	35		0.7	0.5	0.1	0.8	$ 86	Shared root mass, on knoll at headgate
042E	CW	9	35		0.7	0.5	0.1	0.9	$ 105	Shared root mass, on knoll at headgate
042F	CW	18	55		0.7	0.5	0.4	7.2	$ 1,460	Shared root mass, on knoll at headgate
042G	CW	9	40		0.7	0.5	0.2	1.8	$ 209	Shared root mass, on knoll at headgate
042H	CW	16	40		0.7	0.5	0.3	4.8	$ 877	Shared root mass, on knoll at headgate
043A	SE	8	45		0.65	0.5	0.2	1.6	$ 164	included bark at base
043B	SE	8	45		0.65	0.5	0.3	2.4	$ 246	included bark at base
043C	SE	8	45		0.65	0.5	0.3	2.4	$ 246	included bark at base
044A	SE	11	45		0.65	0.5	0.1	1.1	$ 139	severe decay at base
044B	SE	10	45		0.65	0.5	0.1	1.0	$ 118	severe decay at base
045A	SE	6	35		0.65	0.5	0.2	1.2	$ 109	Drought dieback, included bark
045B	SE	8	35		0.65	0.5	0.2	1.6	$ 164	Drought dieback, included bark
046A	SE	9	45		0.65	0.5	0.2	1.8	$ 198	Drought dieback, included bark
046B	SE	10	45		0.65	0.5	0.2	2.0	$ 236	Drought dieback, included bark
47	CW	22	55		0.7	0.5	0.7	15.4	$ 3,756	good condition, at edge of ditch
048A	ASH	13	35		0.7	0.5	0.1	1.3	$ 199	drought dieback, severe decay
048B	ASH	7	0		0.7	0.5	0	0.0	$ -	drought dieback, severe decay
49	ASH	11	30		0.7	0.5	0.1	1.1	$ 147	drought dieback, severe decay
050A	ASH	6	30		0.7	0.5	0.1	0.6	$ 56	drought dieback, severe decay
050B	ASH	7	30		0.7	0.5	0.1	0.7	$ 70	drought dieback, severe decay
51	ASH	8	0		0.7	0.5	0	0.0	$ -	dead
052A	ASH	15	0		0.7	0.5	0	0.0	$ -	dead
052B	ASH	12	0		0.7	0.5	0	0.0	$ -	dead
53	ASH	12	25		0.7	0.5	0.1	1.2	$ 172	drought dieback, severe decay
054A	ASH	7	25		0.7	0.5	0.1	0.7	$ 70	drought dieback, severe decay
054B	ASH	6	18		0.7	0.5	0.1	0.6	$ 56	drought dieback, severe decay
054C	ASH	12	25		0.7	0.5	0.1	1.2	$ 172	drought dieback, severe decay
55	ASH	18	25		0.7	0.5	0.1	1.8	$ 365	drought dieback, severe decay
56	ASH	24	25		0.7	0.5	0.1	2.4	$ 635	severe decay, multiple stems, included bark, at mill
Total Inches		1017.1			0.7	0.5		0.0	$ -	
SUBTOTAL FOR MITIGATION INCHES								**184.3**	**$ 64,523**	

TREE #	SPECIES	DBH	HGT	AGE	SPEC %	LOC. %	COND.%	MITIGATION INCHES	$ VALUE	COMMENTS
57	ASH	16.0	25		0.8	0.5	0	0.0	$ -	90% dead
58	ASH	10.0	25		0.8	0.5	0	0.0	$ -	90% dead
59	CW	61.8	80		0.7	0.5	0.1	6.2	$ 4,112	HAZARDOUS TREE, severe decay
60	CW	39.3	70		0.7	0.5	0.3	11.8	$ 5,021	HAZARDOUS TREE, severe decay
61	CW	61.0	70		0.7	0.5	0	0.0	$ -	HAZARDOUS TREE, severe decay
62	CW	58.8	80		0.7	0.5	0	0.0	$ -	HAZARDOUS TREE, severe decay
63	CW	51.7	50		0.7	0.5	0	0.0	$ -	dead
64	CW	36.6	35		0.6	0.5	0	0.0	$ -	HAZARDOUS TREE, severe decay
65	CW	57.0	65		0.6	0.5	0	0.0	$ -	HAZARDOUS TREE, severe decay
66	CW	50.4	80		0.6	0.5	0.1	5.0	$ 2,353	HAZARDOUS TREE, severe decay
67	CW	51.9	70		0.6	0.5	0.1	5.2	$ 2,494	HAZARDOUS TREE, severe decay
68	CW	48.9	70		0.6	0.5	0.1	4.9	$ 2,216	HAZARDOUS TREE, severe decay
69	CW	42.4	55		0.6	0.5	0	0.0	$ -	HAZARDOUS TREE, severe decay
70	CW	52.1	25		0.7	0.5	0	0.0	$ -	HAZARDOUS TREE, severe decay
71	CW	58.7	80		0.7	0.5	0	0.0	$ -	HAZARDOUS TREE, severe decay
72	CW	46	80		0.7	0.5	0.1	4.6	$ 2,286	HAZARDOUS TREE, severe decay
73	CW	76.4	90		0.7	0.5	0	0.0	$ -	HAZARDOUS TREE, severe decay
074A	BE	6	12		0.65	0.5	0.1	0.6	$ 54	Fence row trees, embedded debris, multiple stems
074B	BE	8	35		0.65	0.5	0.1	0.8	$ 82	Fence row trees, embedded debris, multiple stems
074C	BE	12	40		0.65	0.5	0.1	1.2	$ 162	Fence row trees, embedded debris, multiple stems
074D	BE	10	40		0.65	0.5	0.1	1.0	$ 118	Fence row trees, embedded debris, multiple stems
074E	BE	8	30		0.65	0.5	0.1	0.8	$ 82	Fence row trees, embedded debris, multiple stems
75	BE	9	30		0.65	0.5	0.1	0.9	$ 99	Fence row trees, embedded debris, multiple stems
76	BE	6	20		0.65	0.5	0.3	1.8	$ 163	Fence row trees, embedded debris, multiple stems
77	BE	14	20		0.65	0.5	0.1	1.4	$ 214	90% dead
78	BE	10	20		0.65	0.5	0.1	1.0	$ 118	90% dead
79	CW	0	0		0.7	0.5	0	0.0	$ -	dead
80	CW	56.4	80		0.7	0.5	0	0.0	$ -	HAZARDOUS TREE, severe decay
081A	WIL	30	30		0.7	0.5	0	0.0	$ -	Cattle grazing pasture, compaction, root damage
081B	WIL	26	30		0.7	0.5	0	0.0	$ -	Cattle grazing pasture, compaction, root damage
82	RO	10	40		0.6	0.5	0.3	3.0	$ 333	Cattle grazing pasture, compaction, root damage
083A	WIL	11	40		0.7	0.5	0.1	1.1	$ 147	Cattle grazing pasture, compaction, root damage
083B	WIL	10	40		0.7	0.5	0.1	1.0	$ 125	Cattle grazing pasture, compaction, root damage
083C	WIL	10	40		0.7	0.5	0.1	1.0	$ 125	Cattle grazing pasture, compaction, root damage
083D	WIL	14	40		0.7	0.5	0.1	1.4	$ 228	Cattle grazing pasture, compaction, root damage
84	CW	17	40		0.7	0.5	0.1	1.7	$ 328	Cattle grazing pasture, compaction, root damage
Total Inches		1086.4			0.7	0.5		0.0	$ -	
SUBTOTAL FOR MITIGATION INCHES								**56.4**	**$ 20,861**	

Total Inches at 4.5 feet above ground level (DBH) 3220.5

Total Mitigation Inches, adjusted per appraisal value 472.7

Total $$$ value, adjusted per appraisal value $ 133,843

NOTES:

1. Tree Species
   - ASH = Ash
   - BE = Boxelder
   - CW = Cottonwood
   - RO = Russion Olive
   - SE = Siberian Elm
   - WIL = Willow

2. Tree mitigation inches and appraisal values per formulae from the "Guide for Plant Appraisal, 9th Edition, ISA.
3. Species factors per "Species Ratings and Appraisal Factors Guide", ISA Rocky Mountain Chapter.
4. Location factor based on farm locations in relationship to residential uses around the site.
5. Condition factors were generally low due to unmaintained conditions, significant presence of decay, irregular watering patterns over 100 years, and climatic impacts to trees.
6. Trees noted as hazardous should be considered for removal due to their location along a heavily traveled roadway.
7. Inventory is divided into two sections: 1) Southern boundary trees generally on the south half of the property; and 2) trees along Jasper Road and north half of the property.

Wise Farms - Air Photo

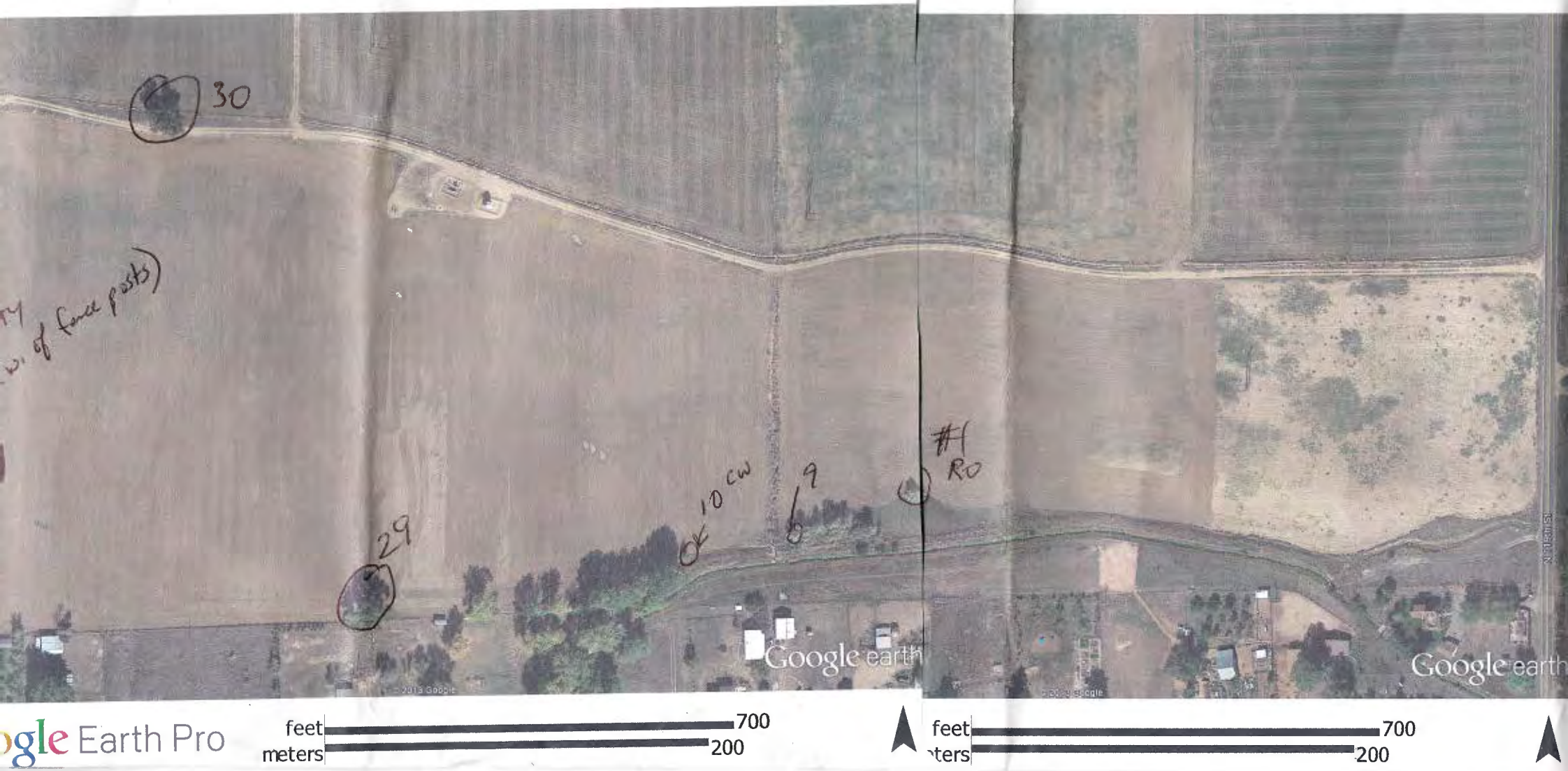
north

scale in feet
0 200 800
100 400

date: October 4, 2012

Prepared For: 177 Jasper Investments, LLC

Prepared By: PCS Group, Inc.

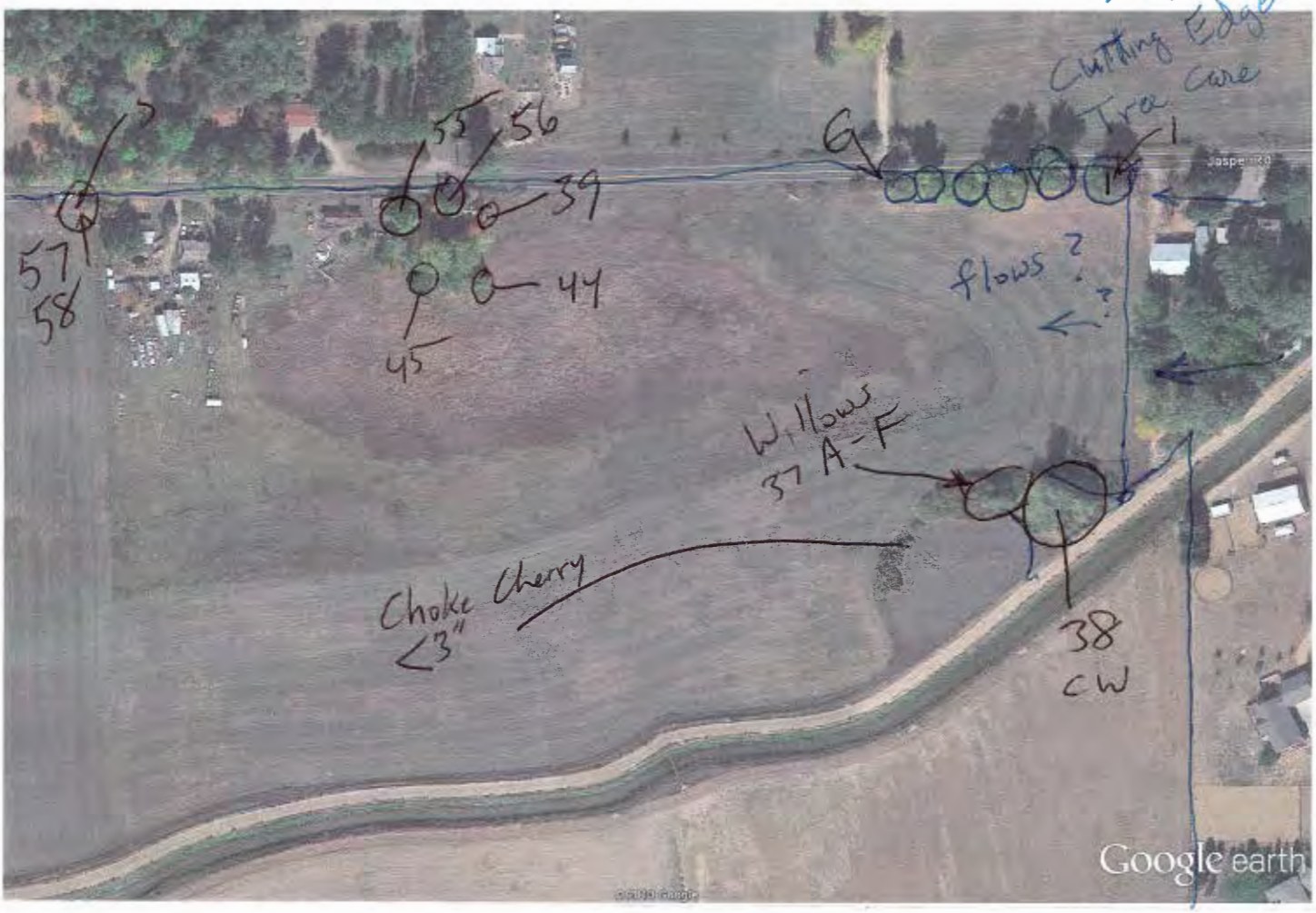


gle Earth Pro

feet 700
meters 200

feet 700
ters 200

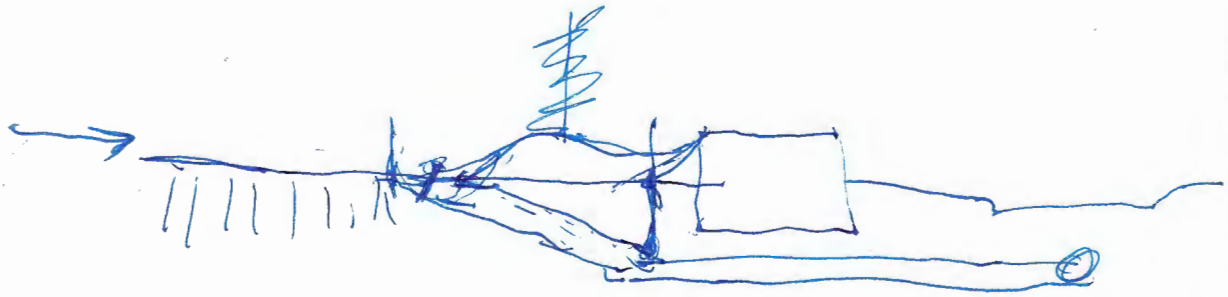
303-362-1002 cetreecare.com NE



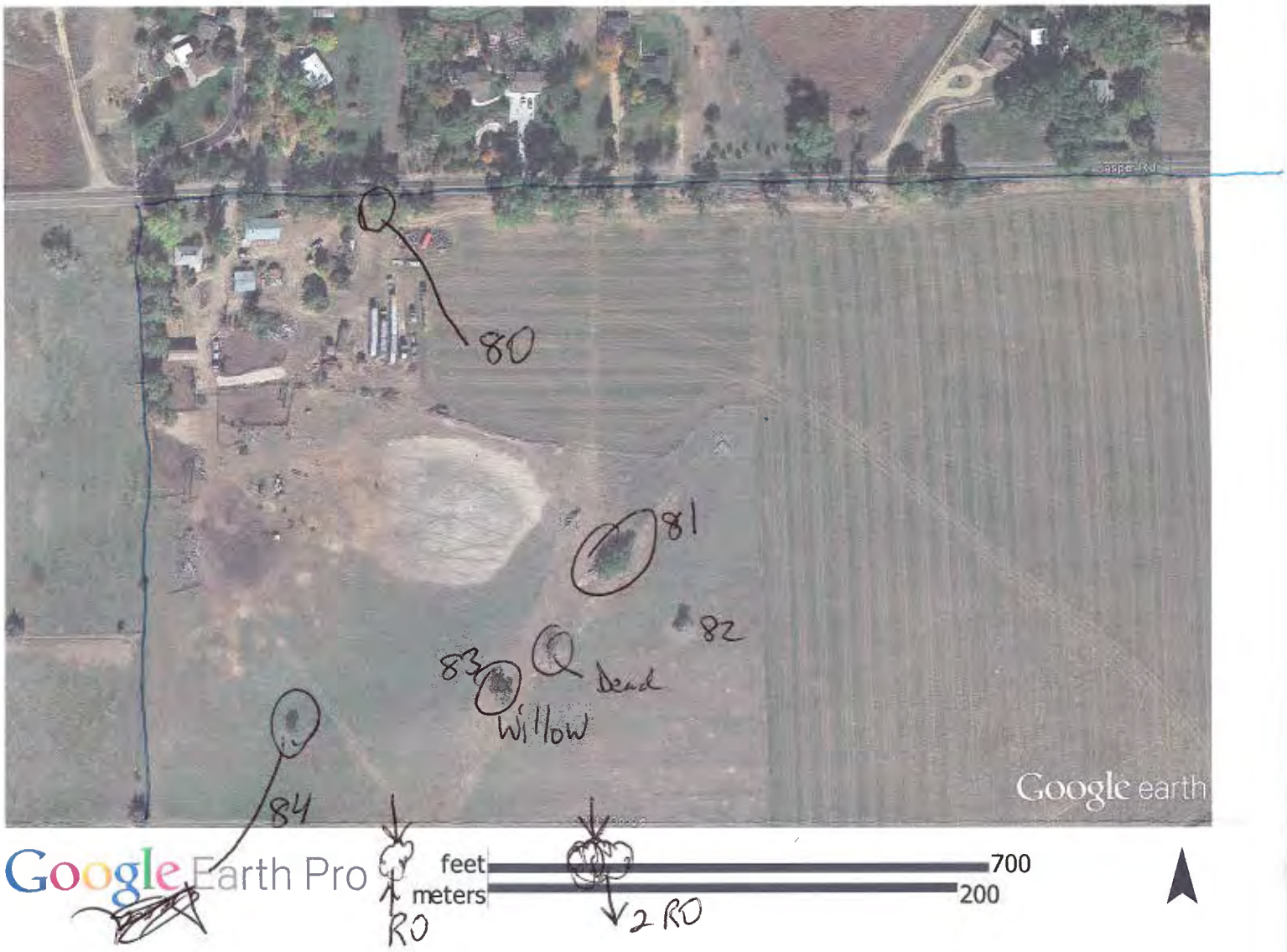
Google Earth Pro feet 700 meters 200

NE Corner

- Ditch History ?
- Borrow Ditches



NW



NW Corner

Note
Russian Olives
along S. Fence line

Keith Worley- Tree Bio- 8-11-2013

Keith Worley is an ISA Certified Arborist, Forester and Land Development Consultant based out of Larkspur, Colorado. He is the current president of the Pikes Peak Wildfire Prevention Partners, and recently completed a 1.5 year assignment as the NFPA Firewise Advisor for Colorado, Kansas, Texas, New Mexico, Wyoming, Nebraska and Utah. He was also the 2008 President of ISA-Rocky Mountain Chapter, and currently serves on its board of directors.

Keith has worked with homeowners, builders and developers over the past 30 years to protect trees and forests along the Front Range of Colorado. Part of his overlapping experience is the actual construction of subdivisions in forested and treed settings which has broadened his perspective on the practicalities (and expenses) of building with trees.

Tree inventories have been completed for development and re-development projects in Denver, Aurora, Parker, Arvada, Broomfield, Louisville, Berthoud, Jefferson, Arapahoe, El Paso, Douglas and Elbert Counties, and Longmont, Colorado.

Keith also established over 20 communities along the Front Range of Colorado in his role as development director in communities such as Castle Pines Village (1990-1993) and Plum Creek (1993-1998). He also served as the Director of Land Development for a metro home builder with communities in Windsor, Lakewood, Parker, Arapahoe County, Douglas County, Colorado Springs, and El Paso County. Keith has also served on the boards and architectural control committees of many of these communities.

Consultants in natural resources and the environment

Denver • Boise • Durango • Western Slope

NATURAL AND CULTURAL RESOURCES ASSESSMENT

WISE FARM

TOWN OF ERIE, BOULDER COUNTY, COLORADO

Prepared for—

PCS Group, Inc.
301 Kalamath St., #102
Denver, CO 80223

Prepared by—

ERO Resources Corporation
1842 Clarkson Street
Denver, Colorado 80218
(303) 830-1188
ERO Project # 1000-14

April 17, 2014

ERO Project #5653

ERO Resources Corp.
1842 Clarkson Street
Denver, CO 80218
(303) 830-1188
Fax: (303) 830-1199
www.eroresources.com
ero@eroresources.com

ERO Resources Corporation

CONTENTS

Summary i

Introduction 1

Site Description 1

Wetlands and Waters of the U.S. 2
- Background 2
- Site Conditions and Regulations 2

Threatened, Endangered, and Candidate Species 3
- Preble's Meadow Jumping Mouse 6
- Colorado Butterfly Plant 6
- Ute Ladies'-Tresses Orchid 7

Other Species of Concern 8
- Raptors and Migratory Birds 8
- Other Wildlife 9

Cultural Resources 10

References 11

TABLES

Table 1. Federally threatened, endangered, and candidate species potentially found in Boulder County or potentially affected by projects in Boulder County. 4

Summary

PCS Group, Inc. retained ERO Resources Corporation (ERO) to provide a natural and cultural resources assessment for the Wise Farm property (property) in the Town of Erie, Boulder County, Colorado. ERO assessed the property for potential wetlands and waters of the U.S., threatened and endangered species, and wildlife. ERO also assessed the property for the presence of properties listed on the National and Colorado registers of historic places. Below is a summary of the resources found at the property and recommendations or future actions necessary based on the current site conditions and federal, state, and local regulations.

Wetlands and Other Waters of the U.S. – The U.S. Army Corps of Engineers determined that the two depressional wetlands on the property are isolated, non-jurisdictional wetlands and not regulated under the Clean Water Act. The Lower Boulder Ditch and Leyner Cottonwood Number 1 Ditch were determined to be jurisdictional. The jurisdictional determination is valid for five years from December 14, 2012 and expires on December 13, 2017. If activities such as bridges or realignment are proposed for the ditch, authorization from the U.S. Army Corps of Engineers will be required.

Threatened and Endangered Species – Suitable habitat for federally listed threatened or endangered species is not present in the property. No action is necessary to comply with the Endangered Species Act.

Migratory Birds and Other Wildlife – ERO found no migratory bird nests in the property, but there are a number of large trees on the property that provide suitable nesting habitat. Tree removal should be done during the non-nesting season, which is generally from August 15 to April 1. If trees must be removed during nesting season, a survey for active nests should be done prior to removal. If an active nest is present, removal cannot occur until the nest is abandoned for the season. The cultivated fields on the property provide low quality wildlife habitat and no sensitive or uncommon wildlife species are present.

Cultural Resources – Although Wise Farm has been part of the Town of Erie's history since 1869 and the Erie Historical Society's Wise Farm Museum is across Jasper Road from the property, the property and structures on the property are not listed on the National or State registers of historic places. Although not listed on the registers, the Colorado State Historic Preservation Office considers linear features such as canals and railroads as potentially eligible, so the Lower Boulder Ditch, Leyner Cottonwood Ditch Number 1, and Union Pacific Railroad may be eligible for listing. These resources typically only need to be evaluated if there is a federal nexus, such as obtaining authorization from the U.S. Army Corps of Engineers for work on the Lower Boulder Ditch or Leyner Cottonwood Ditch Number 1.

NATURAL AND CULTURAL RESOURCES ASSESSMENT

WISE FARM
TOWN OF ERIE, BOULDER COUNTY, COLORADO

APRIL 17, 2014

Introduction

PCS Group, Inc. retained ERO Resources Corporation (ERO) to provide a natural resources assessment for the Wise Farm property, a proposed residential development in Boulder County, Colorado (Figure 1). On September 26, 2013, Mary L. Powell, a natural resource specialist with ERO, visited the property to review natural resources (2013 site visit). During this assessment, activities included reviewing potential wetlands, identifying potential federally threatened and endangered species habitat, and identifying other natural resources that might affect development of the property. Jurisdictional wetland delineations were not conducted during this assessment. This report provides information on existing site conditions and resources, as well as current regulatory guidelines related to those resources. ERO assumes that the landowner or developer is responsible for obtaining proper federal, state, or local permits for development of the property.

Site Description

The property is located within Section 14, Township 1 North, Range 69 West of the 6th Principal Meridian, in Boulder County, Colorado (Figure 1). The UTM coordinates of the approximate center of the property are Zone 13N; 493083mE, 4433466mN. The Wise Farm property is an approximately 180-acre property located southwest of the intersection of Jasper Road and North 119th Street in Erie, Colorado (Figure 2). The majority of the property is cultivated agricultural fields dominated by alfalfa (*Medicago* spp.) An inactive Union Pacific Railroad track runs east/west through the middle of the property. A few residences and sheds are located along the northern border of the property (Figure 2). The Lower Boulder Ditch crosses the north half of the property and the Leyner Cottonwood Number 1 Ditch runs just north of part of the southern property

boundary. The property is surrounded a by a mix of low-density residential land and agricultural land.

Wetlands and Waters of the U.S.

Background

The Clean Water Act (CWA) was passed by the U.S. Congress in 1972 to protect the physical, biological, and chemical quality of waters of the U.S. The U.S. Army Corps of Engineers (Corps) Regulatory Program administers and enforces Section 404 of the CWA. Under Section 404, a Corps permit is required for the discharge of dredged or fill material into wetlands and waters of the U.S. The Corps defines waters of the U.S. as all navigable waters and their tributaries, all interstate waters and their tributaries, all wetlands adjacent to these waters, and all impoundments of these waters. Because of court challenges to the Corps' jurisdiction over wetlands and waters of the U.S., the Corps' regulatory guidance is in a state of flux. Currently, the Corps' regulatory jurisdiction over isolated, nonnavigable, intrastate waters has been eliminated if the sole nexus to interstate commerce was use of the waters by migratory birds. The Corps now considers traditionally navigable waters (TNWs), wetlands adjacent to a TNW, and tributaries to TNWs that are relatively permanent waters (RPWs) and their abutting wetlands to be jurisdictional waters. Other wetlands and waters require a determination that the wetland or tributary would have an effect that is more than speculative or insubstantial on the chemical, physical, or biological integrity of a TNW to be jurisdictional. The U.S. Environmental Protection Agency and the Corps recently submitted a proposed rule to the Office of Management and Budget that is widely expected to extend CWA jurisdiction to many currently nonjurisdictional, isolated wetlands.

Site Conditions and Regulations

The property was previously assessed for potential isolated wetlands, jurisdictional wetlands, and other waters of the U.S. by Western Ecological Resource, Inc. The assessment identified two depressional wetlands in the north half of the property that have no apparent surface connection to other wetlands or waters. The assessment also identified the Lower Boulder Ditch and the Leyner Cottonwood Number 1 Ditch as

waters with adjacent fringe wetlands. Based on the assessment, the Corps determined that the depressional wetlands are isolated and not jurisdictional waters of the U.S., but also determined that the Lower Boulder Ditch and the Leyner Cottonwood Number 1 Ditch have a surface connection to jurisdictional waters of the U.S. and so are themselves jurisdictional waters of the U.S. The jurisdictional determination is valid from December 14, 2012 to December 13, 2017.

If any work is planned within the ditches that would require the placement of dredged or fill material within the ditches or their adjacent wetlands, authorization under Section 404 of the Clean Water Act would be required. Although the Corps has determined that the isolated depressional wetlands are nonjurisdictional, ERO recommends filling them as soon as practical to avoid the possibility that the EPA/Corps final rule changes their status and invalidates the jurisdictional determination.

If work such as stormwater outfalls or utilities extend off the property, affected areas should be assessed for the presence of waters of the U.S.

Threatened, Endangered, and Candidate Species

The property was assessed for potential habitat for threatened, endangered, and candidate species under the Endangered Species Act (ESA). Federally threatened and endangered species are protected under the ESA of 1973, as amended (16 U.S.C. 1531 et seq.). Significant adverse effects to a federally listed species or its habitat require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 or 10 of the ESA. The Service lists several threatened and endangered species with potential habitat in Boulder County, or potentially affected by projects in Boulder County (Table 1).

Table 1. Federally threatened, endangered, and candidate species potentially found in Boulder County or potentially affected by projects in Boulder County.

Common Name	Scientific Name	Status*	Habitat	Suitable Habitat Present or Potential to be Affected by Project?
Mammals				
Black footed ferret	*Mustela nigripes*	EXP	Prairie and grassland ranging from mid-west to western US	No
Canada lynx	*Lynx canadensis*	T	Coniferous or mixed forest in boreal/montane regions; sometimes enters open forest, rocky regions, or tundra	No
Preble's meadow jumping mouse	*Zapus hudsonius preblei*	T	Shrub riparian/wet meadows	No
Birds				
Interior least tern**	*Sterna antillarum athalassos*	E	Sandy/pebble beaches on lakes, reservoirs, and rivers	No
Mexican spotted owl	*Strix occidentalis*	T	Closed canopy forests in steep canyons	No
Piping plover**	*Charadrius melodus*	T	Sandy lakeshore beaches, river sandbars	No
Whooping crane**	*Grus americana*	E	Mudflats around reservoirs and in agricultural areas	No
Fish				
Greenback cutthroat trout	*Oncorhynchus clarki stomias*	T	Clear, swift-flowing mountain streams with cover such as overhanging banks and vegetation	No
Pallid sturgeon**	*Scaphirhynchus albus*	E	Large, turbid, free-flowing rivers with a strong current and gravel or sandy substrate	No
Plants				

Common Name	Scientific Name	Status*	Habitat	Suitable Habitat Present or Potential to be Affected by Project?
Colorado butterfly plant	*Gaura neomexicana* ssp. *coloradensis*	T	Subirrigated, alluvial soils on level floodplains and drainage bottoms between 5,000 to 6,000 feet	No
Ute ladies'-tresses orchid	*Spiranthes diluvialis*	T	Moist to wet alluvial meadows, floodplains of perennial streams, and around springs and lakes below 6,500 feet	No
Western prairie fringed orchid**	*Platanthera praeclara*	T	Moist to wet tallgrass prairies and sedge meadows, mostly in relatively undisturbed grasslands	No

*T = Federally Threatened Species, E = Federally Endangered Species, C= Federally Candidate Species.

**Water depletions in the South Platte River may affect the species and/or critical habitat in downstream reaches in other counties or states.

Source: Service 2010.

The proposed project would not directly affect the black-footed ferret, Canada lynx, Mexican spotted owl, or greenback cutthroat trout because of the lack of potentially suitable habitat in the property. The interior least tern, piping plover, whooping crane, and pallid sturgeon are species that are affected by water depletions from the South Platte River. If the project includes activities that deplete water in the South Platte River, such as diverting water from a stream, these species could be affected by the project and a consultation with the Service may be required.

Potential habitat for the Preble's meadow jumping mouse, Colorado butterfly plant, and Ute ladies'-tresses orchid is more prevalent within development sites across the Front Range, particularly in Boulder County. Because these species are more likely to be addressed by counties and regulatory agencies such as the Corps, a more detailed discussion is provided below.

Preble's Meadow Jumping Mouse

Species Background

Preble's meadow jumping mouse (Preble's) was listed as a threatened species on May 13, 1998 under the ESA (see Federal Register Vol. 63, No 232:66777-66784 12/3/98). Under existing regulations, either a habitat assessment or a full presence/absence survey for Preble's is required for any habitat-disturbing activity within areas determined to be potential Preble's habitat (generally stream and riparian habitats along the Colorado Front Range and southeastern Wyoming). Typically, Preble's occurs below 7,600 feet in elevation, generally in lowlands with medium to high moisture along permanent or intermittent streams and canals (Meaney et al. 1997). Preble's occurs in low undergrowth consisting of grasses and forbs, in open wet meadows, riparian corridors near forests, or where tall shrubs and low trees provide adequate cover (Service 1999; Meaney et al. 1997). Preble's typically inhabits areas characterized by well-developed plains riparian vegetation with relatively undisturbed grassland and a water source nearby.

Potential Habitat and Possible Effects

The property was assessed for potential Preble's habitat. The isolated wetlands and the ditches do not include vegetation communities typical of those associated with Preble's. The ditches are regularly maintained, so there are no shrubs or tall vegetation along them. The isolated wetlands are surrounded by weedy herbaceous vegetation. Additionally, there is no well-developed riparian habitat on or near the property. For these reasons, development of the property would have no effect on Preble's.

Recommendations

Because no potential habitat is present on the property, no action is necessary regarding Preble's.

Colorado Butterfly Plant

Species Background

The Colorado butterfly plant (CBP) is a short-lived perennial herb found in moist areas of floodplains. It occurs on subirrigated, alluvial soils on level or slightly sloping floodplains and drainage bottoms at elevations 5,000 to 6,400 feet. Colonies are often

found in low depressions or along bends in wide, active, meandering stream channels that are periodically disturbed. Historically, the main cause of disturbance was probably flooding (Service 2004). The CBP flowers from June to September and produces fruit from July to October (Spackman et al. 1997). This species is federally listed as threatened under the ESA and is found within a small area in southeastern Wyoming, western Nebraska, and north-central Colorado (NatureServe 2012).

Potential Habitat and Possible Effects

The Service has not established official survey guidelines for the CBP; however, no suitable habitat is present within the property because a natural drainage characterized by wetlands and an active floodplain is not present within the property.

Recommendations

Because the property does not contain suitable habitat, development of the property would have no effect on CBP and no action is necessary.

Ute Ladies'-Tresses Orchid

Species Background

The Ute ladies'-tresses orchid (ULTO) is federally listed as threatened. ULTO occurs at elevations below 6,500 feet in moist to wet alluvial meadows, floodplains of perennial streams, and around springs and lakes where the soil is seasonally saturated within 18 inches of the surface. Generally, the species occurs where the vegetative cover is relatively open and not overly dense or overgrazed. Once thought to be fairly common in low elevation riparian areas in the interior western United States, ULTO is now rare (Service 1992a).

In Colorado, the Service requires surveys in areas of suitable habitat on the 100-year floodplain of the South Platte River, Fountain Creek, and Yampa River and their perennial tributaries, or in any area with suitable habitat in Boulder and Jefferson counties. ULTO does not bloom until late July to early September (depending on the year) and timing of surveys must be synchronized with blooming (Service 1992a).

Potential Habitat and Possible Effects

ULTO is known to occur in Boulder County in the Boulder Creek floodplain north of the property. The known populations of ULTO are associated with ungrazed and undisturbed wetlands dominated by sedges and rushes. The depressional wetlands on the property do not include similar habitat. One wetland is heavily grazed by cattle and the other wetland is surrounded by species such as foxtail barley (*Hordeum jubatum*) and saltgrass (*Distichlis spicata*), neither of these conditions are suitable for ULTO. Additionally, the soils on the property are sandy loams and clay loam, not the alluvium with which ULTO is typically associated. Because the wetland vegetation and soils are not suitable for ULTO, development of the property would have no effect on ULTO.

Recommendations

Because the property does not contain suitable habitat, no action is necessary regarding ULTO.

Other Species of Concern

Raptors and Migratory Birds

Migratory birds, as well as their eggs and nests, are protected under the Migratory Bird Treaty Act (MBTA). Bald and golden eagles are additionally protected by the Bald and Golden Eagle Protection Act. The MBTA does not contain any prohibition that applies to the destruction of a bird nest alone (without birds or eggs), provided that no possession occurs during the destruction. While destruction of a nest by itself is not prohibited under the MBTA, nest destruction that results in the unpermitted take of migratory birds or their eggs is illegal and fully prosecutable under the MBTA (Migratory Bird Permit Memorandum, U.S. Fish and Wildlife April 15, 2003). The regulatory definition of a take means to pursue, hunt, shoot, wound, kill, trap, capture, or collect; or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect.

The best way to avoid a violation of the MBTA is to remove vegetation outside of the active breeding season, which typically falls between March and August, depending on the species. Public awareness of the MBTA has grown in recent years, and most MBTA

enforcement actions are the result of a concerned member of the community reporting a violation.

Potential Habitat and Possible Effects

Although nests were not observed during the 2013 site visit, a variety of birds likely nest in the large trees along Jasper Road and in the scattered isolated trees on the property. Because of grazing and cultivation, ground nesting birds are not likely to be present. Any tree removal has the potential to destroy nests and will reduce nesting habitat on the parcel.

Recommendations

No nests were observed within the property during the 2013 site visit, but nests are certain to be present. To avoid destroying an active nest, ERO recommends that all vegetation be removed from the site between September and March, outside of the breeding season. If tree removal is not possible during the non-nesting season, a survey for active nests should be done. If an active nest is present, activities that would directly impact the nest, or that would encroach close enough to cause adult birds to abandon the nest during the breeding season, should be restricted.

Other Wildlife

The cultivated fields provide low quality habitat for wildlife. Species likely to be present include occasional songbirds foraging on insects and seeds and small mammals such as deer mouse. Larger birds such as magpie and raptors may also use the property. There is no habitat for sensitive or uncommon species on the property.

As with any human development, including residential development, wildlife species sensitive to human disturbance are likely to decline in abundance or abandon the area, while other wildlife species adapted to urban development are likely to increase in abundance. Because wildlife habitat on the property is low quality, Species likely to decline would include some raptors and possibly coyotes. Species likely to increase would include red fox, raccoon, and great horned owl. Overall, surrounding and continuing development contributes to a decline in the number and diversity of wildlife

species nearby and to a change in species composition to favor species that adapt better to human disturbance.

Cultural Resources

The National Historic Preservation Act (NHPA), as amended, protects buildings, sites, districts, structures, and objects that have significant scientific, historic, or cultural value. The act established affirmative responsibilities of federal agencies to preserve historic and prehistoric resources. Effects on properties that are listed on, or that are eligible for listing on, the National Register of Historic Places (National Register) must be taken into account in federal planning and operations. Any property that may qualify for listing on the National Register must not be inadvertently transferred, sold, demolished, substantially altered, or allowed to deteriorate.

Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties. The Advisory Council on Historic Preservation (ACHP) is then afforded a reasonable opportunity to comment. The historic preservation review process mandated by Section 106 is outlined in regulations issued by the ACHP. Revised regulations, known as "Protection of Historic Properties" (36 CFR Part 800), were updated on August 5, 2004.

The State of Colorado also maintains a list of historic properties significant to the state. These properties do not receive federal projection, but the state considers the potential effects to them that may result from state-funded projects. State listing also makes properties eligible for state grants for restoration and preservation.

Although Wise Farm has been part of the Town of Erie's history since 1869 and the Erie Historical Society's Wise Farm Museum is across Jasper Road from the property, the property and structures on the property are not listed on the National or State registers of historic places.

The Colorado State Historic Preservation Office (SHPO) considers all linear resources to be eligible to the NHRP, unless proven not eligible through research and documentation of the *entire* linear resource. So, although not listed on the registers, the Lower Boulder Ditch, and the Leyner Cottonwood Number 1 Ditch, and Union Pacific Railroad may be eligible for listing. Some structures on the property, including the two buildings

associated with the old wood mill, may be old enough to be potentially eligible for listing as well. These potentially federally-eligible resources typically only need to be evaluated if there is a federal nexus, such as obtaining authorization from the U.S. Army Corps of Engineers for work on the Lower Boulder Ditch or and the Leyner Cottonwood Number 1 Ditch. There are no state regulations regarding unlisted state-eligible properties.

Development of the property would not affect any state or federally-listed historic resources. The potentially eligible resources would require evaluation only in the event a federal action such as CWA Section 404 Permit authorization is required.

References

Colorado Natural Heritage Program (CNHP). 2011. CNHP Tracked Vascular Plant Species. Available at: http://www.cnhp.colostate.edu/download/list/vascular.asp.

Kingery, Hugh, editor. 1998. Colorado Breeding Bird Atlas. Colorado Bird Atlas Partnership and CDOW. Denver CO

Linner, Susan. 2010. Colorado Field Supervisor, Colorado Field Office, United States Fish and Wildlife Service. Letter to David Bennetts, Urban Drainage and Flood Control District. June 15.

Meaney, C. A., A. Deans, N. W. Clippenger, M. Rider, N. Daly, and M. O'Shea-Stone. 1997. Third year survey for Preble's meadow jumping mouse (*Zapus hudsonius preblei*) in Colorado. Under contract to Colorado Division of Wildlife. Boulder, CO.

Natural Diversity Information Source (NDIS). 2008. Colorado Division of Wildlife database, bald eagle activities. Available at: http://ndis.nrel.colostate.edu/wildlifespx.asp?SpCode=040231. Updated on January 14, 2008. Downloaded on September 25, 2013.

NatureServe. 2012. NatureServe Explorer. Available at: http://www.natureserve.org/explorer/servlet/NatureServe.

Ramey, R. R., H. P. Liu, C. W. Epps, L. M. Carpenter, and J. D. Wehausen. 2005. "Genetic relatedness of the Preble's meadow jumping mouse (*Zapus hudsonius preblei*) to nearby subspecies of *Z. hudsonius* as inferred from variation in cranial morphology, mitochondrial DNA and microsatellite DNA: implications for taxonomy and conservation." Animal Conservation. 8:329 346.

Spackman, S., B. Jennings, J. Coles, C. Dawson, M. Minton, A. Kratz, and C. Spurrier. 1997. Colorado Rare Plant Field Guide. Prepared for the Bureau of Land Management, the U.S. Forest Service, and the U.S. Fish and Wildlife Service by the Colorado Natural Heritage Program.

U.S. Fish and Wildlife Service (Service). 1992a. Endangered and Threatened Wildlife and Plants: Final Rule to List the Plant *Spiranthes diluvialis* (Ute ladies'-tresses) as a Threatened Species. Federal Register 50 CFR Part 17, Volume 57, No. 12, Pages 2048-2054. January 17.

U.S. Fish and Wildlife Service. 1992b. Interim Survey Requirements for *Spiranthes diluvialis*.

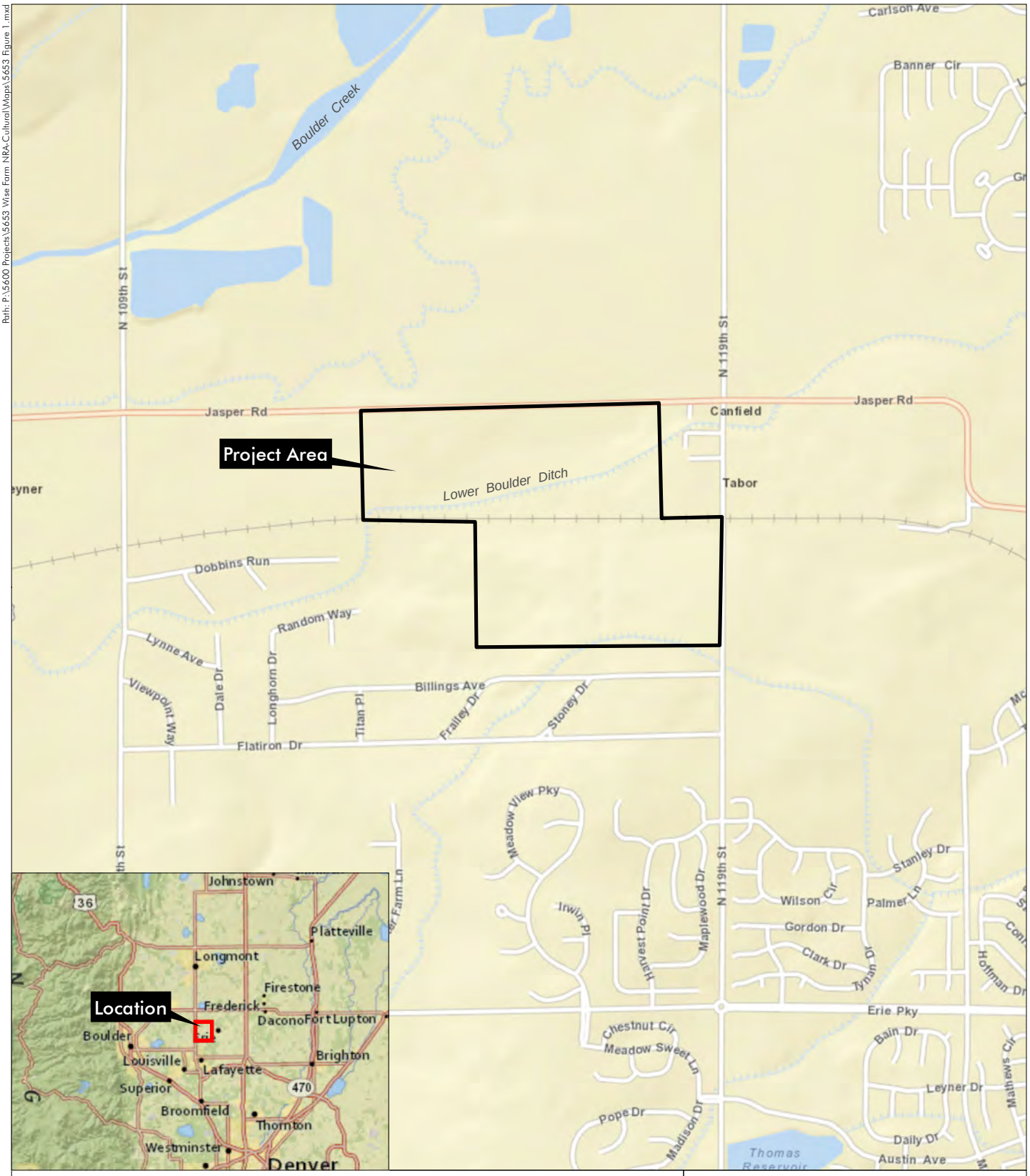
U.S. Fish and Wildlife Service. 1999. Survey Guidelines for Preble's Meadow Jumping Mouse. USFWS, Colorado Field Office. Revised April 2004.

U.S. Fish and Wildlife Service. 2005. Endangered and Threatened Wildlife and Plants: Designated Critical Habitat for Colorado Butterfly Plant, Final Rule. Federal Register, Volume 70, No. 7 January 11.

U.S. Fish and Wildlife Service. 2007a. Endangered and Threatened Wildlife and Plants; Revised Proposed Rule to Amend the Listing for the Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*) to Specify over what Portion of its Range the Subspecies is Threatened; Proposed Rule. Federal Register Part III Rules and Regulations, 50 CFR Part 17, 72:215. November 7.

U.S. Fish and Wildlife Service (Service). 2010. Endangered, Threatened, Proposed and Candidate Species, Colorado Counties. Available at: http://www.fws.gov/mountain-prairie/endspp/CountyLists/Colorado.pdf. Last updated: July 2010.

Path: P:\5600 Projects\5653 Wise Farm NRA-Cultural\Maps\5653 Figure 1.mxd



Wise Farm Natural and Cultural Resources Assessment

Section 14, T1N, R69W; 6th PM

UTM NAD 83: Zone 13N; 493084mE, 4433465mN

Latitude, Longitude: 40.0513965°N, 105.081087°W

USGS Erie, CO Quadrangle

Boulder County, Colorado

0 750 1,500 Feet

N

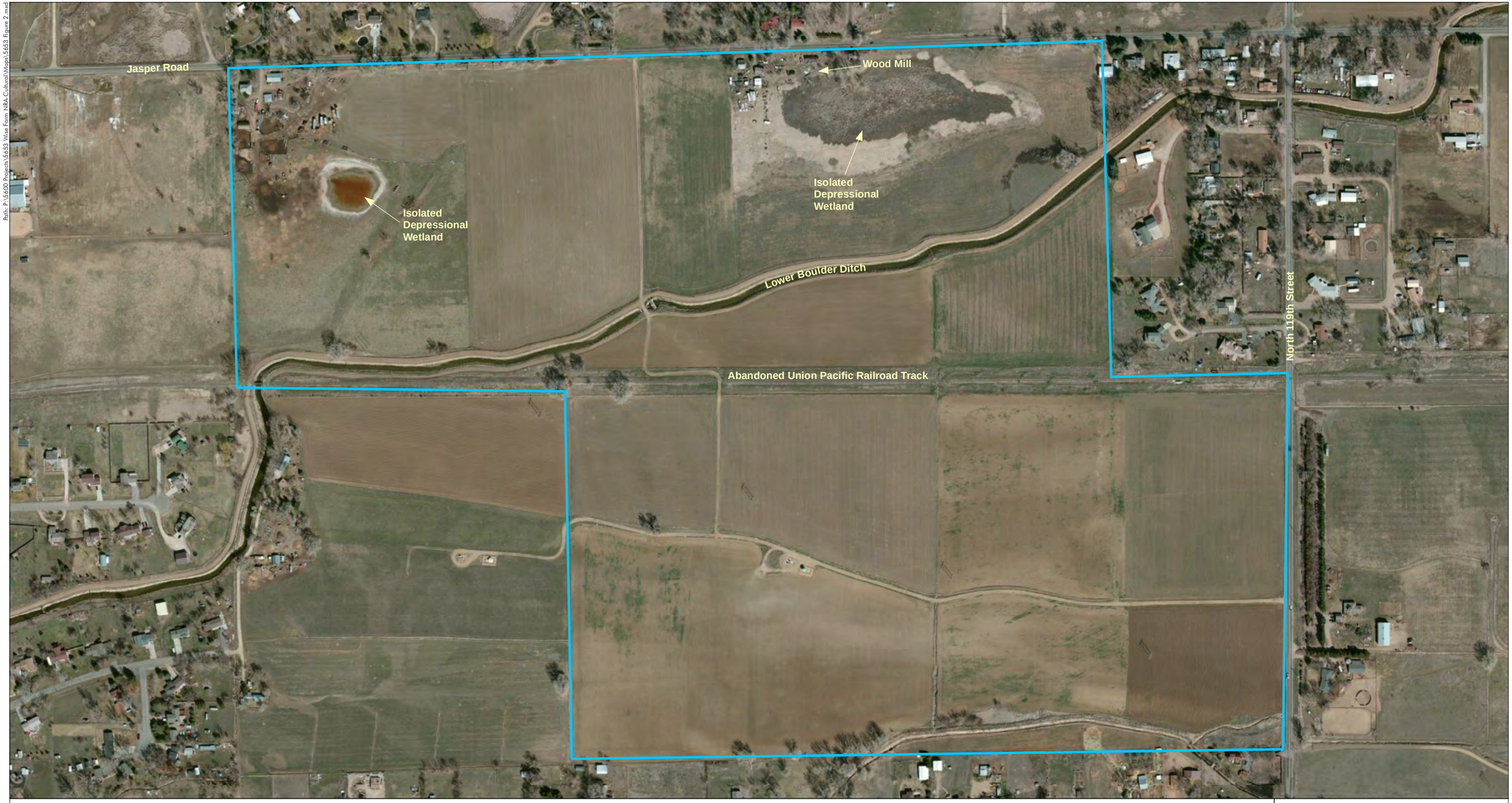
Figure 1
Vicinity Map

Prepared for: PCS Group, Inc.
File: 5653 Figure 1.mxd (GS)
February 5, 2014

ERO Resources Corp.

Portions of this document include intellectual property of ESRI and its licensors and are used herein under license. Copyright © 2013 ESRI and its licensors. All rights reserved.

Path: P:\5600 Projects\5653 Wise Farm NRA-Cultural\Maps\5653 Figure 2.mxd



Wise Farm Natural and Cultural Resources Assessment

Project Area Boundary

Image Source: Microsoft©, March 2012

0 125 250 Feet

N

Figure 2

Prepared for: PCS Group, Inc.
File: 5653 Figure 2.mxd (GS)
February 5, 2014

ERO Resources Corp.

Portions of this document include intellectual property of ESRI and its licensors and are used herein under license. Copyright © 2013 ESRI and its licensors. All rights reserved.

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants
2180 South Ivanhoe Street, Suite 5
Denver, Colorado 80222-5710
303-759-8373 Fax 303-759-4874
www.agwassenaar.com

PHASE I ENVIRONMENTAL SITE ASSESSMENT

WISE PROPERTY
ERIE, COLORADO 80026

PREPARED FOR

JASPER LAND INVESTMENTS, LLC
9162 SOUTH KENWOOD COURT
HIGHLANDS RANCH, COLORADO 80126

JANUARY 2, 2012
PROJECT NUMBER E12776.E1

TABLE OF CONTENTS

TITLE		PAGE
EXECUTIVE SUMMARY		i
1.0	INTRODUCTION	1
2.0	PURPOSE AND SCOPE OF WORK	1
3.0	SITE DESCRIPTION	2
4.0	SITE RECONNAISSANCE	2
	4.1 Property Grounds	3
	4.2 Surrounding Properties	7
5.0	INTERVIEWS	7
6.0	SITE HISTORY	9
	6.1 USGS Topographical Maps	10
	6.2 Aerial Photographs	13
7.0	PUBLIC RECORDS REVIEW	15
	7.1 Oil and Gas Production Wells	16
	7.2 Unmapped Sites	18
8.0	ENVIRONMENTAL LIENS	18
9.0	FINDINGS AND OPINION	18
10.0	CONCLUSION	21
11.0	LIMITATIONS	22
12.0	DEVIATIONS	23

FIGURES

1. VICINITY MAP
2. SITE MAP

ATTACHMENTS

A. PHOTOGRAPHS
B. USER QUESTIONNAIRE
C. TOPOGRAPHIC MAPS AND AERIAL PHOTOGRAPHS
D. PUBLIC RECORDS RESEARCH
E. QUALIFICATIONS
F. REFERENCES

EXECUTIVE SUMMARY

As requested, A. G. Wassenaar, Inc. (AGW) has conducted a Phase I Environmental Site Assessment (ESA) for the subject property identified as the Wise Property located in Erie, Colorado. The subject property was evaluated for potentially significant on-site environmental contamination through a property inspection, a review of historical property uses, interviews with individuals associated with the property, and a review of environmental records available from government agencies.

AGW's inspection included visual and physical observations of the subject property to identify possible contamination or contamination sources, and a drive-by survey of the nearby area. The site is positioned southwest of the intersection of Jasper Road and North 119th Street in Erie, Colorado. The site is approximately 180 acres in size. Future development plans for the property include 313 lots within a residential community. The majority of the property is agricultural land, with a farm homestead located in the northwest corner, and a small residence present near the center of the northern boundary. A historic mill is located east of the smaller residence and includes two buildings.

The remainder of the property is agricultural land that is currently dry and wet land farmed (for additional information see Section 5.0). A dry canal traverses the eastern portion of the southern boundary, and intersects one of several irrigation canals on the property. Overhead utilities traverse the entire site and the northeastern portion of the property near the small residence and historic mill. The abandoned Union Pacific Railroad tracks and the Lower Boulder Ditch traverse the central portion of the site. Numerous unimproved roads traverse the property including two that lead to the currently producing, on-site Wise 1-14 X oil and gas well. Due to the age of the well and concrete

tank used to store the condensate, **AGW identifies the Wise 1-14 X producing oil and gas well and associated tank battery as a recognized environmental condition in relation to the subject property.**

The subject property is positioned within a mixed use neighborhood. Jasper Road delineates the northern property boundary, while vacant, agricultural fields and rural residences are located further north. Overhead utilities are in place immediately east of North 119th Street, and the town of Tabor is located within one mile east of the subject property. A residential neighborhood is in place immediately south of the site. Vacant land and an oil and gas well comprise the area immediately west of the property, while residential homes are in place further west. None of the properties surrounding the site are identified as recognized environmental conditions in relation to the subject property.

The historical research conducted for the subject property indicated that the property has been primarily vacant agricultural fields traversed by irrigation ditches, the Lower Boulder Ditch, and the Union Pacific Railroad. Two rural residences have been in place on the northern portion of the property since at least 1902. Unimproved roads have traversed the site since approximately 1937. The two Historic Mill structures, overhead utilities, and detention ponds have been in place since at least 1948. Additional structures associated with the farming operation were first erected on the property sometime prior to 1978. AGW does not identify the historical uses of the subject property as a recognized environmental condition.

The area surrounding the property has historically been vacant agricultural land traversed by streams and drainages, including Boulder Creek and Cottonwood No. 1 Ditch. Several rural residences/farms and the town of Canfield have been in place since at least 1902. Rural residences located immediately south of the site first appeared in 1966. Residential neighborhood development in this area, and the area southwest of the property, began sometime after 1966 and significantly increased until 1978. None of the past uses of the surrounding properties are identified as recognized environmental conditions in relation to the subject property.

Records maintained by the U. S. Environmental Protection Agency (EPA), the Colorado Department of Public Health & Environment (CDPHE), the Colorado Department of Labor and Employment, Division of Oil and Public Safety (OPS), and the Colorado Oil and Gas Conservation Commission, were evaluated for information on hazardous materials and land sources of pollutants/hazards of potential concern, including known complaints and spills. A review of public records from these government agencies revealed three potential sources of contamination. One producing oil and gas well, one abandoned location, and one plugged and abandon oil and gas well are located on the subject property. Records maintained by regulatory agencies were reviewed, and **the producing Wise 1-14 X oil and gas well and associated tank battery, are recognized environmental conditions in relation to the subject property.**

We have performed a Phase I ESA in general conformance with the scope-of-work and limitations of American Standard of Testing Materials (ASTM) Standard Practice Designation E 1527-05 for the property identified as the Wise Property located in Erie, Colorado. Any exceptions, or deletions from this practice are described in Section 12.0 of this report.

This assessment has revealed no evidence of recognized environmental conditions in connection with the property with the exception of the following:

- **The on-site and producing Wise 1-14 X oil and gas well and associated tank battery.**

The following items are not considered recognized environmental conditions; however, AGW has determined these issues to be important environmental considerations which should be understood in connection with the property:

- Oil and gas wells raise a concern from a land development standpoint. Structures should not be constructed within the required setback of operational wells and production equipment. Prior to development, AGW recommends that appropriate setbacks be placed from all oil and gas wells located on the property.
- While not an environmental concern, former underground coal mining operations in the area have led to subsidence issues on the eastern portion of the subject property. AGW strongly recommends reviewing available reports such as: Western Environment and Ecology Inc.'s "Mine Subsidence Investigation, Wise Property, Section 14, Township 1 North, Range 69 West, Boulder County, Colorado" dated May 31, 2005; CTL Thompson, Inc. "Preliminary Geotechnical Investigation, Wise Farms, Southwest of Jasper Road and 119th Street, Erie, Colorado" dated December 9, 2005, regarding subsidence issues in the area.

This report was written to summarize AGW's findings during a Phase I ESA of the subject property. Although AGW completes thorough studies, no warranty is made of the accuracy, completeness, and timeliness of information obtained from government or third party sources. No parties, except the Client, are authorized to review this report unless they agree to waive any possible claims against A.G. Wassenaar, Inc., arising from such use.

Phase I Environmental Site Assessment
Wise Property
Erie, Colorado
January 2, 2012

1.0 INTRODUCTION

As requested, A. G. Wassenaar, Inc. (AGW) has completed a Phase I Environmental Site Assessment (ESA) for the subject property, identified as the Wise Property in Erie, Colorado. The project was conducted for Jasper Land Investments, LLC.

2.0 PURPOSE AND SCOPE OF WORK

AGW's assessment is designed to be in general accordance with Phase I ESAs as established by the American Society of Testing and Materials (ASTM), Standard Practice Designation E 1527-05. The assessment consists of a site reconnaissance to identify potential environmental problems; interviews with individuals having knowledge of the subject site; a review of publicly available records pertaining to environmental resources at the subject site; and a report documenting AGW's findings, opinion, and conclusions.

This report will identify *recognized environmental conditions* which have been identified in relation to the subject property (if any) and provide recommendations for any further action. The term recognized environmental condition is defined as the presence or likely presence of any hazardous substances or petroleum products on the property under conditions that indicate an existing release, past release, or material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term

is not intended to include de minimus conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of enforcement action if brought to the attention of appropriate government agencies.

3.0 SITE DESCRIPTION

The subject property can be described as a portion of the Section 14; Township 1 North, Range 69 West of the Sixth Principal Meridian. The site is approximately 180 acres in size and is positioned southwest of the intersection of North 119th Street and Jasper Road in Erie, Colorado. Physical setting information for the site is described in Table I below.

Table I
Physical Setting

Elevation of Subject Property	Approximately 5,020 to 5,100 feet above sea level	Source: USGS Topographic Map, Erie, Colorado, 1967 (revised 1979)
Topographic Gradient	Gentle slope to northwest.	
Closest Surface Water	The Lower Boulder Ditch traverses the subject property	

4.0 SITE RECONNAISSANCE

The property was inspected by Ms. Kristin Schwartz on December 17, 2012. The inspection included a thorough visual survey of the subject property (including a physical inspection of the property grounds for visible signs of contamination or contamination sources), as well as a drive-by survey of the nearby area. Site maps of the property are included as Figures 1 and 2 in this report, and photographs taken during the site visit are included in Attachment A.

4.1 Property Grounds

The subject property is located south of Jasper Road and West of North 119th Street in Erie, Colorado. The site is approximately 180 acres in size and is irregular in shape. Future development plans for the property include 313 lots within a residential community. The majority of the property is agricultural land with a farm homestead located in the northwest corner, and a small residence present near the center of the northern boundary. A historic mill that includes two buildings is located just east of this smaller residence. There are no future plans to demolish or develop these structures and associated parcels of land. Features associated with the farm homestead include, but are not limited to: 1 main residence, 3 outbuildings/sheds, 1 barn, 2 outhouses, 5+ tractors, 5-6 corrals/pastures, 3 trucks, old farming equipment, small quantities of agricultural chemicals and motor oil, three large aboveground storage tanks (ASTs), and environmentally inert debris. Minimal soil staining was observed beneath the ASTs, however, these releases are assumed to be de minimus and therefore, are not considered a recognized environmental condition. AGW recommends that the owner removes and properly disposes of all chemicals and oils currently located on the site prior to acquisition of the property. In addition to the small residence and historic mill located near the center of the northern boundary, the following features are located on the property: 4 RV campers, 2 RV pop-ups, 1 two-car garage, one abandoned and lifted structure, four outbuildings/sheds, old tractors, a collection of porcelain toilets and sinks, numerous tires, approximately 15 old vehicles, and additional inert junk. Minimal oil and diesel stains associated with the numerous vehicles on the property were observed during site reconnaissance. These are likely de minimus and therefore, are not considered a recognized environmental conditions in relation to the property.

The remainder of the property is agricultural land that is currently dry and wet land farmed (for more info see Section 5). A dry canal traverses the eastern portion of the southern boundary, and intersects an irrigation canal. Cinder blocks and concrete diversions were observed within both of the canal features. Overhead utilities traverse the entire site and the northeastern portion of the site near the small residence and historic mill. Abandoned Union Pacific Railroad tracks traverse the central portion of the site and a delapidated treehouse was observed near the tracks on the western portion of the property. Additionally, the Lower Boulder Ditch traverses the central portion of the property and a sediment catchment basin is maintained by the Northern Colorado Water Conservancy District, which is located within the ditch. Numerous unimproved roads traverse the property including one that follows the north side of the ditch, and two that lead to the currently producing, on-site Wise 1-14 X oil and gas well. This oil and gas well is located on the southern portion of the property. Additional features associated with this well include: a separator, a tank battery, and a concrete condensate storage tank. Due to the age of the well and concrete tank used to store the condensate, **AGW identifies the Wise 1-14 X producing oil and gas well and associated tank battery as a recognized environmental condition in relation to the subject property.** Further discussion of the on-site oil and gas wells can be found in Section 7.1 of this report.

Site reconnaissance observations are detailed in Table II below, and shown in Figure 1, Figure 2, and Attachment A of this report.

Table II

Site Reconnaissance Observations	
Current Use of Subject Property	The majority of the property is agricultural land. A farm homestead including a main residence, barn, and outbuildings, are located on the northwest corner of the site. A small residence with associated outbuildings, and historic mill are located near the center of the northern boundary. The Lower Boulder Ditch, abandoned Union Pacific Railroad tracks, and several unimproved roads traverse the subject property. One producing oil and gas well is located on the southern portion of the property.
Configuration	Irregular shaped parcel of land.
Boundaries	North: Jasper Road, rural residential properties, vacant and agricultural land, Wise #31-14 oil and gas well, and stream outlets. East: North 119th Street, overhead utilities, residential properties, the town of Tabor, and additional oil and gas wells. South: Residential properties, a sheep farm, and Billings Avenue. West: Vacant agricultural land, Jasper #23-14 oil and gas well, rural and residential properties, and North 107th Street.
Vegetation	Dried wheat plants, short grasses, trees, and shrubs.
Topography	Relatively flat with a gentle slope to the northwest.
Structures or other improvements on the subject property	A farm homestead with associated outbuildings, a small residence with associated outbuildings, and two buildings which comprise a Historic Mill. One oil and gas well with associated tank battery, separator, and concrete condensate storage tank, overhead utility lines, abandoned railroad tracks, and a sediment catchment basin are also located on the property.
Roads adjoining the property and roads, streets, parking facilities on subject property	Jasper Road to the north, North 119th Street to the east, three unimproved roads extending from the property boundaries toward the oil well, and a turnaround area near the oil well.
Debris	Debris included, but was not limited to: old tractors, vehicles, tires, rusted farming equipment, porceline toilets and sinks, empty containers, wood scraps, clear plastic material, and cans.

Table II (continued)

Site Reconnaissance Observations	
Hazardous substances and petroleum products stored on the subject property	Small quantities of agricultural chemicals were observed in the sheds surrounding the farm operation. No staining was observed around these containers however, AGW recommends that the current owner properly disposes of all chemicals prior to acquisition of the property.
Storage Tanks	Concrete condensate storage tanks in place adjacent the oil well. Aboveground storage tanks were also noted within the farm homestead. Minimal soil staining was observed near these tanks and any releases are likely to be considered de minimus.
Vent pipes	None observed
Utility lines	Overhead utility lines are in place traversing the entire subject property and traversing the northeast portion of the site.
Odors	None observed
Pools of Liquid	None observed
Drums	Empty 55 gallon drums were observed near the farm homestead. No staining was observed near the drums.
Unidentified Substance Containers	Several of the chemical containers in the sheds near the farm residence did not have labels. All containers should be removed and properly disposed of by the owner prior to acquisition of the property.
PCBs	None observed
Pits, ponds, or lagoons	A dried up detention pond was observed just south of the historic mill.
Wetlands	None observed
Stained soil or pavement	Stained soils were noted beneath the ASTs located at the farm homestead and next to two of the vehicles located near the small, northern residence These releases are likely to be de minimus and therefore, are not considered recognized environmental conditions.
Stressed vegetation	None observed
Wells	One oil and gas well and associated tank battery is located on the southern portion of the property.

A review of previous investigations conducted for the property indicated that portions of the underground mine shafts for the Banner, Standard, Star, and Jackson Mines underlie a small portion

of the eastern section of the subject property. The Jackson Mine operated from 1884 through 1890, and produced a total of 98,831 tons of coal. AGW recommends reviewing available reports, including: Western Environment and Ecology Inc.'s "Mine Subsidence Investigation, Wise Property, Section 14, Township 1 North, Range 69 West, Boulder County, Colorado" dated May 31, 2005; CTL Thompson, Inc. "Preliminary Geotechnical Investigation, Wise Farms, Southwest of Jasper Road and 119th Street, Erie, Colorado" dated December 9, 2005, regarding subsidence issues on the subject property.

4.2 Surrounding Properties

The subject property is positioned within a mixed use neighborhood. Jasper Road delineates the northern property boundary, while vacant, agricultural fields and rural residences are located further north. Overhead utilities are in place immediately east of North 119th Street, with additional residences present further east. The town of Tabor is located within one mile east of the subject property. Residential homes are in place immediately south of the subject property, one of which includes a sheep farm. Vacant land comprises the area immediately west of the property and includes the Jasper # 23-14 producing oil and gas well. Horse stables and residential homes are in place further west of the site. None of the properties surrounding the site are identified as recognized environmental conditions in relation to the subject property.

5.0 INTERVIEWS

Alan and Sarah Wise, Property Owners

Alan and Sarah Wise were interviewed in person during the site visit on December 17, 2012. The Wise family has owned the entire subject property since 1870, and the property has mainly been used for agricultural purposes/ farmland. In years past, wet and dry land farming has been used to grow corn,

alfalfa, wheat, sugar beets, and tomatoes on the site. The Wise family indicated that small amounts of chemicals have been stored on the property for their small batch agricultural operation. The farming operation and homestead is located on the northwest corner of the site, and has been in existence since the early 1900's. Jess Alexander is the current farmer whom lives in this residence and looks after 15-20 cattle. The Wise's indicated that he no longer farms the land himself but has a CO-OP come in and apply chemicals and pesticides to the crops.

The second residence is adjacent to the historic mill on the property, and they are both located near the center of the northern boundary. Alan Wise indicated that these buildings have been in place since at least 1920, and his brother Philip Wise currently lives in the small residence. During the site reconnaissance, AGW observed approximately 15 abandoned cars near the residence, and Alan Wise indicated that his brother has conducted small maintenance and restoration operations on these cars. AGW observed some soil staining from the oil and gasoline associated with these vehicles, however, these releases are considered to be de minimus and therefore, are not considered recognized environmental conditions.

The Wise's confirmed the presence of the three oil and gas well locations, and their associated spud dates (where applicable) on the property. Sarah Wise indicated that the abandoned location well was never drilled, and the plugged and abandoned well was drilled but found to have a leaking valve and leaking casing. Subsequently, the well was plugged and never produced (additional information on the oil and gas wells can be found in section 7.1). Ms. Wise also stated that shallow ground water is present across the site. The Wise's are unaware of any hazardous waste disposal, landfills, or other environmental concerns for the property and surrounding area.

Mr. Jim Dullea, Jasper Land Investments, LLC

AGW corresponded with Mr. Jim Dullea of Jasper Land Investments, LLC on December 20, 2012. Mr. Dullea is interested in purchasing the subject property. Mr. Dullea is unaware of any environmental cleanup liens, activity and use limitations (AULs), chemical storage, illegal dumping, or hazardous material spills associated with the subject property. Additionally, Mr. Dullea completed the "User Questionnaire for Landowner Liability Protections" in accordance with the ASTM Standard Practice Designation E1527-05. A copy of the completed questionnaire is included as Attachment B.

Nancy Parker, Erie Town Clerk

Ms. Kristin Schwartz contacted Ms. Nancy Parker, Town Clerk for the Town of Erie, to request a search of environmental health department records to determine if any hazardous material spills or other incidents of environmental concern have been reported for the subject property. The Town of Erie is still processing the request. Any pertinent information will be forwarded under separate cover.

6.0 SITE HISTORY

The historic land use of the subject property and the surrounding areas were examined with the purpose of interpreting, where possible, the past activities that have or may have negatively impacted the natural resources of the site. The references reviewed included: USGS Topographic Maps of Niwot, Colorado, dated 1902; and Erie, Colorado, dated 1948, 1966, 1971, and 1978; and aerial photographs dated 1937, 1966, and 1979. Copies of Topographic Maps and Aerial Photographs are included in Attachment D.

6.1 USGS Topographical Maps

Table III
Topographical Maps

USGS Topographical Map	Direction	Description
Niwot, Colorado: 1902	Subject Property	Two structures are in place on the site; one near the northwest corner and one near the central portion of the northern boundary. The Boulder Branch Railroad and a stream outlet are also in place and traverse the central portion of the site. Otherwise, vacant land.
	North	An improved road is in place and delineates the sites northern boundary. Three structures are in place directly north of the site, with several additional buildings and an unimproved road in place further north and northeast. Several drainages traverse the area within one mile north of the site.
	East	The town of Canfield is in place immediately east of the site with associated roads and buildings. Additional structures and stream outlets, the town of Erie, and the Burlington and Missouri River Railroad comprise the area east of the subject property.
	South	Primarily vacant land traversed by stream outlets and drainages. Multiple structures with associated roads are visible approximately one mile south and southwest of the property.
	West	Two structures are in place immediately west of the site with additional structures and a road in place further west. Otherwise, vacant land traversed by stream outlets.
Erie, Colorado: 1948	Subject Property	The stream outlet is now depicted as Lower Boulder Ditch. Two outbuildings are in place near a detention pond located near the northeast corner of the site. An additional pond is depicted on the western portion of the site. An unimproved road traverses the site, just south of the railroad tracks, which are now designated as the Union Pacific Railroad. Overhead utilities traverse the entire property.
	North	The road delineating the site's northern boundary is depicted as CO Road 240 (present day Jasper Road). Two of the former structures are no longer in place however three additional outbuildings are depicted. Additional structures are in place to the northeast.

Table III (continued)

USGS Topographical Map	Direction	Description
	East	The town of Tabor is in place, just south of Canfield. An additional unimproved road is visible within one mile, as well as a stream outlet from Cottonwood No. 1 Ditch.
	South	Additional structures are in place near the Tynan Mine (Inactive) which is depicted approximately one-half mile southeast of the property. The Cottonwood No. 1 Ditch traverses the area to the south. One additional structure is in place within one-mile, with several more depicted to the southwest.
	West	The town of Leyner is in place near an improved road depicted as State Highway 287. Additional structures and two unimproved roads are in place, otherwise, no significant changes.
Erie, Colorado: 1966	Subject Property	An unimproved road traverses the center of the site. Otherwise, no significant changes.
	North	CO Road 240 is now depicted as Jasper Road. The outbuildings are no longer in place but two additional buildings are in place directly north. Several ponds surround Boulder Creek which traverses the area north of the site. Additional structures, unimproved roads, and Mountain View Lakes are in place to the northeast.
	East	Additional dwellings and roads are in place near Canfield and Tabor, otherwise, no significant changes.
	South	Significant development including numerous buildings and roads are in place immediately south and southwest of the site. Two detention ponds within this development are also depicted. Isabelle Road is in place approximately one mile south.
	West	The two structures immediately west of the site are no longer in place. An additional stream outlet and several structures are in place further west, otherwise, no significant changes.
Erie, Colorado: 1971	Subject Property	No significant changes.
	North	Several more structures are depicted to the northeast and northwest. Kenosha Road is in place approximately one mile north, otherwise, no significant changes.
	East	Two additional structures are depicted east of Canfield, otherwise, no significant changes.

Table III (continued)

USGS Topographical Map	Direction	Description
	South	Several additional structures are in place immediately south of the site, with additional roads and structures also in place to the southwest.
	West	Three structures are in place directly west of the site with two additional dwellings depicted further west. Otherwise, no significant changes.
Erie, Colorado: 1978	Subject Property	Five more structures are in place on the property; three near the northwest residence and two near the residence on the northern boundary. Otherwise, no significant changes.
	North	Two additional structures are in place directly north of Jasper Road, with several additional structures also depicted to the northwest and northeast of the property. An intricate land surface area is depicted within one-quarter mile to the northeast.
	East	Additional structures and unimproved roads are depicted within the towns of Canfield and Tabor.
	South	A significant amount of additional structures are in place throughout the area immediately south of the site. Additional dwellings are also present just north of Isabelle road
	West	Multiple additional structures are in place immediately, and further west of the site. An associated road leading to these buildings is present within one-quarter mile of the property.

6.2 Aerial Photographs

Table VI
Aerial Photographs

Aerial Photograph	Direction	Description
1937	Subject Property	Primarily agricultural land with farming equipment located across the site at various places. The farmhouse and associated buildings are in place at the northwest corner of the property with a detention pond visible just southeast of the residence. The residence near the center of the northern boundary also appears to be in place with the historic mill adjacent to the east. A detention pond is present immediately south of the property. The Lower Boulder Ditch, Pacific Union Railroad, an unimproved road, and irrigation ditches traverse the property. Additionally, a canal traverses a portion of the southern boundary.
	North	Primarily vacant agricultural land traversed by stream outlets and irrigation ditches. The future Jasper Road appears to be in place with several structures depicted immediately north of the road. A homestead is visible to the northeast of the site with additional development present further north.
	East	The town of Canfield is in place directly east of the site with multiple structures and roadways associated with the town present. The future North 119th Street appears to be in place and delineates the site's eastern boundary.
	South	Vacant agricultural land with several pieces of farming equipment visible. A canal traverses most of the area south of the property and several irrigation canals and unimproved roads appear to be in place. A structure is visible to the southeast of the property.
	West	Primarily vacant agricultural land with farming equipment visible across the area to the west. A structure with associated unimproved roads appears to be in place immediately west of the property
1966	Subject Property	Several of the irrigation ponds are no longer depicted and the path of the Lower Boulder Ditch has changed. Otherwise, no visible changes.
	Surrounding Properties	Several additional properties and a detention pond are present to the north and northeast, respectively. Additional structures are present within the town of Canfield, located immediately east of the property, and within the town of Tabor, located further east of the property. Approximately fifteen structures with associated unimproved roads are in place immediately south of the property.

Table VI (continued)

Aerial Photograph	Direction	Description
1979	Subject Property	The detention pond located south of the northern residence appears to have increased in size. Otherwise, no visible changes.
	Surrounding Properties	Additional structures are in place immediately north of the property and within the town of Canfield, located immediately east of the property. Significant residential development has occurred in the area directly south and southwest of the property.

The historical research conducted for the subject property indicated that the property has been primarily vacant agricultural fields traversed by irrigation ditches, the Lower Boulder Ditch, and the Union Pacific Railroad. Two rural residences have been in place on the northern portion of the property since at least 1902. Unimproved roads have traversed the site since approximately 1937. The two Historic Mill structures, overhead utilities, and detention ponds have been in place since at least 1948. Additional structures associated with the farming operation were first erected on the property sometime prior to 1978. AGW does not identify the historical uses of the subject property as a recognized environmental condition.

The area surrounding the property has historically been vacant agricultural land traversed by streams and drainages, including Boulder Creek and Cottonwood No. 1 Ditch. Several rural residences/farms and the town of Canfield have been in place since at least 1902. Rural residences located immediately south of the site first appeared in 1966. Residential neighborhood development in this area, and the area southwest of the property, began sometime after 1966 and significantly increased until 1978. None of the past uses of the surrounding properties are identified as recognized environmental conditions in relation to the subject property.

7.0 PUBLIC RECORDS REVIEW

A review of public records was completed by Satisfi Environmental Information (Satisfi) of Castle Rock, Colorado. This record search was defined to meet or exceed the ASTM guidelines for a Phase I ESA records search. The search area defined by ASTM varies from adjacent properties to a maximum of a one mile radius.

The information reviewed for this assessment includes the following: National Priorities List (NPL) Superfund sites; State equivalent NPL sites (SPL); facilities investigated for potential releases of hazardous materials to the environment (Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS); hazardous waste facilities (RCRA); documented spills or hazardous releases; leaking underground storage tanks (LUST); registered USTs and ASTs; and solid or hazardous waste landfills. Summarized data follows with specific information and mapping details contained in Attachment E.

Table V
Summary of Publicly Available Environmental Records

Federal Databases		Approximate Minimum Search Distance	Results
NPL	The National Priorities List (NPL) is the USEPA's database of uncontrolled or abandoned hazardous waste facilities that have been listed for priority remedial actions under the Superfund Program.	1.0	0
CORRACT	The USEPA maintains a database of RCRA facilities that are undergoing "corrective action". A "corrective action" order is issued when there has been a release of hazardous waste or constituents into the environment from a RCRA facility.	1.0	0
TSD	The USEPA maintains a database of RCRA facilities associated with treatment, storage, or disposal (TSD) of hazardous waste.	0.50	0
CERCLIS	The CERCLIS database is a compilation of facilities that USEPA has or is currently investigating for a release or threatened release of hazardous substances subject to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980.	0.50	0
Spill	The Emergency Response Notification System (ERNS) is a listing compiled by the USEPA and the Coast Guard's National Response Center of reported releases of petroleum and hazardous substances to the air, soil and/or water.	0.25	0
Generator	The US EPA's Resource Conservation and Recovery Act (RCRA) database identifies facilities that generate hazardous waste. Large quantity generators (LQG) produce at least 1,000 kg/month of hazardous waste or	0.25	0

Table V (continued)

Federal Databases		Approximate Minimum Search Distance	Results
	1 kg/ month of acutely hazardous waste. Small quantity generators (SQG) produce 100 to 1,000 kg/ month of hazardous waste. Conditionally exempt small quantity generators (CESQG) generate less than 100 kg/month of hazardous waste.		
Other	The US EPA's Resource Conservation and Recovery Act (RCRA) database also identifies facilities that are transporters of hazardous waste, former generators, and suspected generators. Non-generators that have been inspected or have sent in notifications are also included.	0.25	0
State Databases			
VCL	State Voluntary Cleanup Lists include sites that are being cleaned up or that have applied for a No Action Determination from the State.	0.50	0
Solid Waste	State lists of solid waste facilities. This category also includes lists compiled from various local agencies.	0.50	0
Tank Leak	State list of leaking underground storage tanks (LUSTs) and above-ground tank leaks. This category also includes LUST Trust sites where no responsible party has been identified.	0.50	0
Tank	State list of registered underground storage tanks (USTs) and above-ground storage tanks (ASTs).	0.25	0
AUL	Activity and Use Limitations include sites with either Engineering Controls or Institutional Controls that are intended to prevent exposure to contamination that has been left in place.	0.25	0
Oil and Gas Wells	Colorado Oil and Gas Commission- In general, oil and gas production wells present an environmental hazard during all stages of their use, including: initial construction and development, production, and through underground or surface transport. At each stage of the process of oil and gas production, significant potential for hydrocarbon release is present	On Site	3

7.1 Oil and Gas Production Wells

The Colorado Oil and Gas Commission (COGCC) maintains a database record of all oil and gas wells located within the state. In general, oil and gas production wells present an environmental hazard during all stages of their use, including: initial construction and development, production, and through underground or surface transport. At each stage of the process of oil and gas production, significant potential for hydrocarbon release is present. Three oil and gas wells; one currently active, one abandoned location, and one plugged and abandoned well, are documented on the subject property. The producing oil and gas well Wise 1-14X is located on the southern portion of the property along an unimproved road. According to the COGCC, the abandoned location well Wise # 43-14 is located southeast of the active well, and the plugged and abandoned well Wise # 1-14

location is east of all well locations, near the unimproved road that traverses the southern portion of the site. Approximate locations for all three wells are depicted on Figure 2 of this report. The oil and gas wells located on the subject property are summarized in Table VI below:

Table VI
Oil and Gas Wells

Map ID	Well Name	Location	Operator	Spud Date	Status
1	Wise 1-14 X	NWSE 14 1N 69W 6PM	Noble Energy Inc.	1984	PR- Producing
2	Wise # 43-14	NESE 14 1N 69W 6PM	Basin Exploration Inc.	N/A	AL- Abandoned Location
3	Wise # 1-14	NESE 14 1N 69W 6PM	Gerrity Oil and Gas Corp.	1983	AB/PA- Plugged and Abandoned

After review of the information contained within the COGCC (spud dates and statuses), and a site visit to the currently producing on-site oil and gas well indicating that the condensate is stored in a concrete tank, **AGW identifies the Wise 1-14 X producing well and associated tank battery as a recognized environmental conditions in relation to the subject property.**

Oil and gas wells raise a concern from a land development standpoint. Structures should not be constructed within a certain distance of operational wells and production equipment. Prior to development, AGW recommends that appropriate setbacks be placed from all oil and gas wells located on the property.

7.2 Unmapped Sites

Four unmapped sites were listed during the Satisfi records search. These sites could not be mapped accurately because of inadequate addresses or street maps. Unmapped listings are reported by Satisfi on the chance that their location might be revealed during the course of a site visit or other research. However, unless there is some specific reason to believe that a listing is nearby and of potential concern, there is no requirement in the ASTM standard to attempt to verify the location of these listings. Based on available information, there is no reason to believe this listing is within one mile of the subject property.

8.0 ENVIRONMENTAL LIENS

On December 20, 2012 AGW corresponded with Mr. Jim Dullea of Jasper Land Investments, LLC, to inquire about any known environmental liens associated with the subject property. Mr. Dullea indicated that he is unaware of any existing environmental liens associated with the subject property. A review of public records was completed by Satisfi. This record search was defined to meet or exceed the ASTM guidelines for a Phase I ESA record search. The search area defined by ASTM for activity and use limitations (AULs) is from adjacent properties to a maximum of a quarter-mile radius. The information reviewed for this assessment did not identify AULs associated with the subject property.

9.0 FINDINGS AND OPINION

- The site is positioned southwest of the intersection of Jasper Road and North 119th Street in Erie, Colorado. The site is approximately 180 acres in size. Future development plans for the property include 313 lots within a residential community.

The majority of the property is agricultural land, with a farm homestead located in the northwest corner, and a small residence present near the center of the northern boundary. A historic mill is located east of the smaller residence and includes two buildings.

- The remainder of the property is agricultural land that is currently dry and wet land farmed (for additional information see Section 5.0). A dry canal traverses the eastern portion of the southern boundary, and intersects one of several irrigation canals on the property. Overhead utilities traverse the entire site and the northeastern portion of the property near the small residence and historic mill. The abandoned Union Pacific Railroad tracks and the Lower Boulder Ditch traverse the central portion of the site. Numerous unimproved roads traverse the property including two that lead to the currently producing, on-site Wise 1-14 X oil and gas well. Due to the age of the well and concrete tank used to store the condensate, **AGW identifies the Wise 1-14 X producing oil and gas well and associated tank battery as a recognized environmental condition in relation to the subject property.**
- The subject property is positioned within a mixed use neighborhood. Jasper Road delineates the northern property boundary, while vacant, agricultural fields and rural residences are located further north. Overhead utilities are in place immediately east of North 119th Street, and the town of Tabor is located within one mile east of the subject property. A residential neighborhood is in place immediately south of the site. Vacant land and an oil and gas well comprise the area immediately west of the property, while residential homes are in place further west. None of the properties

surrounding the site are identified as recognized environmental conditions in relation to the subject property.

- The historical research conducted for the subject property indicated that the property has been primarily vacant agricultural fields traversed by irrigation ditches, the Lower Boulder Ditch, and the Union Pacific Railroad. Two rural residences have been in place on the northern portion of the property since at least 1902. Unimproved roads have traversed the site since approximately 1937. The two Historic Mill structures, overhead utilities, and detention ponds have been in place since at least 1948. Additional structures associated with the farming operation were first erected on the property sometime prior to 1978. AGW does not identify the historical uses of the subject property as a recognized environmental condition.
- The area surrounding the property has historically been vacant agricultural land traversed by streams and drainages, including Boulder Creek and Cottonwood No. 1 Ditch. Several rural residences/farms and the town of Canfield have been in place since at least 1902. Rural residences located immediately south of the site first appeared in 1966. Residential neighborhood development in this area, and the area southwest of the property, began sometime after 1966 and significantly increased until 1978. None of the past uses of the surrounding properties are identified as recognized environmental conditions in relation to the subject property.
- Records maintained by the U. S. Environmental Protection Agency (EPA), the Colorado Department of Public Health & Environment (CDPHE), the Colorado Department of Labor and Employment, Division of Oil and Public Safety (OPS), and the Colorado Oil and Gas Conservation Commission, were evaluated for information

on hazardous materials and land sources of pollutants/hazards of potential concern, including known complaints and spills. A review of public records from these government agencies revealed three potential sources of contamination. One producing oil and gas well, one abandoned location, and one plugged and abandon oil and gas well are located on the subject property. Records maintained by regulatory agencies were reviewed, and **the producing Wise 1-14 X oil and gas well and associated tank battery, are recognized environmental conditions in relation to the subject property.**

10.0 CONCLUSION

We have performed a Phase I ESA in general conformance with the scope-of-work and limitations of American Standard of Testing Materials (ASTM) Standard Practice Designation E 1527-05 for the property identified as the Wise Property located in Erie, Colorado. Any exceptions, or deletions from this practice are described in Section 12.0 of this report.

This assessment has revealed no evidence of recognized environmental conditions in connection with the property with the exception of the following:

- **The on-site and producing Wise 1-14 X oil and gas well and associated tank battery.**

The following items are not considered recognized environmental conditions; however, AGW has determined these issues to be important environmental considerations which should be understood in connection with the property:

- Oil and gas wells raise a concern from a land development standpoint. Structures should not be constructed within the required set back of operational wells and production equipment. Prior to development, AGW recommends that appropriate setbacks be placed from all oil and gas wells located on the property.
- While not an environmental concern, former underground coal mining operations in the area have led to subsidence issues on the eastern portion of the subject property. AGW strongly recommends reviewing available reports such as: Western Environment and Ecology Inc.'s "Mine Subsidence Investigation, Wise Property, Section 14, Township 1 North, Range 69 West, Boulder County, Colorado" dated May 31, 2005; CTL Thompson, Inc. "Preliminary Geotechnical Investigation, Wise Farms, Southwest of Jasper Road and 119th Street, Erie, Colorado" dated December 9, 2005, regarding subsidence issues in the area.

11.0 LIMITATIONS

The professional judgements expressed in this report meet the standard of care for our profession. Environmental issues (among others) not included in the scope of work for this project include radon, lead-based paint, and asbestos testing, and wetlands and endangered species evaluations. The collection and specific laboratory analyses of environmental samples were not part of the scope of this Phase I ESA; therefore, no specific quantitative environmental data was generated.

AGW's assessment is limited to identifying potential environmental liabilities associated with the property of concern. Not identifying hazardous or toxic materials on the property should not be interpreted as a guarantee that these materials do not exist. It is merely a statement indicating that

the probability of contamination on the subject property should be minimal based on site characteristics, and the historical and current uses of the site and surrounding areas. This opinion is rendered based upon property inspection, information from interviews with knowledgeable persons regarding property history, and information provided by governmental and regulatory agencies. Information is obtained on a reasonably ascertainable basis as it pertains to costs, timeliness, and availability, and is believed to be from reliable sources; however no responsibility is assumed for its accuracy since AGW was not retained to verify publicly available information. Parties who wish to qualify for use of the landowner liability protections will need to know whether they are in compliance with activity and use limitations (AULs), including land use restrictions that were relied upon in connection with a response action. A determination of compliance with AULs is beyond the scope of this practice.

12.0 DEVIATIONS

This Phase I ESA has been completed in general accordance with ASTM Practice E 1527-05. We are aware of no significant deviations from this standard with the exception of the following:

- AGW was unable to conduct historical research back to the first developed use of the property, however, we do not believe this will impact the findings of our study.

Thank you for the opportunity to serve you on this project. If you have any questions regarding the contents of this report or should you require additional information, please do not hesitate to call.

Sincerely,

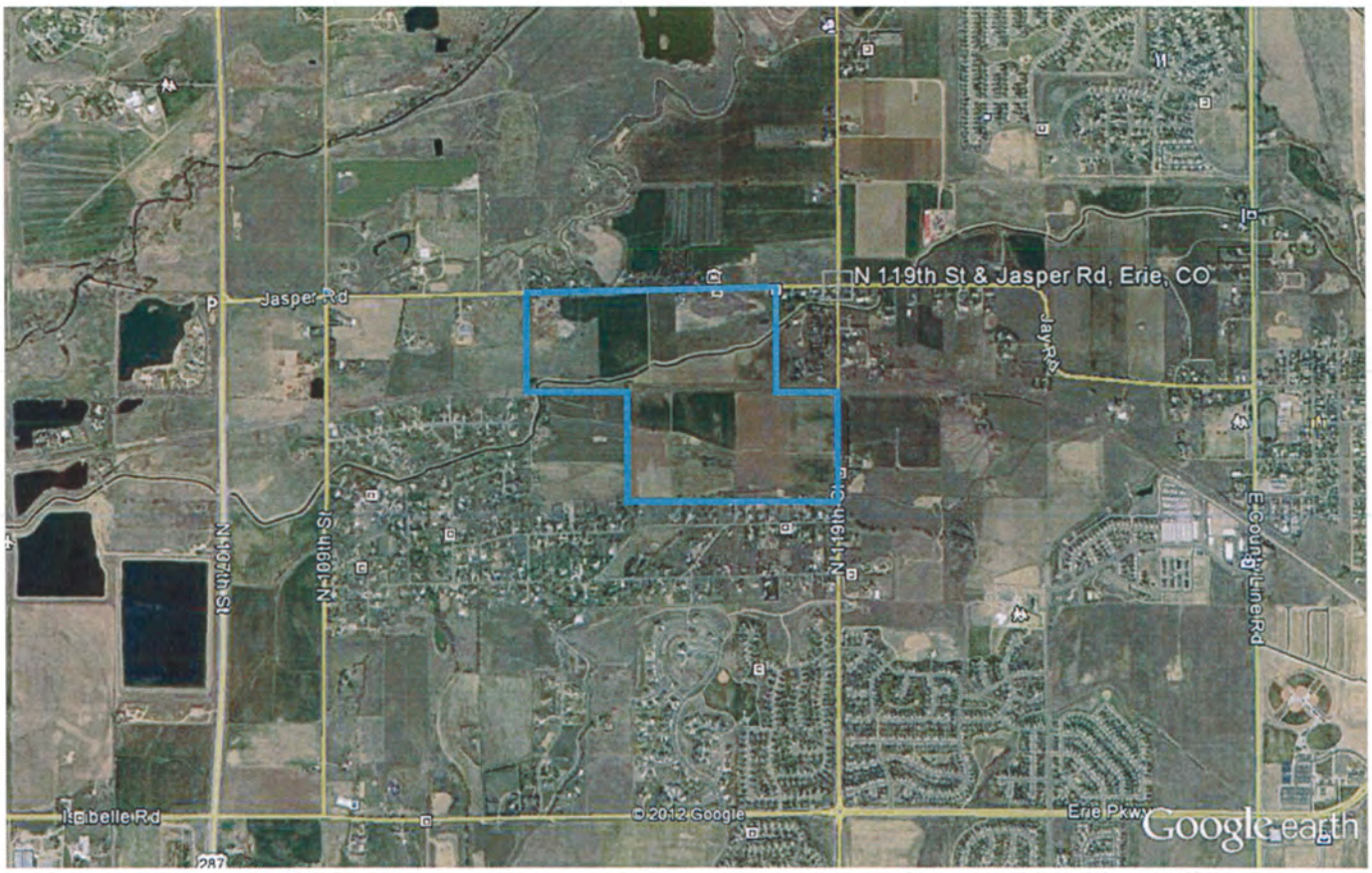
A. G. WASSENAAR, INC.

Kristin A. Schwartz
Environmental Scientist

Brian J. Glade, P.E.
Vice President

I, Brian J. Glade, declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in 312.10 of 40 CFR 312 and I have specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

KAS/JAB/dd

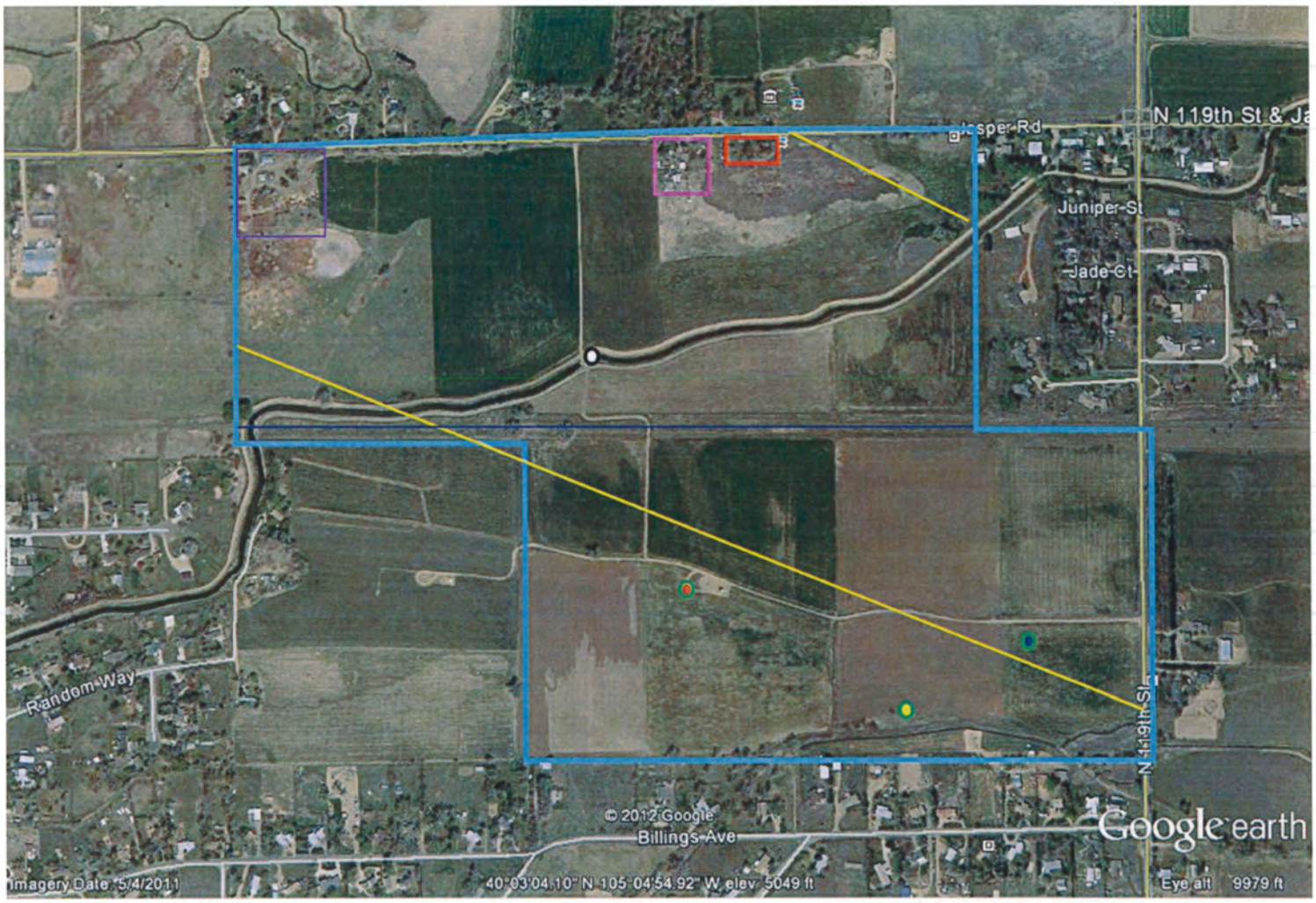


Approximate Subject Property

NOTE: ALL LOCATIONS ARE APPROXIMATE

N

A.G. Wassenaar Geotechnical and Environmental Consultants Inc.	
Wise Property Erie, Colorado	Project No. E12776.E1 Figure 1 Vicinity Map



Approximate Subject Property

Legend

- Abandoned Union Pacific Railroad Tracks
- Overhead Utilities/ Power Lines
- Farm Homestead
- Small Residence
- Historic Mill
- Sediment Catchment Basin
- Wise 1-14 X Oil and Gas Well
- Wise # 43-14 Oil and Gas Well
- Wise # 1-14 Oil and Gas Well

N

NOTE: ALL LOCATIONS ARE APPROXIMATE

A.G. Wassenaar Geotechnical and Environmental Consultants Inc.	
Wise Property Erie, Colorado	Project No. E12776.E1 Figure 2 Site Map

ATTACHMENT A
PHOTOGRAPHS

The three large ASTs within the farm homestead located at the northwest site corner are depicted.

Outbuildings, debris, and a vehicle located at the farm homestead are depicted.

The smaller residence and associated outbuildings located near the center of the northern boundary are visible.

The historic mill, located east of the smaller residence, is portrayed.

The Wise 1-14 X oil and gas well tank battery, condensate holding tank, and separator are all depicted.

Looking northwest across the majority of the site. The overhead utilities that traverse the entire property, a drainage, and the smaller residence denoted by the white buildings are visible.

View to the southeast across the site.

ATTACHMENT B
USER QUESTIONNAIRE

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants
2180 South Ivanhoe Street, Suite 5
Denver, Colorado 80222-5710
303-759-8373 Fax 303-759-4874
www.agwassenaar.com

USER QUESTIONNAIRE

INTRODUCTION

In order to qualify for on of the *Landowner Liability Protections (LLPs)*[35] offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "*Brownfields Amendments*"),[36] the *user* must provide the following information (if available) to the *environmental professional.* Failure to provide this information could result in a determination that *"all appropriate inquiry"* is not complete

(1.) **Environmental cleanup liens that are filed or recorded against the site (40 CFR 312.25).**
Are you aware of any environmental cleanup liens against the *property* that are filed or recorded under federal, tribal, state or local law? No

(2.) **Activity and land use limitations that are in place on the site or that have been filed or recorded in a registry (40 CFR 312.26).**
Are you aware of any AULs, such as *engineering controls,* land use restrictions or *institutional controls* that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law?

No

(3.) **Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28).**
As the user of this ESA do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former *occupants* of the *property* or an adjoining *property* so that you would have specialized knowledge of the chemicals and processes used by this type of business?

No

(4.) **Relationship of the purchase price to the fair market value of the *property* if it were not contaminated (40 CFR 312.29).**
Does the purchase price being paid for this *property* reasonably reflect the fair market value of the *property*? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property*? Yes

(5.) **Commonly known or reasonably ascertainable information about the *property* (40 CFR 312.30).**
Are you aware of commonly known or *reasonably ascertainable* information about the *property* that would help the *environmental professional* to identify conditions indicative of releases or threatened releases? For example, as *user*,

(a.) Do you know the past uses of the *property*? No
(b.) Do you know of specific chemicals that are present or once were present at the *property*? No
(c.) Do you know of spills or other chemical releases that have taken place at the *property*? No
(d.) Do you know of any environmental cleanups that have taken place at the *property*? No

(6.) **The degree of obviousness of the presence of likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).**
As the *user* of this ESA, based on your knowledge and experience related to the *property* are there any *obvious* indicators that point to the presence or likely presence of contamination at the *property*? No

COMPLETED BY: James A. Dullea, member Jasper Land Investment LLC
DATE: 12/20/2012 James A. Dullea

[35] *Landowner Liability Protections,* or LLPs, is the term used to describe the three types of potential defenses to Superfund liability in EPA's *Interim Guidance Regarding Criteria Landowners Must Meet in Order to Qualify for Bona Fide Prospective Purchaser, Contiguous Property Owner, or Innocent Landowner Limitations on CERCLA Liability ("Common Elements"* Guide) issued on March 6, 2003.

[36] P.L. 107-118.

ATTACHMENT C
TOPOGRAPHIC MAPS AND AERIAL PHOTOGRAPHS

TOPOGRAPHIC MAPS

Subject Property

Wise Property
SW of Jasper Road & N 119th Street
Erie, CO 80026

December 17, 2012

Performed For: A.G. Wassenaar, Inc
2180 S Ivanhoe Street
Denver, CO 80222
Attn: Kristin Schwartz
Ref: E12776.E1

The following maps were found:

Year	Map Name	Size	1:Scale	Note
1978	Erie	7.5'	24,000	
1971	Erie	7.5'	24,000	
1966	Erie	7.5'	24,000	
1948	Erie	7.5'	24,000	
1902	Niwot	15.'	62,500	Earliest found.

These 7.5' US Geological Survey maps covered most cities by the 1930's, and most remote areas by the 1960's. (Please note that maps are identified here by the year of the survey or aerial photo used to make or revise the map, rather than the year of publication.) Some maps changed names over time; to find them, a unique geographic index of the entire USGS collection is searched. If the 7.5' maps do not go back to 1940, earlier 15' maps are included. Any adjoining maps within 1/8 mile of the Subject Property are also included.

Please note that the accuracy and suitability of public and private records cannot be guaranteed, nor can this research. No warranty is made or implied. By using this report, the reader agrees to assume all related risk and to release Satisfi from liability for any damages. However, if this report is not 100% satisfactory, a full refund will be issued.

satisfi
environmental information

TOPOGRAPHIC MAPS SYMBOLS

This Key to Symbols is also available at http://mac.usgs.gov/isb/pubs/booklets/symbols/buildings.html

BUILDINGS AND RELATED FEATURES

Building	
School; church	
Built-up Area	
Racetrack	
Airport	
Landing strip	
Well (other than water); windmill	
Tanks	
Covered reservoir	
Gaging station	
Landmark object (feature as labeled)	
Campground; picnic area	
Cemetery: small; large	Cem

MINES AND CAVES

Quarry or open pit mine	
Gravel, sand, clay, or borrow pit	
Mine tunnel or cave entrance	
Prospect; mine shaft	
Mine dump	Mine dump
Tailings	Tailings

RIVERS, LAKES, AND CANALS

Intermittent stream	
Intermittent river	
Disappearing stream	
Perennial stream	
Perennial river	
Small falls; small rapids	
Large falls; large rapids	
Masonry dam	
Dam with lock	
Dam carrying road	
Perennial lake; Intermittent lake or pond	
Dry lake	Dry Lake
Narrow wash	
Wide wash	Wash
Canal, flume, or aqueduct with lock	
Elevated aqueduct, flume, or conduit	
Aqueduct tunnel	
Well or spring; spring or seep	

ROADS AND RELATED FEATURES

Roads on Provisional edition maps are not classified as primary, secondary, or light duty. They are all symbolized as light duty roads.

Primary highway	
Secondary highway	
Light duty road	
Unimproved road	
Trail	
Dual highway	
Dual highway with median strip	
Road under construction	U. C.
Underpass; overpass	
Bridge	
Drawbridge	
Tunnel	

RAILROADS AND RELATED FEATURES

Standard gauge single track; station	
Standard gauge multiple track	
Abandoned	
Under construction	
Narrow gauge single track	
Narrow gauge multiple track	
Railroad in street	
Juxtaposition	
Roundhouse and turntable	

TRANSMISSION LINES AND PIPELINES

Power transmission line: pole; tower	
Telephone line	Telephone
Aboveground oil or gas pipeline	
Underground oil or gas pipeline	Pipeline

CONTOURS

Topographic

Intermediate	
Index	
Supplementary	
Depression	
Cut; fill	

Bathymetric

Intermediate	
Index	
Primary	
Index Primary	
Supplementary	

© 2012 Satisfi Inc ~ Centennial CO ~ 720-200-9472

TOPOGRAPHIC MAPS SYMBOLS

This Key to Symbols is also available at http://mac.usgs.gov/isb/pubs/booklets/symbols/buildings.html

SUBMERGED AREAS AND BOGS

- Marsh or swamp
- Submerged marsh or swamp
- Wooded marsh or swamp
- Submerged wooded marsh or swamp
- Rice field — Rice
- Land subject to inundation

GLACIERS AND PERMANENT SNOWFIELDS

- Contours and limits
- Form lines

COASTAL FEATURES

- Foreshore flat
- Rock or coral reef
- Rock bare or awash
- Group of rocks bare or awash
- Exposed wreck
- Depth curve; sounding — 3
- Breakwater, pier, jetty, or wharf
- Seawall

MARINE SHORELINE

Topographic maps

- Approximate mean high water
- Indefinite or unsurveyed

Topographic-bathymetric maps

- Mean high water
- Apparent (edge of vegetation)

BATHYMETRIC FEATURES

- Area exposed at mean low tide; sounding datum
- Channel
- Offshore oil or gas: well; platform
- Sunken rock

VEGETATION

- Woods
- Scrub
- Orchard
- Vineyard
- Mangrove — Mangrove

SURFACE FEATURES

- Levee
- Sand or mud area, dunes, or shifting sand — Sand
- Intricate surface area — Soil Mine
- Gravel beach or glacial moraine — Gravel
- Tailings pond — Tailings Pond

BOUNDARIES

- National
- State or territorial
- County or equivalent
- Civil township or equivalent
- Incorporated city or equivalent
- Park, reservation, or monument
- Small park

LAND SURVEY SYSTEMS

U.S. Public Land Survey System

- Township or range line
  - Location doubtful
- Section line
  - Location doubtful
- Found section corner; found closing corner
- Witness corner; meander corner — WC, MC

Other land surveys

- Township or range line
- Section line
- Land grant or mining claim; monument
- Fence line

CONTROL DATA AND MONUMENTS

- Aerial photograph roll and frame number* — 3 - 20

Horizontal control

- Third order or better, permanent mark — Neace
- With third order or better elevation — BM 45.1
- Checked spot elevation — 19.5
- Coincident with section corner — Cactus
- Unmonumented*

Vertical control

- Third order or better, with tablet — BM 16.3
- Third order or better, recoverable mark — 120.0
- Bench mark at found section corner — BM 18.6
- Spot elevation — 5.3

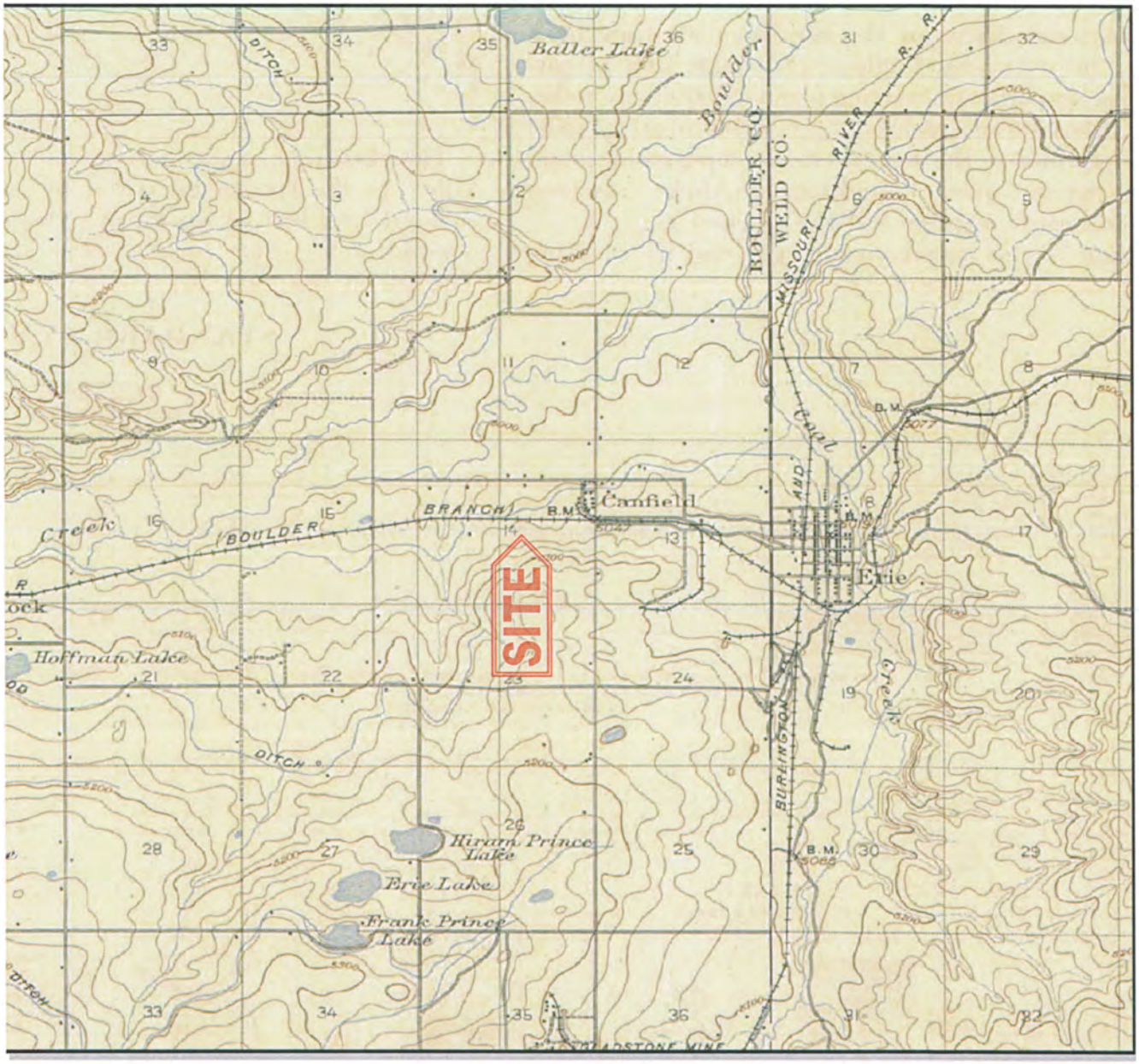
Boundary monument

- With tablet — BM 21.6
- Without tablet — 171.3
- With number and elevation — 67 301.1
- U.S. mineral or location monument

TOPOGRAPHIC MAPS 1902

1902 15' Niwot Quadrangle

Earliest found.



These 7.5' US Geological Survey maps covered most cities by the 1930's, and most remote areas by the 1960's. (Please note that maps are identified here by the year of the survey or aerial photo used to make or revise the map, rather than the year of publication.) Some maps changed names over time; to find them, a unique geographic index of the entire USGS collection is searched. If the 7.5' maps do not go back to 1940, earlier 15' maps are included. Any adjoining maps within 1/8 mile of the Subject Property are also included.

See Symbol Key

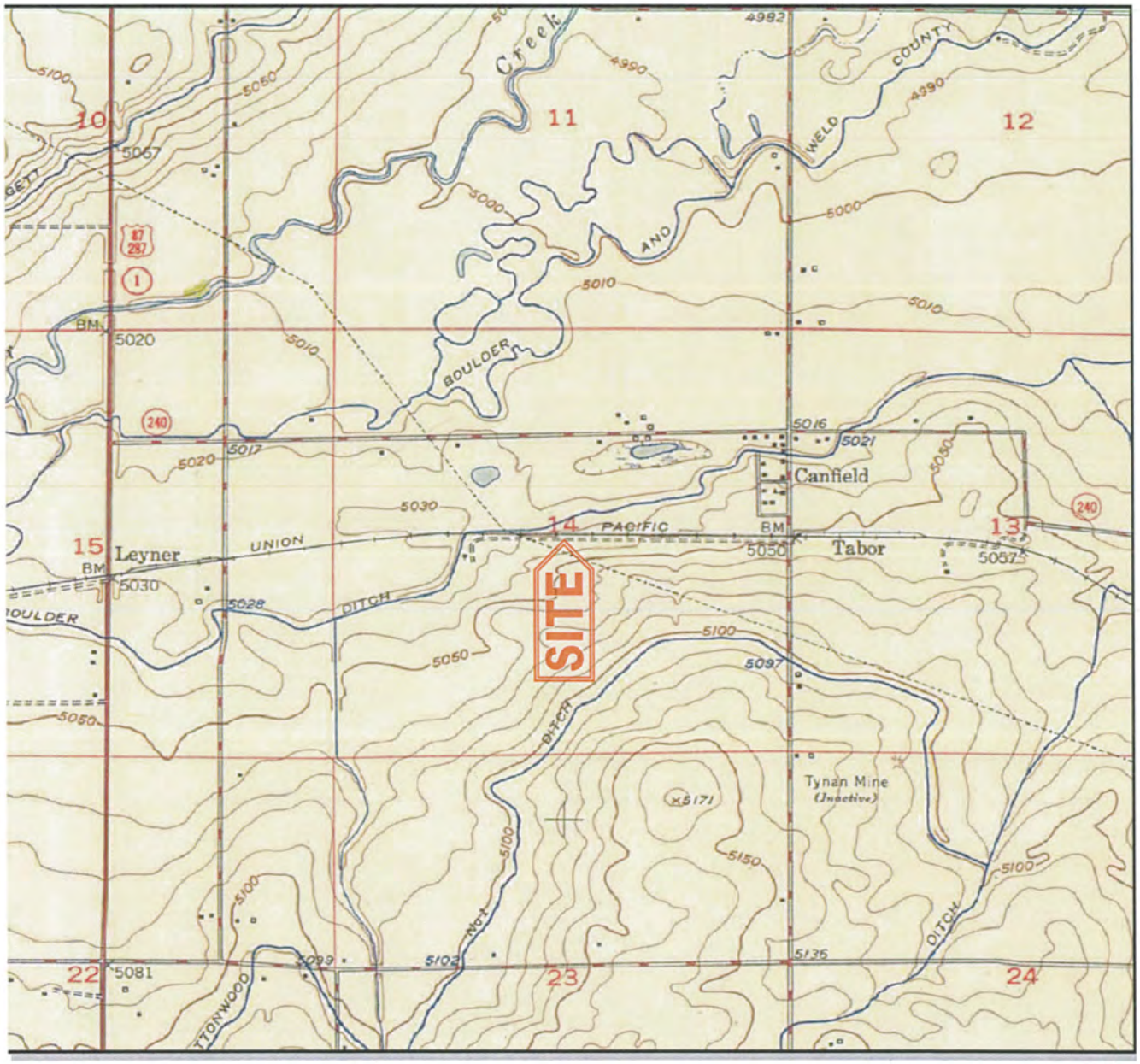
Original scale = 1:62500 |------- ~1 mile -------|

NORTH

© 2012 Satisfi Inc 720-200-9472

TOPOGRAPHIC MAPS 1948

1948 7.5' Erie Quadrangle



These 7.5' US Geological Survey maps covered most cities by the 1930's, and most remote areas by the 1960's. (Please note that maps are identified here by the year of the survey or aerial photo used to make or revise the map, rather than the year of publication.) Some maps changed names over time; to find them, a unique geographic index of the entire USGS collection is searched. If the 7.5' maps do not go back to 1940, earlier 15' maps are included. Any adjoining maps within 1/8 mile of the Subject Property are also included.

See Symbol Key

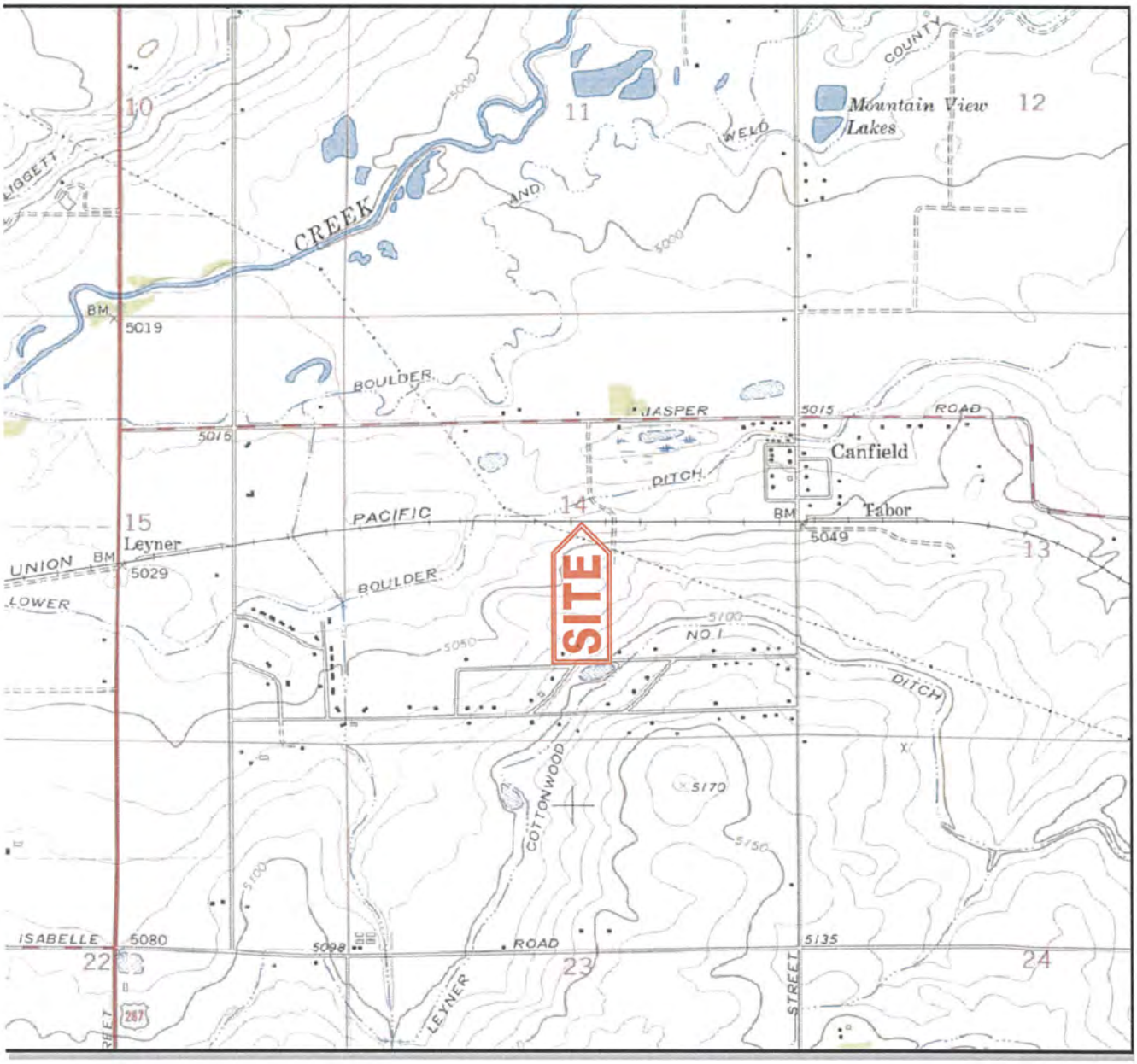
Original scale = 1:24000 |---------- ~1 mile ----------|

NORTH

© 2012 Satisfi Inc 720-200-9472

TOPOGRAPHIC MAPS 1966

1966 7.5' Erie Quadrangle



These 7.5' US Geological Survey maps covered most cities by the 1930's, and most remote areas by the 1960's. (Please note that maps are identified here by the year of the survey or aerial photo used to make or revise the map, rather than the year of publication.) Some maps changed names over time; to find them, a unique geographic index of the entire USGS collection is searched. If the 7.5' maps do not go back to 1940, earlier 15' maps are included. Any adjoining maps within 1/8 mile of the Subject Property are also included.

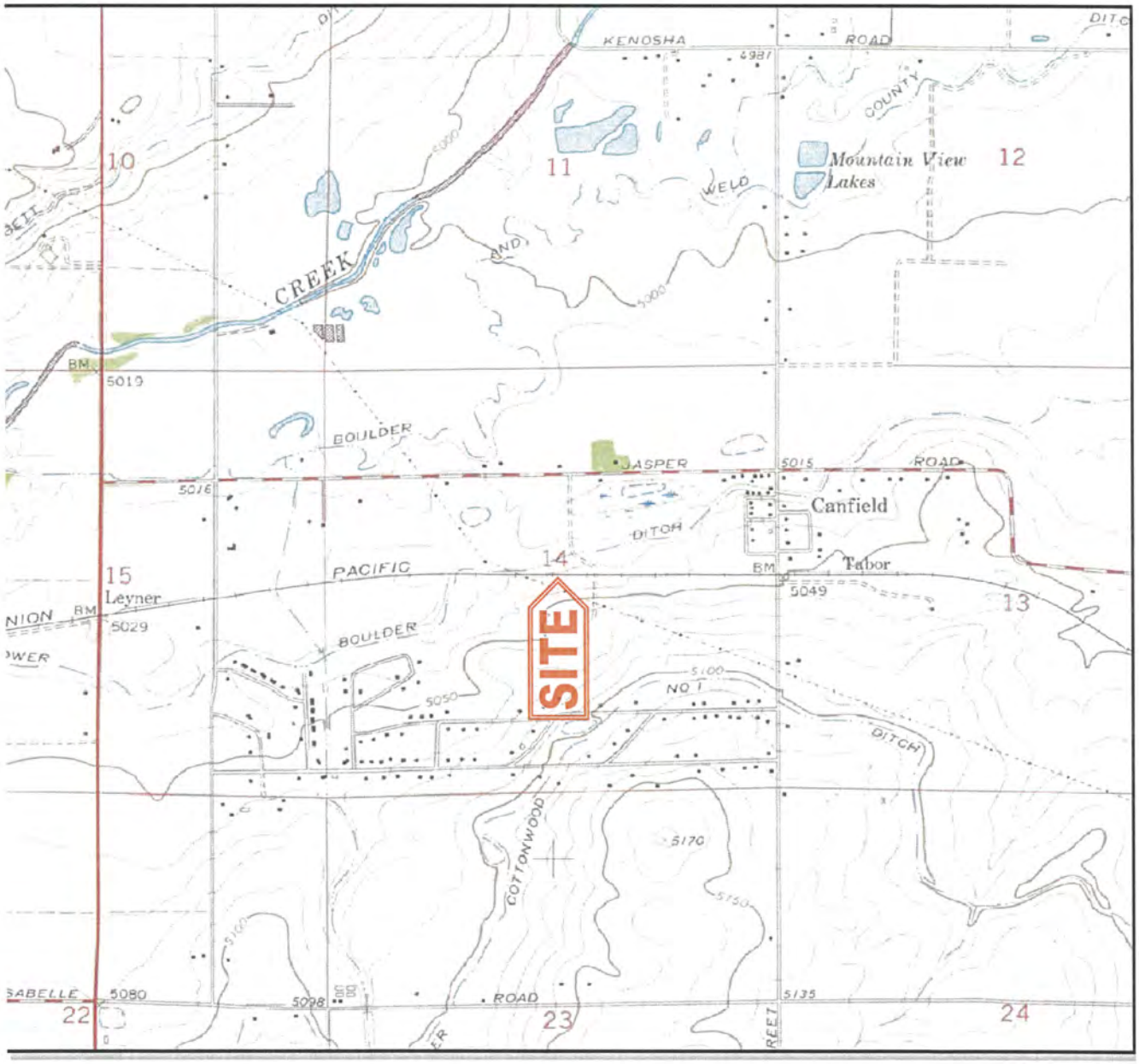
See Symbol Key

Original scale = 1:24000 |---------- ~1 mile ----------| NORTH

© 2012 Satisfi Inc 720-200-9472

TOPOGRAPHIC MAPS 1971

1971 7.5' Erie Quadrangle



These 7.5' US Geological Survey maps covered most cities by the 1930's, and most remote areas by the 1960's. (Please note that maps are identified here by the year of the survey or aerial photo used to make or revise the map, rather than the year of publication.) Some maps changed names over time; to find them, a unique geographic index of the entire USGS collection is searched. If the 7.5' maps do not go back to 1940, earlier 15' maps are included. Any adjoining maps within 1/8 mile of the Subject Property are also included.

See Symbol Key

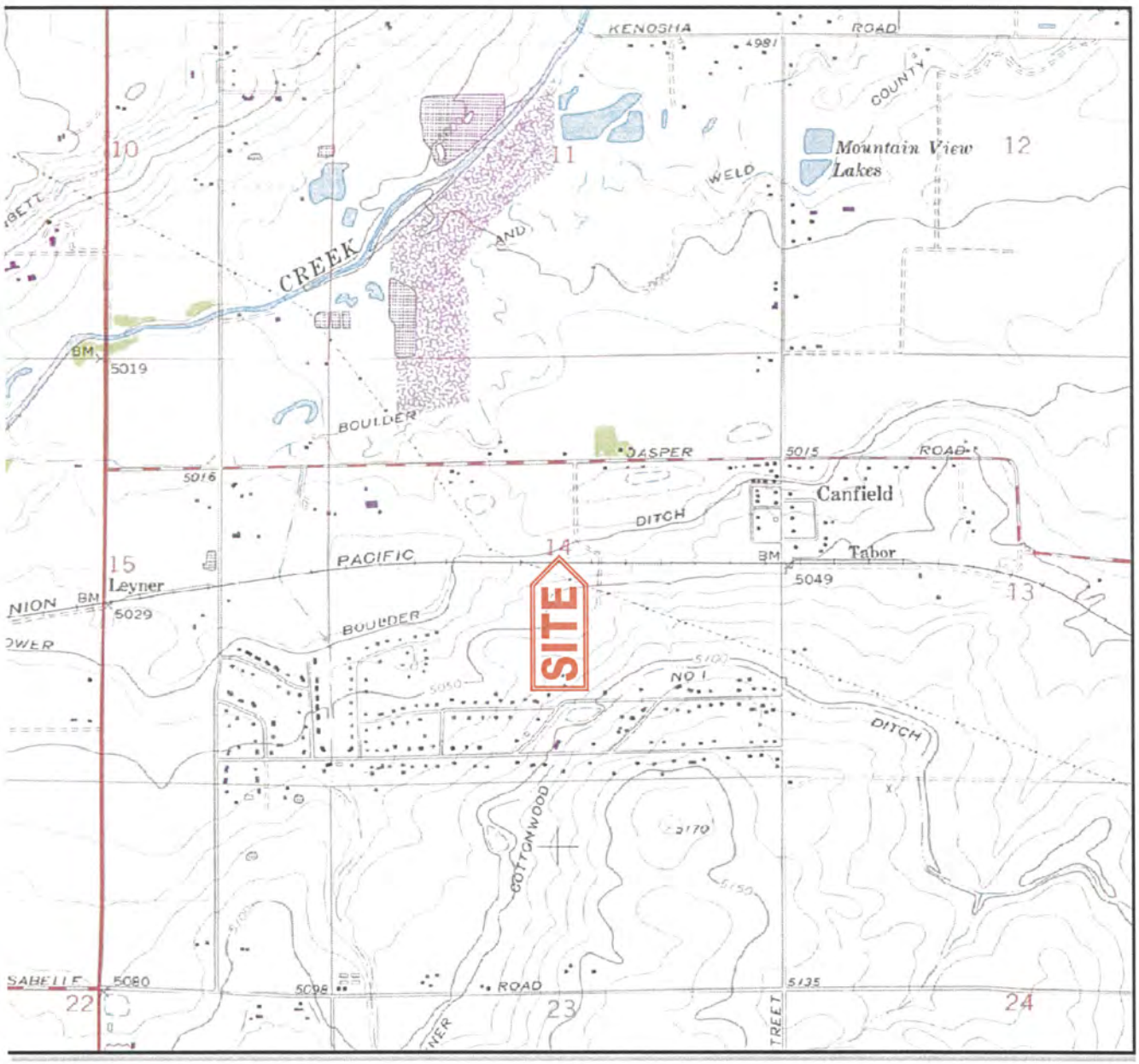
Original scale = 1:24000 |---------- ~1 mile ----------|

NORTH

© 2012 Satisfi Inc 720-200-9472

TOPOGRAPHIC MAPS 1978

1978 7.5' Erie Quadrangle



These 7.5' US Geological Survey maps covered most cities by the 1930's, and most remote areas by the 1960's. (Please note that maps are identified here by the year of the survey or aerial photo used to make or revise the map, rather than the year of publication.) Some maps changed names over time; to find them, a unique geographic index of the entire USGS collection is searched. If the 7.5' maps do not go back to 1940, earlier 15' maps are included. Any adjoining maps within 1/8 mile of the Subject Property are also included.

See Symbol Key

Original scale = 1:24000 |---------- ~1 mile ----------|

NORTH

© 2012 Satisfi Inc 720-200-9472

AERIAL PHOTOGRAPHS

Subject Property

Wise Property
SW of Jasper Road & N 119th Street
Erie, CO 80026

December 17, 2012

Performed For: A.G. Wassenaar, Inc
2180 S Ivanhoe Street
Denver, CO 80222
Attn: Kristin Schwartz
Ref: E12776.E1

The following photos were ordered:

Year	Note
1979	
1966	
1937	Earliest found.

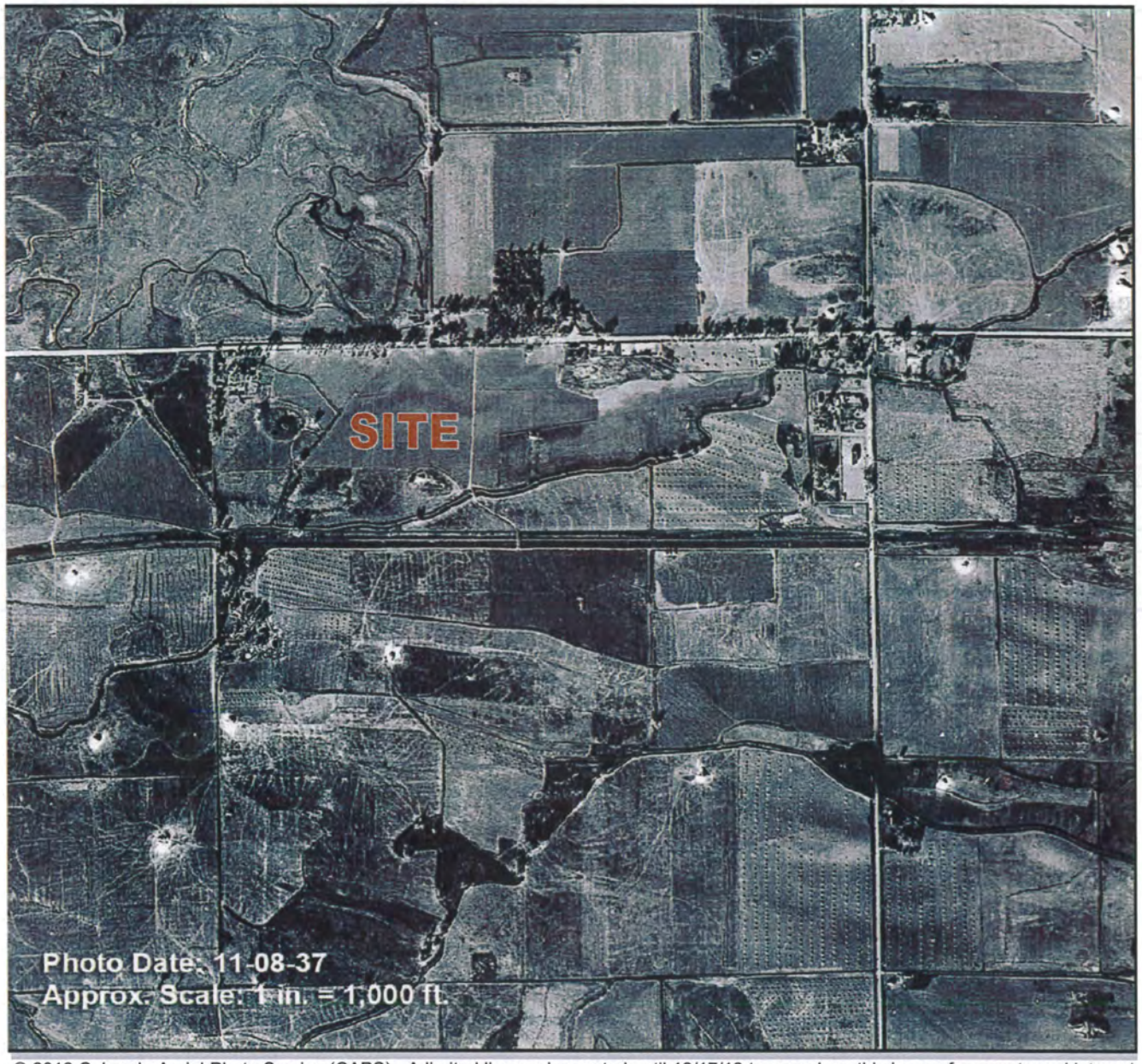
The Colorado Aerial Photo Service (CAPS) collection covers most developed areas of the Front Range annually from 1948. The originals are enlarged to a scale that is intended to show the Subject Property and the properties that surround it. The originals can be viewed in stereo and under high-power magnification at CAPS, 2757 W. Second Avenue in Denver, for a minimal handling fee. Call CAPS at 303-934-2419 or 800-215-2681 to have prints pulled and waiting.

Please note that the accuracy and suitability of public and private records cannot be guaranteed, nor can this research. No warranty is made or implied. By using this report, the reader agrees to assume all related risk and to release Satisfi from liability for any damages. However, if this report is not 100% satisfactory, a full refund will be issued.

satisfi
environmental information

1937

Earliest found.



© 2012 Colorado Aerial Photo Service (CAPS). A limited license is granted until 12/17/12 to reproduce this image for reports and internal use, but not for resale as an aerial photo. Reproduction of the electronic file or printed image for any other use is illegal without prior written permission from CAPS.

The Colorado Aerial Photo Service (CAPS) collection covers most developed areas of the Front Range annually from 1948. The originals are enlarged to a scale that is intended to show the Subject Property and the properties that surround it. The originals can be viewed in stereo and under high-power magnification at CAPS, 2757 W. Second Avenue in Denver, for a minimal handling fee. Call CAPS at 303-934-2419 or 800-215-2681 to have prints pulled and waiting.

NORTH

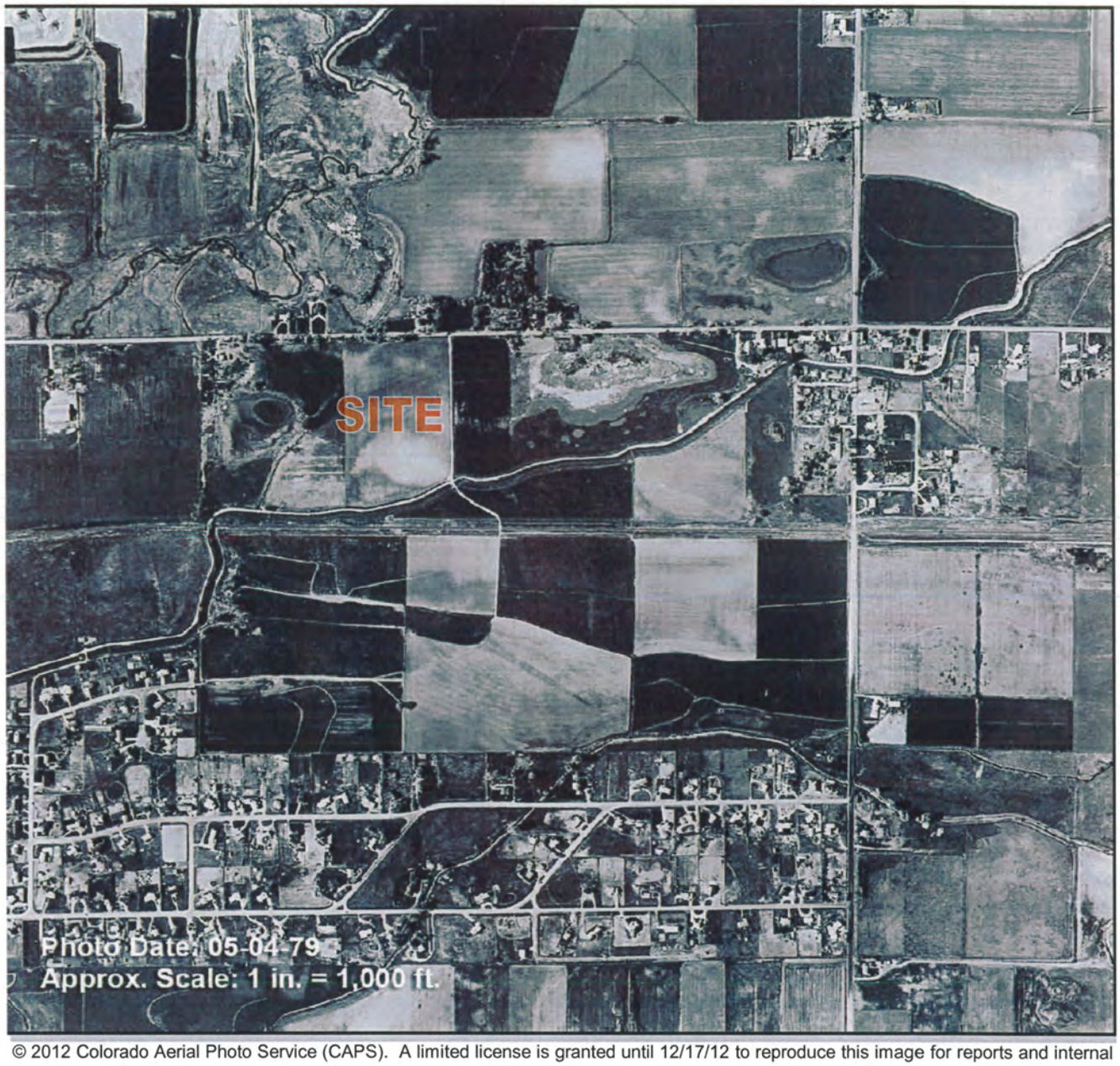
1966

© 2012 Colorado Aerial Photo Service (CAPS). A limited license is granted until 12/17/12 to reproduce this image for reports and internal use, but not for resale as an aerial photo. Reproduction of the electronic file or printed image for any other use is illegal without prior written permission from CAPS.

The Colorado Aerial Photo Service (CAPS) collection covers most developed areas of the Front Range annually from 1948. The originals are enlarged to a scale that is intended to show the Subject Property and the properties that surround it. The originals can be viewed in stereo and under high-power magnification at CAPS, 2757 W. Second Avenue in Denver, for a minimal handling fee. Call CAPS at 303-934-2419 or 800-215-2681 to have prints pulled and waiting.

NORTH

1979



© 2012 Colorado Aerial Photo Service (CAPS). A limited license is granted until 12/17/12 to reproduce this image for reports and internal use, but not for resale as an aerial photo. Reproduction of the electronic file or printed image for any other use is illegal without prior written permission from CAPS.

The Colorado Aerial Photo Service (CAPS) collection covers most developed areas of the Front Range annually from 1948. The originals are enlarged to a scale that is intended to show the Subject Property and the properties that surround it. The originals can be viewed in stereo and under high-power magnification at CAPS, 2757 W. Second Avenue in Denver, for a minimal handling fee. Call CAPS at 303-934-2419 or 800-215-2681 to have prints pulled and waiting.

NORTH

ATTACHMENT D
PUBLIC RECORDS RESEARCH

InfoMap

Technologies Incorporated

Environmental FirstSearch ™ Report

Target Property: WISE PROPERTY

JASPER RD AND N 119TH ST

ERIE CO 80026

Job Number: E12776.E1

PREPARED FOR:

A.G. Wassenaar, Inc

2180 S Ivanhoe Street

Denver, CO 80222

by Satisfi, Inc

720-200-9472

12-17-12

Tel: (610) 430-7530 *Fax: (610) 430-7535*

Environmental FirstSearch is a registered trademark of FirstSearch Technology Corporation. All rights reserved.

Environmental FirstSearch
Site Information Report

Request Date:	12-17-12	**Search Type:**	AREA
Requestor Name:	Brian Peterson		0.29 sq mile(s)
Standard:	ASTM-05	**Job Number:**	E12776.E1
		Filtered Report	

Target Site: JASPER RD AND N 119TH ST
ERIE CO 80026

Demographics

Sites:	4	**Non-Geocoded:**	4	**Population:**	NA
Radon:	2.2 - 4.7 PCI/L				

Site Location

	Degrees (Decimal)	Degrees (Min/Sec)		UTMs
Longitude:	-105.081747	-105:4:54	**Easting:**	493027.121
Latitude:	40.051104	40:3:4	**Northing:**	4433222.35
Elevation:	N/A		**Zone:**	13

Comment

Comment:

Additional Requests/Services

Adjacent ZIP Codes: 1 Mile(s)

ZIP Code	City Name	ST	Dist/Dir	Sel
80504	LONGMONT	CO	0.11 NW	Y
80516	ERIE	CO	0.00 --	Y

Services:

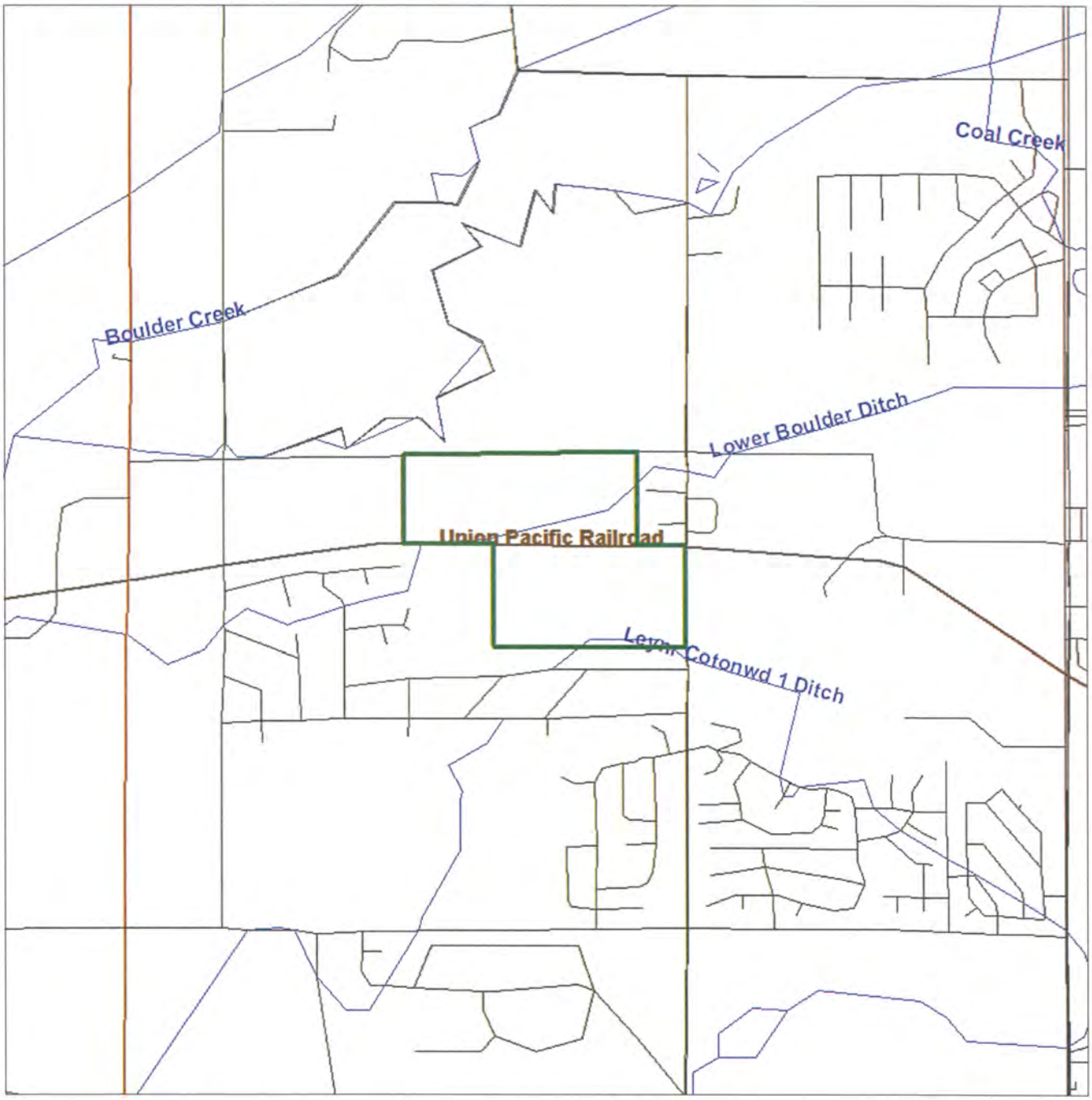
	Requested?	Date
Fire Insurance Maps	No	
Aerial Photographs	No	
Historical Topos	No	
City Directories	No	
Title Search/Env Liens	No	
Municipal Reports	No	
Online Topos	No	

Environmental FirstSearch

1 Mile Radius from Area

Single Map:

JASPER RD AND N 119TH ST, ERIE CO 80026



Source: 2005 U.S. Census TIGER Files

Area Polygon .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads .....

Environmental FirstSearch

.5 Mile Radius from Area

Single Map:

JASPER RD AND N 119TH ST, ERIE CO 80026

Source: 2005 U.S. Census TIGER Files

Area Polygon .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

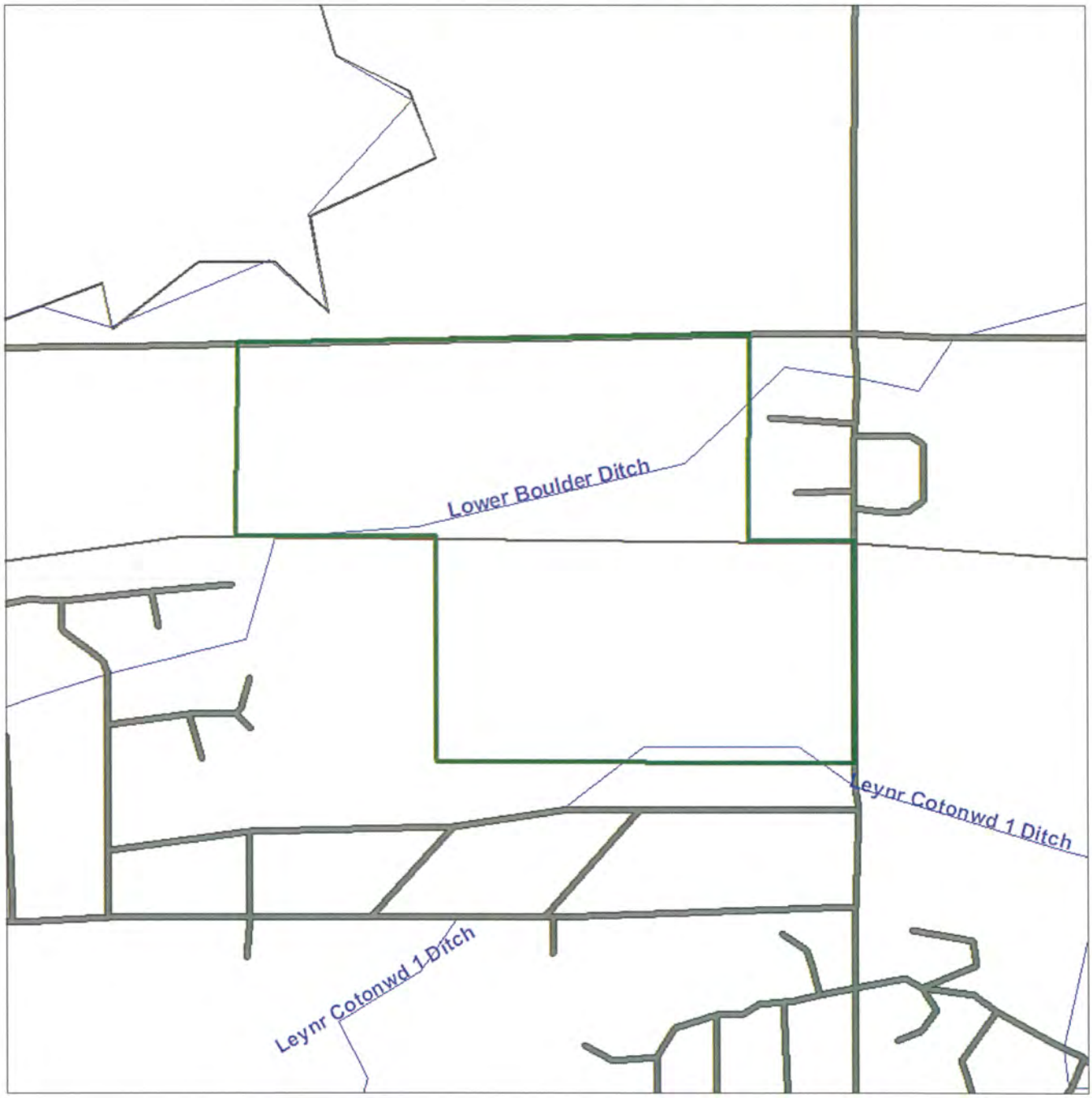
Railroads .....

Environmental FirstSearch

.25 Mile Radius from Area

Single Map:

JASPER RD AND N 119TH ST, ERIE CO 80026



Source: 2005 U.S. Census TIGER Files

Area Polygon .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

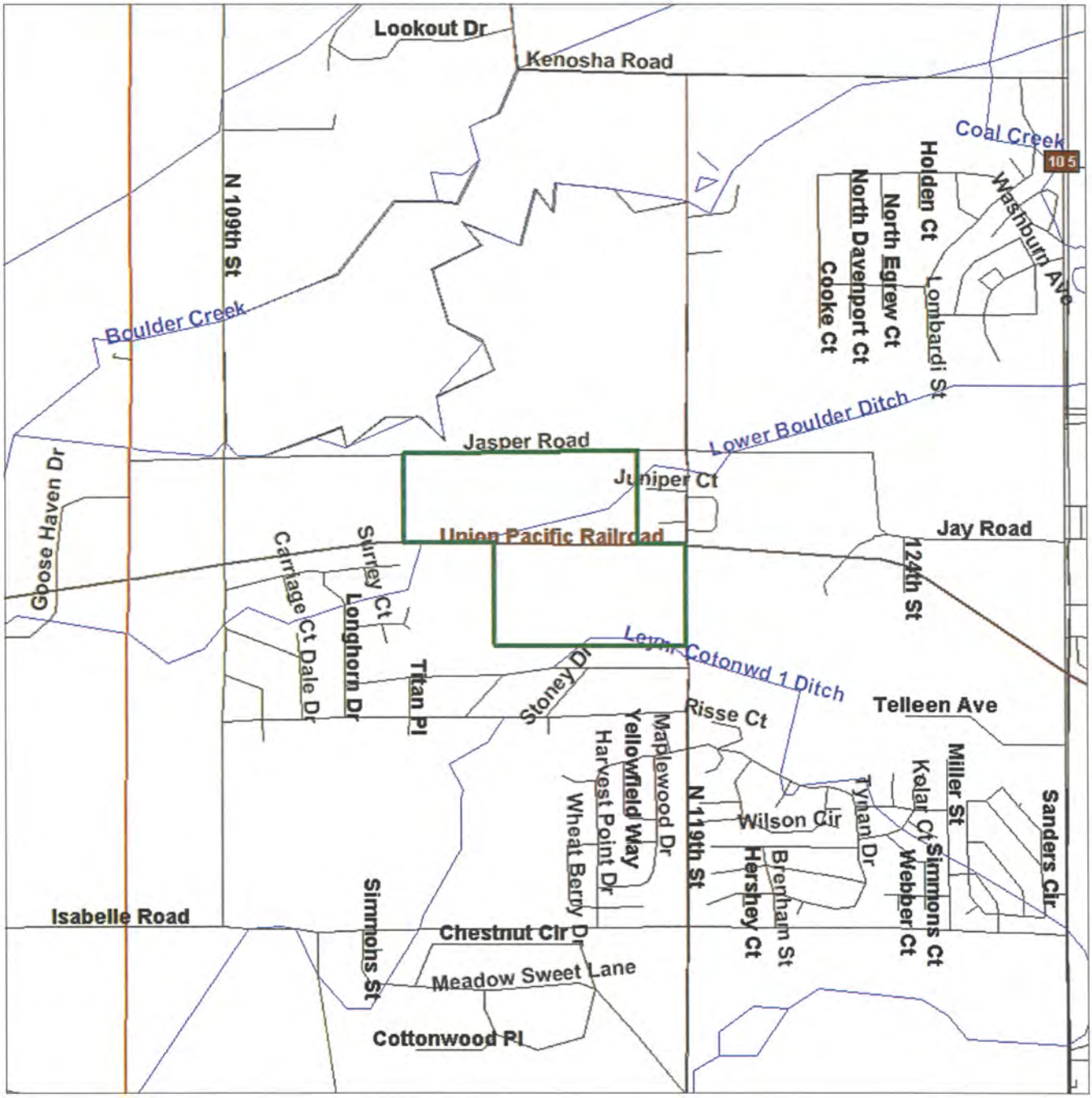
Railroads .....

Environmental FirstSearch

1 Mile Radius from Area

Site Locus Map:

JASPER RD AND N 119TH ST, ERIE CO 80026



Source: 2005 U.S. Census TIGER Files

Area Polygon .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads .....

Environmental FirstSearch
Search Summary Report

Target Site: JASPER RD AND N 119TH ST
ERIE CO 80026

FirstSearch Summary

Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
NPL	Y	09-20-12	1.00	0	0	0	0	0	0	0
NPL Delisted	Y	09-20-12	0.50	0	0	0	0	-	0	0
CERCLIS	Y	10-01-12	0.50	0	0	0	0	-	0	0
NFRAP	Y	10-01-12	0.50	0	0	0	0	-	0	0
RCRA COR ACT	Y	09-11-12	1.00	0	0	0	0	0	0	0
RCRA TSD	Y	09-11-12	0.50	0	0	0	0	-	0	0
RCRA GEN	Y	09-11-12	0.25	0	0	0	-	-	0	0
RCRA NLR	Y	09-11-12	0.25	0	0	0	-	-	0	0
Federal Brownfield	Y	10-14-12	0.25	0	0	0	-	-	0	0
ERNS	Y	10-04-12	0.25	0	0	0	-	-	0	0
Tribal Lands	Y	12-15-08	1.00	0	0	0	0	0	0	0
State/Tribal Sites	Y	08-01-07	1.00	0	0	0	0	0	0	0
State Spills 90	Y	10-15-12	0.25	0	0	0	-	-	0	0
State/Tribal SWL	Y	07-01-11	0.50	0	0	0	0	-	4	4
State/Tribal LUST	Y	10-17-12	0.50	0	0	0	0	-	0	0
State/Tribal UST/AST	Y	10-17-12	0.25	0	0	0	-	-	0	0
State/Tribal EC	Y	04-24-12	0.25	0	0	0	-	-	0	0
State/Tribal VCP	Y	10-17-12	0.50	0	0	0	0	-	0	0
Federal IC/EC	Y	12-13-12	0.25	0	0	0	-	-	0	0
Meth Labs	Y	12-02-11	0.25	0	0	0	-	-	0	0
- TOTALS -				0	0	0	0	0	4	4

Notice of Disclaimer

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to InfoMap Technologies, certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in InfoMap Technologies's databases. All EPA sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent NPL and state landfill the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

Waiver of Liability

Although InfoMap Technologies uses its best efforts to research the actual location of each site, InfoMap Technologies does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of InfoMap Technologies's services proceeding are signifying an understanding of InfoMap Technologies's searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.

Environmental FirstSearch
Sites Summary Report

Target Property: JASPER RD AND N 119TH ST
ERIE CO 80026

JOB: E12776.E1

TOTAL: 4 **GEOCODED:** 0 **NON GEOCODED:** 4 **SELECTED:** 4

Map ID	Dist/Dir	DB Type	Site Name/ID/Status	Address	ElevDiff	Page No.
	NON GC	*SWL*	*OLD ERIE LANDFILL* *12-1367/HISTORIC*	*UNKNOWN* *ERIE CO*	*N/A*	*1*
	NON GC	*SWL*	*NEWHAUSER DUMP* *12-1371/HISTORIC*	*UNKNOWN* *ERIE CO*	*N/A*	*2*
	NON GC	*SWL*	*HORST/DEAMIN* *12-137/HISTORIC*	*UNKNOWN* *ERIE CO*	*N/A*	*3*
	NON GC	*SWL*	*AL CARTON DUMP* *12-1368/HISTORIC*	*UNKNOWN* *ERIE CO*	*N/A*	*4*

Environmental FirstSearch
Site Detail Report

Target Property: JASPER RD AND N 119TH ST
ERIE CO 80026

JOB: E12776.E1

SWL

SEARCH ID: 4 **DIST/DIR:** NON GC **ELEVATION:** **MAP ID:**

NAME: OLD ERIE LANDFILL
ADDRESS: UNKNOWN
ERIE CO
WELD
CONTACT:
SOURCE: CDPHE/COUNTY

REV: 12/01/08
ID1: 12-1367
ID2: 00070-0002197
STATUS: HISTORIC
PHONE:

COLORADO HISTORIC LANDFILLS

STATUS : CO Old Waste Sites

AT FORMER LANDFILL NUMEROUS CHEMICALS. HAZARD TYPE: METHANE. IMPACT: GW.; Acres- 10 - 50
Type- LANDFILL
Fill- SLUDGE.
Oper/Ownr/Othr- / / PRATT PROPERTY LANDF, ,

Target Property: JASPER RD AND N 119TH ST
ERIE CO 80026

JOB: E12776.E1

SWL

SEARCH ID: 3 **DIST/DIR:** NON GC **ELEVATION:** **MAP ID:**

NAME: NEWHAUSER DUMP
ADDRESS: UNKNOWN
ERIE CO
WELD
CONTACT:
SOURCE: CDPHE/COUNTY

REV: 12/01/08
ID1: 12-1371
ID2: 00070-0002201
STATUS: HISTORIC
PHONE:

COLORADO HISTORIC LANDFILLS

STATUS : CO Old Waste Sites

; Acres- 10 - 50
Type- LANDFILL
Fill- REFUSE.
Oper/Ownr/Othr- / / NEWHAUSER, ,

Target Property: JASPER RD AND N 119TH ST
ERIE CO 80026

JOB: E12776.E1

SWL

SEARCH ID: 2 **DIST/DIR:** NON GC **ELEVATION:** **MAP ID:**

NAME: HORST/DEAMIN
ADDRESS: UNKNOWN
ERIE CO
WELD
CONTACT:
SOURCE: CDPHE/COUNTY

REV: 12/01/08
ID1: 12-137
ID2: 00070-0002200
STATUS: HISTORIC
PHONE:

COLORADO HISTORIC LANDFILLS

STATUS : CO Old Waste Sites

; Acres- 50 - 100
Type- LANDFILL
Fill- REFUSE
Oper/Ownr/Othr- , ,

Target Property: JASPER RD AND N 119TH ST
ERIE CO 80026

JOB: E12776.E1

SWL

SEARCH ID: 1 **DIST/DIR:** NON GC **ELEVATION:** **MAP ID:**

NAME: AL CARTON DUMP
ADDRESS: UNKNOWN
ERIE CO
WELD
CONTACT:
SOURCE: CDPHE/COUNTY

REV: 12/01/08
ID1: 12-1368
ID2: 00070-0002198
STATUS: HISTORIC
PHONE:

COLORADO HISTORIC LANDFILLS

STATUS : CO Old Waste Sites

USED FOR SEPTIC TANK and GREASE TRAP CLE. IMPACT: SW.; Acres- 1 - 10
Type- LANDFILL
Fill- LIQUIDS.
Oper/Ownr/Othr-

Environmental FirstSearch Descriptions

NPL: *EPA* NATIONAL PRIORITY LIST - The National Priorities List is a list of the worst hazardous waste sites that have been identified by Superfund. Sites are only put on the list after they have been scored using the Hazard Ranking System (HRS), and have been subjected to public comment. Any site on the NPL is eligible for cleanup using Superfund Trust money.
A Superfund site is any land in the United States that has been contaminated by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.
FINAL - Currently on the Final NPL
PROPOSED - Proposed for NPL

NPL DELISTED: *EPA* NATIONAL PRIORITY LIST Subset - Database of delisted NPL sites. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.
DELISTED - Deleted from the Final NPL

CERCLIS: *EPA* COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM (CERCLIS)- CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL.
PART OF NPL- Site is part of NPL site
DELETED - Deleted from the Final NPL
FINAL - Currently on the Final NPL
NOT PROPOSED - Not on the NPL
NOT VALID - Not Valid Site or Incident
PROPOSED - Proposed for NPL
REMOVED - Removed from Proposed NPL
SCAN PLAN - Pre-proposal Site
WITHDRAWN - Withdrawn

NFRAP: *EPA* COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM ARCHIVED SITES - database of Archive designated CERCLA sites that, to the best of EPA's knowledge, assessment has been completed and has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.
NFRAP – No Further Remedial Action Plan
P - Site is part of NPL site
D - Deleted from the Final NPL
F - Currently on the Final NPL
N - Not on the NPL
O - Not Valid Site or Incident
P - Proposed for NPL
R - Removed from Proposed NPL
S - Pre-proposal Site
W – Withdrawn

RCRA COR ACT: *EPA* RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.
RCRAInfo facilities that have reported violations and subject to corrective actions.

RCRA TSD: ***EPA*** RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM TREATMENT, STORAGE, and DISPOSAL FACILITIES. - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.
Facilities that treat, store, dispose, or incinerate hazardous waste.

RCRA GEN: ***EPA/MA DEP/CT DEP*** RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM GENERATORS - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.
Facilities that generate or transport hazardous waste or meet other RCRA requirements.
LGN - Large Quantity Generators
SGN - Small Quantity Generators
VGN – Conditionally Exempt Generator.
Included are RAATS (RCRA Administrative Action Tracking System) and CMEL (Compliance Monitoring & Enforcement List) facilities.
CONNECTICUT HAZARDOUS WASTE MANIFEST – Database of all shipments of hazardous waste within, into or from Connecticut. The data includes date of shipment, transporter and TSD info, and material shipped and quantity. This data is appended to the details of existing generator records.
MASSACHUSETTES HAZARDOUS WASTE GENERATOR – database of generators that are regulated under the MA DEP.
VQN-MA = generates less than 220 pounds or 27 gallons per month of hazardous waste or waste oil.
SQN-MA = generates 220 to 2,200 pounds or 27 to 270 gallons per month of waste oil.
LQG-MA = generates greater than 2,200 lbs of hazardous waste or waste oil per month.

RCRA NLR: ***EPA*** RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.
Facilities not currently classified by the EPA but are still included in the RCRAInfo database. Reasons for non classification:
Failure to report in a timely matter.
No longer in business.
No longer in business at the listed address.
No longer generating hazardous waste materials in quantities which require reporting.

ERNS: ***EPA/NRC*** EMERGENCY RESPONSE NOTIFICATION SYSTEM (ERNS) - Database of incidents reported to the National Response Center. These incidents include chemical spills, accidents involving chemicals (such as fires or explosions), oil spills, transportation accidents that involve oil or chemicals, releases of radioactive materials, sightings of oil sheens on bodies of water, terrorist incidents involving chemicals, incidents where illegally dumped chemicals have been found, and drills intended to prepare responders to handle these kinds of incidents. Data since January 2001 has been received from the National Response System database as the EPA no longer maintains this data.

Tribal Lands: ***DOI/BIA*** INDIAN LANDS OF THE UNITED STATES - Database of areas with boundaries established by treaty, statute, and (or) executive or court order, recognized by the Federal Government as territory in which American Indian tribes have primary governmental authority. The Indian Lands of the United States map layer shows areas of 640 acres or more, administered by the Bureau of Indian Affairs. Included are

Federally-administered lands within a reservation which may or may not be considered part of the reservation.
BUREAU OF INDIAN AFFIARS CONTACT - Regional contact information for the Bureau of Indian Affairs offices.

State/Tribal Sites: ***CDPHE*** CO SPL - Colorado does not have an official State Priority List (SPL). However, there are a number of sites that the state seems to place in this sort of category. Some are officially a Natural Resource Damages Site (NRDS) or Private Cleanup Site (Non-Superfund), but they're listed on the state's web page of Superfund sites (www.cdphe.state.co.us/hm/sf_sites.htm). Others are UMTRA (Uranium Mill Tailing Remedial Action) mill tailing cleanup sites (www.cdphe.state.co.us/hm/umsites.htm). Thousands of UMTRA "vicinity properties" have also been identified where mill tailings were used as sand in concrete, roadbase, trenches, bricks, etc. Such properties have been remediated in Durango, Grand Junction, Fruita, Palisade, Gunnison, Maybell, Naturita and Rifle, but some unidentified tailings may still remain in and around these communities. CDPHE's list of vicinity properties is not publicly available and was not searched for this report. Property-specific information is available through the CDPHE Grand Junction office. See www.cdphe.state.co.us/hm/rptailng.htm.

State Spills 90: ***CDPHE*** ENVIRONMENTAL RELEASE AND INCIDENT DATABASE - This is a database of reported spills in Colorado.

State/Tribal SWL: ***CDPHE*** DATABASE OF ACTIVE SOLID WASTE MANAGEMENT FACILITIES - Listing of Active solid waste facilities and transfer stations.
DATABASE OF ACTIVE SOLID WASTE MANAGEMENT FACILITIES - Listing of Active solid waste facilities and transfer stations.
CO Historic Landfills - This proprietary database represents a compilation of eleven local, regional and state agency sources. The agencies generated these lists on a one-time basis and do not expect to update them. A more detailed description of the applicable source is included with any findings reported from this database. The eleven sources are:
1. Adams County CO Old Landfills
2. Arapahoe County CO Old Landfills
3. Douglas County CO Old Landfills
4. Weld County CO Old Landfills
5. Boulder County CO Old Landfills
6. Jefferson County CO Old Landfills
7. Denver CO Methane Study
8. CO Methane Study
9. DRCOG Methane Study
10. Denver CO Old Fil Sites
11. CO Old Waste Sites

State/Tribal LUST: ***COSTIS*** DATABASE OF LEAKING UNDERGROUND STORAGE TANKS - Colorado Department of Labor and Employment's Colorado Storage Tank Information System (COSTIS) provides this data.
LUST Trust Tanks - This is an old list of locations where tank leaks were suspected and LUST (Leaking Underground Storage Tank) Trust funds were used in an effort to identify the source. Often, the facility responsible for the leak was found nearby, and that facility was then entered into the LUST database. In other cases, however, the source was never identified, and nothing was ever entered into the LUST database. When responsibility for the tank program was transferred from CDPHE (Colorado Department of Public Health & Environment) to CDLE (Colorado Department of Labor & Employment) in the '90s, this old LUST Trust list was never entered into the new COSTIS database (Colorado Storage Tank Information System). Few people at CDLE are aware of this old list, and any files associated with the listings have apparently been discarded or misplaced.

State/Tribal UST/AST: ***COSTIS*** DATABASE OF UNDERGROUND STORAGE TANKS - Colorado Department of Labor and Employment's Colorado Storage Tank Information System (COSTIS) provides this data.

State/Tribal EC: ***CDPHE*** ENVIRONMENTAL COVENANTS - Senate Bill 01-145 gave authority to the Colorado Department of Public Health and Environment to approve requests to restrict the future use of a property using an enforceable agreement called an environmental covenant. When a contaminated site is not cleaned up completely, land use restrictions may be used to ensure that the selected cleanup remedy is

adequately protective of human health and the environment.

State/Tribal VCP: ***CDPHE*** THE VOLUNTARY CLEANUP AND REDEVELOPMENT PROGRAM PROGRAM - The Voluntary Cleanup and Redevelopment program was created in 1994. The objective of the program is to facilitate the redevelopment and transfer of contaminated properties. Cleanup decisions are based on existing standards and the proposed use of the property. The actual cleanup and verification is the owner's responsibility.

RADON: ***NTIS*** NATIONAL RADON DATABASE - EPA radon data from 1990-1991 national radon project collected for a variety of zip codes across the United States.

Meth Labs: ***US DOJ*** NATIONAL CLANDESTINE LABORATORY REGISTER - Database of addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the U.S. Department of Justice ("the Department"), and the Department has not verified the entry and does not guarantee its accuracy. All sites that are included in this data set will have an id that starts with NCLR.

Environmental FirstSearch Database Sources

NPL: ***EPA*** Environmental Protection Agency

Updated quarterly

NPL DELISTED: ***EPA*** Environmental Protection Agency

Updated quarterly

CERCLIS: ***EPA*** Environmental Protection Agency

Updated quarterly

NFRAP: ***EPA*** Environmental Protection Agency.

Updated quarterly

RCRA COR ACT: ***EPA*** Environmental Protection Agency.

Updated quarterly

RCRA TSD: ***EPA*** Environmental Protection Agency.

Updated quarterly

RCRA GEN: ***EPA/MA DEP/CT DEP*** Environmental Protection Agency, Massachusetts Department of Environmental Protection, Connecticut Department of Environmental Protection

Updated quarterly

RCRA NLR: ***EPA*** Environmental Protection Agency

Updated quarterly

ERNS: ***EPA/NRC*** Environmental Protection Agency

Updated annually

Tribal Lands: ***DOI/BIA*** United States Department of the Interior

Updated annually

State/Tribal Sites: ***CDPHE*** The Colorado Department of Public Health and Environment Hazardous Materials and Waste Management Division

Updated annually

State Spills 90: ***CDPHE*** CDPHE Hazardous Materials and Waste Management Division

Updated annually

State/Tribal SWL: ***CDPHE*** The Colorado Department of Public Health and Environment Hazardous Materials and Waste Management DivisionPublic Safety

Updated annually

State/Tribal LUST: ***COSTIS*** The Colorado Department of Labor and Employment/Division of Oil and Public Safety

Updated semi-annually

State/Tribal UST/AST: ***COSTIS*** The Colorado Department of Labor and Employment/Division of Oil and Public Safety

Updated semi-annually

State/Tribal EC: ***CDPHE*** rado Department of Public Health and Environment Hazardous Materials and Waste Management Division

Updated annually

State/Tribal VCP: ***CDPHE*** The Colorado Department of Public Health and Environment Hazardous Materials and Waste Management Division

Updated annually

RADON: ***NTIS*** Environmental Protection Agency, National Technical Information Services

Updated periodically

Meth Labs: ***US DOJ*** U.S. Department of Justice

Updated when available

ATTACHMENT E
QUALIFICATIONS

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants
2180 South Ivanhoe Street, Suite 5
Denver, Colorado 80222-5710
303-759-8373 Fax 303-759-4874
www.agwassenaar.com

RESUME

KRISTIN A. SCHWARTZ
Environmental Scientist

EDUCATION:

B.S., Environmental Engineering, University of Colorado at Boulder 2011.

EXPERIENCE:

Ms. Schwartz joined A.G. Wassenaar in July 2012 as a staff Environmental Scientist for the Environmental Department. Ms. Schwartz's field experience includes assisting with characterizing and monitoring surface water contamination due to acid mine draining; conducting site investigations to determine how to most effectively remediate abandon mine shafts and adits; and determining bioremdiation and chemical treatment solutions for wastewater treatment plants. This involves: water and soil sampling for identification and analysis, core sampling preparation, GPS site mapping, characterizing and measuring site specifications, oversight of remedial construction activities, and coordinating with landowners and contractors.

In addition to fieldwork, her responsibilities included technical report writing, review, and presentation, data analysis, analytical review and interpretation, proposal preparation, and regulatory compliance.

Previous to joining A.G. Wassenaar, Inc., Ms. Schwartz gained environmental remediation and government regulatory experience working as an Environmental Protection Specialist Intern for the Department of Natural Resources Inactive Mines program.

TRAINING:

40 Hour OSHA HAZWOPER certified
Engineer in Training (EIT) status

MEMBERSHIPS:

American Water Works Association (AWWA)
World Environment Federation (WEF)

A.G. Wassenaar Inc.
Geotechnical and Environmental Consultants
2180 South Ivanhoe Street, Suite 5
Denver, Colorado 80222-5710
303-759-8100 Fax 303-756-2920
www.agwassenaar.com

RESUME

JULIE A. BRUNGARDT
Environmental Scientist

EDUCATION:

Bachelor's Degree in Environmental Studies, University of Colorado, Boulder, CO, 2002

EXPERIENCE:

Ms. Brungardt began working with A.G. Wassenaar, Inc. in May 2003. She was hired as a staff environmental scientist for the Environmental Department. Responsibilities include the following:

Industrial Hygiene
- Mold growth and moisture intrusion evaluations in response to water losses
- Initial and conformance mold inspections of basement subfloor and crawl spaces
- Indoor air quality investigations pertaining to mold and fungal growth
- Inspections following fires in residential or commercial buildings

Asbestos
- Air Monitoring Specialist (AMS) duties for asbestos abatement projects
- Asbestos surveys of commercial and residential buildings
- Asbestos sample collection including soil and building materials

Lead Based Paint
- Lead based paint testing within commercial and residential buildings

Phase I
- Site assessments for both buyers and sellers of commercial, industrial and residential real estate

TRAINING:

EPA-Approved AHERA Asbestos Inspector
Colorado State Certified Asbestos Building Inspector
EPA-Approved AHERA Air Monitoring Specialist
Colorado State Certified Air Monitoring Specialist
Colorado State Certified Lead Based Paint Inspector
Colorado State Certified Lead Risk Assessor
National Environmental Health Association, Residential Radon Measurement Provider

MEMBERSHIPS:

American Industrial Hygiene Association
Colorado Environmental Professionals Association

ATTACHMENT F
REFERENCES

REFERENCES

Colorado Oil and Gas Conservation Commission. COGCC GIS Online. <http://www.oil-gas.state.co.us/>

CTL/Thompson, Inc. "Preliminary Geotechnical Investigation, Wise Farms, Southwest of Jasper Road and 119th Street, Erie, Colorado". 9 December 2005.

Dullea, Jim. Jasper Land Investments. Written Correspondence and Personal Interview. 20 December 2012.

Parker, Nancy. Town of Erie. Town Clerk. Written Records Request. 17 December 2012.

Satisfi Environmental Information. Environmental Database Search. "Wise Property, Erie, CO 80516". 17 December 2012.

Satisfi Environmental Information. Aerial Photographs. Dated 1937, 1979, and 1985.

Satisfi Environmental Information. Topographic Maps, Erie Quadrangle dated 1948, 1966, 1971, and 1978. 9 October 2012.

Satisfi Environmental Information. Topographic Maps, Niwot Quadrangle dated 1902. 9 October 2012.

Western Environment and Ecology, Inc. "Mine Subsidence Investigation, Wise Property, Section 14, Township 1 North, Range 68 West, Boulder County, Colorado". 31 May 2005.

Wise, Alan and Sarah. Personal Interview. 17 December 2012.

CTL | THOMPSON
INCORPORATED

October 25, 2013

Jasper Land Investments, LLC
9162 South Kenwood Court
Highlands Ranch, Colorado 80216

Attention: Jim Dullea

Subject: Supplemental Mine Subsidence Risk Investigation
Wise Farms
Erie, Colorado
Project No. DN41,199-110

At your request, we have completed additional subsurface investigation and geological/engineering analysis to evaluate risk of subsidence due to past underground coal mining at the Wise Farms property, a parcel planned for development of single-family homes. Our work was conducted to fulfill the scope of service described in our Contract Modification Proposal (No. DN-05-0900-CM3, dated July 24, 2013).

Previous Investigations

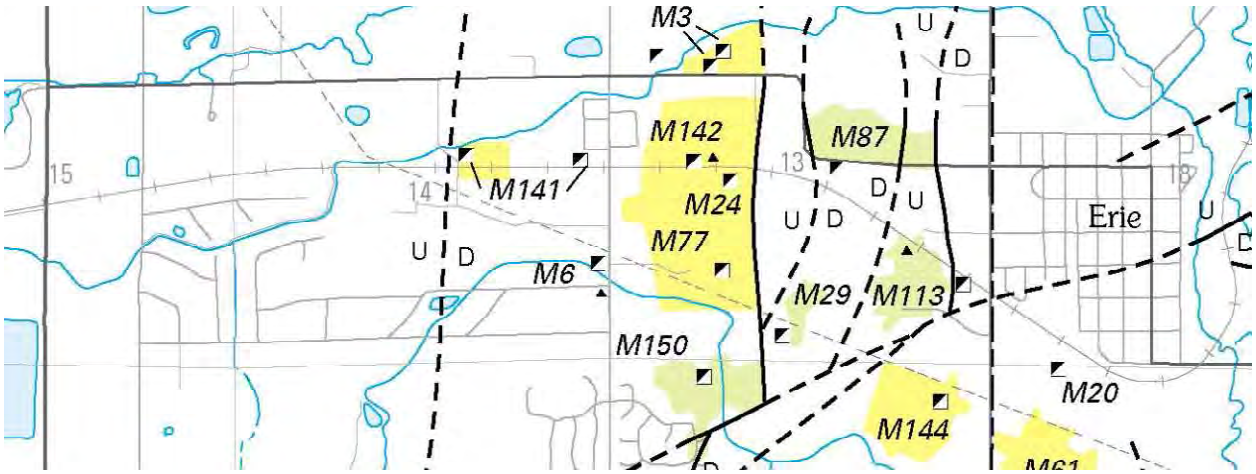
CTL|Thompson, Inc. completed a Preliminary Geotechnical Investigation of the Wise Farms property (Project No. DN41,199-115, report dated December 9, 2005). The study included 42 shallow borings for the purpose of characterizing the ground for potential residential development. We found that the site is suitable for development from a standpoint of the shallow geotechnical conditions. We did not evaluate the site for mine subsidence potential. We recently performed additional subsurface investigation that included 12 borings to help evaluate groundwater elevations on the northern portion of the property (report dated July 16, 2013).

Western Environment and Ecology, Inc. (WEE) completed a Mine Subsidence Investigation for the Wise Property (WEE Project No. 394-001-01, report dated May 31, 2005). WEE used data and analysis from six borings they drilled on the property in 1998-1999, supplemented by eight additional borings they completed in April, 2005. Other data they used included records on file with Colorado Division of Mines (CDM) for the Banner, Standard, Star and Jackson Mines that operated between 1884 and 1890. WEE prepared a Map (their Fig. 2) that shows the old mine maps overlain on a recent topographic plan of the site, including locations of borings, mine features, restricted development areas and an inferred fault trace. WEE's Figure 2 is reproduced in as Figure 2 of this report. WEE's full report should be considered and reviewed with this current report.

Discussion

The Laramie formation is about 600 to 800 feet thick and contains two or three coal zones in the lower 200 feet. In this area, the lowest coal zone was mined and was reported to be about 5 to 10 feet thick including partings (non-coal rocks), for an average mined thickness of about 7 feet. Most of the Laramie formation has been removed by erosion at the Wise Property, leaving only the lower section, and a substantial thickness of sandy alluvium related to Boulder Creek is present over interbedded claystone, sandstone and coal. Underlying the Laramie formation is the Fox Hills Sandstone, recognizable as a fairly consistent fine to medium grained, partially cemented quartz sandstone with minor biotite particles. The Fox Hills Sandstone was deposited at a beach front as the Cretaceous Seaway regressed about 60 million years ago and has a "salt and pepper" appearance. The Fox Hills is much different than the intermixed clay-sand deposits common in the overlying Laramie formation that was deposited in a river delta-swamp that formed over the beach. Because of the consistency of the Fox Hills Sandstone, it is used to evaluate the geologic structure in the Denver Basin.

I reviewed WEE's 2005 report as well as a map prepared by the United States Geological Survey (USGS) titled ***"Maps Showing the Extent of Mining, Locations of Shafts, and Bedrock Faults, and Thickness of Overburden Above Abandoned Coal Mines in the Boulder-Weld Coal Field, Boulder, Weld and Adams Counties, Colorado, Compiled by S. B. Roberts, J. L. Hynes, and C. J. Woodward, USGS Map I-2735, dated 2001."*** This map was compiled from review of data by the authors, some of it previously published. An excerpt of the USGS map is shown below.



The symbols on the USGS map are keyed to a legend. Symbol M6 refers to the Banner Mine Shaft; Symbol M141 denotes the Standard Mine Shafts, and workings shown in yellow and Symbol M142 shows the shafts and workings of the Star Mine. Symbol M77 indicates the shaft and workings of the Jackson Mine. Using the Lower Boulder and Cottonwood Ditches, Jasper Road and 119th Street to orient the Wise Property, the USGS map implies three shafts, as well as workings of the Standard Mine are present. Because WEE does not reference USGS Map I-2735, and WEE's maps

are somewhat different, I initially raised some concerns/questions to you that I believed should be answered prior to planning for development:

- WEE's report ties the Wise Farms site to the map of the Jackson Mine workings that they obtained from the CDM, showing that the workings underlie the eastern portion of the Wise Property (Fig. 2). The USGS map shows the Jackson Mine workings lie east of 119th Street. After verbal communication with Greg Sherman of WEE, I believe his interpretation is correct but I recommended some additional borings to provide a higher level of confidence that the USGS Map is wrong in this area. The USGS 2001 map was not available when WEE did their initial study of the site in 1999. There is no discussion of the USGS map in their 2005 report.

- WEE's report does not specifically discuss the western shaft and workings of the Standard Mine that are shown on the USGS Map. I discussed this with Mr. Sherman and it was his opinion that the USGS Map is likely in error with respect to the location of the western shaft and workings of the Standard Mine. I recommended a boring at the mapped location of the western Standard Shaft to verify WEE's interpretation that a fault is present that would have placed the coal seam too close to the ground surface to mine safely underground. While the chances that the boring would actually find the shaft are low, I felt it was at least possible to verify the depth of the Fox Hills Sandstone that underlies the coal-bearing Laramie formation.

- I felt that some additional borings to verify the location of the mapped underground workings would provide higher confidence the maps that WEE used were accurately registered with the current site boundaries.

Current Findings

CTL|Thompson, Inc. subcontracted with Dakota Drilling to drill six borings at the locations shown on the attached Fig. 1 (modified from WEE's Fig. 2). The borings were drilled by air-rotary methods. A summary of the strata and conditions we encountered in each boring are described below. For the borings we could obtain electric and caliper logs, these are included in Appendix B. The logs were made by COLOG at our request. We continued with WEE's numbering sequence, but named the borings starting at M-15 through M-20. A total of 20 deep borings have been drilled on the Wise Property to help evaluate the hazard due to subsidence.

- Boring M-15: Boring M-15 was targeted to penetrate a relatively small room of the workings of the Jackson Mine, as mapped by WEE. The target depth was 130 feet. We could not drill past 95 feet. Silty sand and sandy clay was encountered from the ground surface to a depth of 22 feet. Groundwater was found at 16 feet. Interbedded claystone and sandstone was penetrated from 22 to 43.5 feet. A 10-foot thick coal zone was be-

tween 43.5 and 53.5 feet deep, then claystone to 59 feet, a cemented sandstone lenses from 59 to 62 feet and interbedded sandstone and claystone to a total depth of 95 feet. The upper coal seam is not mined in this area, presumably for groundwater and safety reasons. The driller lost circulation at a depth of 85 feet and could not continue the boring past 95 feet. We could not obtain an electric log in this boring because the hole zngs above the main seam of the mine were penetrated at 85 feet at about the point where air circulation was disrupted and the actual workings are probably at a depth of about 110 to 120 feet. The disruption in air circulation above the targeted depth implies the coal zone was mined at the boring location and that the workings are probably caved in this location. The data does not dispute WEE's interpretation of the top of the Fox Hills Sandstone at about elevation 4940 at this location, or about 140 feet of depth.

- Boring M-16: Boring M-16 was targeted to penetrate the Jackson Mine and was planned to be 110 feet deep. The location was chosen to be about 50 feet inside the south edge of a large mined room, at the end of a haulage way. Sand and clay was encountered to a depth of 17 feet. Groundwater was 10 feet deep. Interbedded claystone and sandstone was penetrated from 17 to 65 feet. The upper (not produced) coal zone with several claystone partings was penetrated from 67 to 74 feet. From 74 to 85 feet the boring encountered interbedded claystone and sandstone. The driller could not drill past 85 feet because the bit kept plugging, presumably because of poor air circulation. We were able to get an electric log of the boring that clearly shows the upper coal seam. We interpret this boring as encountering the top of the caved zone above the Jackson Mine at 75 feet or elevation 4980. The top of the mine workings are probably about elevation 4968 feet, about 90 feet deep at this location. We believe the mine is present and the workings are caved at this location. The data does not dispute WEE's interpretation of the top of the Fox Hills at about elevation 4960 or about 95 feet deep at this location.

- Boring M-17: Boring M-17 was targeted just about 120 feet west of the west edge of the Jackson Mine workings, on the fault line mapped by WEE and was targeted to be 105 feet deep. Sand and clay was encountered from the ground surface to a depth of 28 feet, gravel from 28 to 30.5 and claystone with thin coal seams from 30.5 to 56 feet. Groundwater was 19 feet deep. Claystone with minor sandstone was found from 56 to 76 feet. Coal was penetrated from 76 to 81 feet, then claystone from 81 to 105 feet. Circulation was not lost. The electric log clearly shows the coal seam at about 73 to 77 feet and the caliper did not deflect in the coal. We interpret the conditions found in boring M-17 to indicate that the main seam would be too shallow to mine safely, as the seam dip (up to the west) brings it within 73 feet of the ground surface with insufficient cover. This confirms the mine is not present west of its mapped location. We be-

lieve the top of the Fox Hills Sandstone would be at about elevation 4948 in this location, consistent with WEE's interpretations.

- Boring M-18: Boring M-18 was intended to be located about 50 feet north of the north edge of the Standard Mine workings and was targeted to be 110 feet deep. Sand and clay was encountered to 32 feet, then gravel to 39 feet. Groundwater was 21 feet deep. Claystone bedrock was then encountered to a depth of 52 feet, where we penetrated a 7 foot thick coal seam, then claystone from 59 to 66 feet. From 66 to 110 feet we penetrated interbedded sandstone with minor claystone and minor thin coals. Circulation was not lost. The boring was not electric logged because the hole degraded over the weekend before COLOG was available. We interpret boring M-18 as having coal at a depth that would have been unsafe to mine. It is apparent the mine workings were stopped to the west and north because the coal was becoming too shallow to mine safely, while being too deep and wet to mine with surface methods. We interpret the top of the Fox Hills Sandstone to be at elevation 4964 feet. This is consistent with WEE's interpretations.

- Boring M-19: Boring M-19 was located at the northeast corner of the Wise Property to help verify the mine map is accurate and mine workings are not present. The boring was targeted to be 110 feet deep. We encountered sand and clay to 21 feet and gravel from 21 to 29 feet. Groundwater was at 15 feet. A 1-foot thick layer of sandstone began the bedrock interval at 29 feet, then coal from 30 to 35.5 feet. Interbedded claystone with thin coal seams was penetrated from 35.5 to 50.5 feet. Sandstone was penetrated from 50.5 to 140 feet, the total drilled depth. The electric log shows consistent sandstone below a depth of 50 feet, which we interpret to be the top of the Fox Hills Sandstone at about elevation 4966. This is consistent with WEE's interpretations. We should note that the hole was cleaned out and the upper coal interval from 30 to 35.5 feet was cased prior to electric logging. The lower coal is shown on the electric log. We interpret this boring to imply that the coal seam at was far too shallow to mine safely in this location.

- Boring M-20: Boring M-20 was intended to explore the area where the west shaft of the Standard Mine was plotted on the USGS Map. The target depth was 95 feet. The boring encountered clay and sand to a depth of 32.5 feet and gravel to 38 feet. Groundwater was at 18 feet. Claystone was penetrated from 38 to 50 feet, interbedded sandstone and claystone with cemented sandstone lenses from 50 to 97 feet and claystone from 97 to 105 feet. No coal was encountered. We believe the coal was removed by erosion and deposition of the alluvium in the Pleistocene. It is unlikely there is a mineshaft in the vicinity of Boring M-20, since there is no coal present. The top of the Fox Hills Sandstone is interpreted to be 4980 feet at Boring M-20.

Conclusions

Based on our current findings and analysis of the previous data I have the following conclusions:

1. Our data confirms the overlay of the mine map on the site features presented in WEE's Figure 2 is accurate. It is unlikely coal mine workings exist west of the limits WEE shows.

2. The geologic data show there is no mineable coal west of the mine workings shown on WEE's Figure 2. This is due to the coal zone dipping moderately up to the west-northwest, becoming closer to the surface. Very shallow coal would be very difficult to mine due to groundwater and little separation from the alluvium by impervious bedrock layers. Further west, the coal has been removed by pre-historic erosion.

3. I compared our data with WEE's interpretations of the elevation at the top of the Fox Hills Sandstone shown on their Figure 2. I believe WEE made an accurate interpretation of the geologic structure of the site. A fault may be present near the location and orientation mapped by WEE. Faulting in the Laramie formation is considered to be inactive and data shows these formed during and shortly after deposition of the coal and "die out" within the rocks deposited after the Laramide Orogeny more than 20 million years ago. The fault, if present is not considered a geologic hazard for this site.

4. I believe it is unlikely there is a western shaft related to the Standard Mine as shown on the USGS map. This is because there is no coal present in the area of boring M-20 and the Fox Hills Sandstone is shallow. The shaft, if present is probably within the mined areas. The data collected by WEE and CTL|Thompson indicates the USGS map has errors with respect to undermining at the Wise Property.

5. The reported location of the Banner Shaft in the extreme southeast corner of the Wise Property is probably erroneous. There remains a question about whether it really exists at the location shown on the USGS map (and WEE's map). Because boring M-15 indicates the mine is present as mapped, the shaft was likely at the end of the haulage way shown in the middle of the workings (near the location of M-15) and not outside the workings as shown on WEE's Fig. 2. Knowing whether the Banner Shaft is present in the mapped location could be important if an access road is needed for the site from 119th Street, through the southeast corner. It would take trenching along the axis of a potential roadway alignment to verify if a shaft is there. If a shaft is present, it could be mitigated with grouting. Figure 3 shows cross-hatched areas that appear to be good choices for access off of 119th Street.

6. I believe there is another potential access ROW off of 119th Street through the un-mined area between WEE's boring W-1 and our boring M-15. I see no reason not to allow construction of a road for use as access in the center of the area marked with cross-hatch on Fig. 3. If utilities are required in the road, we recommend they be situated to run down the middle of the un-mined area to reduce the potential that subsidence could cause distress to them. It would be best to avoid utilities in the road if an even lower risk approach must be taken. I have no reservations with construction of the road at the cross-hatched locations. Either of these potential access points are low risk with respect to subsidence. The mine is deepest in the southeast portion of the parcel and more overburden is present.

7. I believe WEE's conclusions and recommendations for restriction of development at the Wise Farms parcel are justifiable and conservative. I recommend avoiding development of structures within undermined areas and 150 feet beyond. I drew the recommended hazard restriction zone on the attached Figure 2. The line is somewhat less conservative than WEE's which I believe is justified by the additional information that confirms the location of the undermined area with more confidence.

8. I believe the existing mines are substantially caved, with potential for only small additional movements. For instance, at boring M-15, circulation was mostly lost at a depth of about 85 feet, about 35 feet above the mine. This leaves 63 feet of undisturbed claystone and sandstone above the caved zone. Based on a seam thickness of 6 to 7 feet, a bulking ratio of about 5 to 6 is estimated. This is within reported ranges of bulking factors of western coal mines of 5 to 10. The risk of significant future subsidence over these workings is expected to be low. However, new residential development and underground utilities should avoid undermined areas to mitigate for risk of subsidence.

9. Drainage patterns over the area mapped as undermined do not appear to be disturbed. This is evidence that subsidence has not affected the ground surface. A closed depression exists west of the undermined area that I believe is related to past activities that created an embankment that dammed an existing ephemeral drainage. I found no other areas that indicated drainage is interrupted or where ponding of surface water occurs. These type features are sometimes found in the Boulder-Weld Coal Field where mining occurred less than about 100 feet below the ground surface. I found no surface evidence on the parcel that indicates subsidence has affected the ground surface.

To summarize, provided development of habitable space occurs outside the hazard area shown on Figure 2, I believe there is nil risk of subsidence-related distress. Where an access road is needed from 119th Street, it appears there are one or two good options for its location across the low-risk hazard area.

Geotechnical Risk

The concept of risk is an important aspect with any geotechnical evaluation primarily because the methods used to develop geotechnical recommendations do not comprise an exact science. We never have complete knowledge of subsurface conditions. Our analysis must be tempered with engineering judgment and experience. Therefore, the recommendations presented in any geotechnical evaluation should not be considered risk-free.

Limitations

Our boring locations were chosen to obtain additional subsurface information to supplement data obtained by others. The borings are representative of conditions encountered only at the locations drilled. Subsurface variations not indicated by our borings are possible. We believe this investigation was conducted with that level of skill and care normally used by geologists and geotechnical engineers practicing in this area at this time. No warranty, express or implied, is made.

If we can be of further service in discussing the contents of this report or provide additional analysis of the influence of the geologic hazards on design of the structures and improvements, please call.

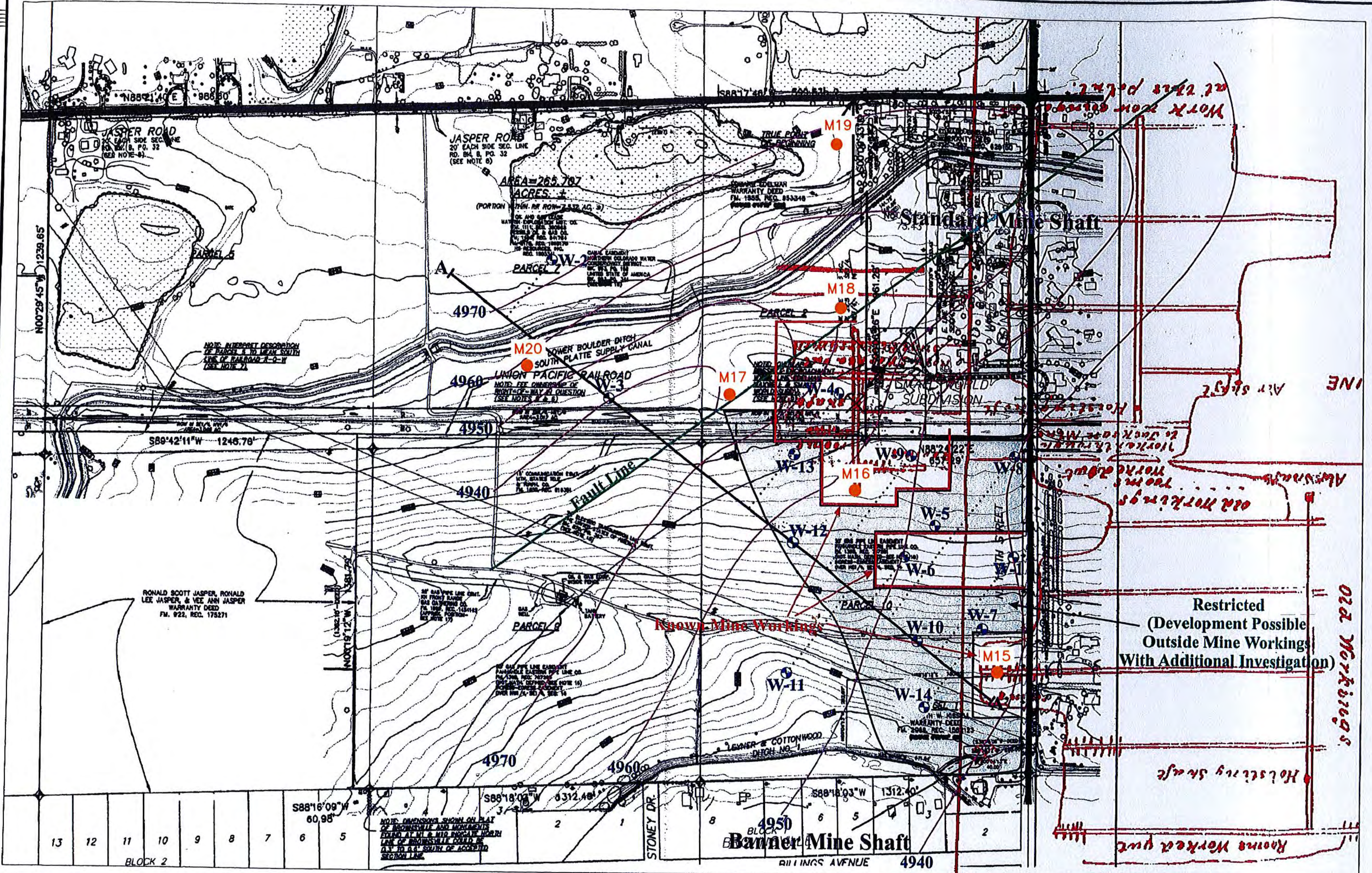
CTL | THOMPSON, INC.

COLORADO LICENSED
DAVID A. GLATER
10/28/15
20204
PROFESSIONAL ENGINEER

David A. Glater, P.E., C.P.G.
Principal Geological Engineer

DAG/nt
(3 copies)

Via e-mail: Jim Dullea j.dullea@comcast.net
John Prestwich john@pcsgroupco.com
Steve Nichols stevenanichols@mac.com
Karl Knapp kknapp@cvldenver.com



Legend

W-3	Borehole Location	4970	Elevation of Laramie / Fox Hills Formation Contact	(red outline)	Known Mine Workings
(line)	Approximate Fault Location	(box)	Development Possible with additional investigation	M15	BORING DRILLED FOR THIS STUDY

N

1 INCH = 400 FEET

200 0 200 400

Figure 2
Wise Property
Section 14,
Township 1 North, Range 69 West,
Boulder County, Colorado

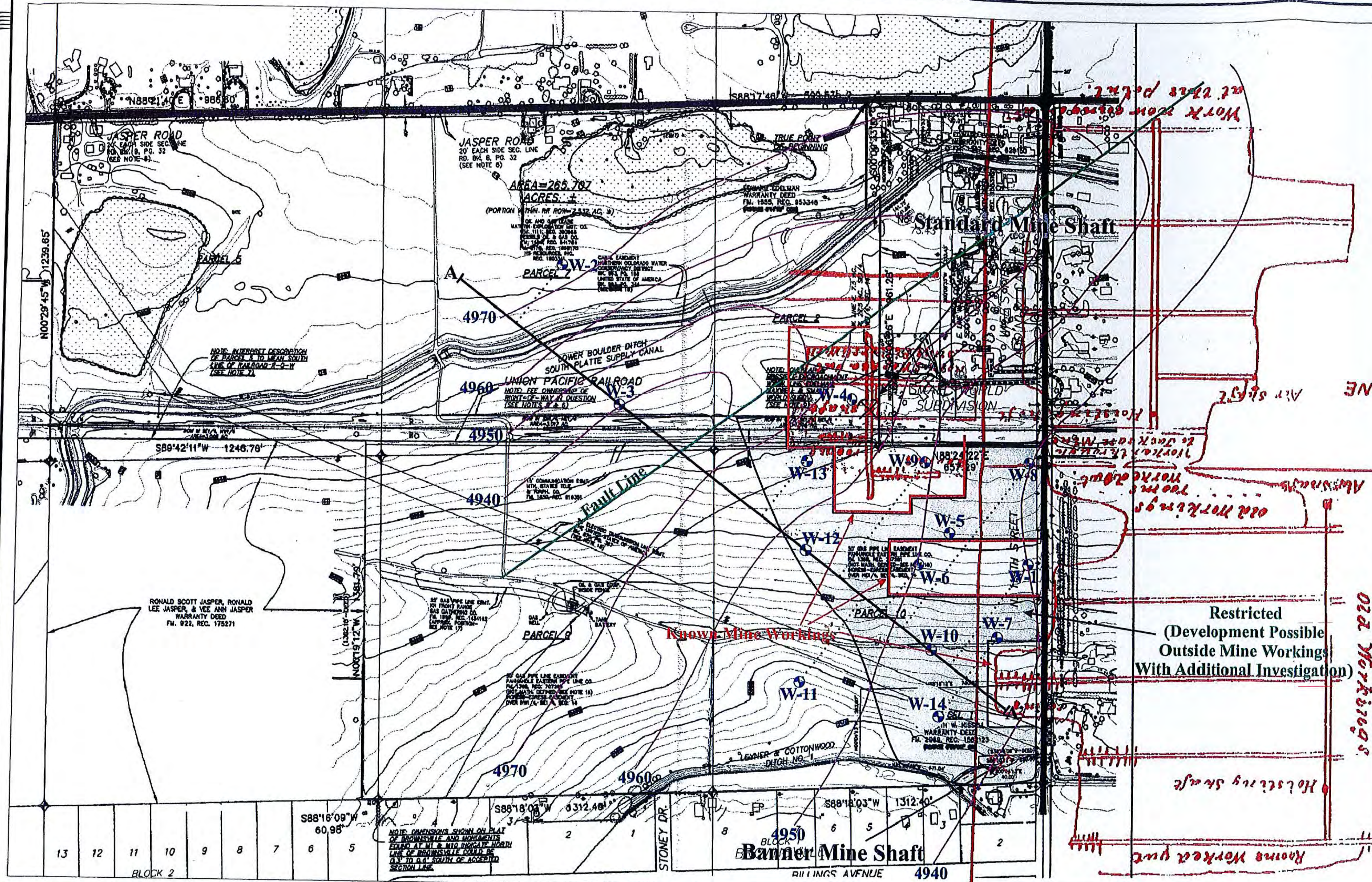
WESTERN ENVIRONMENT AND ECOLOGY, INC.
2217 West Powers Avenue
Littleton, Colorado 80120

JASPER LAND INVESTMENTS, LLC
WISE FARMS
Project No. DN41,199-110

Locations of Exploratory Borings

Fig. 1

S:\PROJECTS\41000-41999\DN41199.000\110\2. Reports\R1\DN41199-110-R1-D.dwg, 10/25/2013 9:15:19 AM, rstanisic



Legend

W-3 Borehole Location	4970 Elevation of Laramie / Fox Hills Formation Contact	Known Mine Workings
Approximate Fault Location	Development Possible with additional investigation	

1 INCH = 400 FEET

200 0 200 400

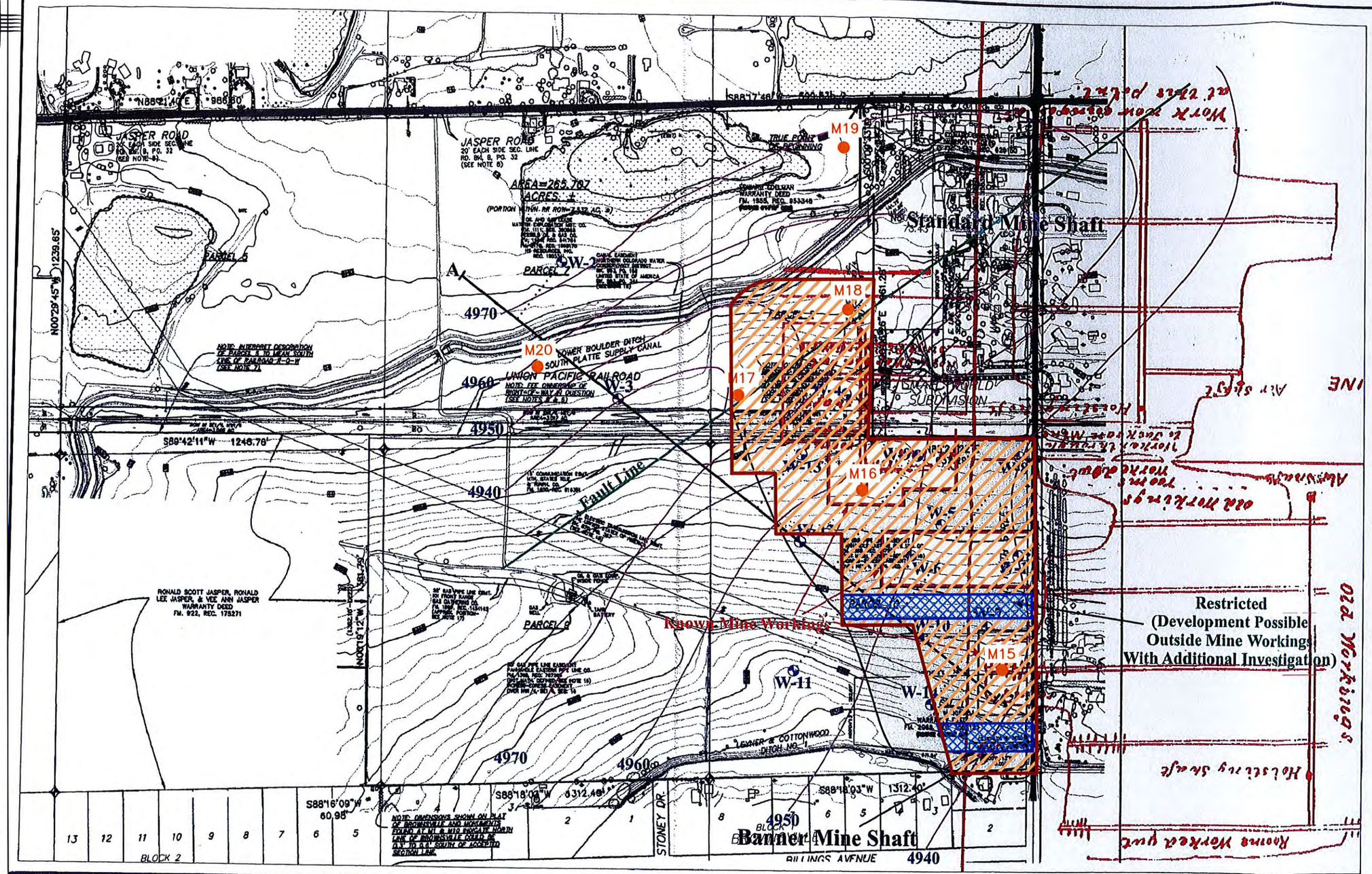
N

Figure 2
Wise Property
Section 14,
Township 1 North, Range 69 West,
Boulder County, Colorado

WESTERN ENVIRONMENT AND ECOLOGY, INC.
2217 West Powers Avenue
Littleton, Colorado 80120

JASPER LAND INVESTMENTS, LLC
WISE FARMS
Project No. DN41,199-110

Fig. 2



Legend

- W-3 Borehole Location
- Approximate Fault Location
- 4970 Elevation of Laramie / Fox Hills Formation Contact
- Development Possible with additional investigation
- Known Mine Workings
- M15 BORING DRILLED FOR THIS STUDY
- LOW RISK SUBSIDENCE AREA TO BE AVOIDED FOR HOMES, AND UTILITIES IF POSSIBLE
- POTENTIAL ACCESS ROADS FROM 119TH STREET IN LOW-RISK SUBSIDENCE AREAS

1 INCH = 400 FEET

200 0 200 400

Figure 2
Wise Property
Section 14,
Township 1 North, Range 69 West,
Boulder County, Colorado

WESTERN ENVIRONMENT AND ECOLOGY, INC.
2217 West Powers Avenue
Littleton, Colorado 80120

JASPER LAND INVESTMENTS, LLC
WISE FARMS
Project No. DN41,199-110

Hazard Map

Fig. 3

S:\PROJECTS\41000-41999\DN41199.000\110\2. Reports\R1\DN41199-110-R1-D.dwg, 10/25/2013 9:15:30 AM, rstanisic

WESTERN ENVIRONMENT AND ECOLOGY, INC

July 21, 2012

Jim Dullea
Jasper Land Investments
9162 South Kenwood Court
Highlands Ranch, Colorado 80126

Subject: Wise Property Mine Subsidence Investigation. Western Environment and Ecology, Inc. Project Number 394-001-01.

Dear Mr. Dullea:

At your request, Western Environment and Ecology, Inc. (Western Environment) reviewed the above referenced report. This review was precipitated by your pending submital to the Town of Erie regarding the proposed residential development of the site. The Western Environment report (Project Number 394-001-01) was entitled "Mine Subsidence Investigation Wise Property Section 14, Township 1 North, Range 69 West, Boulder County, Colorado" and dated May 31, 2005.

The Conclusions presented in the document were:

- The average depth to the top of the "main" seam is approximately 100.7 feet below the surface.
- Significant inaccuracies exist on the original mine maps.

Using these conclusions the following general recommendations for development were presented.

- No mine subsidence related development restrictions are required on those portions of the property indicated on Figure 2 as not effected by mining.
- If development of the "restricted" portions of the Wise Property is anticipated, additional studies, included drilling, will be required.
- Infrastructure, including roads and utilities, should utilize areas unaffected by mining. This includes a corridor within the "restricted" area that drilling indicated no mining has occurred.

Following review of the 2005 report, Western Environment remains confident that residential development of the property can occur by "careful" adherence to the recommendations presented in the report.

Please do not hesitate to contact us with any questions you may have or if we can provide further clarification as to the proposed development.

Sincerely,

Greg D. Sherman P.G.
President

2217 WEST POWERS AVENUE · LITTLETON, COLORADO 80120
PHONE (303)730-3452 · FAX (303)730-3461
WWW.WESTERNENVIRONMENT.COM

Mine Subsidence Investigation

Wise Property
Section 14,
Township 1 North, Range 69 West,
Boulder County, Colorado

Prepared For:
Jasper Investments, LLC.
9162 South Kenwood Court
Highlands Ranch, Colorado 80126

WESTERN ENVIRONMENT AND ECOLOGY, INC.
2217 West Powers Avenue
Littleton, Colorado 80120
303-730-3452 - phone
303-730-3461 - fax
westernlt@aol.com
www.westernenvironment.com

Mine Subsidence Investigation

Wise Property
Section 14,
Township 1 North, Range 69 West,
Boulder County, Colorado

Prepared For:
Jasper Investments, LLC.
9162 South Kenwood Court
Highlands Ranch, Colorado 80126

May 31, 2005

Western Environment and Ecology, Inc.
Project Number 394-001-01

Prepared By:

Greg D. Sherman, P.G.
President

WESTERN ENVIRONMENT AND ECOLOGY, INC.
2217 West Powers Avenue
Littleton, Colorado 80120
303-730-3452 - phone
303-730-3461 - fax
westernlt@aol.com
www.westernenvironment.com

TABLE OF CONTENTS

1.0	CONCLUSIONS AND RECOMMENDATIONS	1
2.0	INTRODUCTION	2
3.0	SITE CHARACTERISTICS	4
4.0	COAL MINE DESCRIPTION	6
5.0	DRILLING PROCEDURES	7
6.0	REGIONAL GEOLOGY OF THE ERIE AREA	8
	6.1 Outcropping Units	8
	6.2 Structure	11
7.0	SITE GEOLOGY	12
8.0	DESCRIPTION OF HOLES	14
9.0	POTENTIAL MECHANISMS OF COAL MINE ROOF FAILURE	17
10.0	STRAIN ANALYSIS	19
11.0	CLOSURE	21
12.0	SELECTED REFERENCES	22

FIGURE

Figure 1	Project Location Map	3
Figure 2	Hole Location Map	5
Figure 3	Generalized Composite Stratigraphic Section	9
Figure 4	Generalized Stratigraphic Models of the Laramie Formation	10
Figure 5	Geologic Cross Section Map	13

APPENDICES

Appendix A Lithologic Logs

Appendix B Geophysical Logs

1.0 CONCLUSIONS AND RECOMMENDATIONS

Based upon the results of the mine subsidence investigation completed on the Wise Property in Section 14, Township 1 North, Range 69 West, Western Environment and Ecology, Inc. (Western Environment) presents the following:

- The average depth to the top of the "main" seam is approximately 100.7 feet below the surface.

- Significant inaccuracies exist on the original mine maps.

Using these conclusions the following general recommendations for development are presented.

- No mine subsidence related development restrictions are required on those portions of the property indicated on Figure 2 as not effected by mining.

- If development of the "restricted" portions of the Wise Property is anticipated, additional studies, included drilling, will be required.

- Infrastructure, including roads and utilities, should utilize areas unaffected by mining. This includes a corridor within the "restricted" area that drilling indicated no mining has occurred.

See pg20.

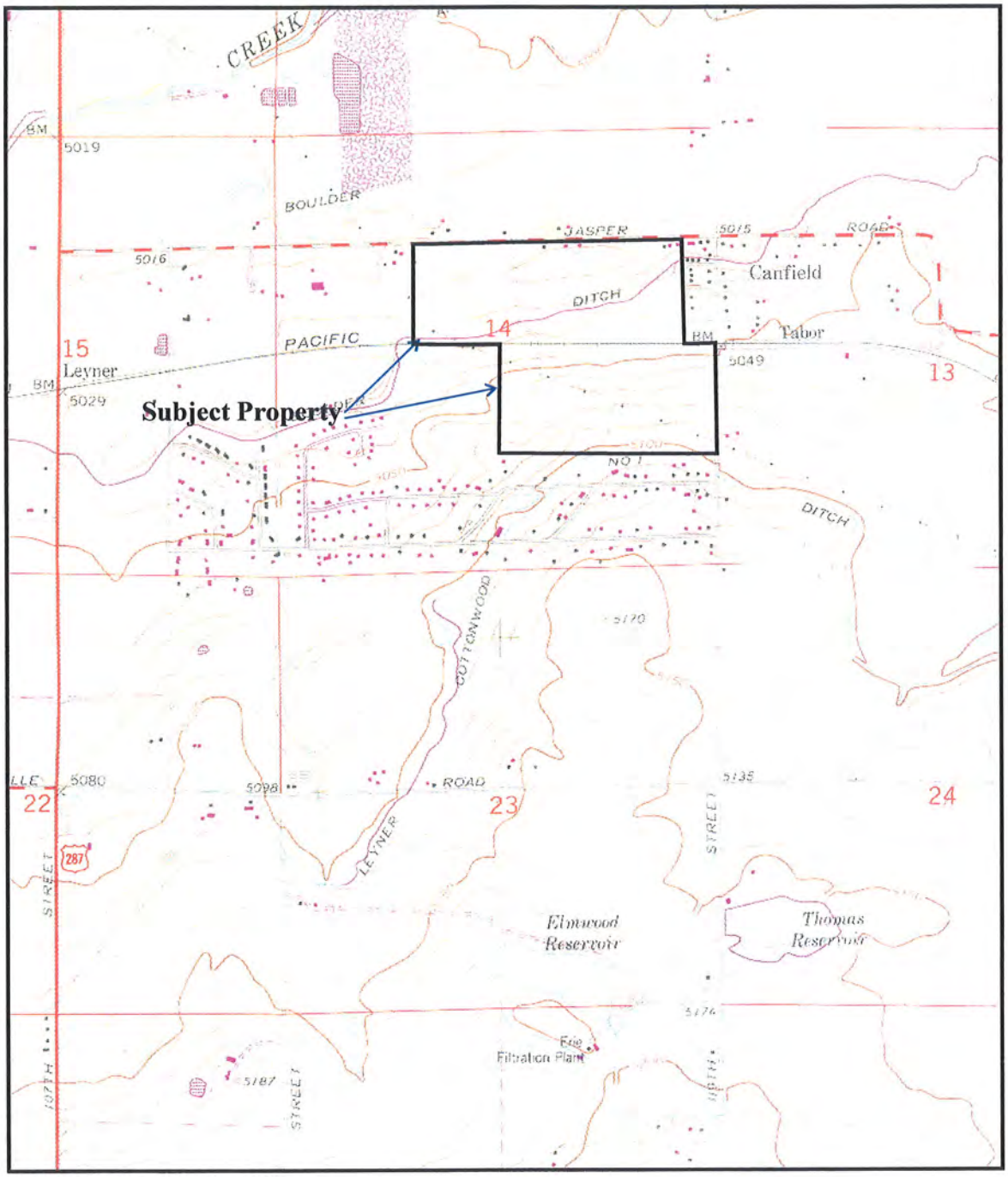
2.0 INTRODUCTION

Western Environment was retained by Mr. Jim Dullea of Jasper Investments, LLC. to perform a mine subsidence investigation on undeveloped agricultural land located in Section 14, Township 1 North, Range 69 West in Boulder County, Colorado (Figure 1). The site, which is currently in active cultivation, totals approximately 160 acres. Mr. Dullea indicated he is interested in purchasing the land for a proposed single family residential development. Additionally, Western Environment has completed a previous investigation on the subject property. This report is entitled *Mine Subsidence Investigation, Wise Property*, dated April 7, 1999, Project Number 98-001-01.

The purpose of this investigation is to determine the extent and condition of the mine workings occurring on the property. Additionally, recommendations for the location of structures in unmined areas is presented.

The results and recommendations contained in this report are intended for use as an aid in planning and design. The information herein should be made available to the project geotechnical and structural engineers. This report should be submitted to the Town of Erie and the Colorado Geological Survey for review. This will aid in assuring a more predictable and thus economic development process.

Northeast portion of property, near railroad



USGS Erie Quadrangle, 1979

Scale - 1"=2000'

1000 0 1000 2000

WESTERN ENVIRONMENT AND ECOLOGY, INC
2217 West Powers Avenue
Littleton, Colorado 80120

Figure 1 - Project Location Map
Wise Property,
160 Acres in Section 14,
Township 1 North, Range 69 West,
Boulder County, Colorado

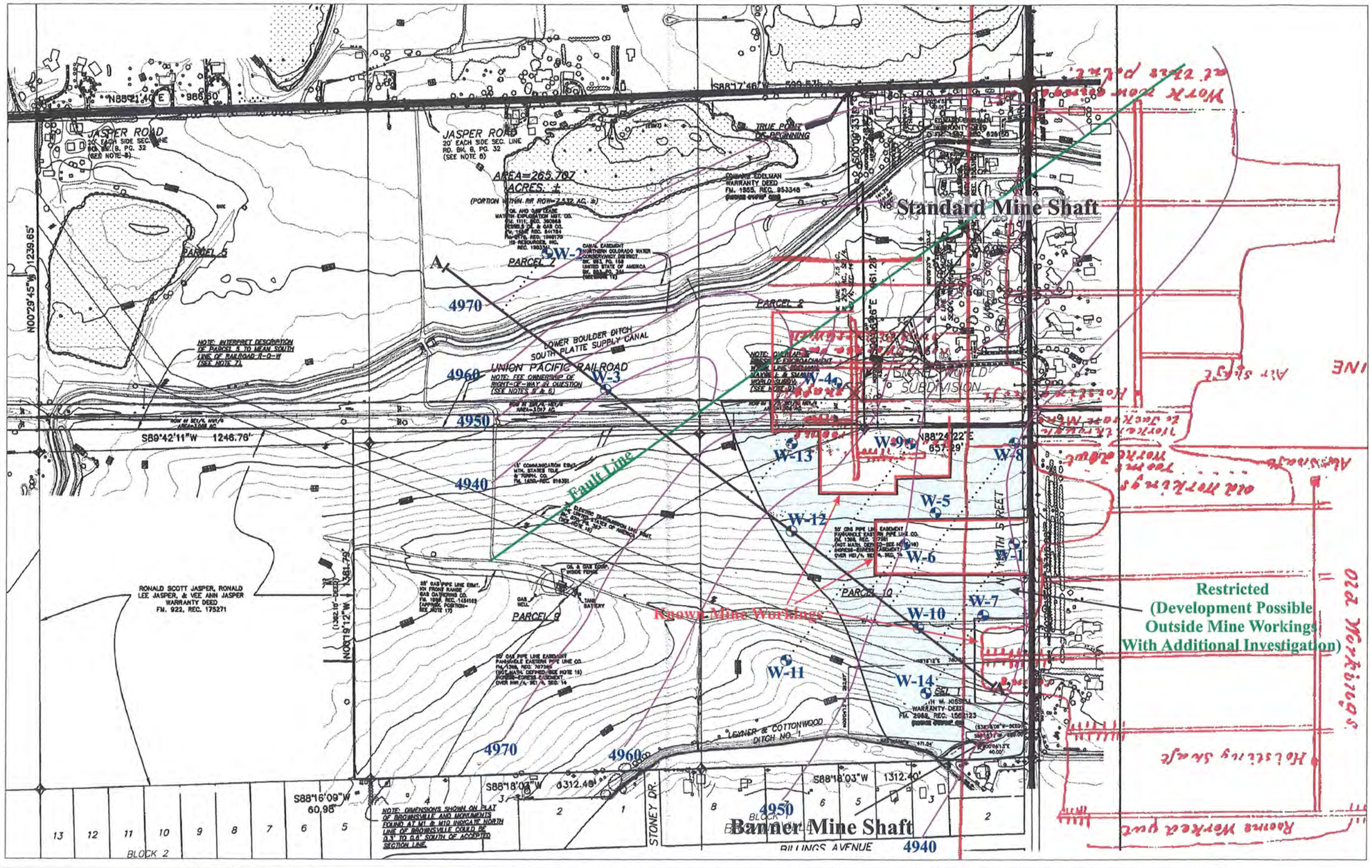
3.0 SITE CHARACTERISTICS

This mine subsidence investigation was conducted for approximately 160 acres in Section 14, Township 2 North, Range 69 West, in Boulder County, Colorado. The site is located southwest of Canfield near the intersection of Jasper Road and 119th Street in Boulder County, Colorado (Figure 2). The site is bordered by residential development to the south and east. Small agricultural properties are present to the north and west.

At the time of the investigation, the property consisted of alternately fallow and active agricultural farm land. Additionally, one oil/gas production facility was observed.

The abandoned coal mines which underlie the project are referenced in the files of the Colorado Geological Survey as the Banner, Standard, Star, and Jackson Mines. A detailed description of the mines is presented in Section 4.0.

Wise Property, looking west



Legend

W-3 Borehole Location	4970 Elevation of Laramie / Fox Hills Formation Contact	Known Mine Workings
Approximate Fault Location	Development Possible with additional investigation	

Figure 2
Wise Property
Section 14,
Township 1 North, Range 69 West,
Boulder County, Colorado

WESTERN ENVIRONMENT AND ECOLOGY, INC.
2217 West Powers Avenue
Littleton, Colorado 80120

4.0 COAL MINE DESCRIPTION

The mines which operated below the Wise Project are referred to as the Banner, Standard, Star, and Jackson Mines. Records on file with the Colorado Division of Mines (CDM) indicate a map date of 1888 for the mines. No map occurs for the Banner Shaft. No records were found for ownership or production of the Standard and Star Mines. However, production records do exist for the Banner Shaft which indicate it was an exploration shaft with no coal economically produced.

The Jackson Mine operated from 1884 through 1890. Total mine production of 98,831 tons were recorded with the Colorado Division of Mines with a maximum yearly production of 19,020 tons in 1888. Entry was gained through a 74 foot shaft (Figure 2). The average seam thickness was 4 feet 8 inches. The last owner of record was the Arrow Coal Company.

The mines were classified as a modified room and pillar (room and board) mine. Haulage ways were ten feet wide and were separated by 50-100 foot wide "chain pillars." Rooms had approximate widths of thirty feet and lengths of 150 feet. Based upon previous investigations calculated extraction rates of approximately 50% could be anticipated.

Props-and-caps type roof support
(photo from Denver Public Library, Western History Department)

5.0 DRILLING PROCEDURES

In addition to the seven holes previously advanced on the property, Western Environment completed an additional seven holes for the current investigation. Bideau Drilling of Casper, Wyoming was the drilling contractor. A truck mounted Mayhew rotary drill was selected for the study. All holes were both lithologically and geophysically logged. Lithologic strip logs (Appendix B) were taken of cutting samples at five foot intervals. Geophysical logs consisting of a three arm caliper were run on each hole intercepting the mine. Additionally, natural gamma radiation, spontaneous potential and resistivity logs were run on the holes. Copies of the geophysical logs and lithologic logs from this, and the previous study, can be found in Appendix C.

The geophysical instrument, a Mount Sopris Model MCX Digital Logger, was calibrated prior to use to graphically show the diameter of the hole. The full extension of the caliper arms would indicate a cavity of at least greater than 21 inches. The drill will normally make a 5 1/8 inch hole. Therefore, a significantly larger hole could indicate mining activity.

After drilling and logging, each hole required plugging in a manner which would not allow water to enter the workings or contaminate potential aquifers. On all holes, a simple cement plug was set from 2 to 15 feet with the remaining footage of the hole being filled with Colorado State Mined Land Reclamation Board approved abandonment fluid which is designed to inhibit fluid penetration. Native soil was then replaced from 2 feet to the surface.

Hole locations were determined using a Garmin GPS unit and can be assumed accurate to within 15 feet. Latitude and longitude are shown on the lithologic logs (Appendix A)

Digital Logger

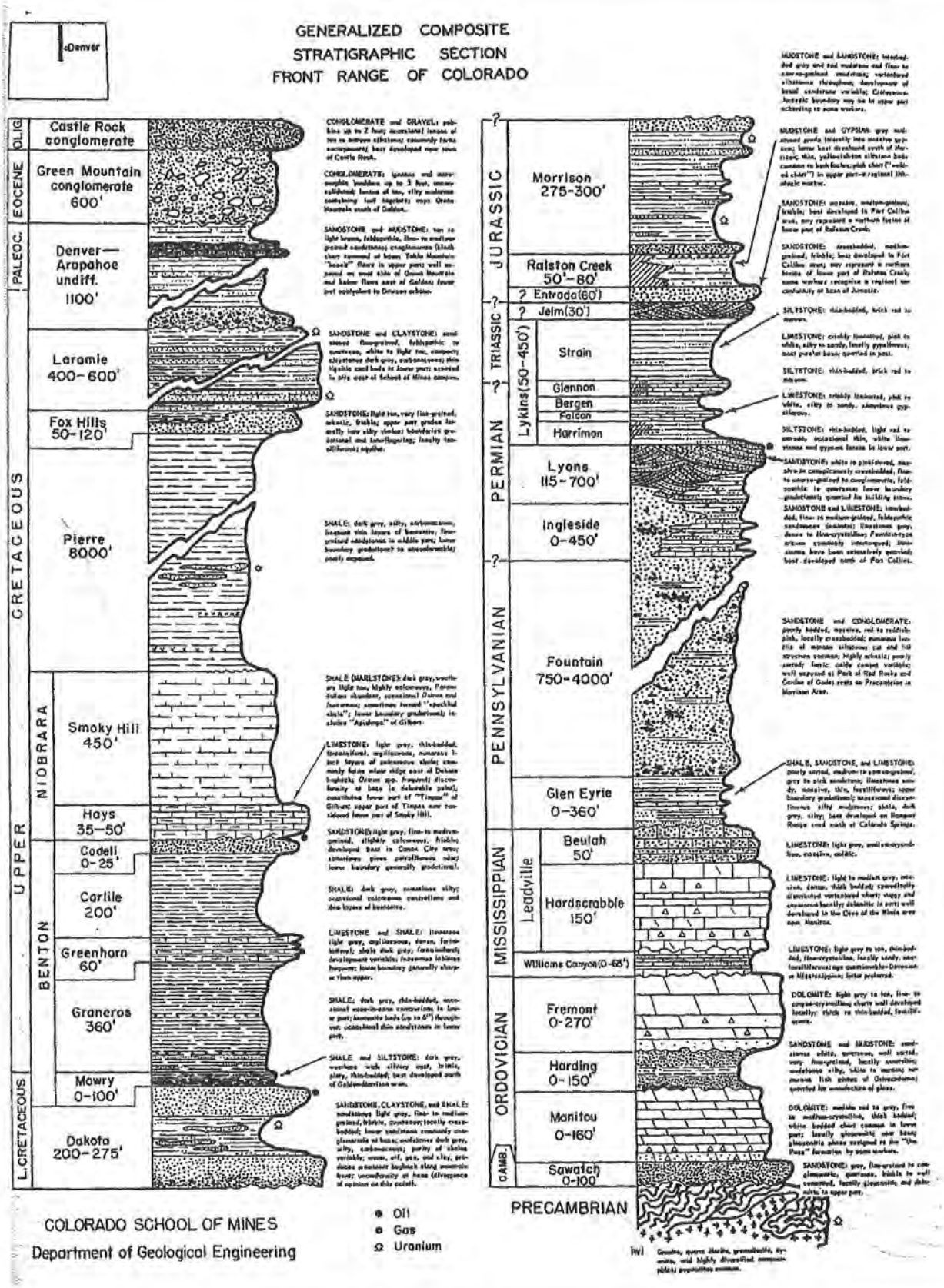
6.0 REGIONAL GEOLOGY OF THE ERIE, COLORADO AREA

6.1 Outcropping Units

The Wise Property lies in Section 14, Township 1 North, Range 69 West, in Boulder County, Colorado. Outcropping units within and surrounding the study area are the Pierre Shale, the Fox Hills Sandstone, the Laramie Formation and Quaternary gravels and soils (Figure 4). The Pierre Shale is a lead gray to brown and black shale of marine origin. Total thickness in the area is greater than 7,000 feet (Blair 1951) with the majority of the formation made of shale. Near the top the shale becomes increasingly sandy and contains beds of fine sandstones and siltstone as it grades into the Fox Hills Formation.

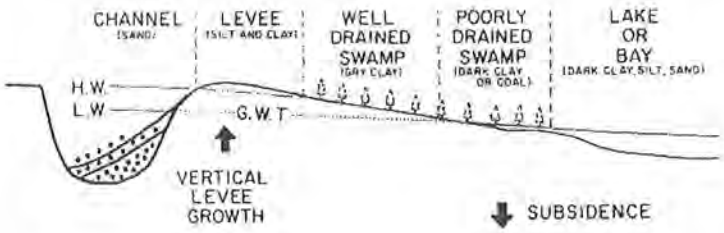
The Fox Hills Formation is a massive cross bedded sandstone. It was deposited in a beach or delta front environment and conformably overlies the Pierre Shale. The lower two thirds of the formation is a fine to coarse-grained bluff colored sandstone which weathers to a light tan to tan color. Numerous iron-colored calcareous concretions are present, ranging in size from fractions of an inch to several feet in thickness. The upper one-third of the Fox Hills Formation is about 140 feet as measured in the NW1/4 of Section 28, Township 1 South, Range 70 West. Thicknesses vary from 60 feet near Ralston Creek (as described by Van Horn, 1957) to 250 feet near the Baseline Reservoir.

The Laramie Formation is predominantly fresh water in origin, consisting of sequences of sand, silts and coals, (Figure 5). The lower portion is approximately 100 feet thick and is composed of sandstones, sandy shales, claystones and coal beds. These coal beds have been economically mined in the past. The upper unit has a thickness of approximately 600 feet and is made of mostly clay, shales, very fine sandy shales and lenticular beds of sandstones. The shales are largely carbonaceous, and in places, becomes lignitic. The Laramie Formation lies conformably on the Fox Hills Sandstone.

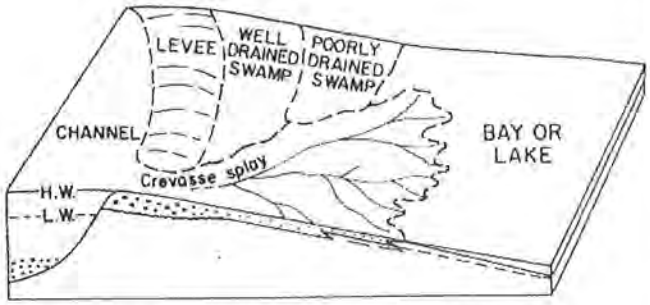


WESTERN ENVIRONMENT AND ECOLOGY, INC.
2217 WEST POWERS AVENUE
LITTLETON, COLORADO 80120

Figure 3 - Generalized Stratigraphic Section
Wise Property,
160 Acres in Section 14,
Township 1 North, Range 69 West,
Boulder County, Colorado

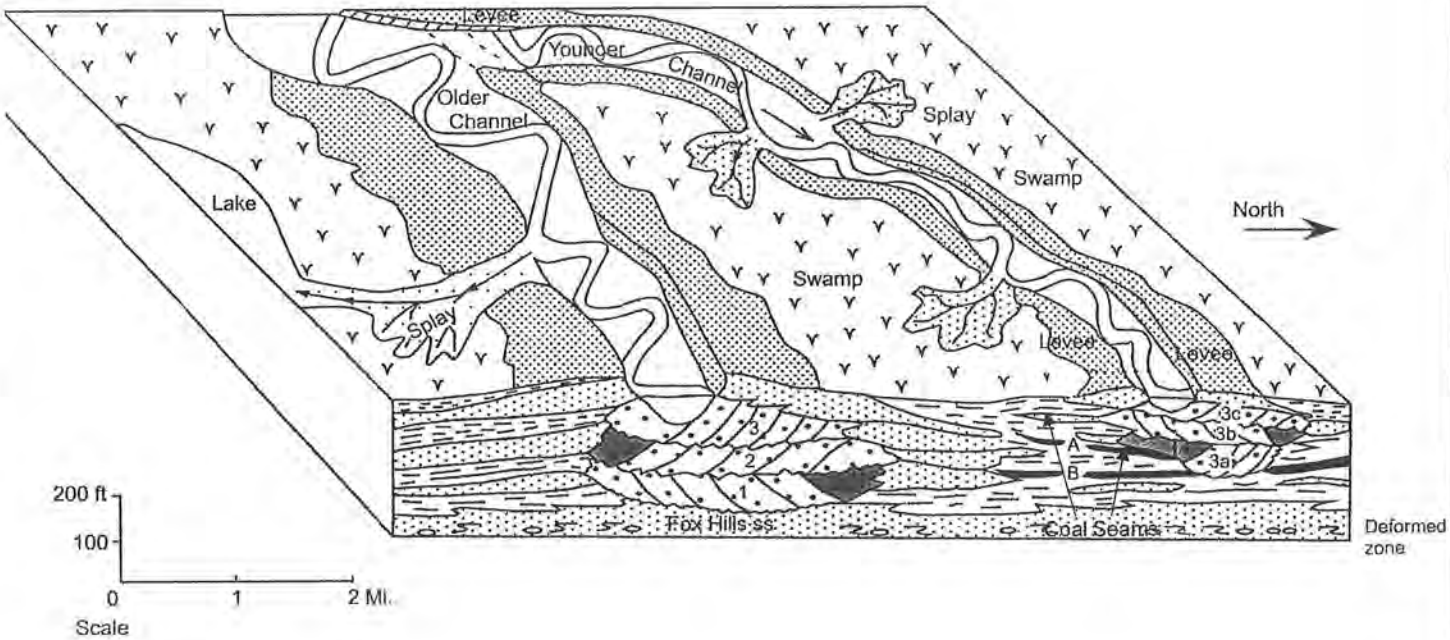


Channel and channel margin environments for lithologies in Laramie Formation.



LARAMIE ENVIRONMENTS OF DEPOSITION

Relationship of channel margin environments to crevasse splay deltas.



Figures from: A Guide to the uppermost Cretaceous stratigraphy, central Front Range Colorado, deltaic sedimentation, growth faulting and early Lamide vertical Movement
Weimer, R.J. 1973

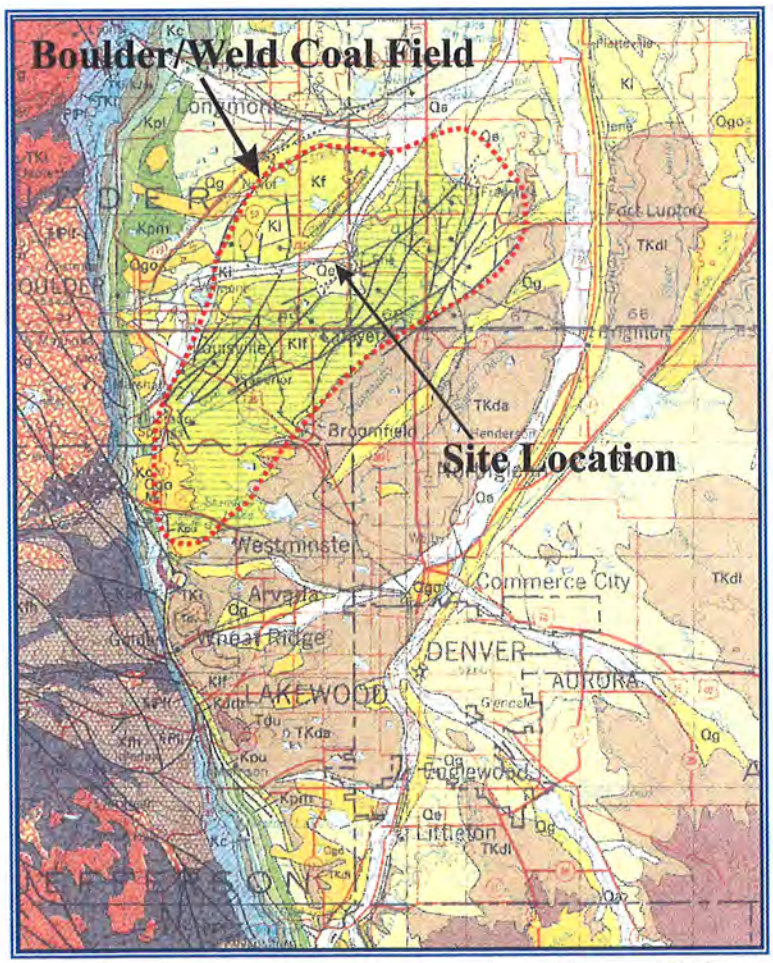
WESTERN ENVIRONMENT AND ECOLOGY, INC.
2217 West Powers Avenue
Littleton, Colorado 80120

Figure 4 - Generalized Stratigraphic Models of the Laramie Formation
Wise Property,
160 Acres in Section 14,
Township 1 North, Range 69 West,
Boulder County, Colorado

6.2 Structure

The Wise Property lies on the western edge of the Denver-Julsburg Basin against the Front Range uplift. This basin contains up to 13,000 feet of sediments derived from the ancestral Rocky Mountains which laid to the west. A basement controlled late Cretaceous Laramide faulting is most prevalent and is the result of deformation associated with uplift. The second has been described by Davis and Weimer (1976) as growth faulting as a result of over pressuring of the deltaic sequence at the time of deposition.

Growth faulting is the major structural feature seen in the Erie area. A zone is present with dominant faults trending in a northeast direction. This system is ten miles wide and thirty miles long. These faults are high angle normal structures near the surface, but seismic work has shown that they tend to flatten and die out at depth. Work by Davis and Weimer (1976) shows that these listric normal faults do not continue below the Hygiene member of the Pierre Shale. Antithetic faults resulting from tension then formed horsts and grabens. This effect has resulted in increased thickness of sediments is the graben areas. The Fox Hills Formation has been reported to have a total thickness near a growth fault of 484 feet (Spencer 1961). The Laramie Formation also has increased thicknesses in these zones and this is believed to be the reason for increased thicknesses in the coal seams in the Boulder-Weld coal field.



Colorado Front Range Geology, from Tweto, 1979

7.0 SITE GEOLOGY

Four distinct geologic units were encountered during drilling on the Wise Property. The uppermost unit is a sandy soil, possibly of aeolian origin, approximately 5 to 25 feet thick. The engineering characteristics of this material is extremely variable across the site and will require additional geotechnical investigations to quantify.

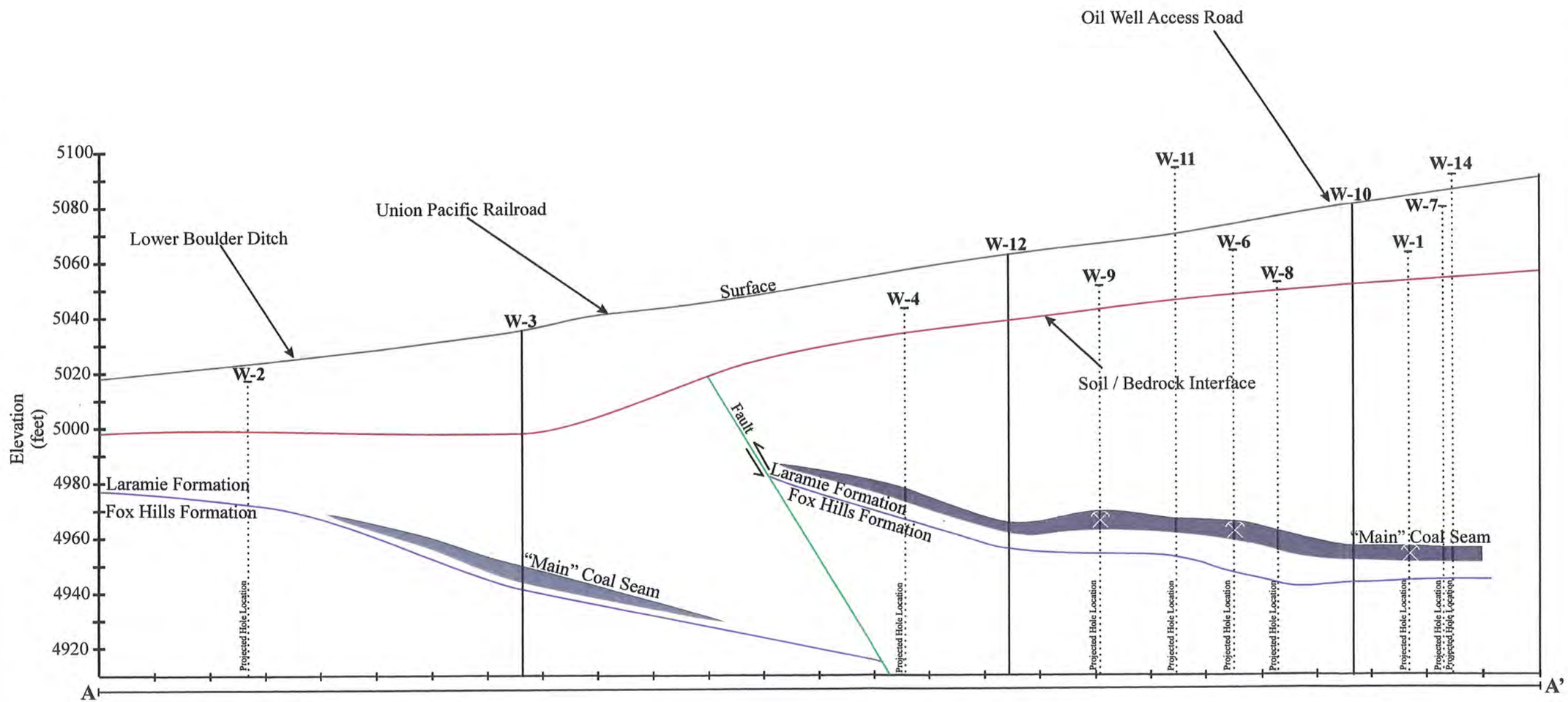
The next lower unit consists of light brown, medium-grained gravels. These gravels, when present, occur between 25 and 35 feet in depth and average approximately 10 feet thick. Their composition, like the sandy soils, are highly variable across the site.

The next lower unit encountered is the clays, silts, fine-grained sands and coals of the Cretaceous-age Laramie Formation. The contact between the Laramie and the recent deposits occurs between 25 and 35 feet in depth. The Standard, Jackson, and Star main seam occurs between 75 and 137 feet. The seam thickness, where mined, was approximately 7 feet.

The lowest stratigraphically significant interval was the Laramie/ Fox Hills Contact. It's depth, in those holes which intersected the contact, ranged between 45 to 147 feet. The upper Fox Hills Formation is characterized by light gray fine to very fine-grained quartzose sands.

Structurally, the site straddles a major northeast-southwest trending fault (Figure 2 & 5). This fault, which creates approximately 50 feet of displacement of the "main" seam, also acts to isolate mining activities to the south and east of the structure.

Location of "Banner Mine" shaft



W-4 — Projected Hole Location, From Figure 2

W-3 — Hole Location, From Figure 2

"Main" Coal Seam

Laramie / Fox Hills Formation Contact

Fault Location

Indicates Mining Activities

Approximate Soil / Bedrock Interface

Data used to construct geologic cross section of Wise Property obtained from geophysical and lithologic logs of wells advanced on property.

Figure 5 - Geologic Cross Section Map
Wise Property
Section 14
Township 1 North, Range 69 West,
Boulder County, Colorado

WESTERN ENVIRONMENT AND ECOLOGY, INC.
2217 West Powers Avenue
Littleton, Colorado 80120

8.0 DESCRIPTION OF HOLES

The description of rotary holes drilled on the Wise project are from the drill cuttings taken every five feet for each boring. Holes W-1 to W-7 are from the 1999 report. Holes W-8 to W-14 were completed during the current investigation.

Hole W-1 Light brown, sandy soil occurred from 0 to 20 feet. Light gray claystone was encountered from 20 feet to 104 feet. The "main" seam interval was penetrated from 104 to 110 feet. An **open void** producing the maximum caliper deflection of 35 inches occurred at 109 feet. Total depth of the hole was 140 feet. Circulation was lost at 105 feet.

Hole W-2 Light brown, sandy soil occurred from 0 to 24 feet. Gravel was encountered from 24 to 40 feet. Interbedded gray claystones and coal occurred from 40 to 45 feet. The Fox Hills Sandstone was encountered at 45 feet. Total depth of the hole was 120 feet. Circulation was not lost. No mine workings were encountered.

Hole W-3 Light brown, sandy soil occurred from 0 to 14 feet. Light brown claystone was encountered from 14 feet to 45 feet. Interbedded gray claystones and light gray sandstones occurred from 45 to 85 feet. The "main" seam was penetrated from 85 to 91 feet. No caliper deflection occurred. The Fox Hills Sandstone was encountered at 91 feet. Total depth of the hole was 140 feet. Circulation was not lost. No mine workings were encountered.

Hole W-4 Light brown, sandy soil occurred from 0 to 12 feet. Light gray to brown claystone was encountered from 12 feet to 22 feet. Interbedded brown claystones occurred from 22 to 75 feet. The "main" seam occurred from 70 to 75 feet. No caliper deflection occurred. Total depth of the hole was 120 feet. Circulation was not lost.

Hole W-5 Light brown, sandy soil occurred from 0 to 10 feet. Brown and gray claystone was encountered from 10 to 100 feet. The "main" seam was penetrated from 100 to 110 feet. The Fox Hills Sandstone was encountered at 110 feet. Total depth of the hole was 140 feet.

Circulation was not lost. No mine workings were encountered.

Hole W-6 Light brown, sandy soil occurred from 0 to 20 feet. Brown and gray claystone with minor coal seams was encountered from 20 to 105 feet. The "main" seam interval was encountered at 105 feet. Maximum caliper deflection of 10 inches occurred at 106 feet. Total depth of the hole was 140 feet. Circulation was lost at 105 feet. Collapse was complete with no open voids.

Hole W-7 Light brown, sandy soil occurred from 0 to 10 feet. Interbedded gray claystone and gray sandstone occured from 10 to 115 feet. The "main" seam was penetrated at 105 to 110 feet. Interbedded coal and sandstone occurred between 110 to 135 feet. The Fox Hills Sandstone occurred at 135 feet. Total depth of the hole was 140 feet. Circulation was not lost. No mine workings were encountered.

Hole W-8 Light brown, sandy soil occurred from 0-15 feet. Light gray to brown claystone was encountered from 15 feet to 36 feet. Carbonaceous gray claystone occurred from 36 to 55 feet. Interbedded gray claystone and light gray sandstone were drilled from 55 to 98 feet. The "main" seam interval was penetrated from 98 feet to 105 feet. The Fox Hills Formation occurred at 109 feet. Total depth of the hole was 140 feet. No mine workings were encountered.

Hole W-9 Light brown, sandy soil occurred from 0-13 feet. Light gray to brown claystone was encountered from 13 feet to 45 feet. Interbedded gray claystone occurred from 45 to 90 feet. Intermittent coal seams were penetrated from 42 feet to 49 feet and from 76 feet to 82 feet. The "main" seam occurred from 88 to 95 feet. Circulation was lost at 90 feet. Maximum caliper deflection was 8.2 inches at 81 feet. Total depth of the hole was 100 feet. Collapse was complete with no open voids.

Hole W-10 Light brown, sandy soil occurred from 0-30 feet. Light gray to brown claystone was encountered from 30 feet to 50 feet. Interbedded gray claystone and light gray sandstone occurred from 50 to 123 feet. The "main" seam interval was penetrated from 123 to 128 feet.

The Fox Hills Formation occurred at 132 feet. Total depth of the hole was 180 feet. Circulation was not lost. No mine workings were encountered.

Hole W-11 Light brown, sandy soil occurred from 0-22 feet. Light gray to brown claystone was encountered from 22 feet to 55 feet. Gray claystone occurred from 55 to 150 feet. An interbedded coal seam was penetrated at 95 feet. The "main" seam interval was penetrated from 132 to 137 feet. The Fox Hills Formation occurred at 140 feet. Total depth of the hole was 180 feet. Circulation was not lost. No mine workings were encountered.

Hole W-12 Light brown, sandy soil occurred from 0-15 feet. Light gray to brown claystone was encountered from 15 feet to 40 feet. Interbedded gray claystone and light gray sandstone occurred from 40 to 101 feet. The "main" seam interval was penetrated from 101 to 105 feet. The Fox Hills Formation occurred at 105 feet. Total depth of the hole was 120 feet. Circulation was not lost. No mine workings were encountered.

Hole W-13 Light brown, sandy soil occurred from 0-17 feet. Light gray to brown claystone was encountered from 17 feet to 60 feet. Interbedded gray claystone and light gray sandstones occurred from 60 to 78 feet. The "main" seam interval was penetrated from 93 to 98 feet. The Fox Hills Formation was not encountered. Total depth of the hole was 100 feet. Circulation was not lost. No mine workings were encountered.

Hole W-14 Light brown, sandy soil occurred from 0-20 feet. Light gray to brown claystone was encountered from 20 feet to 53 feet. Interbedded gray claystones and light gray sandstone and coal occurred from 53 to 137 feet. The "main" seam interval was penetrated from 137 to 142 feet. The Fox Hills Formation occurred at 147 feet. Total depth of the hole was 160 feet. Circulation was not lost. No mine workings were encountered.

9.0 POTENTIAL MECHANISMS OF COAL MINE ROOF FAILURE

The following presents what appears to be the most obvious progression for collapse and subsidence occurring within the Boulder-Weld Coal Field. This discussion is based upon research conducted by Western Environment personnel. However, it must be emphasized that all of the following explanations are theoretical and inferred interpretations.

The results of the numerous studies conducted by Western Environment show that when coal was removed, often no significant displacement of overlying beds occurred. Two possible explanations exist for this observation: 1) after mining enough natural roof strength remained across the span of rooms to support the load and not fail, or 2) after roof failure, the collapse is somehow confined to a specific interval. In the majority of Western Environment projects, the caliper logs show that the rooms are not open and that the "back" or roof of the mine is down. Therefore, the collapse and subsequent bed deflections are somehow limited to a specific horizon.

The idea of progressive collapse of overlying units continuing until a "pressure arch" or dome is formed above the collapsed workings is well-documented (U.S.G.S. Prof. Paper 969). Bell (1975) states that from his experiences in rock of similar character as those present in the Boulder-Weld Coal Field, upward migration is commonly one to two times the width of the intervening room. Ackenheil and Doughtery (1970) use a figure of twice the distance between supports for an approximation of arch development. Both of these estimates fit well with the observed results from the drilling on the site that show that collapse is confined to an interval of 20 to 40 feet above the workings. In addition to the "pressure arch", the caliper log indicated that no void is present within the mined zone or at the top of the arch. It is then necessary to increase the volume (decrease the density) of the overlying material in order that the void and developing arch is filled, potentially resulting in additional support (Bell, 1975). Testing performed on the claystone bedrock has shown that the clays can "swell" upon wetting in excess of 20% (ATEC, 1985). Therefore, a five foot void could be filled by the fracturing, wetting, and swelling of 25 feet of claystone.

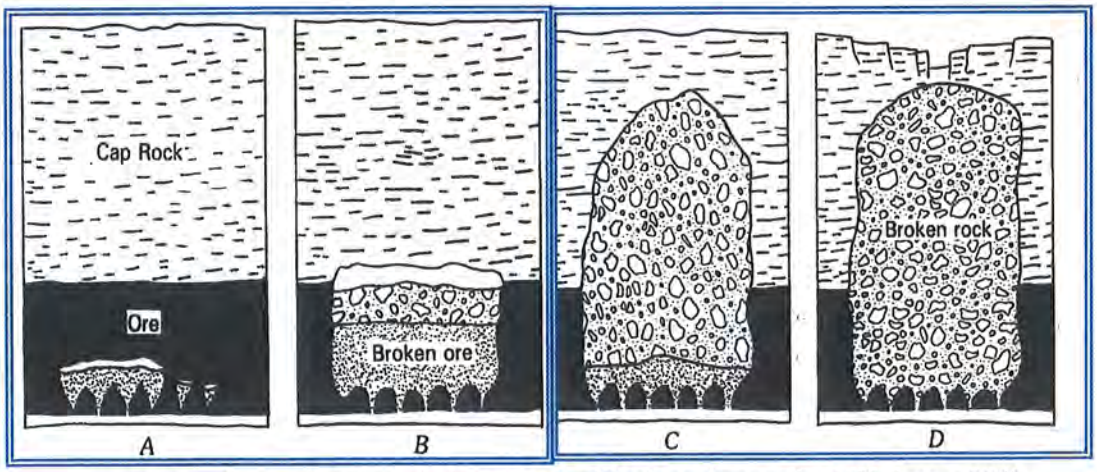
Jeff Hynes, senior engineering geologist with the CGS, has expressed his opinion that the "swelling" of the claystone observed by Western Environment may actually be a result of

expansion of the clays when the isostatic confining is removed during drilling. Additionally, Mr. Hynes had commented on his observation that floor "heave" is prevalent in operating Boulder-Weld coal mines. This is likely due to the higher uniaxial compressional strength of the coal (Western Environment, 2004) in relation to the claystone that commonly makes up the floor of the mine.

Regardless of the exact mechanism, it is evident that the following process involving collapse confinement and support are likely to occur within the Boulder-Weld Coal Field:

1) Formation of pressure arches approximately 20 to 40 feet above the mined seam, and
2) Increase in volume (by swelling, depressurizing, or floor heave) of claystone roof and floor rock.

The importance of the concept of the pressure arch increases as the depth to mining decreases. If mine geometry remains consistent, the pressure arch that forms 20-40 feet above the mine will encounter either weakened weathered rock or potential "fluid" soil at a mining depth of 80 feet or less. Should the top of the pressure arch contact either the weathered rock or soil, a "sink hole" can form. However, due to the depth of the workings beneath the Wise Property, **sinkhole development is unlikely**.



Progress of subsurface subsidence induced by the block caving method (Holzer, 1984).

10.0 STRAIN ANALYSIS

The strain analysis performed for this study is adapted from the United Kingdom National Coal Board's graphical strain profiling system. This method of strain prediction was developed for on-going long wall mining operations. To make the method applicable to abandoned room and pillar mines, several modifications and assumptions were made.

The first modification is to define the thickness of the void space. To proceed with a "worst case" theoretical analysis, any increase in hole diameter greater than 9 inches (for a normal 5.25 inch hole) is treated as "theoretical" void. This produces an average of **1.8** feet of "theoretical void" (see table below).

The width of the extraction is also critical to the analysis, and several options are available to use in this assessment. They include a proportional distance between drill holes, actual width (length) of the workings, or arbitrary values to produce the maximum amount of subsidence. Due to the inaccuracies of the mine maps on the Wise Property, Western Environment chose to use an arbitrary value to produce the maximum amount of subsidence. This results in a width of workings distance of **130** feet. The depth to the top of the mined interval, **100.7** feet, was also incorporated into the analysis.

The reader is here encouraged to review both the United Kingdom National Coal Board's Subsidence Handbook, and the previous studies for the mechanics of the process. By using this information, it is assumed that maximum "worst case" theoretical horizontal strains and surface subsidence would be **0.74%** and **1.1** feet, respectively.

Hole	Depth to Mine	Theoretical Void Thickness
W-1	108	4.5
W–6	106	1.0
W-9	88	0.0
Average	**100.7**	**1.8**

With the "inherent and unreconcilable uncertainties" associated with abandoned mine subsidence prediction, conservatism must be incorporated in proposed development. Therefor, we recommend that no structures be built in those areas of the Wise Property that are shown on Figure 2 as "restricted" development. With additional studies, including borings, it may be possible to locate structures in portions of the restricted area. Infrastructure, including utilities and roadways, should be located in known unmined areas as indicated using existing borings, or be constructed to withstand the 0.74% strain.

View to the west of Wise Property

11.0 CLOSURE

The recommendations provided herein were developed from the information obtained from field exploration which reflect subsurface conditions only at the specific locations, at the particular times designated. Subsurface conditions at other locations and times may differ from conditions occurring at these locations. The nature and extent of any variations between the drill holes may not become evident until or during the course of construction. If variations then appear, it may be necessary to re-evaluate the recommendations of this report after performing on-site observations during the excavation period and noting the characteristics of any variations.

This report was prepared by a Professional Geologist, not an engineer, and should not be construed as, or substituted for, engineering. This report is intended to inform geotechnical and structural engineers working on building design of the potential earth forces that could develop at the site, and to assist the client in determining whether to acquire and build on the site in question.

Our professional services have been performed, our findings, and our recommendations prepared in, accordance with generally accepted geological principles and practices. This warranty is in lieu of all other warranties, either expressed or implied.

15.0 SELECTED REFERENCES

Ackenheil, A. C. and Dougherty, M. T., Recent Developments in Grouting for Deep Mines: J. Soil Mechs. and Found. Div., ASCE, 96 No. SM1, 1970 pg. 251-261.

Amuedo and Ivey, 1975, Coal Mine Subsidence and Land Use in the Boulder-Weld Coalfield, Boulder and Weld Counties, Colorado: Colorado Geological Survey EG-9

Averitt, P., and Lopez, L., 1972, Bibliography and index of U.S. Geological Survey Publications relating to coal 1882-1970: U.S. Gel. Survey Bull. 1377, 173 p.

Babcock, S.D., 1973, Undermining as an element in land use planning (M.S. Thesis): Edwardsville, Southern Illinois Univ., 84 p.

Bell, F.G., 1975, Site Investigations in Areas of Mining Subsidence

Bieniawski, Z.T. 1968 "The Effect of Specimen Size on the Compressive Strength of Coal" International Journal or Rock Mechanic Science 5:325-335,.

Blair, R.W., 1951, Subsurface geological cross sections of Mesozoic rocks in northeastern Colorado: U.S. Gel. Survey Oil & Gas Inv. Chart OC-42.

Brauner, G., 1973, Subsidence due to underground mining (in 2 parts) 1. Theory and Practices in predicting surface deformation: U.S. Bur. of Mines Inf. Circ. 8751, 56 p.

____,1973, Subsidence due to underground mining (in 2 parts) 2. Ground movements and mining damage: U.S. Bur. of Mines Inf. Circ. 8572, 53 p.

Candeub, Fleissig and Associates, 1971, Demonstration of a technique for Limiting the subsidence of land over abandoned mines, NTIS Tech. Rept. P.B. 212708, 57 p.

_____,1973, Demonstration of a technique for limiting the subsidence of land over abandoned mines, final report: City of Rock Springs, WY. 28 p.

Chen and Associates, Inc., 1979, Preliminary Coal Mine Subsidence Evaluation Three Reservoir Sites, Boulder and Weld Counties, Co., 10 p.

Colorado Division of Mines, 1973, Coal 1973: Co. Div. Mines Inspection Div., 28 p.

Colorado Springs Planning Dept., 1967, Mining Report, Colorado Springs coalfield, a guide for future land use: Colorado Springs Planning Dept., Gel. Sec., IO p.

Colorado State 1963 Coal Mining Laws: State of Colorado, revised statutes, chap. 92, pt. 1, arts.

p I- 12, sec. 1, 124 p.

Colton, R.B., and Lowrie, R.L., 1973, Map showing mined areas of the Boulder-Weld coalfield, Co.: U.S. Goel. Sur. Misc. Field Studies Map, MF-513.

Davis, T., and Weimer, R-J., 1976, Late Cretaceous Growth faulting, Denver Basin, Co.: Prof Contributions of Colorado School of Mines, 21 p.

Dunrud, C.R., and Barnes, B.K, 1972, Engineering Geologic map of the Geneva Mine Area, Carbon & Emery Counties, Ut.: U.S. Geol. Sur. Misc. Geol. Inv. Map 1-704.

Flaschentrager, H, 1958, Consideration on ground movement phenomena: Colliery Eng., v. 35, no. 8, p. 342-350 and no. 391-398.

Galvin, J.M.1995, "Roadway and Pillar Mechanics Workshop" 1995 University of New South Wales, Australia.

Gillen, G., 1974, When Coal Was King: Focus Magazine in Boulder Daily Camera, March 24, 1974, p.3-6.

Grosvenor, N.E., 1964, Coal Mines of Colorado, Adams County (map): Colorado School of Mines Found., Golden, Co.

_____,1964, Coal Mines of Colorado, Weld County (2 maps): Colorado School of Mines Found., Golden, Co.

_____,1964, Coal Mines of Colorado, Boulder County (map): Colorado School of Mines Found., Golden, Co.

Hart, Steven S., 1985, History and Evolution of Mining and Mining Methods, in in Proceedings of the 1985 Conference on Coal Mine Subsidence in the Rocky Mountain Region, Colorado Geological Survey Special Publication 31.

Herbert, C.A., and Rutledge, J.J., 1927, Subsidence due to coal mining in Illinois: U.S. Bur. Mines Bull. 238, 59 p.

Holt, R.D., 1972, Bibliography, Coal Resources in Colorado, Geol. Sur. Bull. 34-1, 32 p.

Hornbaker, A.L., and Holt, R.D., 1973, Coal Resources of Colorado, 1972 summary of: Colo. Geol. Sur. Spec. Pub. No. 3, 15 p.

Hutton, T., 1956, Deep hole closes Lafayette street as old mine caves in: Denver Post, May 27, 1956.

King, H.J.., and Whetton, J.T., 1958, Mechanics of Mining Subsidence: Colliery Eng., v. 35, no.

6, p. 247-252 and no. 7, p. 285-388.

Landis, E.R., 1959, Coal Resources of Colorado, U.S. Geol. Sur. Buff. 1072-C, p. 131-232.

Litwiniszyn, J., 1958, The theories and model research of movements of ground masses: Colliery Eng., v. 35, no. 10, p. 438-444.

Lowrie, R.L., 1966, Analysis of the coal industry in Boulder-Weld coalfield Colorado: U.S. Bur. Mines Rept. Inv. 6726, 79 p.

Malde, H.E., 1955, Surficial geology of the Louisville Quad., Colorado: U. S. Geol. Sur. Bull. 996-E, p. 217-257.

Matheson, Gordon M. 1985, Observations on the Location of Chimney Subsidence Sinkhole Development Along the Colorado Front Range, in Proceedings of the 1985 Conference on Coal Mine Subsidence in the Rocky Mountain Region, Colorado Geological Survey Special Publication 31.

Mark, Christopher and Barton, Timothy, 1997, "Pillar Design and Coal Strength" New Technology for Ground Control n Retreat Mining, U.S. Department of Health and Human Services Information Circular 9446,.

Mark, C.1990, "Pillar Design Methods for Longwall Mining" U.S. Bureau of Mines Information Circular 9247

Martin, S.C., 1910, Coal of the Denver Basin, Colorado: U.S.Geol. Sur. Bull. 381-C, p. 297-306.

Mohr, H.F., 1956, Influence of mining on strata: Mine and Quarry Eng., v. 22, no. 4, p. 140-152.

National Coal Board, 1966, Subsidence Engineer's Handbook: Nat. Coal Board Production Dept., London, 118 p.

Oravecz, Kalman I, 1977, Measurements of Surface Displacement Caused by Extraction of Coal Pillars in Large Ground Movements and Structures, J.D. Geddes ed., Wiley and Sons N.Y.

Panek, L.A., 1973, Program for control of surface subsidence: U.S. Bur. Mines Prog. Rept. No. 100 II, 23p.

Perez, W., 195 8, Subsidence observations in Austria: Colliery Eng., v. 3 5, no. I 1, p. 479-482 and no. 12, p. 533-535.

Piggott John, et al., 1977, Ground Movements Arising from the Presence of Shallow Abandoned Mine Workings in Large Ground Movements and Structures, J.D. Geddes ed., Wiley and Sons N.Y.

Robinson, Charles S. & Associates, 1979, Engineering Geology, Centennial Valley, Boulder County, Colo., 42 p. and Appendix A.

Salamon, M.D.G 1991, "Behavior and Design of Coal Pillars" Australian Coal Journal, 32:11-22, 1991.

Scott, G.R., 1962, Geology of the Littleton Quad., Jefferson, Douglas, and Arapahoe Counties, Co., U.S. Geol. Sur. Bull. 1121-L, 53 p.

Sherman, Greg D. 1985, Assessment of Subsidence Related Damage to Structures in Louisville, Lafayette, Colorado, in Proceedings of the 1985 Conference on Coal Mine Subsidence in the Rocky Mountain Region, Colorado Geological Survey Special Publication 31.

Smith, R.O., Schneider, P.A., Jr., and Petri L.R., 1964, Ground water resources of the South Platte River Basin in western Adams and southwestern Weld Counties, Co.: U. S. Geol. Sur. Water supply Paper 1658, 132 p.

Soister, P.E., 1965, Geologic map of the Fort Lupton Quad., Weld and Adams Counties, Co.: U. S. Geol. Sur. Geol. Quad map GQ-397.

_____, 1965, Geologic map of the Hudson Quad., Weld and Adams Counties, Co.: U. S. Geol. Sur. Geol. Quad map GQ-398.

_____,1965, Geologic map of the Platteville Quad., Weld County, Co.: U. S. Geol. Sur. Geol. Quad map GQ-399.

Spencer, F.D., 1961, Geologic map of the bedrock geology of the Louisville Quad., Co.: U.S. Geol. Sur. Geol. Quad map GQ 15 1.

Stefanko, R., 1973, Subsidence and ground movement, in SME Handbook: Soc. Mining Eng., AM. Inst. Mining, Met. & Petr. Eng., Inc. NY, p. 13-2, 13-9.

Terzaghi, K. And Peck, R.B. 1948, Soil Mechanics in Engineering Practice, John Wiley and Sons, N. Y.

Tierra Consultants, Inc., 1982, Geologic Study, Harper Lake Expansion, prepared for Rocky Mountain Consultants, 14 p.

Tomlinson, H., 1933, A Study of Falls of Roof and Coal in Northern Colorado USBM Report of Investigations 3199.

Turbull D., and Potts, E.L.J., 1958, Surface and underground subsidence correlation: Colliery

Eng. v. 35, no. 2, p. 65-72.

Van der Merwe, "The Role of Overburden Integrity in Pillar Failure" NIOSH Publication 99-114,1998.

Vesic, A.S. 1970, Foundation Engineering Handbook, Winterkorm and Fang, Van Norstrand Reinhold Company, 1975.

Van Horn, R-, 195 7, Geologic map of the bedrock geology of the Golden Quad., Co.: U.S. Geol. Sur. Geol. Quad map GQ- 103.

Weimer, R.J., 1973, A guide to uppermost Cretaceous stratigraphy, central Front Range, Co.: Mountain Geologist, v. 10, no. 3, p. 53-97.

Wells, J.D., 1967, Geology of Eldorado Springs Quad., Boulder and Jefferson Counties, Co.: U.S. Geol. Sur. Bull. 1221-D, 85 p.

Western Environment and Ecology, Inc. 2004, Summery Mine Subsidence Investigation Erie Commons, Erie, Colorado.

Woodhuff, S.D., 1966, Methods of working coal and metal mines, vol. 2, Ground support methods: New York, Pergamon Press, 429 p.

Yinst, P.O., 1960 Coal resources of Colorado: Colorado School of Mines Ind.Bull.,v.3, no.5, 8 p.

Young, C.M., 1917, Percentage extraction of bituminous coal with special reference to Illinios conditions: Univ. of Illinois Eng. Experiment Station Bull. 100, 175 p.

_____,and Stoek, H.H., 1916, Subsidence resulting from mining: Univ. Illinios Eng. Experiment Station Bull. 91, 205 p.

Zwartendyk, J., 197 1, Economic aspects of surface subsidence resulting from underground mineral exploitation (Ph.D. Thesis): University Park, Pennsylvania State Univ., Univ. Microfilms, Ann Arbor, 411 p.

APPENDICES

APPENDIX A
LITHOLOGIC LOGS

HOLE NUMBER: W-1	LOCATION: Sec 14, T.1N., R.69W.	STATE: Colorado
DRILLED BY: Bideau Drilling	LOGGED BY: Brian E. Crandall	TOTAL DEPTH: 140'
DATE: December 14, 1998	BIT SIZE: 5 1/8"	DRILLED WITH: AIR ___ MUD X

DEPTH	SAMPLE DESCRIPTION
5	SAND, light brown
10	SAND, light brown
15	SAND, light brown
20	SAND, light brown
25	CLAYSTONE, gray
30	CLAYSTONE, gray / COAL
35	CLAYSTONE, brown
40	CLAYSTONE, gray
45	SANDSTONE, light gray
50	SANDSTONE, light gray
55	SANDSTONE, light gray
60	SANDSTONE, light gray
65	CLAYSTONE, gray
70	CLAYSTONE, gray
75	CLAYSTONE, gray
80	CLAYSTONE, gray
85	CLAYSTONE, gray
90	CLAYSTONE, gray
95	CLAYSTONE, gray
100	CLAYSTONE, gray / COAL
105	COAL
110	NO SAMPLES
115	NO SAMPLES
120	NO SAMPLES
125	NO SAMPLES
130	NO SAMPLES
135	NO SAMPLES
140	NO SAMPLES
145	TOTAL DEPTH 140'
150	LOST CIRCULATION AT 105', MAXIMUM CALIPER DEFLECTION 109'
155	
160	
165	
170	
175	
180	
185	
190	
195	
200	

HOLE NUMBER:	W-2	LOCATION:	SEC 14 , T 1N., R.69W	STATE:	Colorado
DRILLED BY:	Bideau Drilling	LOGGED BY:	Brian E. Crandall	TOTAL DEPTH:	120'
DATE:	December 14, 1998	BIT SIZE:	5 1/8"	DRILLED WITH:	AIR __ MUD X

DEPTH	SAMPLE DESCRIPTION
5	SAND, light brown
10	SAND, light brown
15	SAND, light brown
20	SAND, light brown
25	SAND, light brown
30	GRAVEL
35	GRAVEL
40	CLAYSTONE, gray / COAL
45	SANDSTONE, light gray
50	SANDSTONE, light gray
55	SANDSTONE, light gray
60	SANDSTONE, light gray
65	SANDSTONE, light gray
70	SANDSTONE, light gray
75	SANDSTONE, light gray
80	SANDSTONE, light gray
85	SANDSTONE, light gray
90	SANDSTONE, light gray
95	SANDSTONE, light gray
100	SANDSTONE, light gray
105	SANDSTONE, light gray
110	SANDSTONE, light gray
115	SANDSTONE, light gray
120	SANDSTONE, light gray
125	TOTAL DEPTH 120'
130	DID NOT LOSE CIRCULATION, COULD NOT PROBE DUE TO GRAVEL IN BORING
135	
140	
145	
150	
155	
160	
165	
170	
175	
180	
185	
190	
195	
200	

HOLE NUMBER:	W-3	LOCATION:	SEC 14, T.1N., R.69W.	STATE:	Colorado
DRILLED BY:	Bideau Drilling	LOGGED BY:	Brian E. Crandall	TOTAL DEPTH:	140'
DATE:	December 14, 1998	BIT SIZE:	5 1/8"	DRILLED WITH:	AIR __ MUD X

DEPTH	SAMPLE DESCRIPTION
5	SAND, light brown
10	SAND, light brown
15	SAND, light brown
20	CLAYSTONE, light brown
25	CLAYSTONE, light brown
30	CLAYSTONE, light brown
35	CLAYSTONE, light brown / COAL
40	CLAYSTONE, light brown
45	CLAYSTONE, gray
50	CLAYSTONE, gray
55	CLAYSTONE, gray
60	CLAYSTONE, gray
65	CLAYSTONE, gray / COAL
70	CLAYSTONE, gray
75	CLAYSTONE, gray
80	CLAYSTONE, gray
85	COAL "MAIN" SEAM
90	COAL / SANDSTONE, gray
95	SANDSTONE, light gray
100	SANDSTONE, light gray
105	SANDSTONE, light gray
110	SANDSTONE, light gray
115	SANDSTONE, light gray
120	SANDSTONE, light gray
125	SANDSTONE, light gray
130	SANDSTONE, light gray
135	SANDSTONE, light gray
140	SANDSTONE, light gray
145	TOTAL DEPTH 140'
150	DID NOT LOSE CIRCULATION, NO CALIPER DEFLECTION
155	
160	
165	
170	
175	
180	
185	
190	
195	
200	

HOLE NUMBER: W-4	LOCATION: SEC 14 , T.1N., R.69W.	STATE: Colorado
DRILLED BY: Bideau Drilling	LOGGED BY: Brian E. Crandall	TOTAL DEPTH: 120'
DATE: December 14, 1998	BIT SIZE: 5 1/8"	DRILLED WITH: AIR MUD X

DEPTH	SAMPLE DESCRIPTION
5	SAND, light brown
10	SAND, light brown
15	SAND, light brown
20	GRAVEL
25	CLAYSTONE, brown
30	CLAYSTONE, brown
35	CLAYSTONE, brown
40	CLAYSTONE, brown
45	CLAYSTONE, brown / COAL
50	CLAYSTONE, gray
55	CLAYSTONE, gray
60	CLAYSTONE, gray
65	CLAYSTONE, gray / COAL
70	COAL "MAIN" SEAM
75	SANDSTONE, light gray
80	SANDSTONE, light gray
85	SANDSTONE, light gray
90	SANDSTONE, light gray
95	SANDSTONE, light gray
100	SANDSTONE, light gray
105	SANDSTONE, light gray
110	SANDSTONE, light gray
115	SANDSTONE, light gray
120	SANDSTONE, light gray
125	TOTAL DEPTH 120'
130	DID NOT LOSE CIRCULATION, NO CALIPER DEFLECTION
135	
140	
145	
150	
155	
160	
165	
170	
175	
180	
185	
190	
195	
200	

HOLE NUMBER: W-5	LOCATION SEC. 14 T.1N., R.69W	STATE: Colorado
DRILLED BY: Bideau Drilling	LOGGED BY: John Goggin	TOTAL DEPTH: 140'
DATE: 2/16/99	BIT SIZE: 5 1/8"	DRILLED WITH: AIR ___ MUD X

DEPTH	SAMPLE DESCRIPTION	
5	SAND, light brown	
10	SAND, light brown	
15	CLAYSTONE, gray/ brown	
20	CLAYSTONE, gray/ brown	
25	CLAYSTONE, gray/ brown	
30	CLAYSTONE, gray/ brown	
35	CLAYSTONE, gray/ brown	
40	CLAYSTONE, gray/ brown	
45	CLAYSTONE, gray	
50	CLAYSTONE, gray	
55	CLAYSTONE, gray	
60	CLAYSTONE, gray	
65	CLAYSTONE, gray	
70	CLAYSTONE, gray	
75	CLAYSTONE, gray	
80	CLAYSTONE, gray	
85	CLAYSTONE/ COAL	
90	CLAYSTONE, gray	
95	CLAYSTONE, gray	
100	CLAYSTONE, gray/ COAL	
105	CLAYSTONE, gray/ COAL	TOTAL DEPTH OF HOLE - 140 FEET..CIRCULATION WAS NOT LOST.
110	SANDSTONE, white	NO CALIPER DEFLECTION
115	SANDSTONE, white	
120	SANDSTONE, white	
125	SANDSTONE, white	
130	SANDSTONE, white	
135	SANDSTONE, white	
140	SANDSTONE, white	
145		
150		
155		
160		
165		
170		
175		
180		
185		
190		
195		
200		

HOLE NUMBER: W-6	LOCATION: SEC. 14, T.1N., R.69W	STATE: Colorado
DRILLED BY: Bideau Drilling	LOGGED BY: John Goggin	TOTAL DEPTH: 140'
DATE: 2/16/99	BIT SIZE: 5 1/8"	DRILLED WITH: AIR ___ MUD X

DEPTH	SAMPLE DESCRIPTION	
5	SAND, light brown	
10	SAND, light brown	
15	SAND, light brown	
20	CLAYSTONE, gray/ brown	
25	CLAYSTONE, gray/ brown	
30	CLAYSTONE, gray/ brown	
35	CLAYSTONE, gray/ brown	
40	CLAYSTONE, gray/ brown	
45	CLAYSTONE, gray/ brown	
50	COAL	
55	CLAYSTONE, gray	
60	CLAYSTONE, gray	
65	CLAYSTONE, gray	
70	CLAYSTONE, gray	
75	CLAYSTONE, gray	
80	CLAYSTONE, gray	
85	CLAYSTONE, carbonaceous	
90	CLAYSTONE, gray	
95	CLAYSTONE, gray	
100	CLAYSTONE, gray	SOFT DRILLING FROM 100 - 110 FEET
105	LOST CIRCULATION @ 105	
110	NO SAMPLE	
115	NO SAMPLE	
120	NO SAMPLE	
125	NO SAMPLE	TOTAL DEPTH OF HOLE - 140 FEET..CIRCULATION WAS LOST @ 105 FEET.
130	NO SAMPLE	MAXIMUM CALIPER DEFLECTION - 10 INCHES @ 106 FEET
135	NO SAMPLE	
140	NO SAMPLE	
145		
150		
155		
160		
165		
170		
175		
180		
185		
190		
195		
200		

HOLE NUMBER: W-7	LOCATION. SEC. 14, T.1N., R.69W	STATE. Colorado
DRILLED BY: Bideau Drilling	LOGGED BY: John Goggin	TOTAL DEPTH' 140'
DATE. 2/16/99	BIT SIZE. 5 1/8"	DRILLED WITH: AIR MUD X

DEPTH	SAMPLE DESCRIPTION
5	SAND, light brown
10	SAND, light brown
15	CLAYSTONE, gray
20	CLAYSTONE, gray
25	CLAYSTONE, gray
30	CLAYSTONE, gray
35	CLAYSTONE, gray
40	CLAYSTONE, carbonaceous
45	CLAYSTONE, gray
50	CLAYSTONE, gray
55	CLAYSTONE, gray
60	CLAYSTONE, gray
65	CLAYSTONE, gray
70	CLAYSTONE, gray
75	CLAYSTONE, gray
80	SANDSTONE, gray
85	SANDSTONE, gray
90	SANDSTONE, gray
95	SANDSTONE, gray
100	SANDSTONE, gray
105	COAL
110	SANDSTONE, CLAYSTONE, gray
115	SANDSTONE, CLAYSTONE, gray
120	COAL
125	CLAYSTONE, carbonaceous TOTAL DEPTH OF HOLE - 140 FEET..CIRCULATION WAS NOT LOST..
130	COAL NO CALIPER DEFLECTION...
135	SANDSTONE, white
140	SANDSTONE, white
145	
150	
155	
160	
165	
170	
175	
180	
185	
190	
195	
200	

Hole Number: **W-8**
Drilled by: Bideau Drilling
Date: 04/18/2005

Location: N40° 03.070' W105° 04.492'
Logged by: K. Abbott
Bit Size: 5.25 inches

State: Colorado
Total Depth: 140'
Drilled with: Mud

Depth	Sample Description	
5	Sand, silty, light brown	
10	Sand, silty, light brown	
15	Sand, silty, light brown	
20	Claystone, light olive brown	
25	Claystone, light olive brown	
30	Claystone, light olive brown	
35	Claystone, light olive brown	
40	Claystone, light olive brown	
45	Claystone, gray, slightly carbonaceous	
50	Claystone, gray, slightly carbonaceous	
55	Claystone, gray, slightly carbonaceous	
60	Claystone, gray, slightly carbonaceous	
65	Claystone with coal, gray	
70	Claystone with coal, gray	
75	Claystone with coal, gray	
80	Claystone with coal, gray, slightly carbonaceous	
85	Claystone with coal, gray, slightly carbonaceous	
90	Claystone with coal, gray	
95	Claystone, gray	
100	Claystone, gray	"Main" seam
105	Claystone with coal, gray	
110	Sandstone, light gray, quartzose, Fox Hills Formation	
115	Sandstone, light gray, quartzose, Fox Hills Formation	
120	Sandstone, light gray, quartzose, Fox Hills Formation	
125	Sandstone, light gray, quartzose, Fox Hills Formation	
130	Sandstone, light gray, quartzose, Fox Hills Formation	
135	Sandstone, light gray, quartzose, Fox Hills Formation	
140	Sandstone, light gray, quartzose, Fox Hills Formation	Total depth
	Circulation not lost, no mine workings encountered	

Hole Number: **W-9**
Drilled by: Bideau Drilling
Date: 04/18/2005

Location: N40° 03.072' W105° 04.568'
Logged by: K. Abbott
Bit Size: 5.25 inches

State: Colorado
Total Depth: 100'
Drilled with: Mud

Depth	Sample Description
5	Sand, silty, light brown
10	Sand, silty, light brown
15	Sand, silty, light brown
20	Claystone, light olive brown
25	Claystone, light olive brown
30	Claystone, light olive brown
35	Claystone, light olive brown
40	Claystone, light olive brown
45	Claystone with coal, gray
50	Claystone with coal, gray
55	Claystone with coal, gray
60	Claystone with coal, gray
65	Claystone with coal, gray
70	Claystone with coal, gray
75	Claystone with coal, gray
80	Claystone with coal, gray
85	Claystone with coal, gray
90	No samples Lost circulation
95	No samples
100	No samples
	Circulation was lost at 90 feet

Hole Number: **W-10**
Drilled by: Bideau Drilling
Date: 04/19/2005

Location: N40^0 02.940' W105^0 04.563'
Logged by: K. Abbott
Bit Size: 5.25 inches

State: Colorado
Total Depth: 180'
Drilled with: Mud

Depth	Sample Description
5	Sand, silty, light brown
10	Sand, silty, light brown
15	Sand, silty, light brown
20	Claystone, silty, light olive brown
25	Claystone, silty, light olive brown
30	Claystone, silty, light olive brown
35	Claystone with sandstone, light olive brown
40	Claystone with sandstone, light olive brown
45	Claystone with sandstone, light olive brown, slightly carbonaceous
50	Claystone, gray
55	Claystone, gray
60	Claystone, gray
65	Claystone, gray
70	Claystone, gray
75	Claystone, gray, slightly carbonaceous
80	Claystone, gray
85	Claystone with coal, gray
90	Claystone with coal, gray
95	Claystone with coal, gray
100	Claystone with coal, gray
105	Claystone with coal, gray
110	Claystone with coal, gray
115	Claystone with coal, gray
120	Claystone with coal, gray "main" seam interval
125	Claystone with coal, gray
130	Claystone with coal, gray
135	Sandstone, light gray, quartzose, Fox Hills Formation
140	Sandstone, light gray, quartzose, Fox Hills Formation
145	Sandstone, light gray, quartzose, Fox Hills Formation
150	Sandstone, light gray, quartzose, Fox Hills Formation
155	Sandstone, light gray, quartzose, Fox Hills Formation
160	Sandstone, light gray, quartzose, Fox Hills Formation
165	Sandstone, light gray, quartzose, Fox Hills Formation
170	Sandstone, light gray, quartzose, Fox Hills Formation
175	Sandstone, light gray, quartzose, Fox Hills Formation
180	Sandstone, light gray, quartzose, Fox Hills Formation Total depth
	Circulation not lost, No mine workings encountered

Hole Number: **W-11**
Drilled by: Bideau Drilling
Date: 04/19/2005

Location: N40° 02.913' W105° 04.643'
Logged by: K. Abbott
Bit Size: 5.25 inches

State: Colorado
Total Depth: 180'
Drilled with: Mud

Depth	Sample Description	
5	Sand, silty, light brown, tan	
10	Sand, silty, light brown, tan	
15	Sand, silty, light brown, tan	
20	Sand, silty, light brown, tan	
25	Claystone, light olive brown	
30	Claystone, light olive brown, slightly carbonaceous	
35	Claystone, light olive brown	
40	Claystone, light olive brown	
45	Claystone, light olive brown, iron stained	
50	Claystone, light olive brown, iron stained	
55	Claystone, gray	
60	Claystone, gray	
65	Claystone, gray	
70	Claystone, gray	
75	Claystone with coal, gray	
80	Claystone with coal, gray	
85	Claystone with coal, gray	
90	Claystone with coal, gray	
95	Claystone with coal, gray	
100	Claystone with coal, gray	
105	Claystone with coal, gray	
110	Claystone with coal, gray	
115	Claystone with coal, gray	
120	Claystone with coal, gray	
125	Claystone with coal, gray	
130	Claystone with coal, gray	"main" seam interval
135	Claystone, dark gray, slightly carbonaceous	
140	Sandstone, light gray, quartzose, Fox Hills Formation	
145	Sandstone, light gray, quartzose, Fox Hills Formation	
150	Sandstone, light gray, quartzose, Fox Hills Formation	
155	Sandstone, light gray, quartzose, Fox Hills Formation	
160	Sandstone, light gray, quartzose, Fox Hills Formation	
165	Sandstone, light gray, quartzose, Fox Hills Formation	
170	Sandstone, light gray, quartzose, Fox Hills Formation	
175	Sandstone, light gray, quartzose, Fox Hills Formation	
180	Sandstone, light gray, quartzose, Fox Hills Formation	Total Depth
	Circulation not lost, mine workings not encountered	

Hole Number: **W-12**
Drilled by: Bideau Drilling
Date: 04/18/2005

Location: N40° 03.013' W105° 04.650'
Logged by: K. Abbott
Bit Size: 5.25 inches

State: Colorado
Total Depth: 120'
Drilled with: Mud

Depth	Sample Description	
5	Sand, silty, light brown	
10	Sand, silty, light brown	
15	Sand, silty, light brown	
20	Claystone, light olive brown	
25	Claystone, light olive brown	
30	Claystone with coal, light olive brown	
35	Claystone, gray, iron stained	
40	Claystone, gray, iron stained	
45	Claystone, gray	
50	Claystone with coal, gray	
55	Claystone with coal, gray, slightly carbonaceous	
60	Claystone with coal, gray, slightly carbonaceous	
65	Claystone, gray, slightly carbonaceous	
70	Claystone, gray, slightly carbonaceous	
75	Claystone, gray	
80	Claystone, gray	
85	Claystone with sandstone, gray, slightly carbonaceous	
90	Claystone with sandstone, gray	
95	Claystone with sandstone, gray	
100	Coal	"Main" seam interval
105	Sandstone, light gray, quartzose. Fox Hills Formation	
110	Sandstone, light gray, quartzose, Fox Hills Formation	
115	Sandstone, light gray, quartzose, Fox Hills Formation	
120	Sandstone, light gray, quartzose, Fox Hills Formation	Total depth
	Circulation not lost, no mine workings encountered	

Hole Number: **W-13**
Drilled by: Bideau Drilling
Date: 04/18/2005

Location: N40° 03.074' W105° 04.655'
Logged by: K. Abbott
Bit Size: 5.25 inches

State: Colorado
Total Depth: 100'
Drilled with: Mud

Depth	Sample Description
5	Sand, silty, light brown
10	Sand, silty, light brown
15	Sand, silty, light brown
20	Sand with claystone, silty, light brown
25	Claystone, light olive brown
30	Claystone with coal, light olive brown
35	Claystone, light olive brown
40	Claystone, light olive brown
45	Claystone, olive brown, iron stained
50	Claystone, olive brown, iron stained
55	Claystone, olive brown, iron stained, slightly carbonaceous
60	Claystone with coal, carbonaceous
65	Claystone with coal, gray
70	Claystone with sandstone, gray
75	Claystone with sandstone, gray
80	Claystone with sandstone, gray
85	Claystone with sandstone, gray
90	Claystone with sandstone, gray
95	Claystone with coal, carbonaceous "Grant" main seam interval
100	Claystone, gray Total depth
	Circulation not lost, no mine workings encountered

Hole Number: **W-14**
Drilled by: Bideau Drilling
Date: 04/20/2005

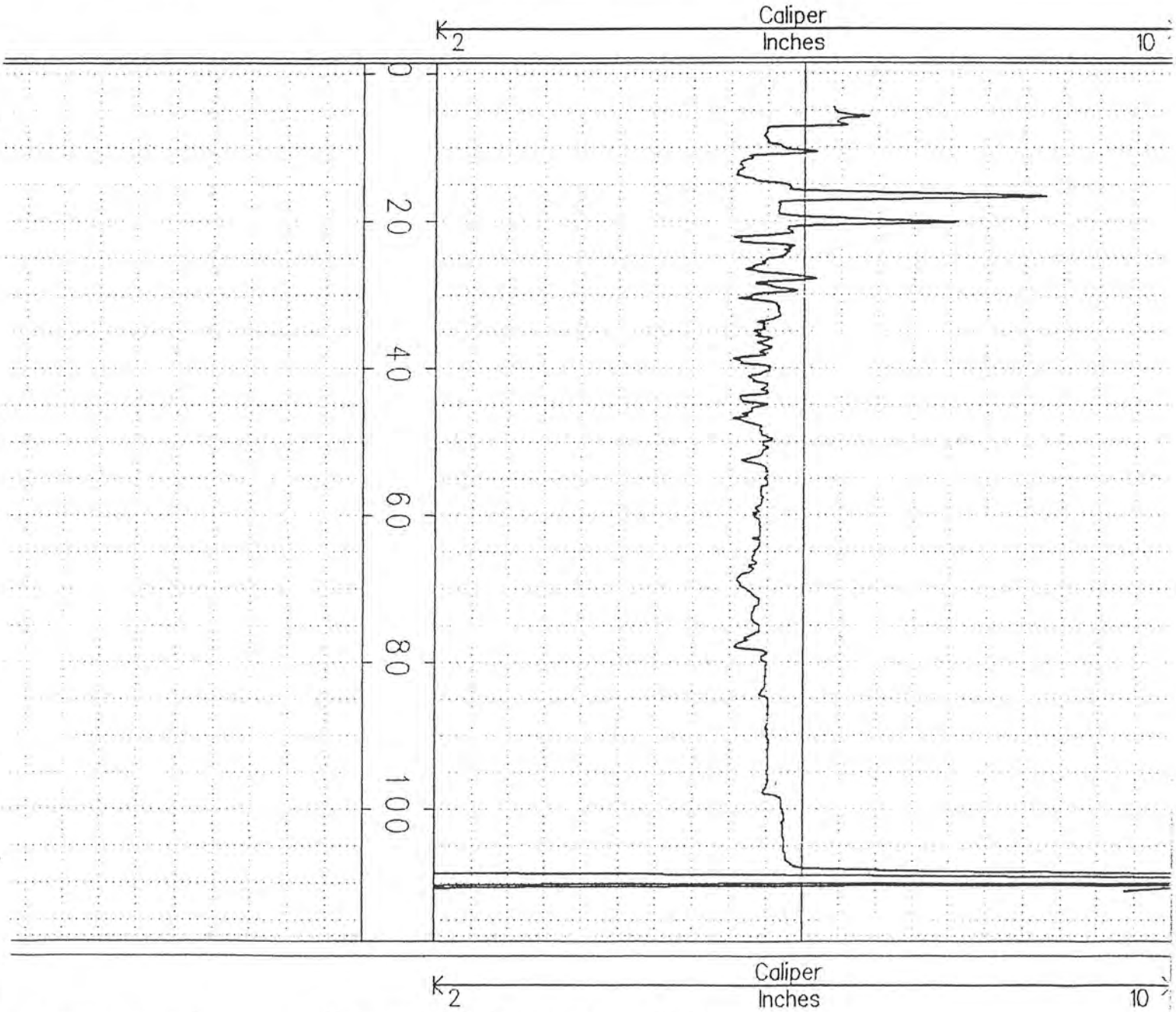
Location: N40°02.898' W105°04.557'
Logged by: K. Abbott
Bit Size: 5.25 inches

State: Colorado
Total Depth: 160'
Drilled with: Mud

Depth	Sample Description	
5	Sand, silty, light brown	
10	Sand, silty, light brown	
15	Sand, silty, light brown	
20	Sand, silty, light brown	
25	Claystone, light olive brown	
30	Claystone, light olive brown	
35	Claystone, light olive brown	
40	Claystone, light olive brown	
45	Claystone, olive brown, iron stained	
50	Claystone with coal, olive brown, iron stained	
55	Claystone, gray	
60	Claystone, gray	
65	Claystone, gray	
70	Claystone, gray	
75	Claystone, gray	
80	Claystone, gray	
85	Claystone with coal, gray	
90	Claystone, gray	
95	Claystone, gray	
100	Claystone, gray	
105	Claystone, carbonaceous	
110	Claystone, gray	
115	Claystone, gray	
120	Claystone with coal, gray, slightly carbonaceous	
125	Claystone with coal, gray	
130	Claystone with coal, gray	
135	Claystone with coal, gray	"Grant" main seam interval
140	Claystone with coal, gray	
145	Claystone with sandstone, light gray	
150	Sandstone, light gray, quartzose, Fox Hills Formation	
155	Sandstone, light gray, quartzose, Fox Hills Formation	
160	Sandstone, light gray, quartzose, Fox Hills Formation	Total depth
	Circulation not lost, no mine workings encountered	

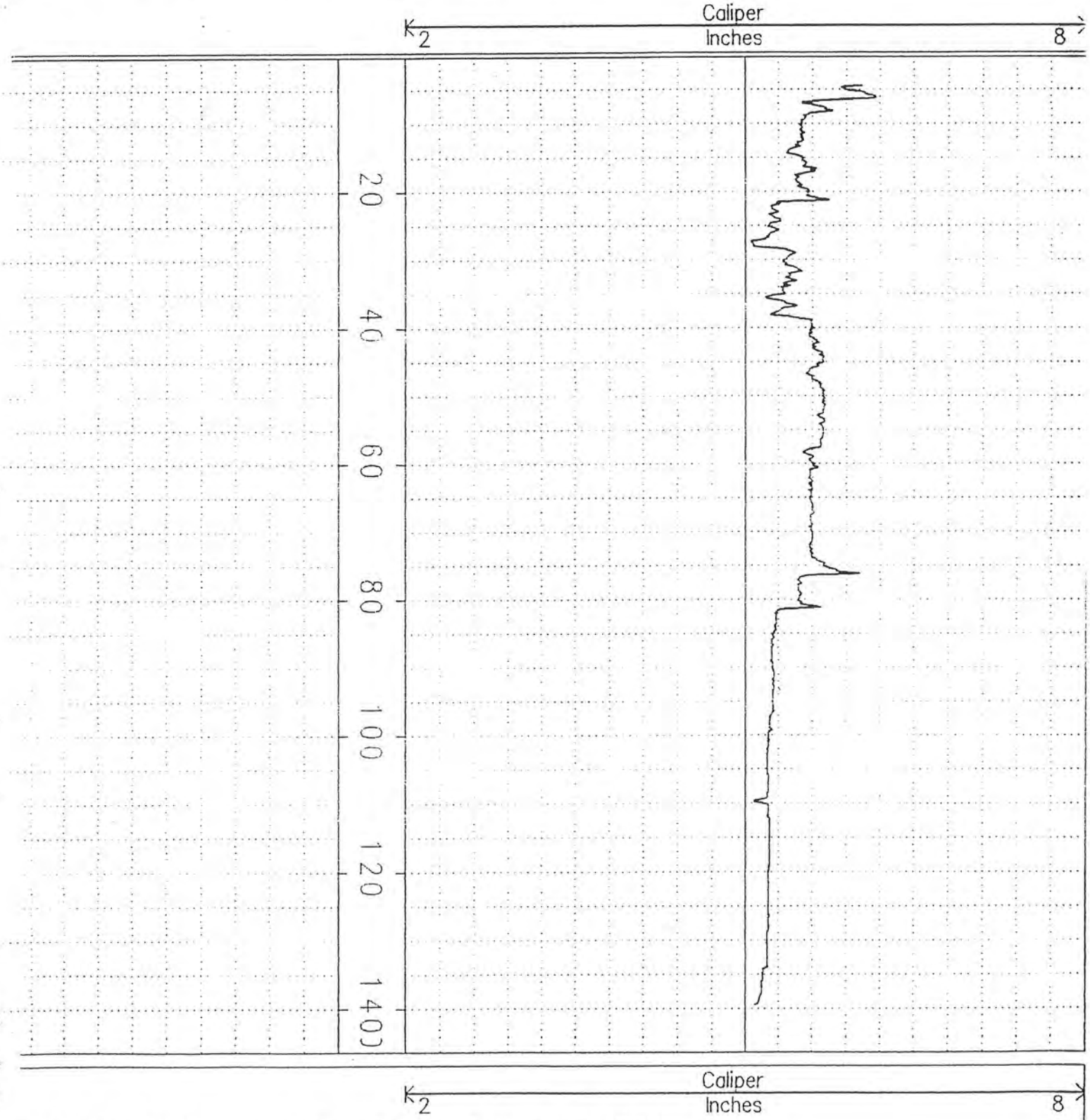
APPENDIX B
GEOPHYSICAL LOGS

C: LSWISE W1.KB0) Well W1, 14 December 1998



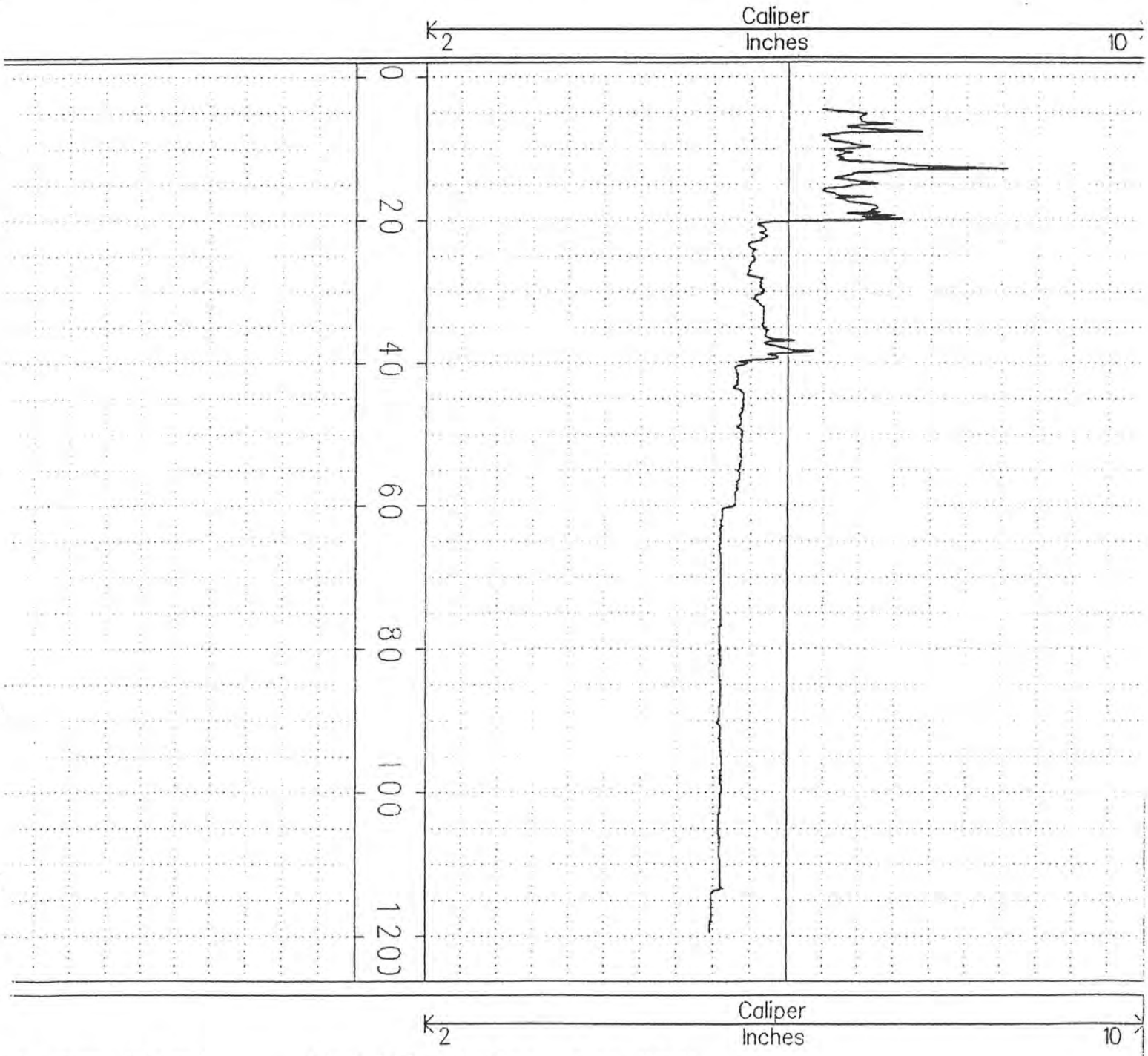
: LSWISE W1.KB0) Well W1, 14 December 1998

(C: LSWISE W3.KB0) Well W3, 14 December 1998



(C: LSWISE W3.KB0) Well W3, 14 December 1998

(C: LSWISE W4.KBO) Well W4, 14 December 1998



C: LSWISE W4.KBO) Well W4, 14 December 1998

10
20
30
40
50
60
70
80
90
100
110
120
130
140

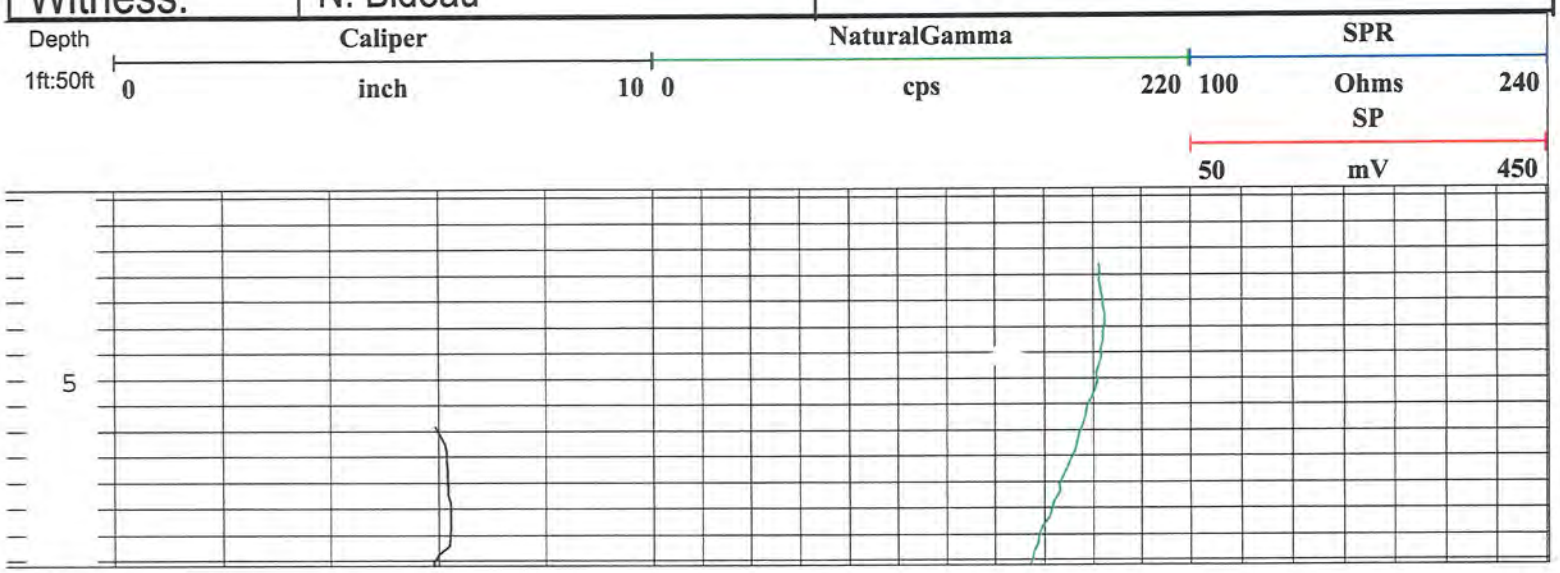
inches
inches
inches

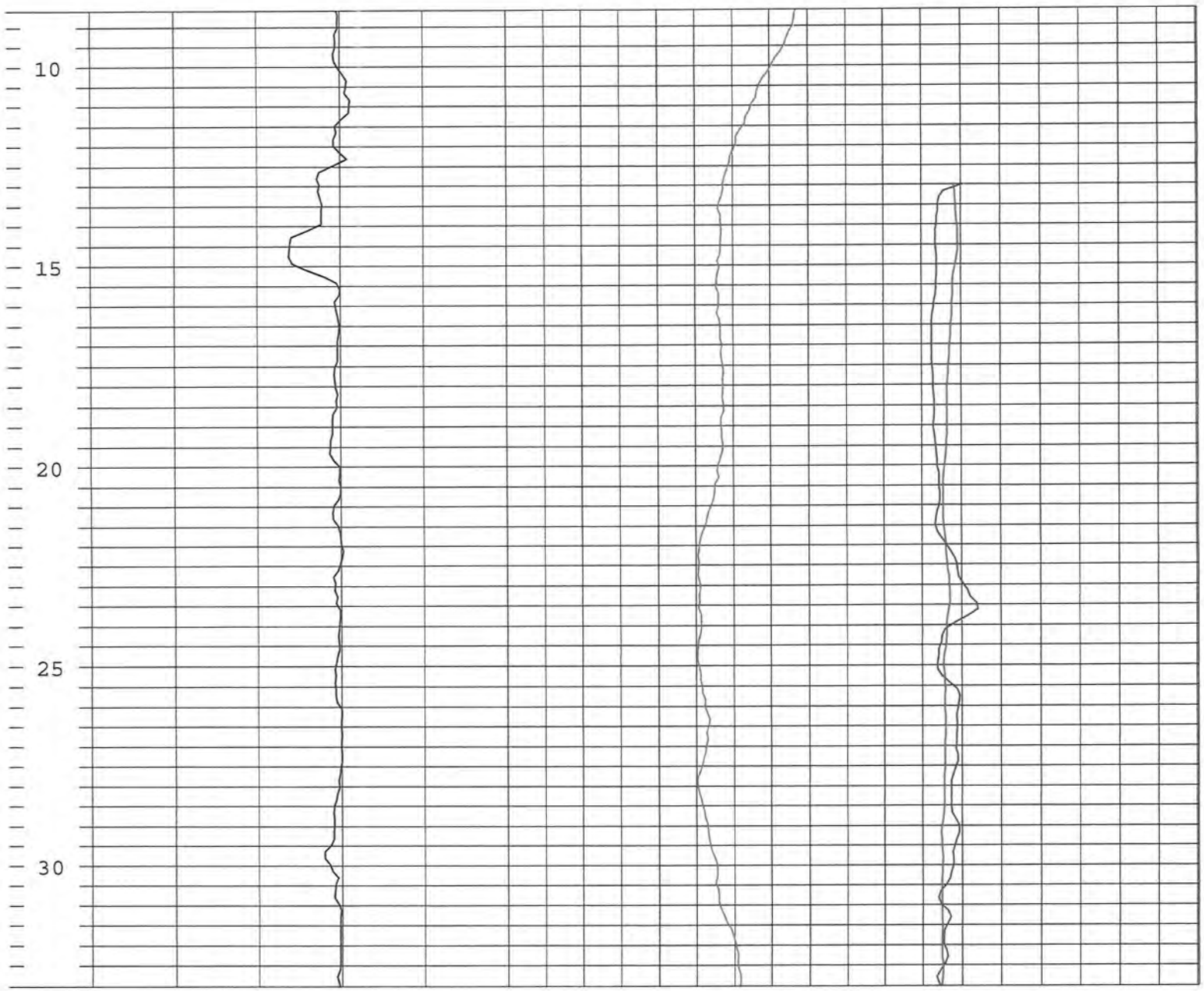
WESTERN ENVIRONMENT AND ECOLOGY, INC

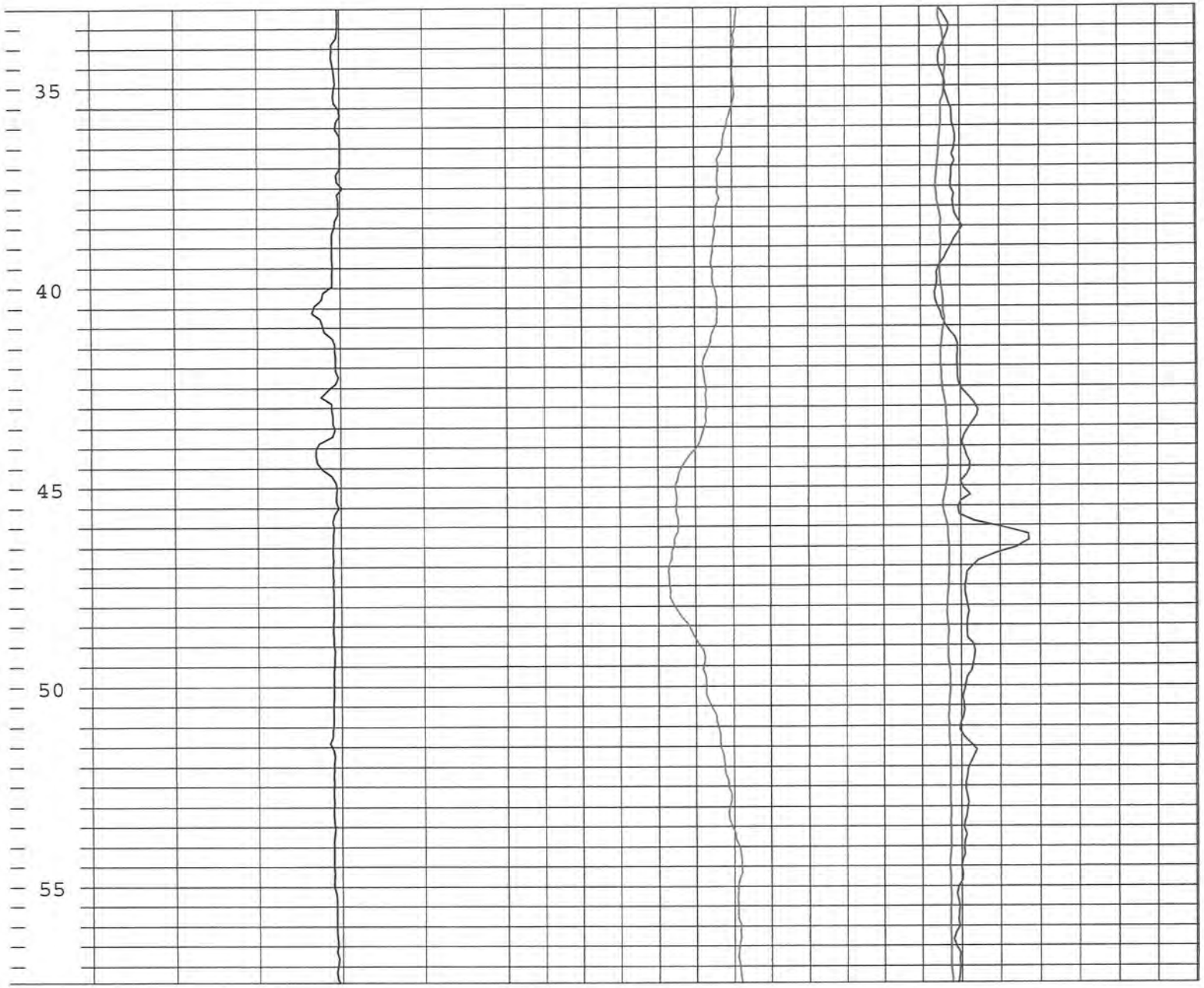
Location: Section 14, T1N, R69W, Boulder County, CO

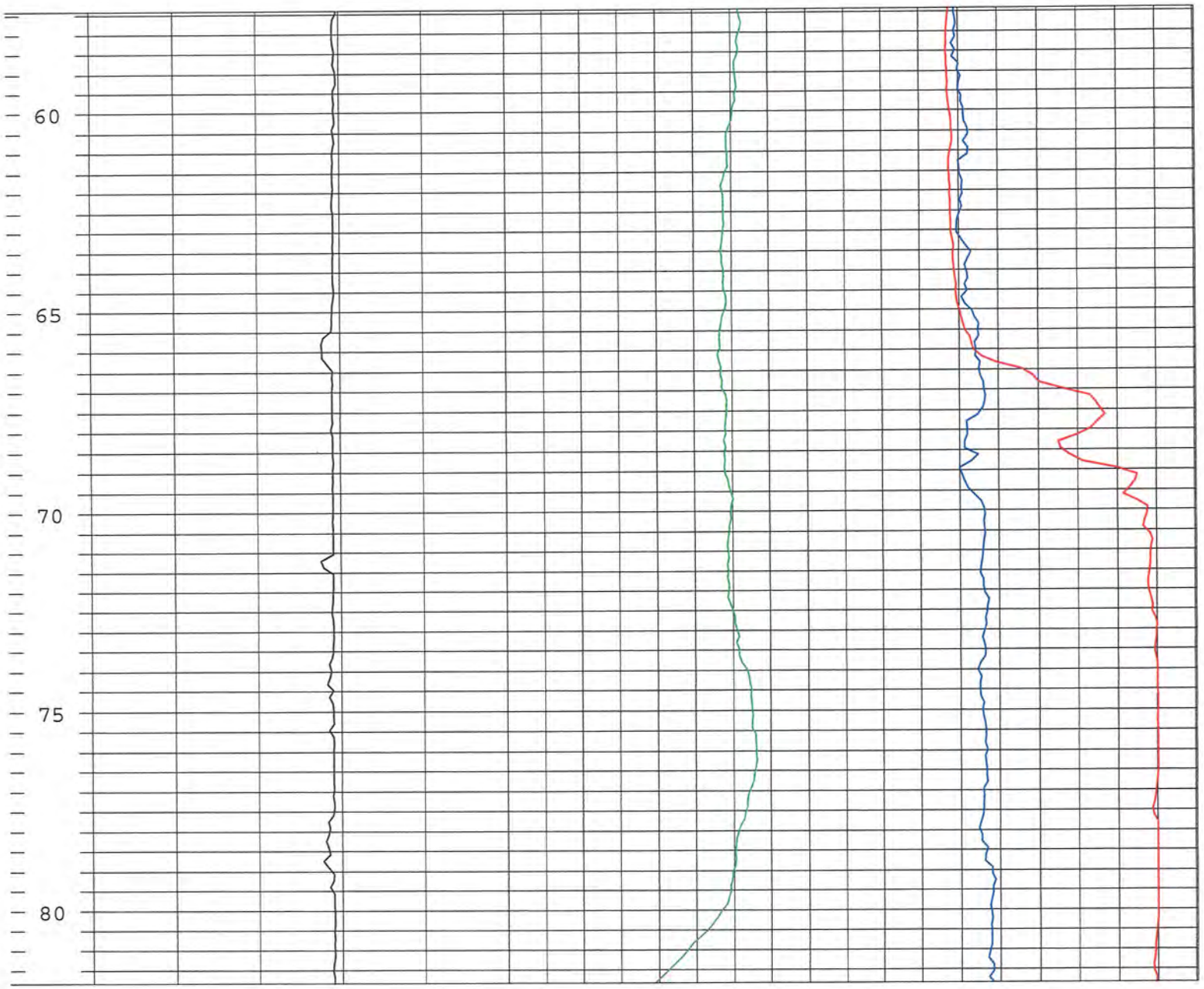
Well	W8		
Date	4/18/2005	BH Fluid	Mud
Casing	No		
File Name	W-8		
Depth Driller	140		
Depth Logger	139		
Logged by:	K. Abbott		
Witness:	N. Bideau		

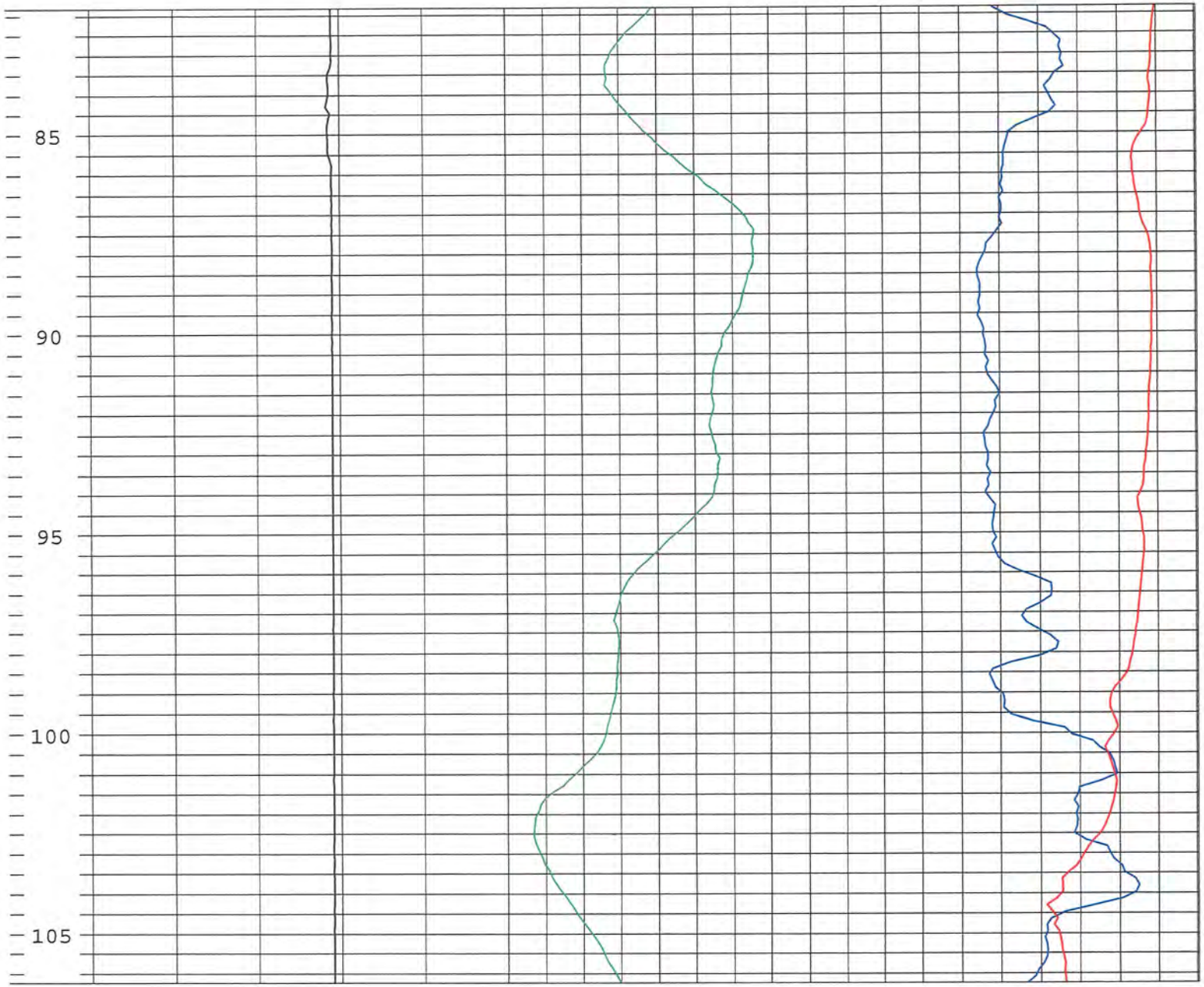
Comments: No Mine Workings

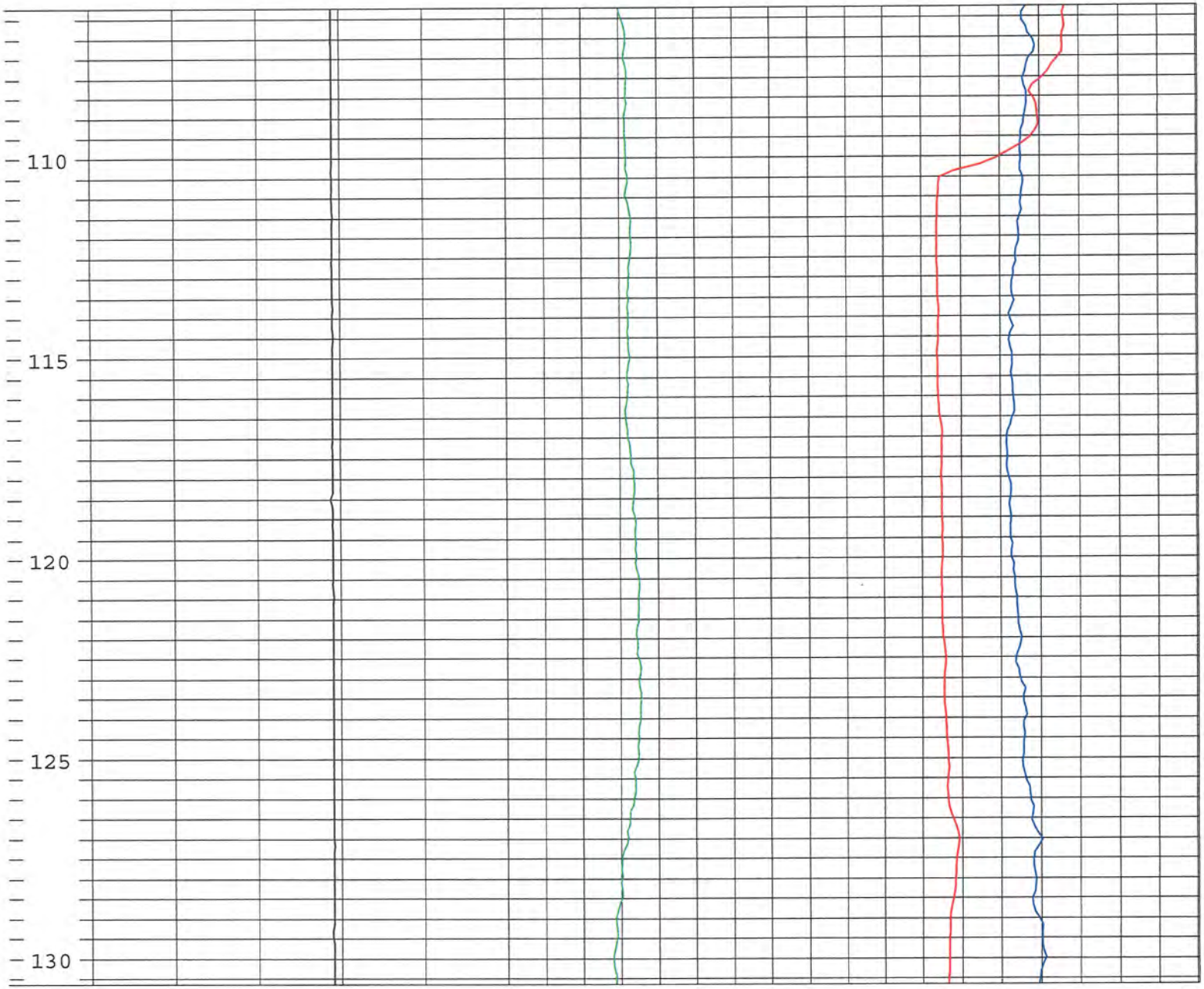


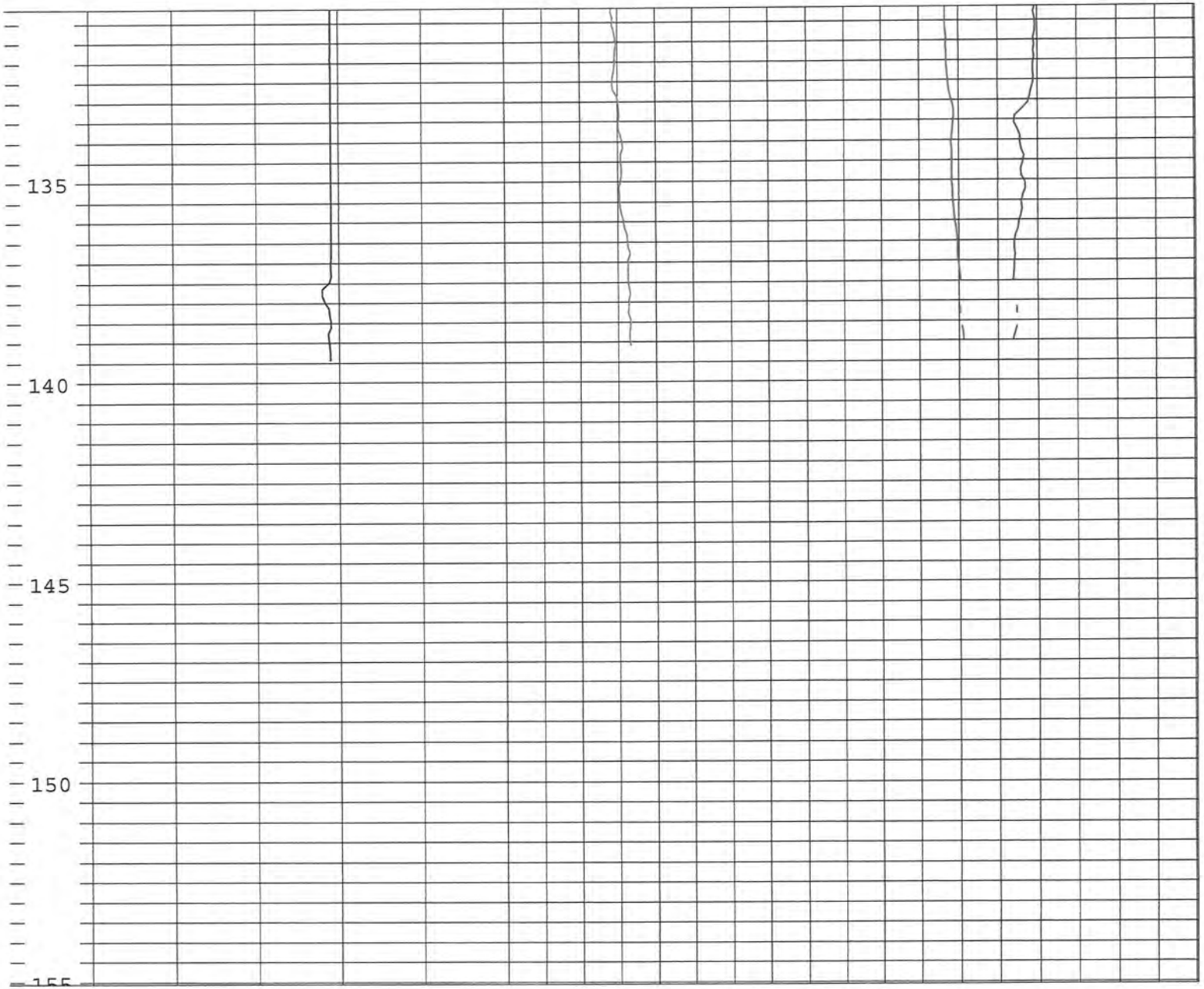

10
15
20
25
30


35
40
45
50
55


60
65
70
75
80


85
90
95
100
105

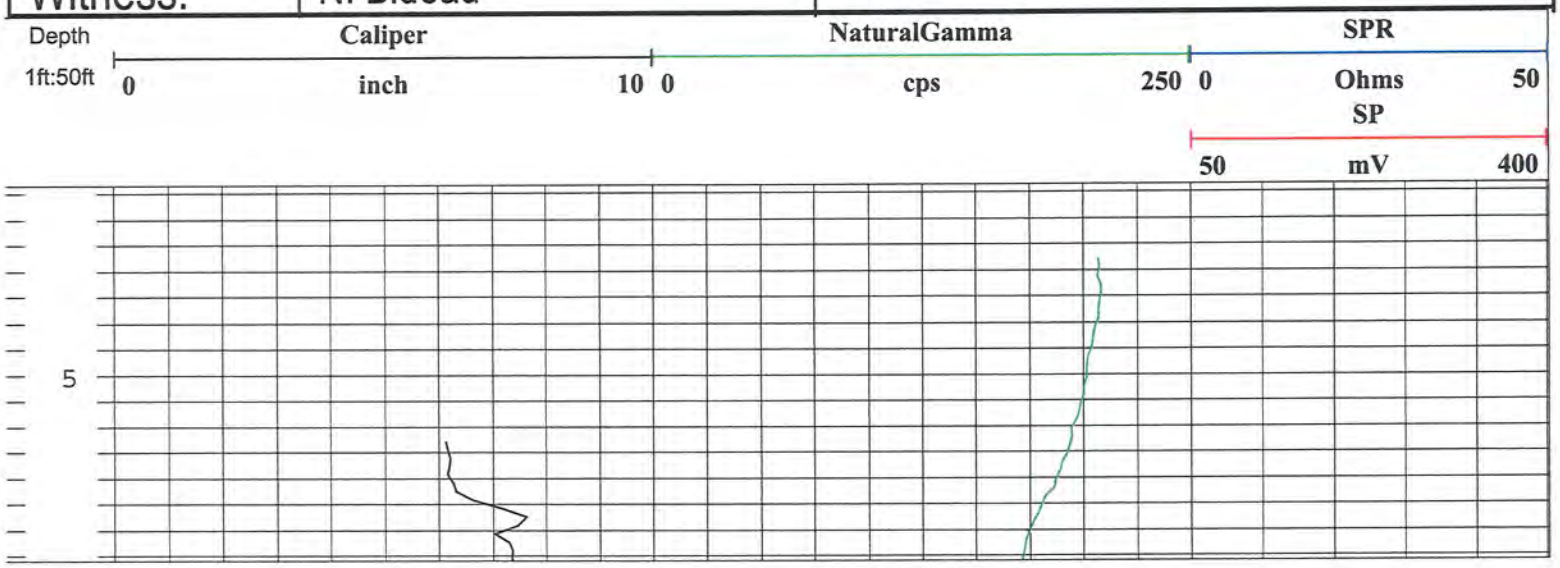

110
115
120
125
130

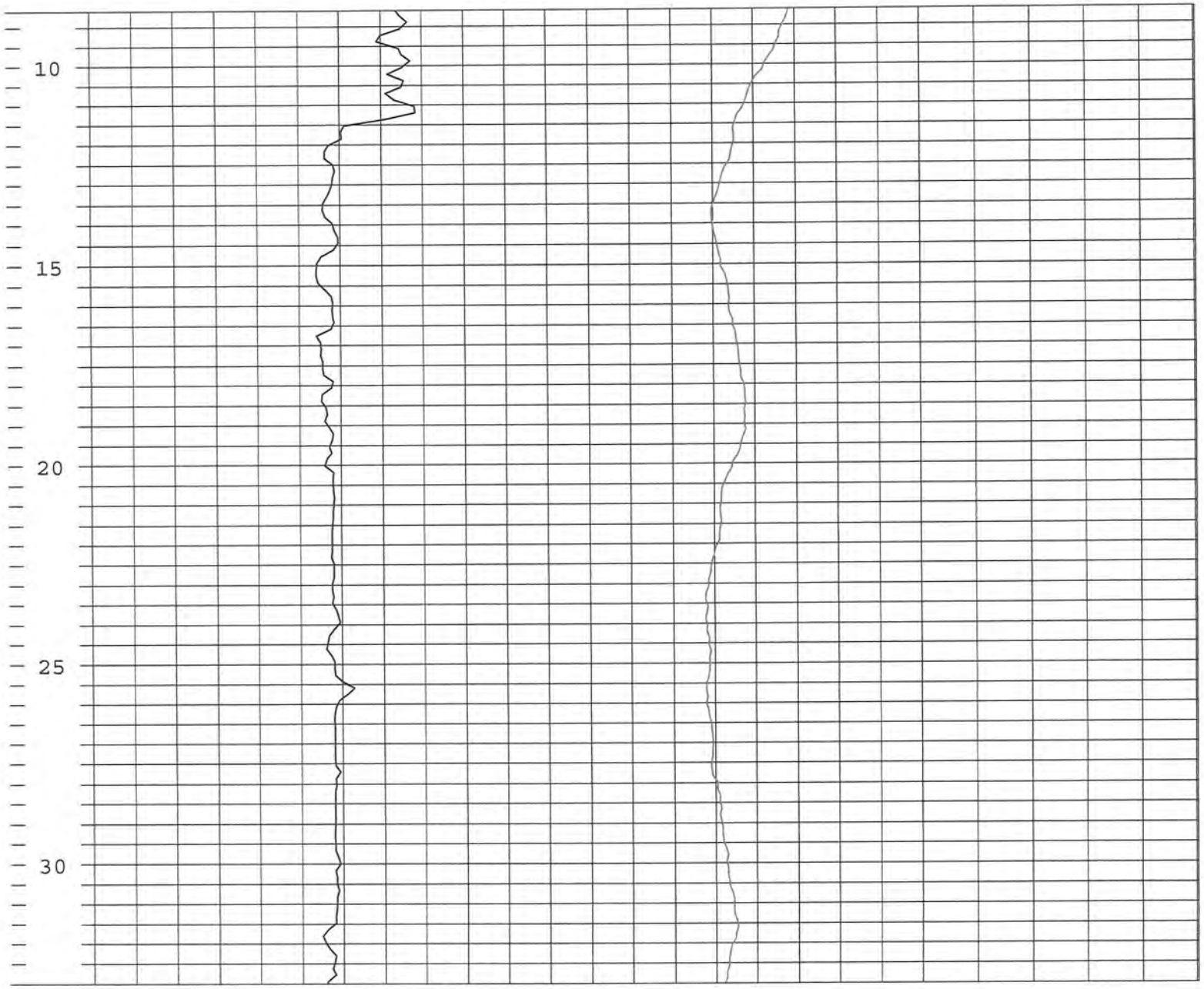

135
140
145
150

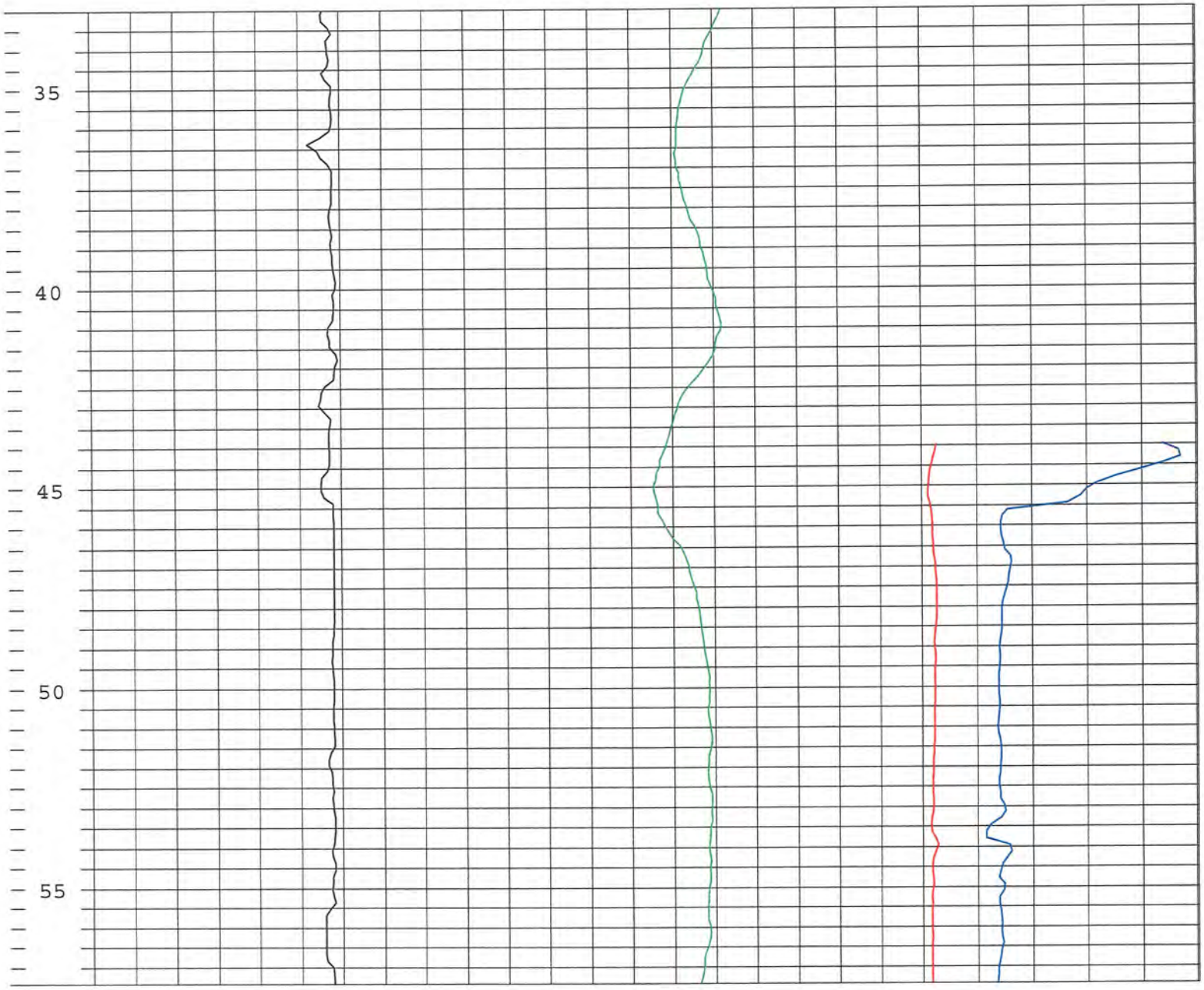
	WESTERN ENVIRONMENT AND ECOLOGY, INC
	Location: Section 14, T1N, R69W, Boulder County, CO

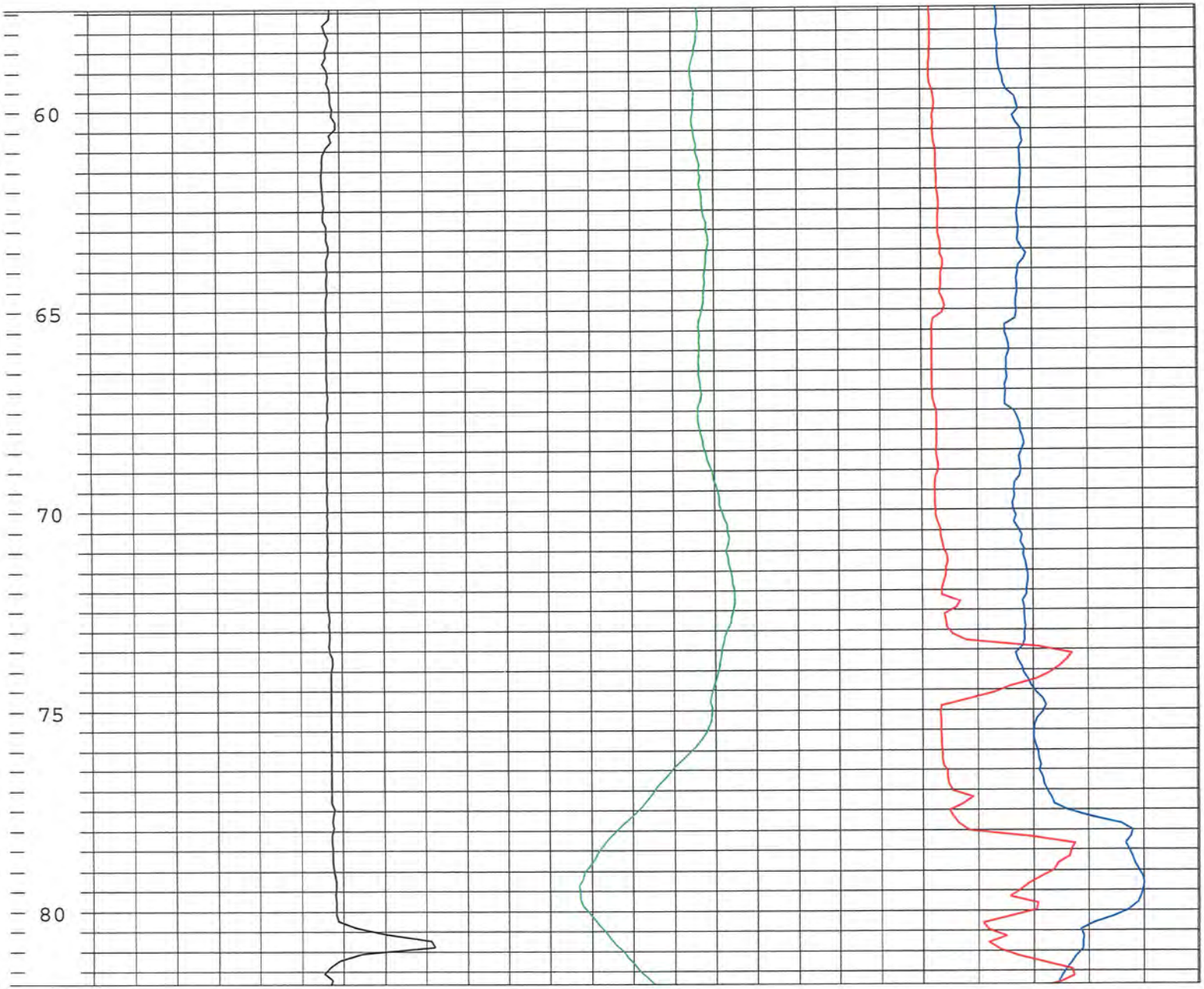
Well	W9		
Date	4/18/2005	BH Fluid	Mud
Casing	No		
File Name	W-9		
Depth Driller	100 feet		
Depth Logger	99 feet		
Logged by:	K. Abbott		
Witness:	N. Bideau		

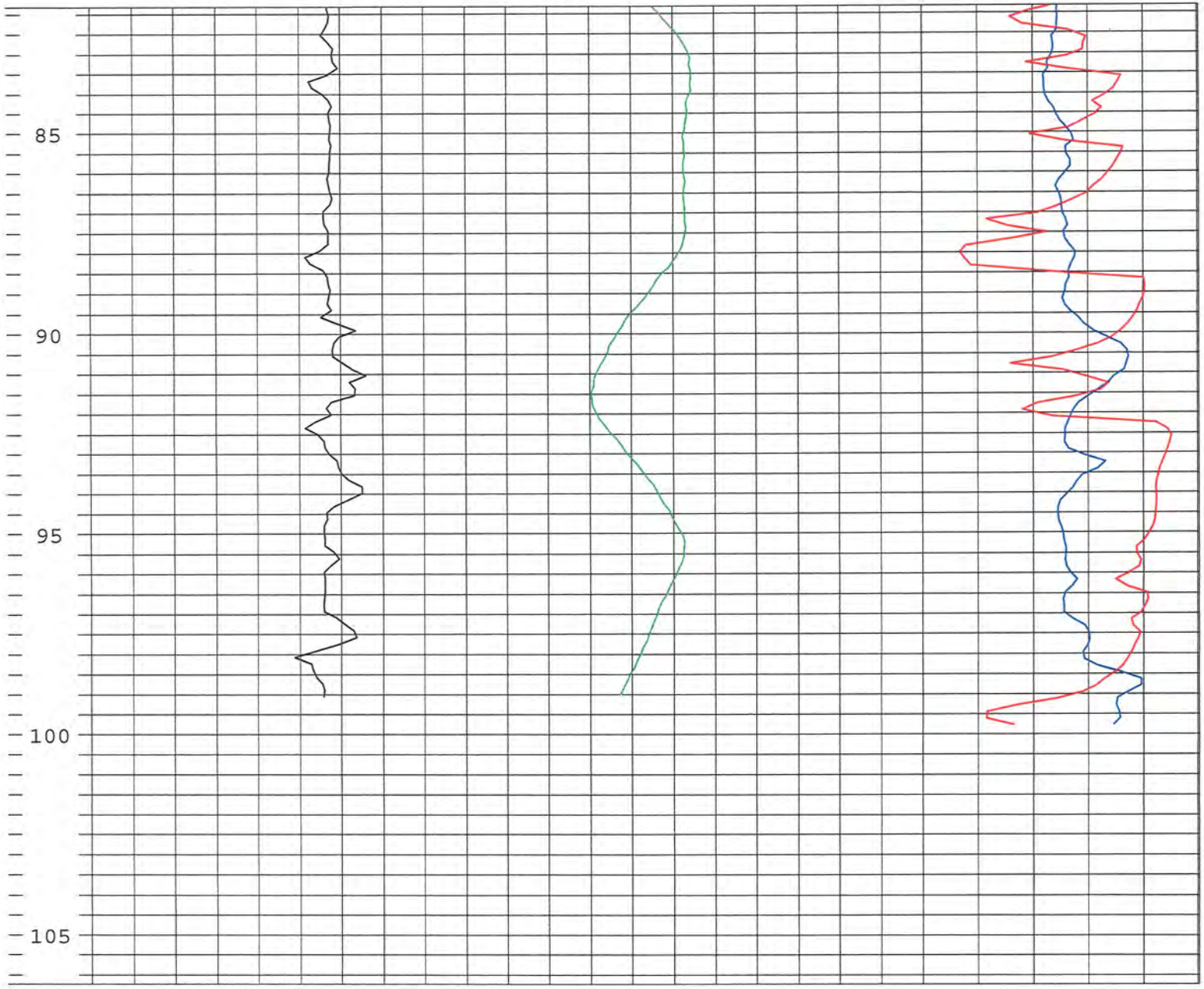
OTHER SERVICES




10
15
20
25
30


35
40
45
50
55

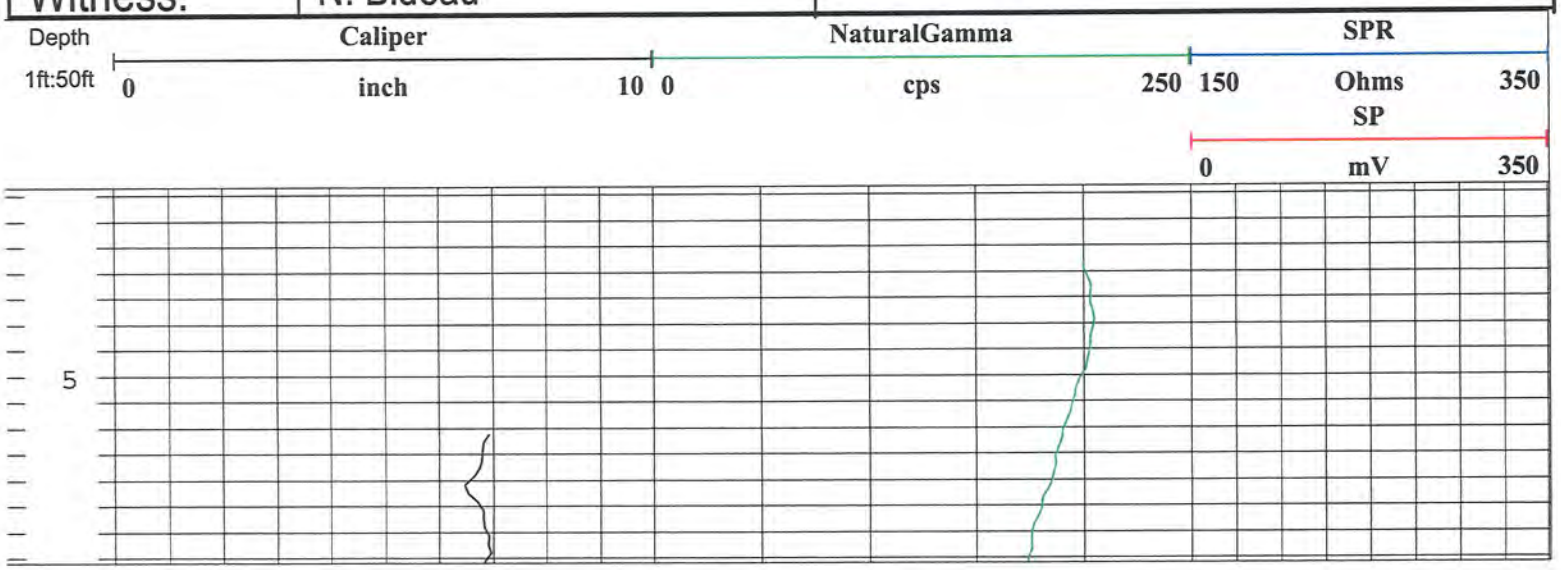

60
65
70
75
80

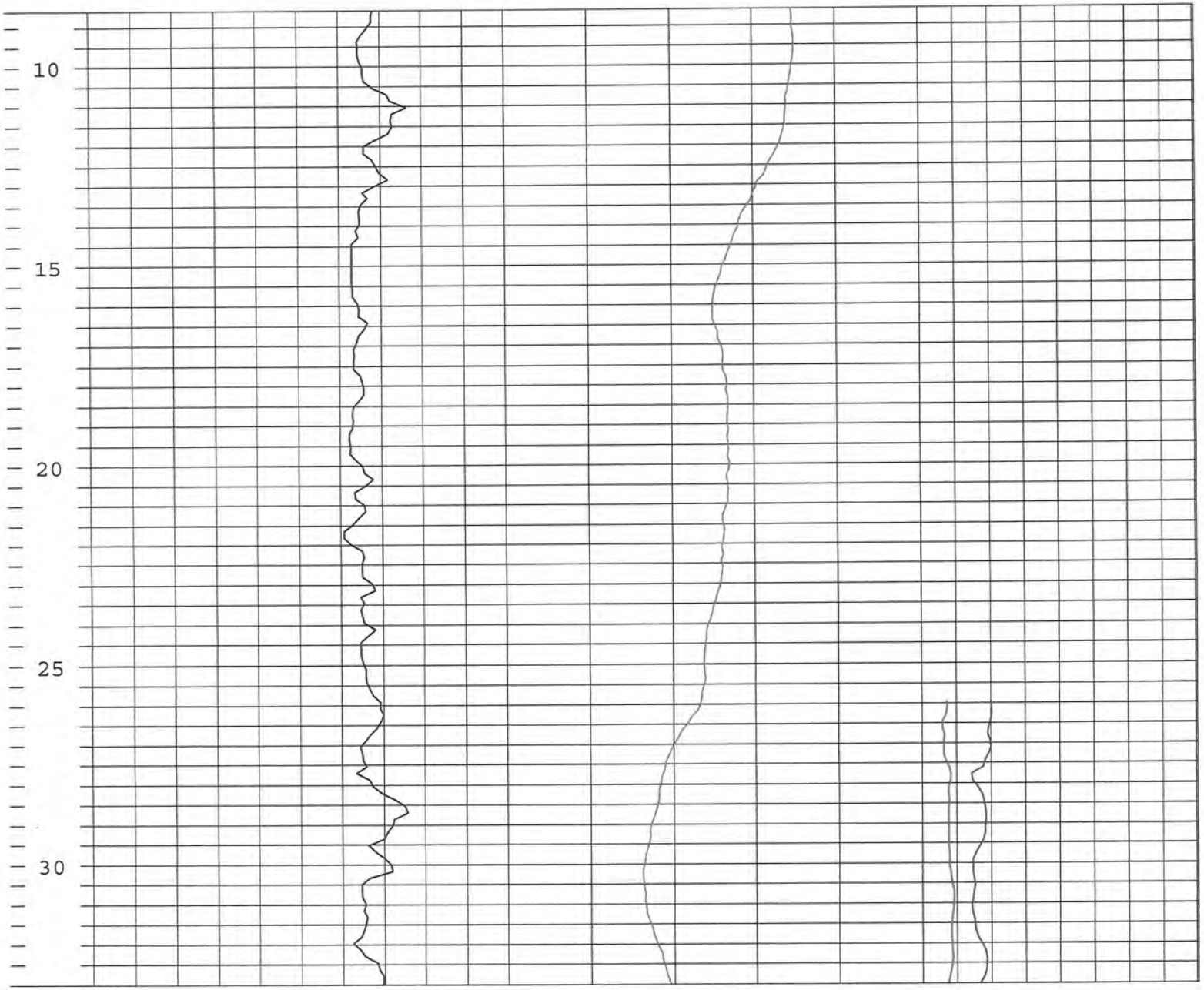

85
90
95
100
105

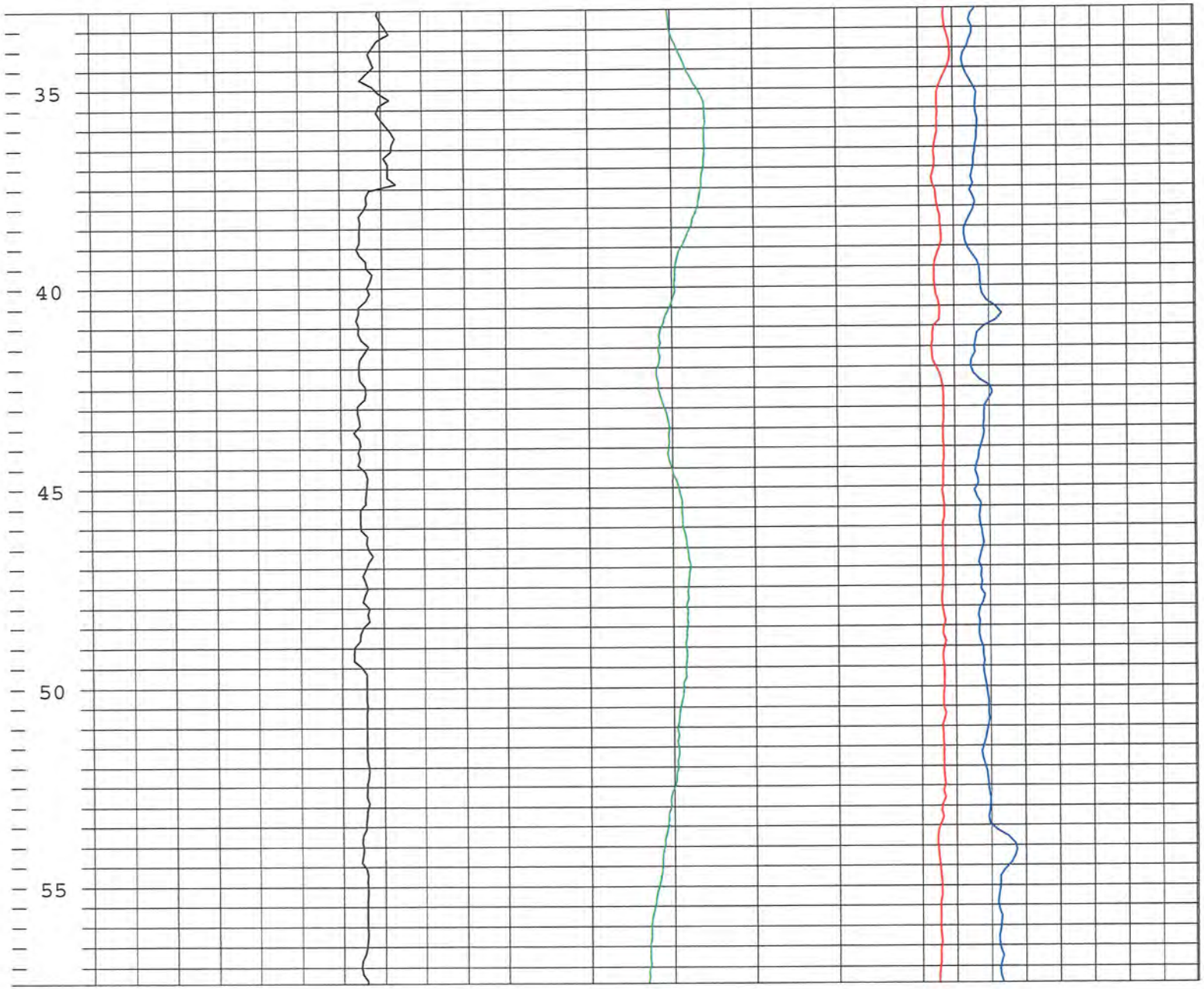
	WESTERN ENVIRONMENT AND ECOLOGY, INC
	Location: Section 14, T1N, R69W, Boulder County, CO

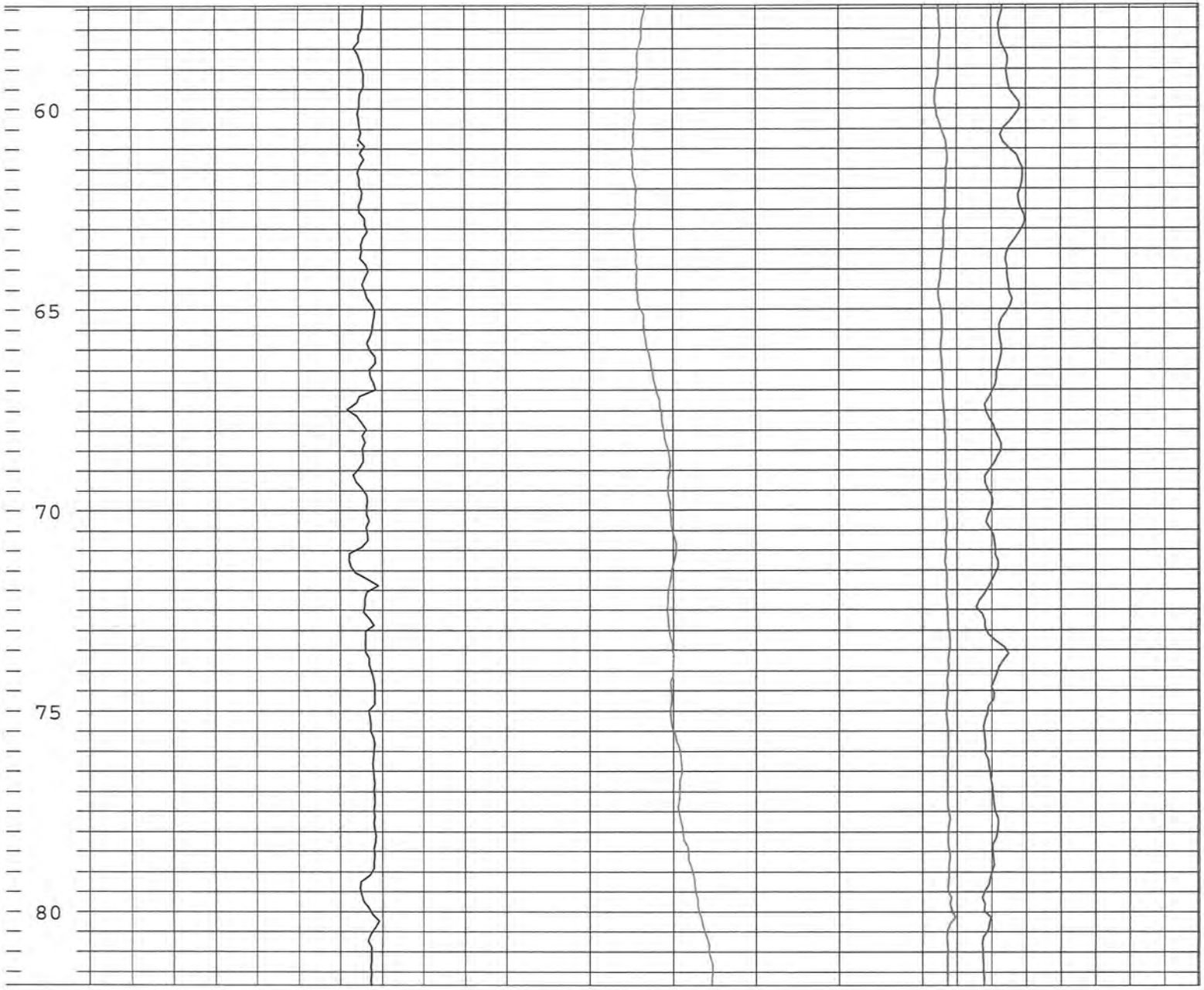
Well	W10		
Date	4/19/2005	BH Fluid	Mud
Casing	No		
File Name	W-10		
Depth Driller	180 feet		
Depth Logger	179 feet		
Logged by:	K. Abbott		
Witness:	N. Bideau		

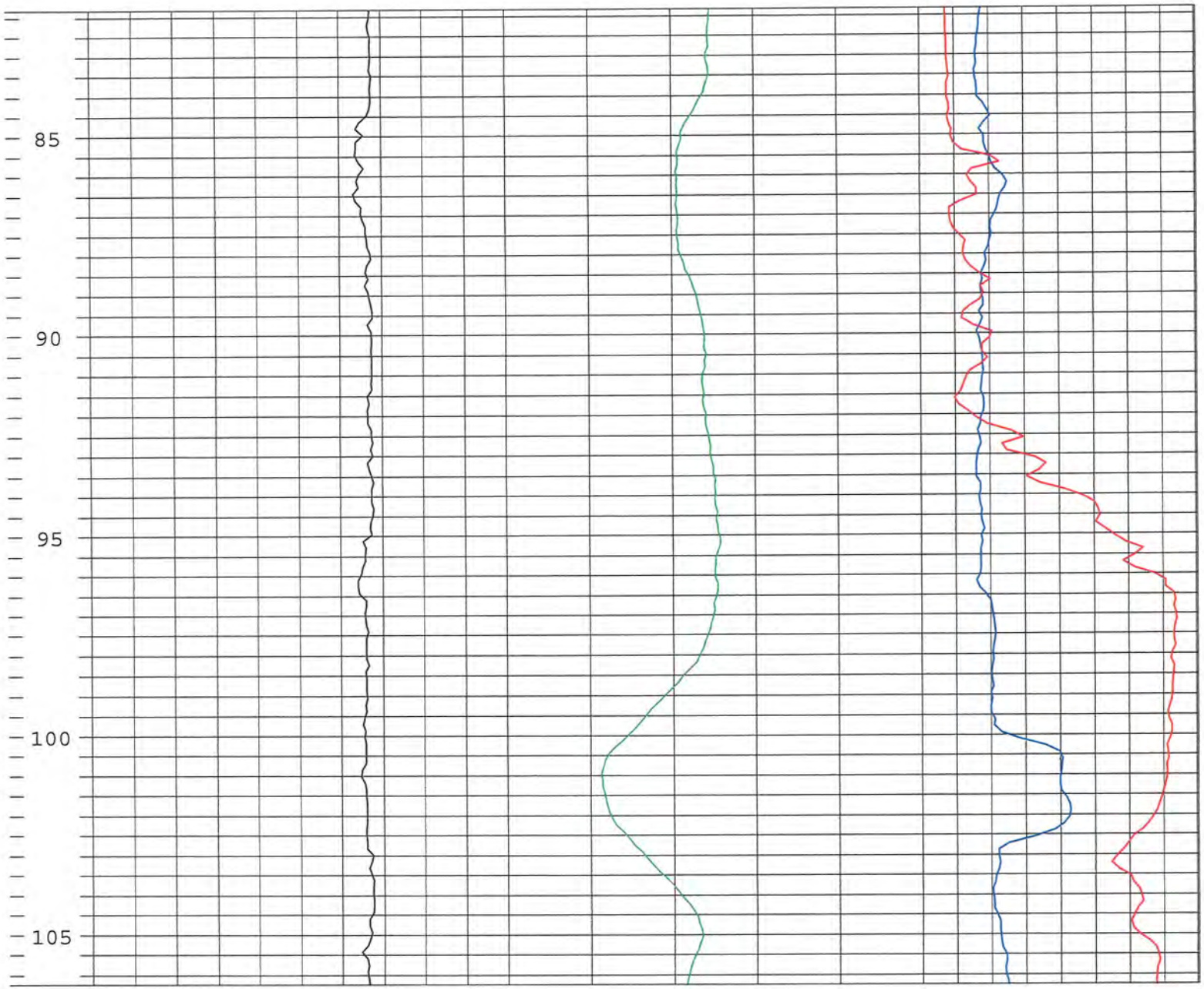
OTHER SERVICES

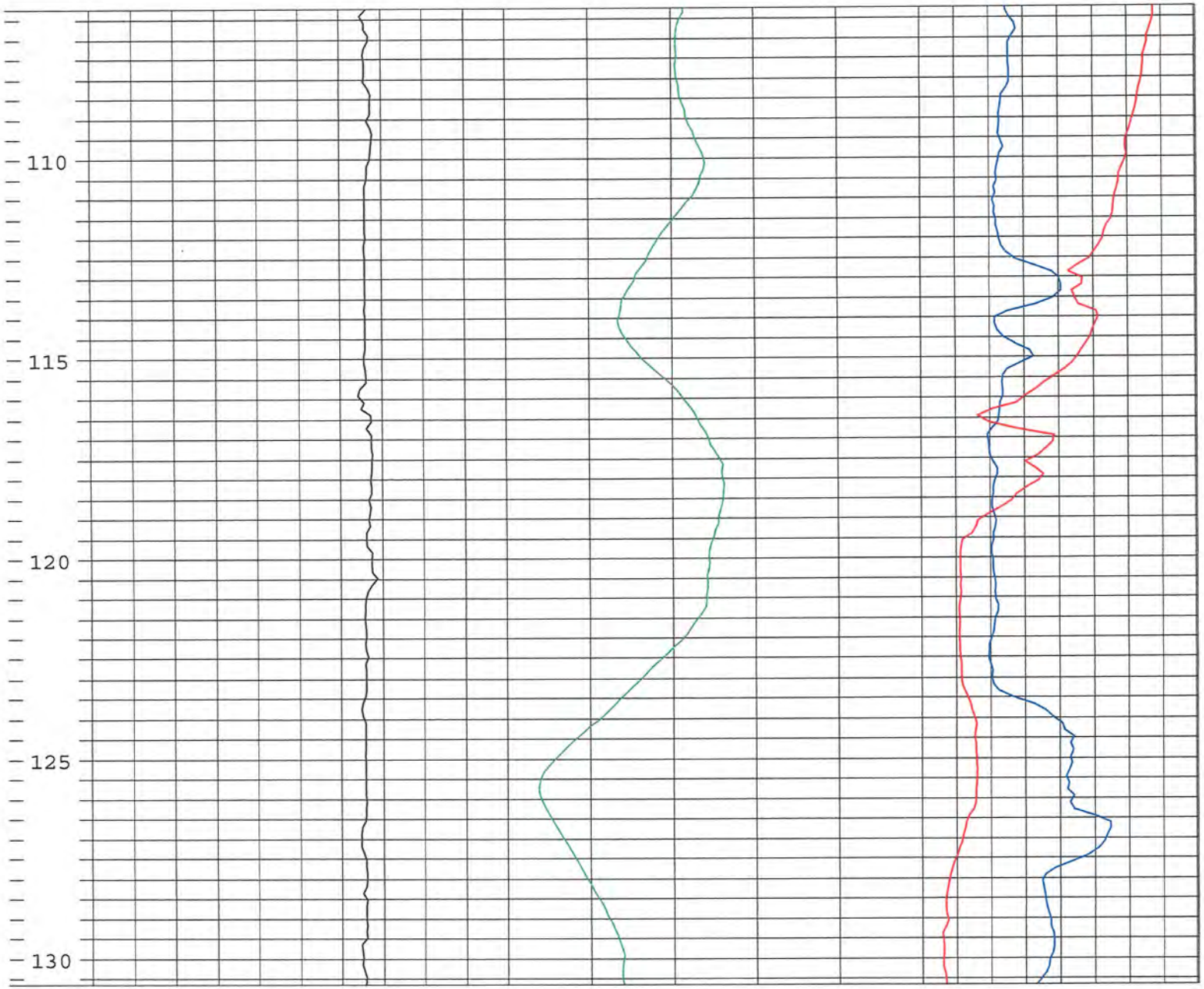


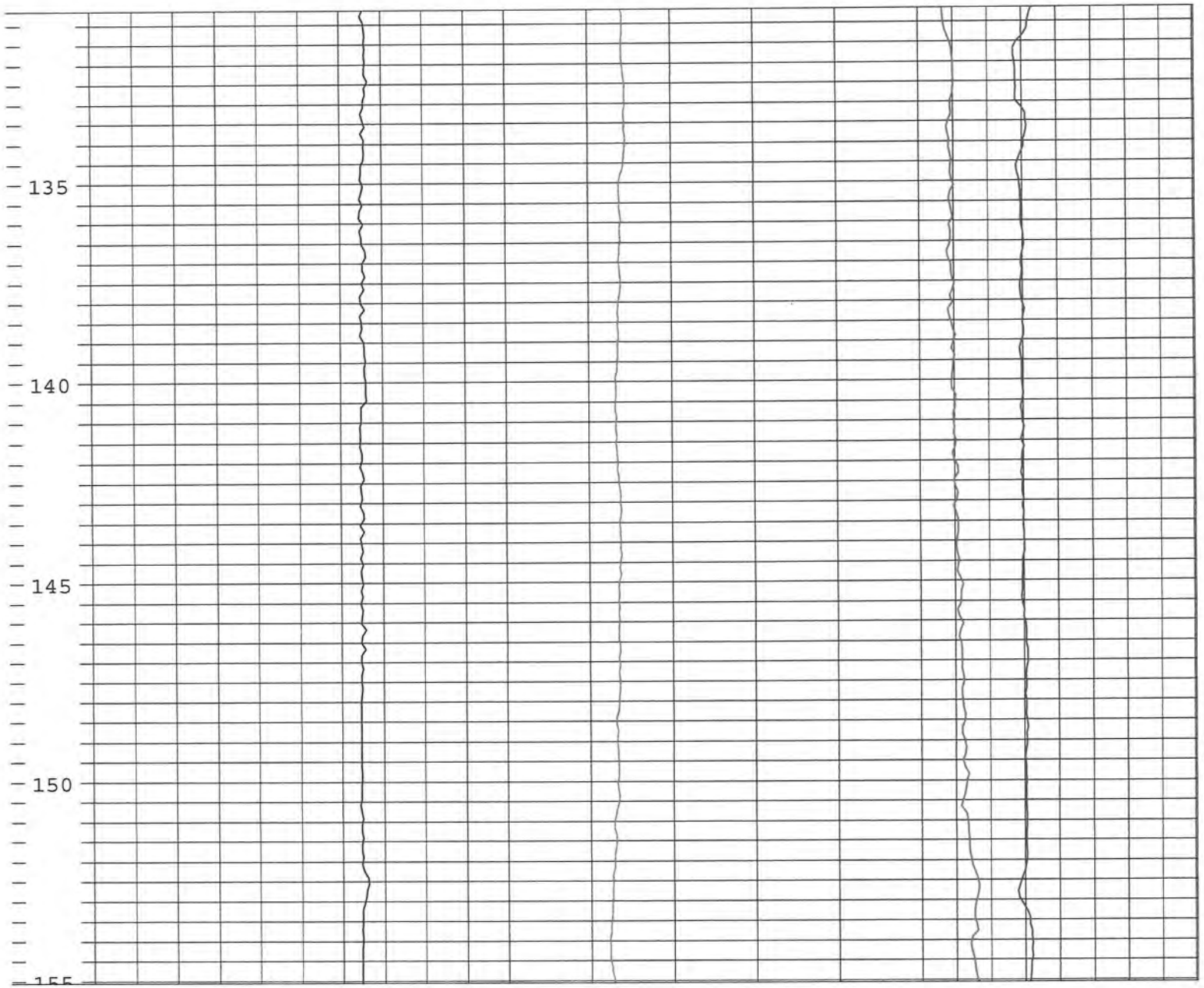

10
15
20
25
30

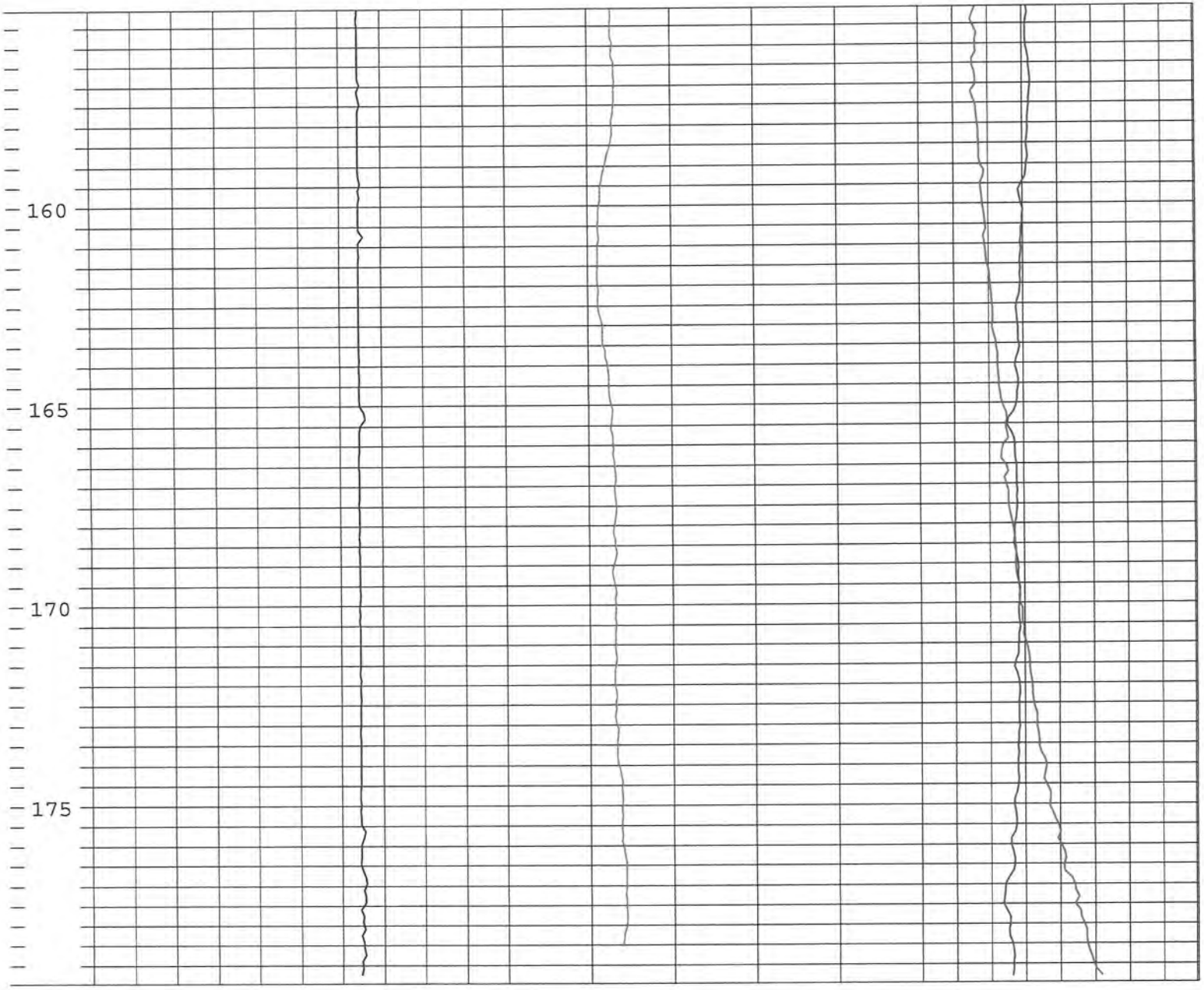

35
40
45
50
55


60
65
70
75
80


85
90
95
100
105


110
115
120
125
130


135
140
145
150
155


160
165
170
175

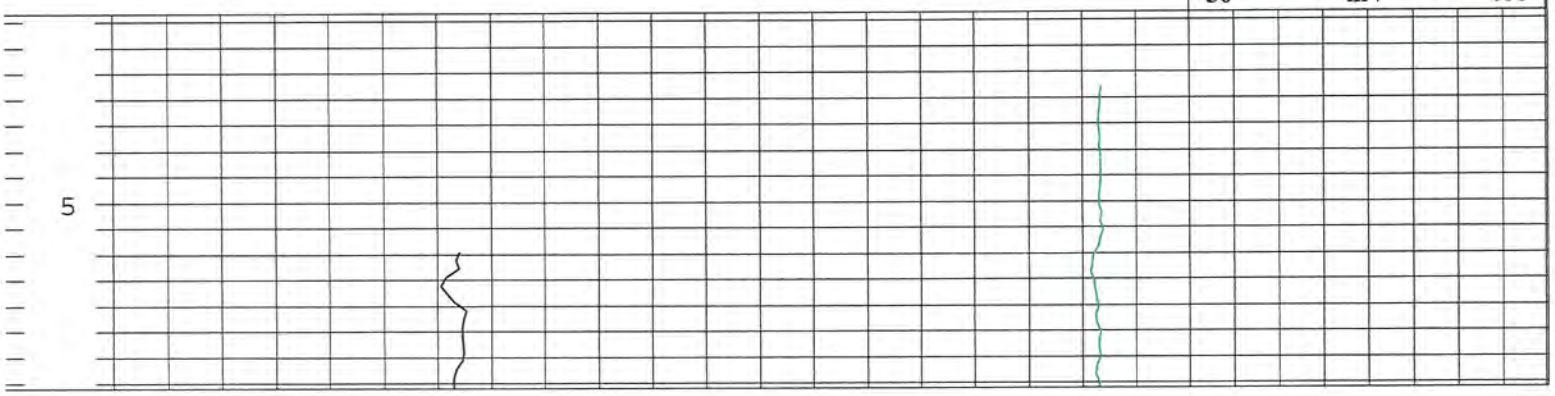
WESTERN ENVIRONMENT AND ECOLOGY, INC

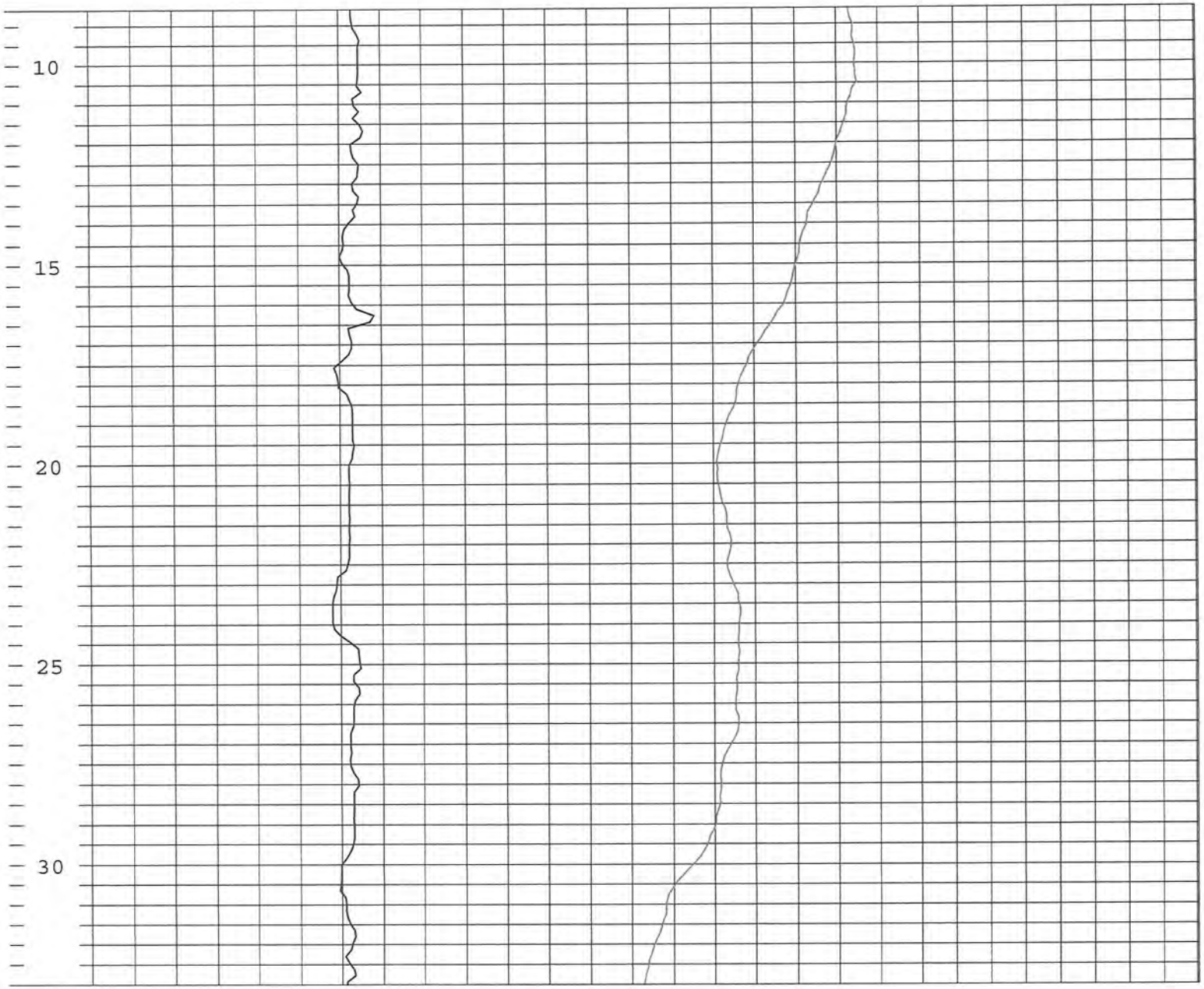
Location: Section 14, T1N, R69W, Boulder County, CO

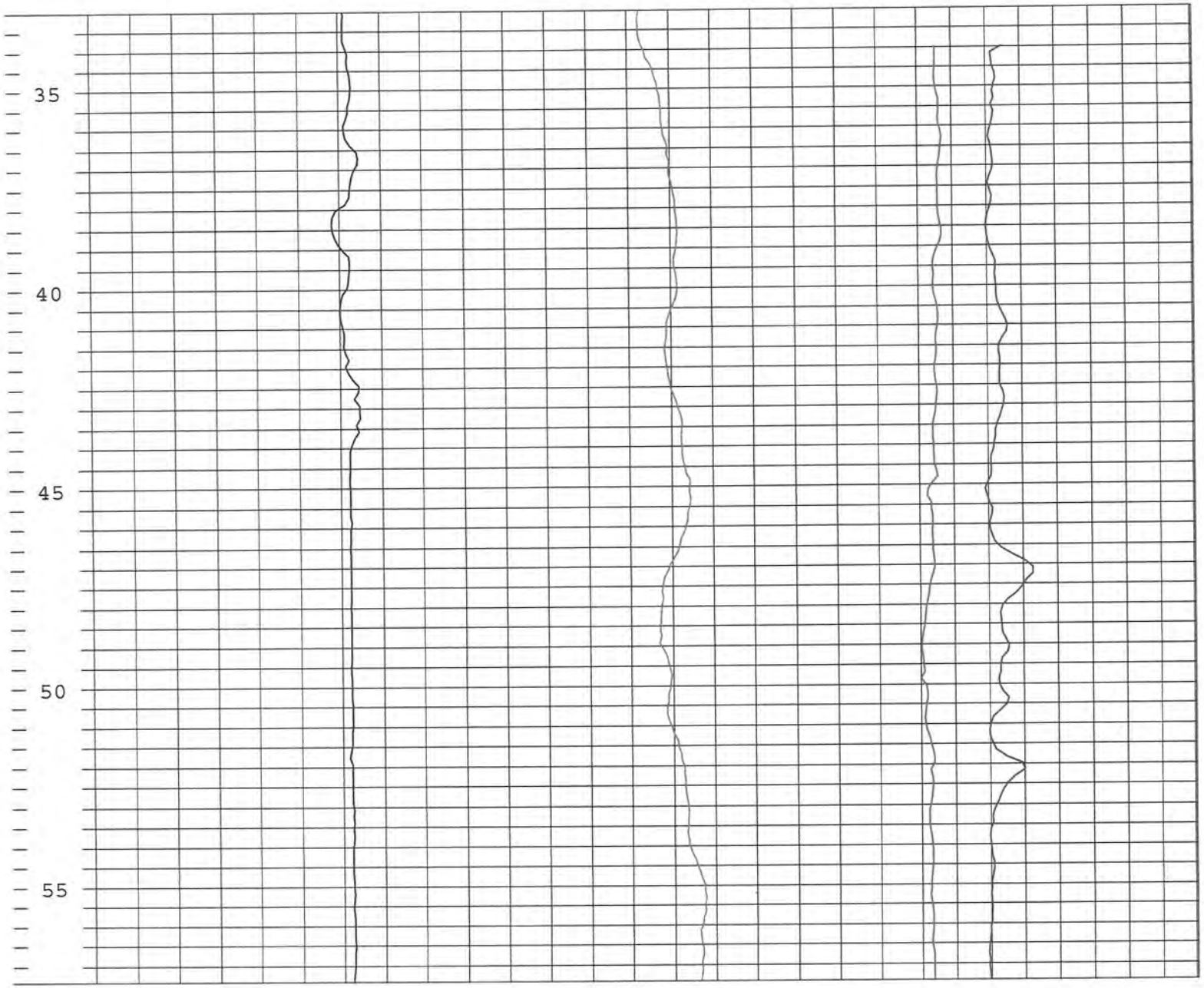
Well	W11		
Date	4/19/2005	BH Fluid	Mud
Casing	No		
File Name	W-11		
Depth Driller	180		
Depth Logger	178		
Logged by:	K. Abbott		
Witness:	N. Bideau		

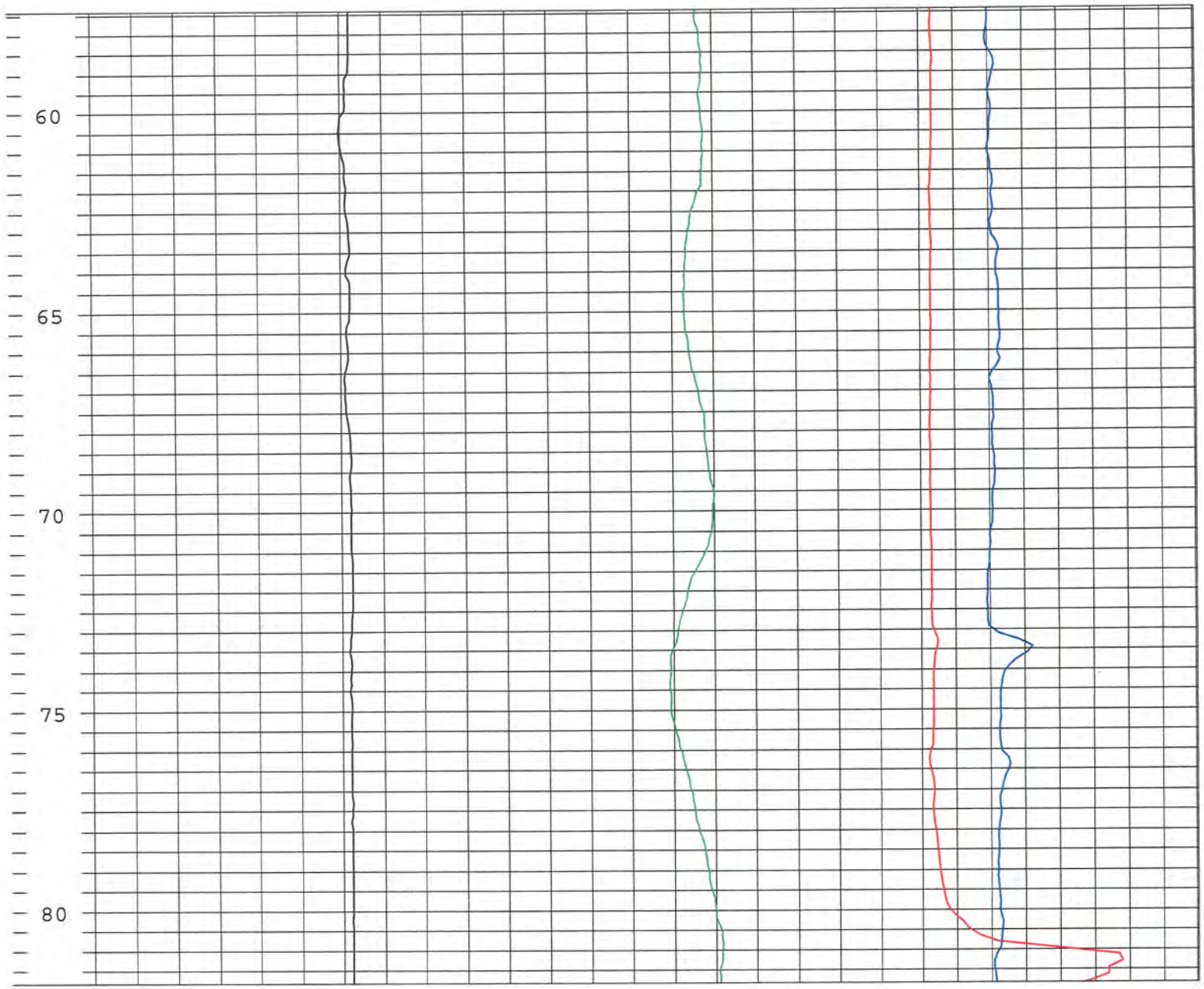
OTHER SERVICES

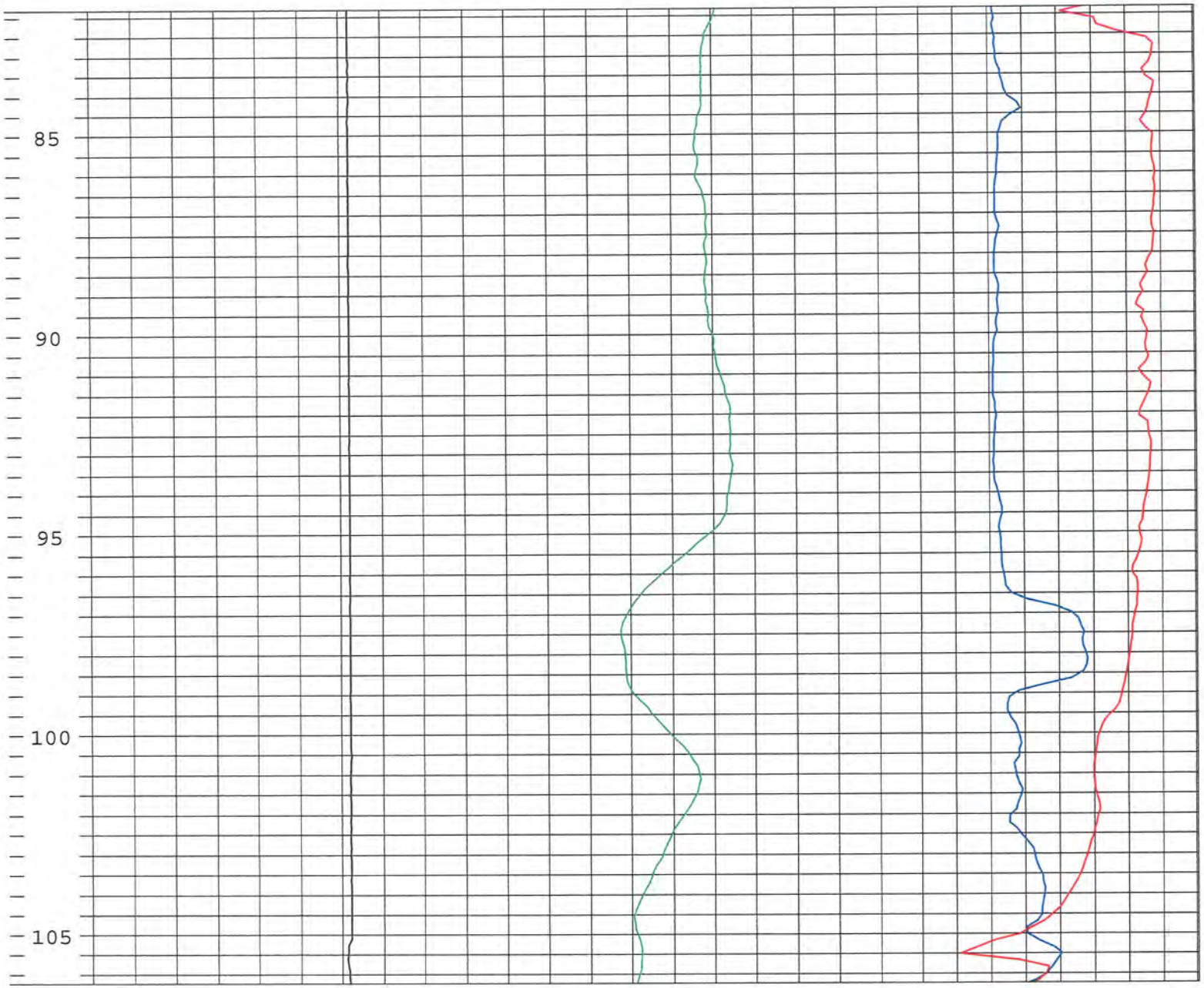
Depth 1ft:50ft	Caliper 0 inch 10	NaturalGamma 0 cps 250	SPR 50 Ohms 250	SP 50 mV 400

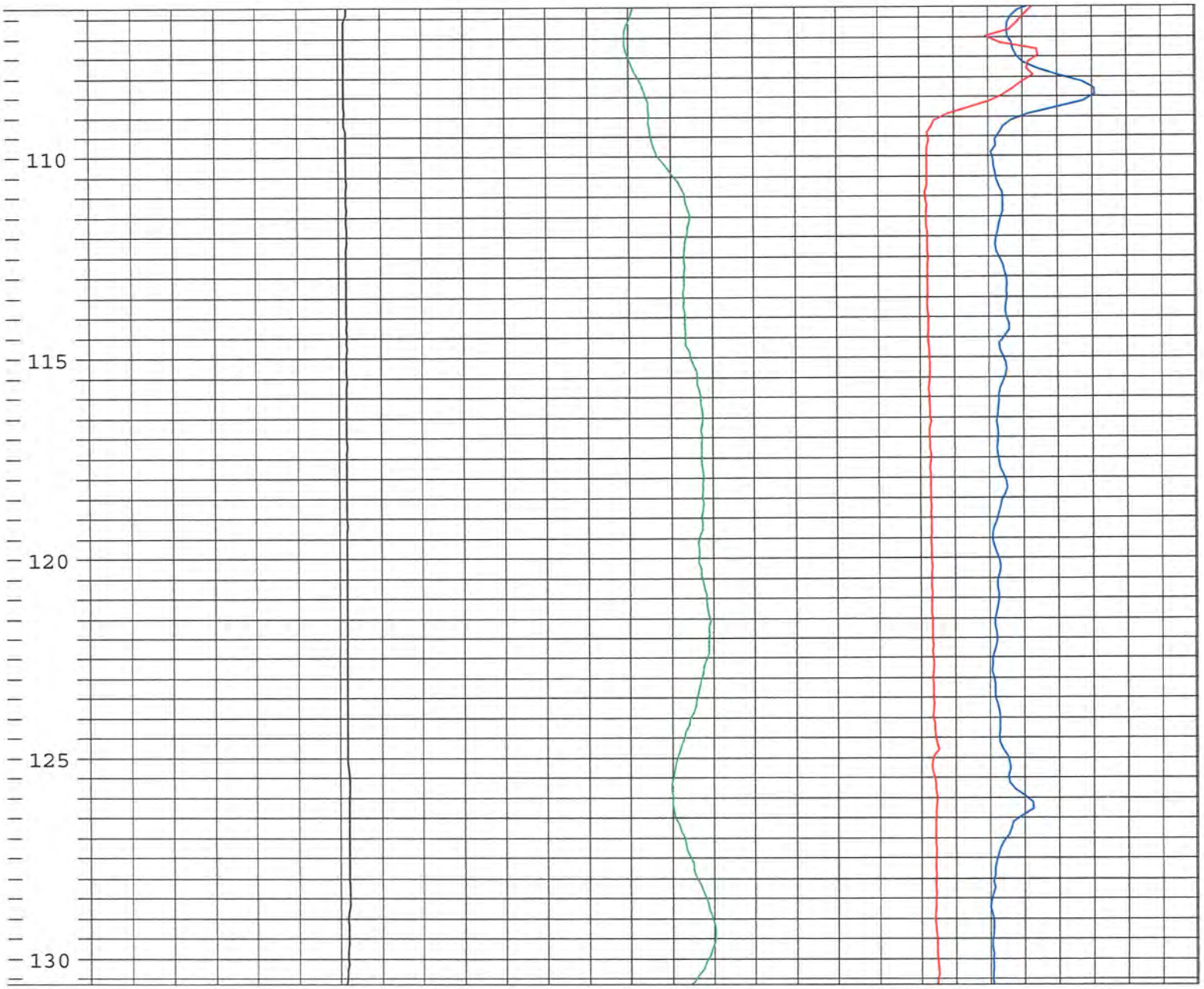


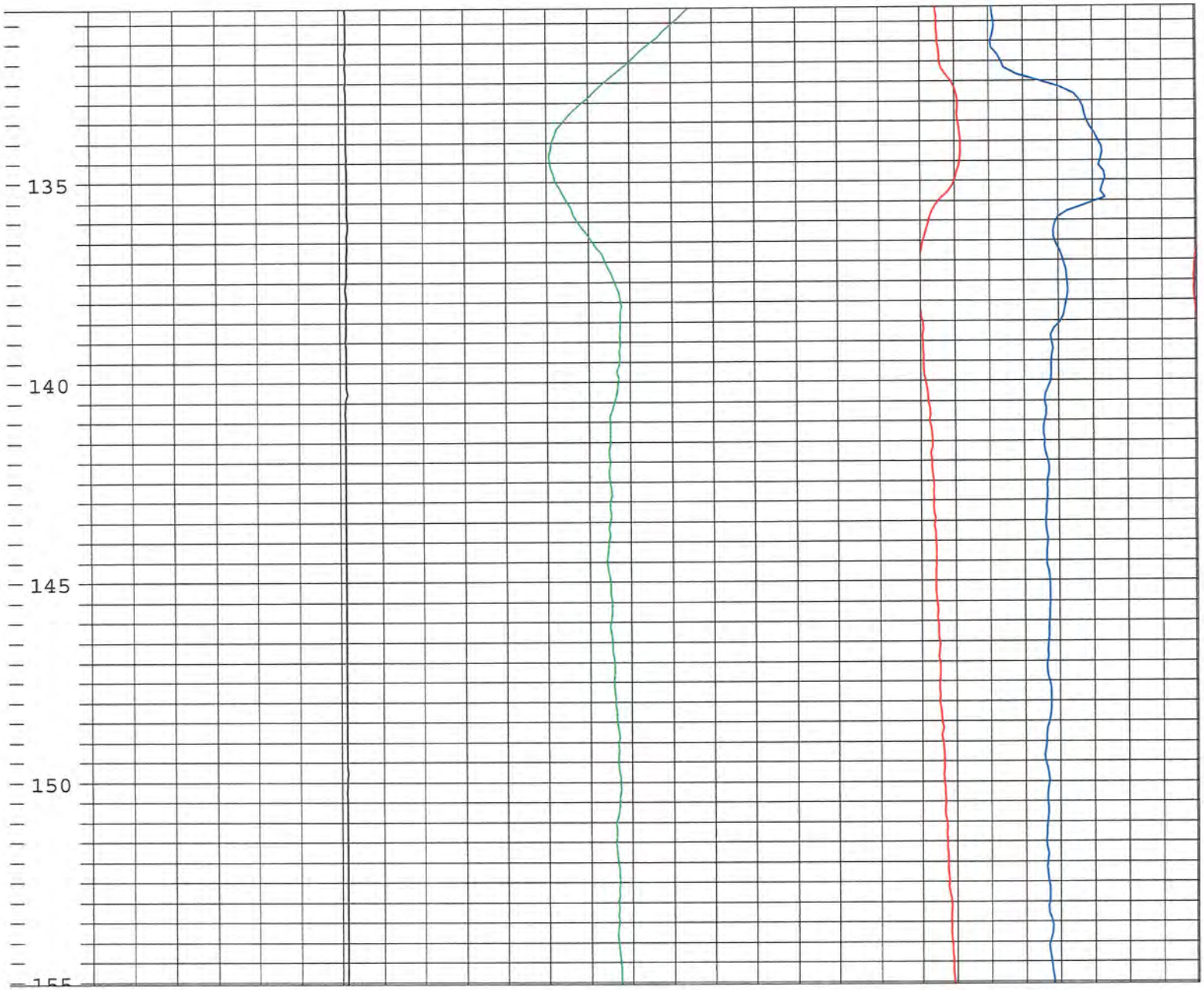

10
15
20
25
30

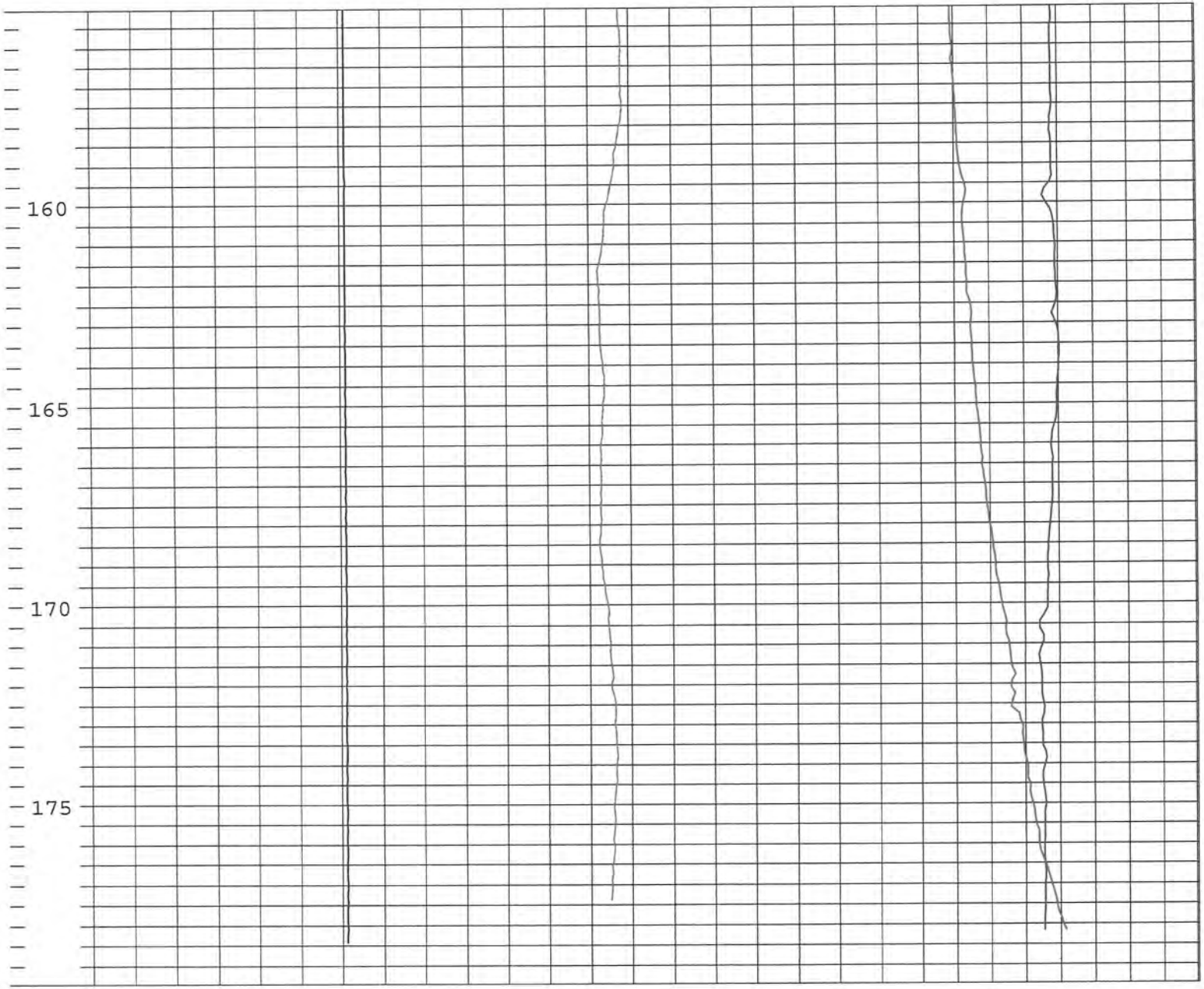

35
40
45
50
55


60
65
70
75
80


85
90
95
100
105


110
115
120
125
130


135
140
145
150


160
165
170
175

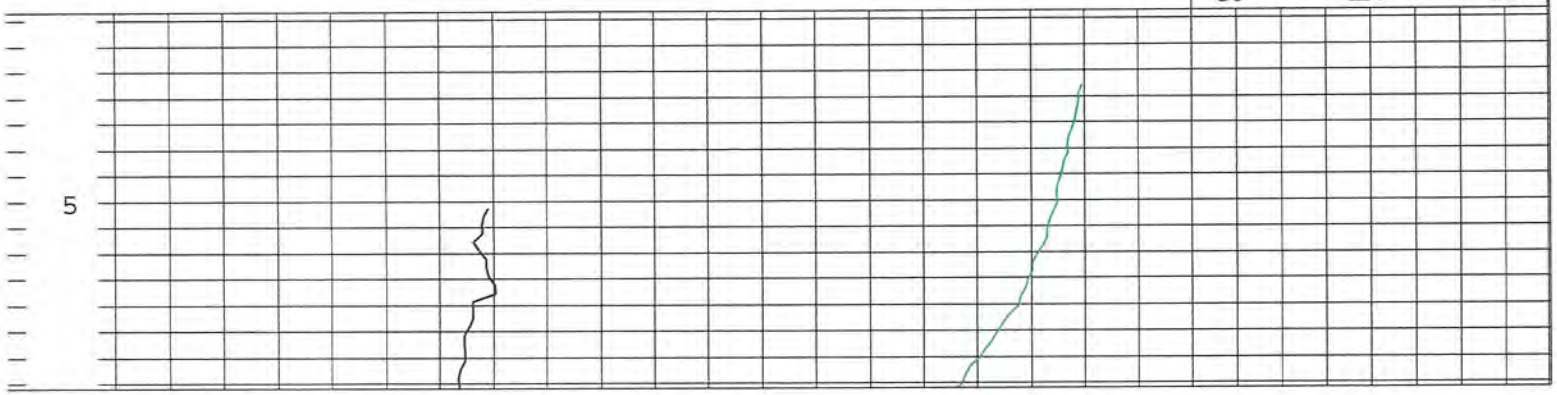
WESTERN ENVIRONMENT AND ECOLOGY, INC

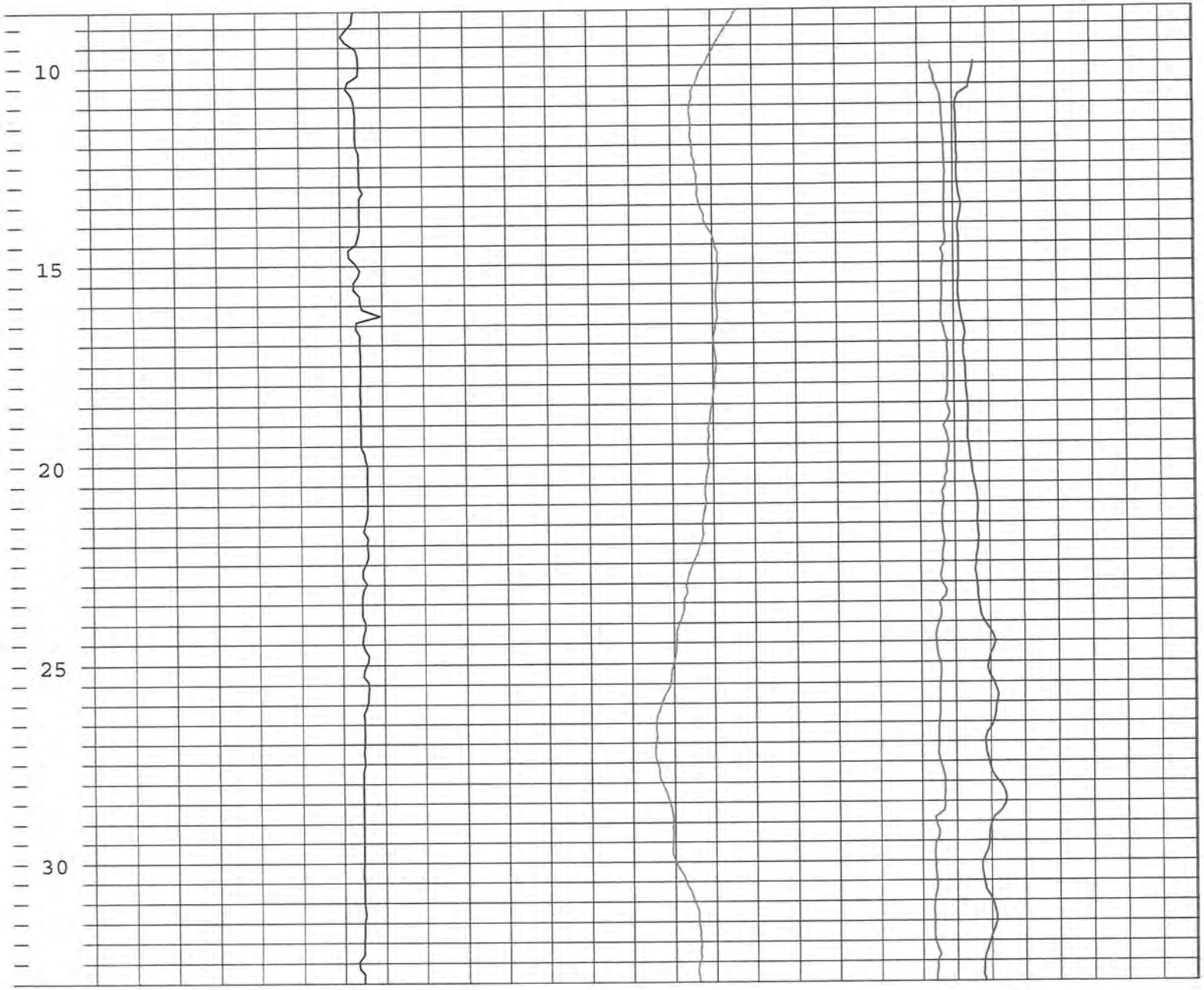
Location: Section 14, T1N, R69W, Boulder County, CO

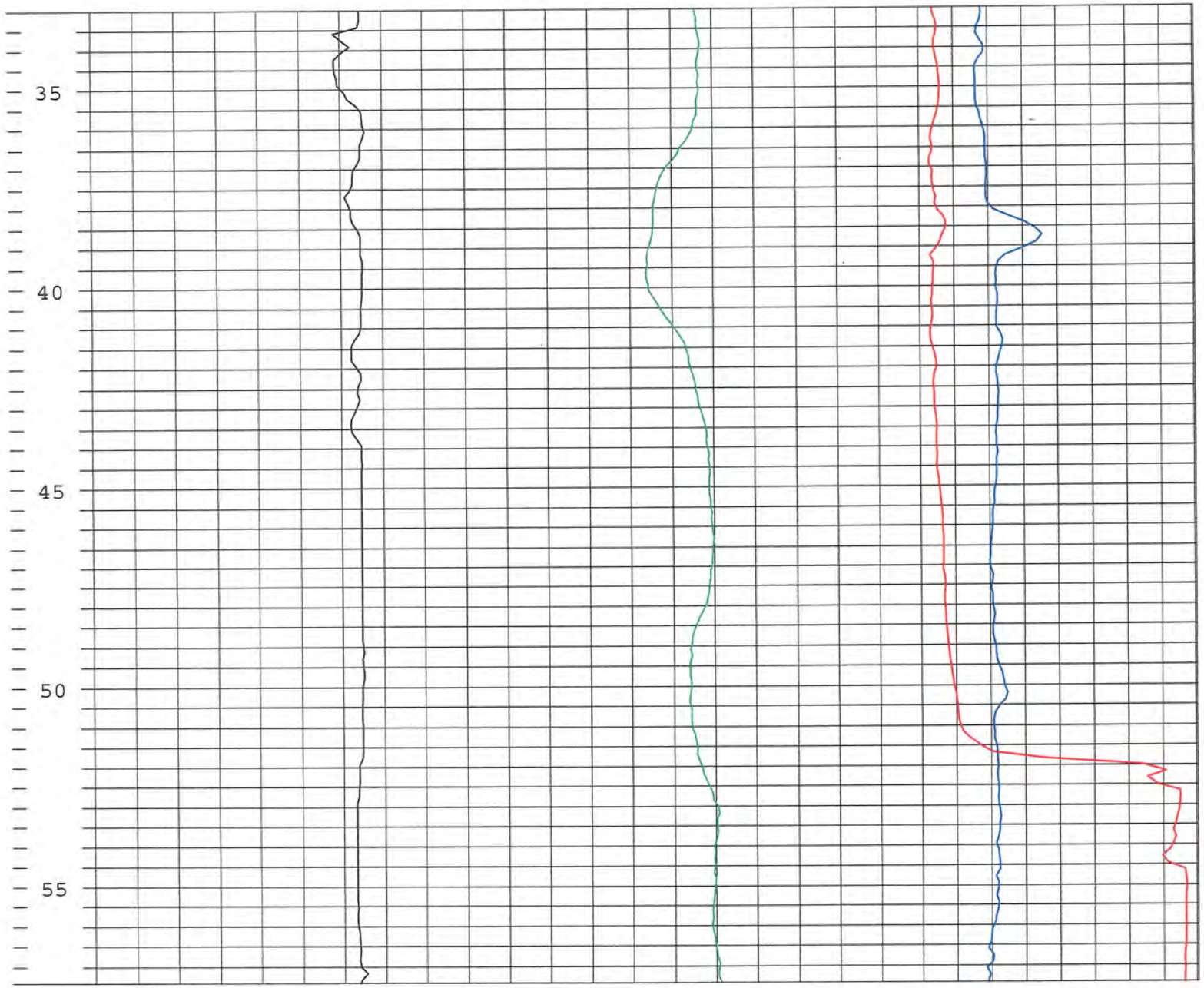
Well	W12		
Date	4/19/2005	BH Fluid	Mud
Casing	No		
File Name	W-12		
Depth Driller	120 feet		
Depth Logger	118 feet		
Logged by:	K. Abbott		
Witness:	N. Bideau		

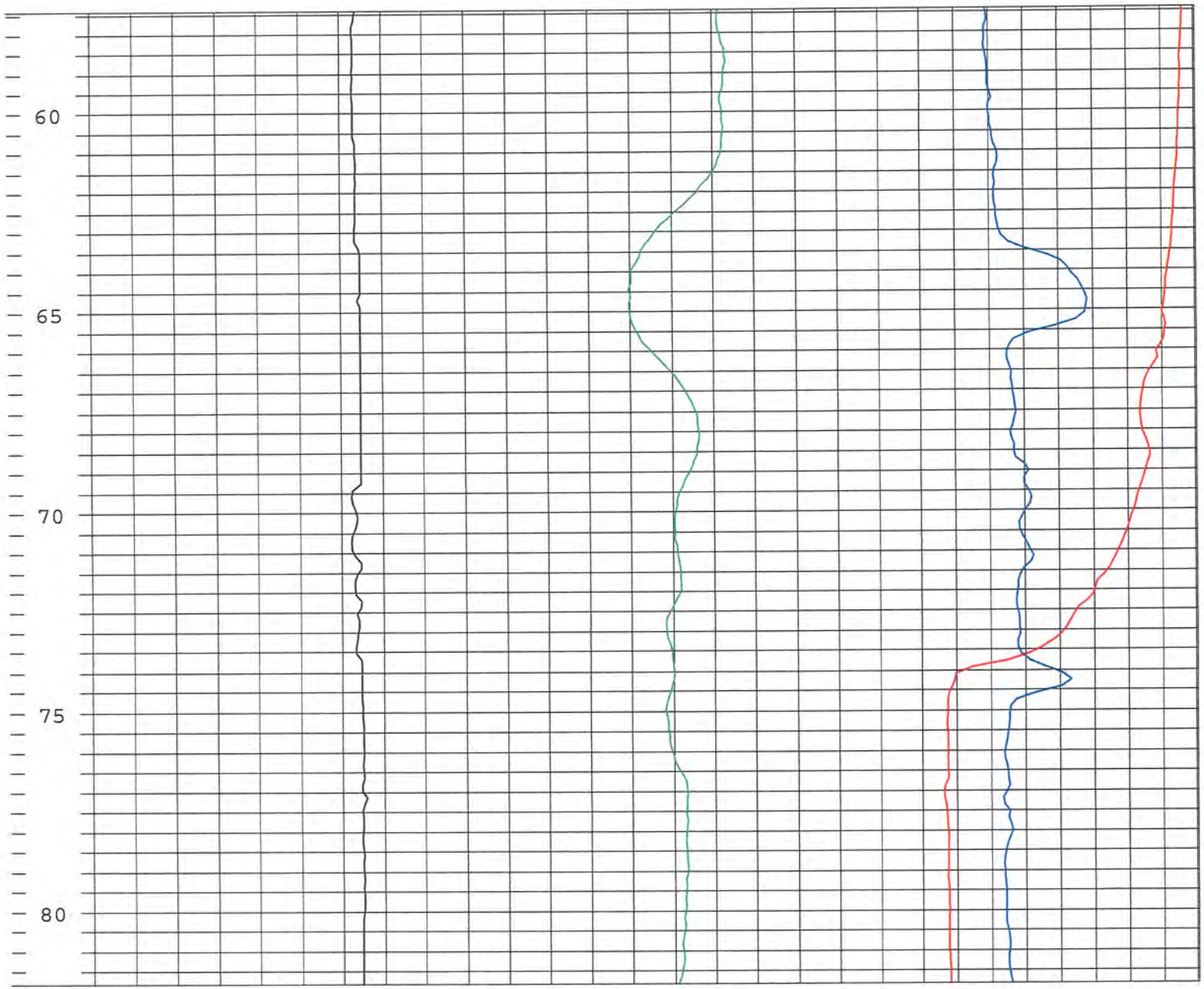
OTHER SERVICES

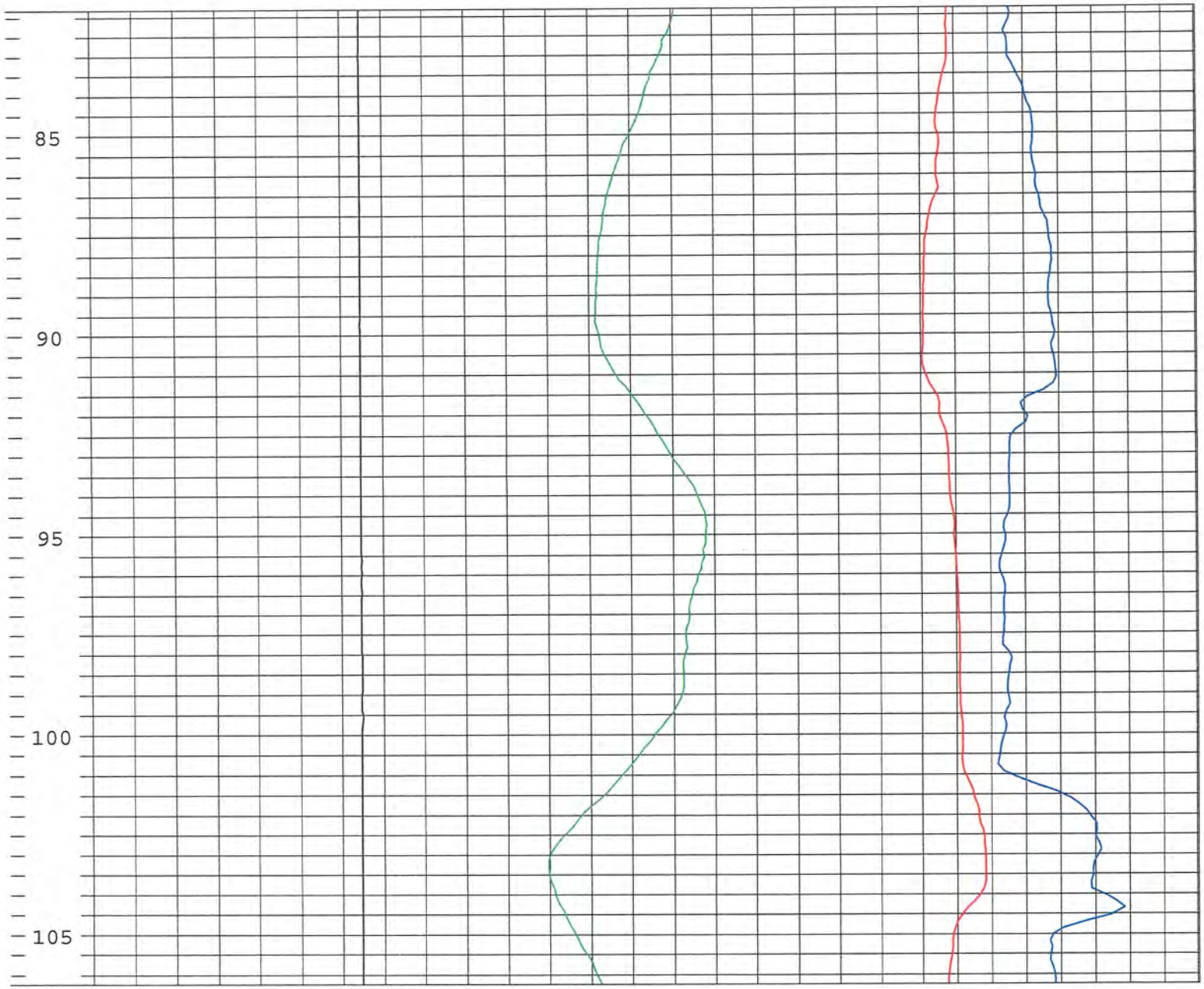
Depth 1ft:50ft	Caliper 0 inch 10	NaturalGamma 0 cps 250	SPR 50 Ohms 250	SP -50 mV 300

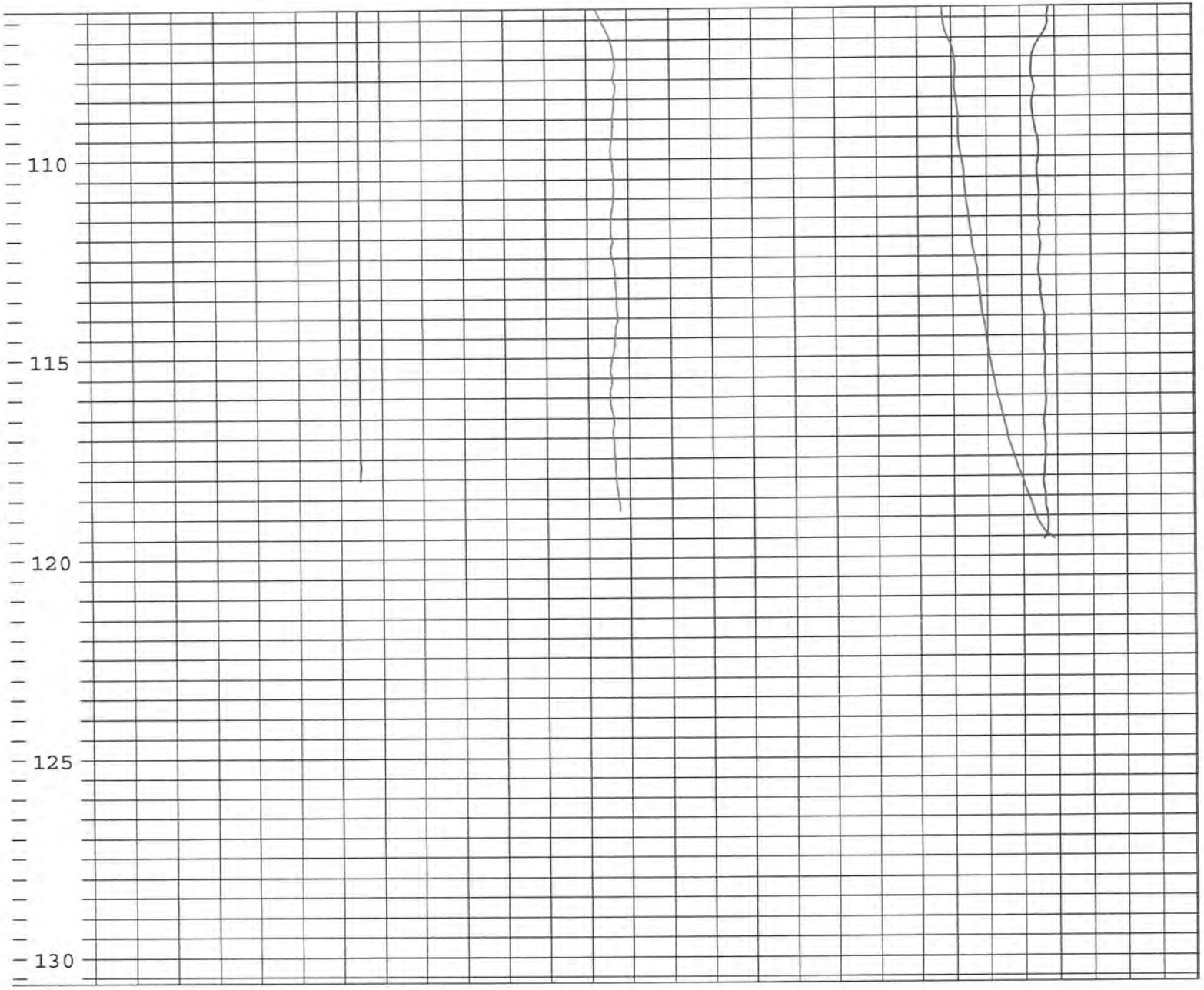



10
15
20
25
30


35
40
45
50
55


60
65
70
75
80


85
90
95
100
105


110
115
120
125
130

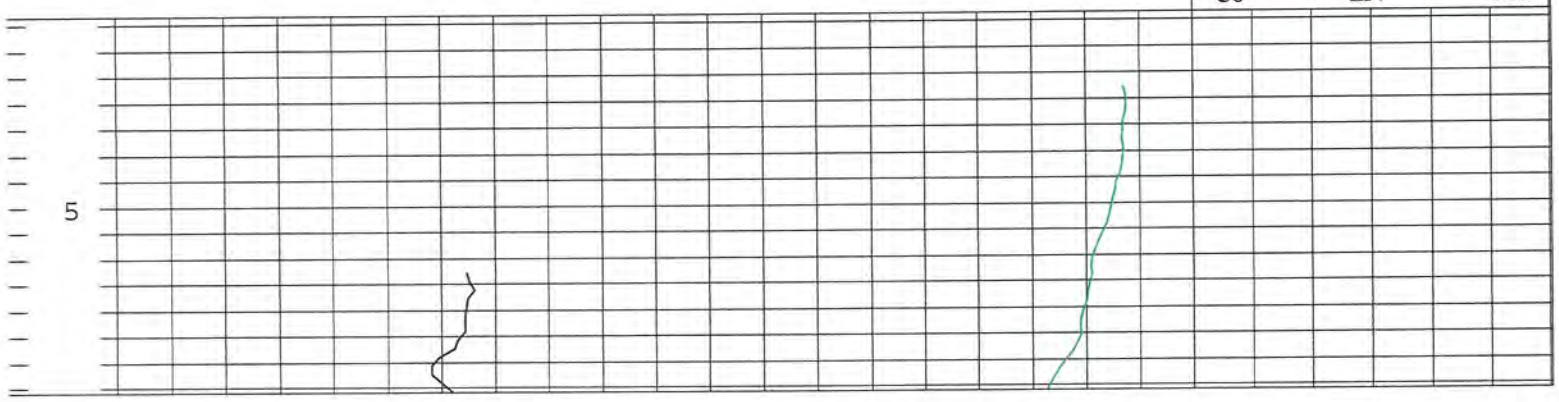
WESTERN ENVIRONMENT AND ECOLOGY, INC

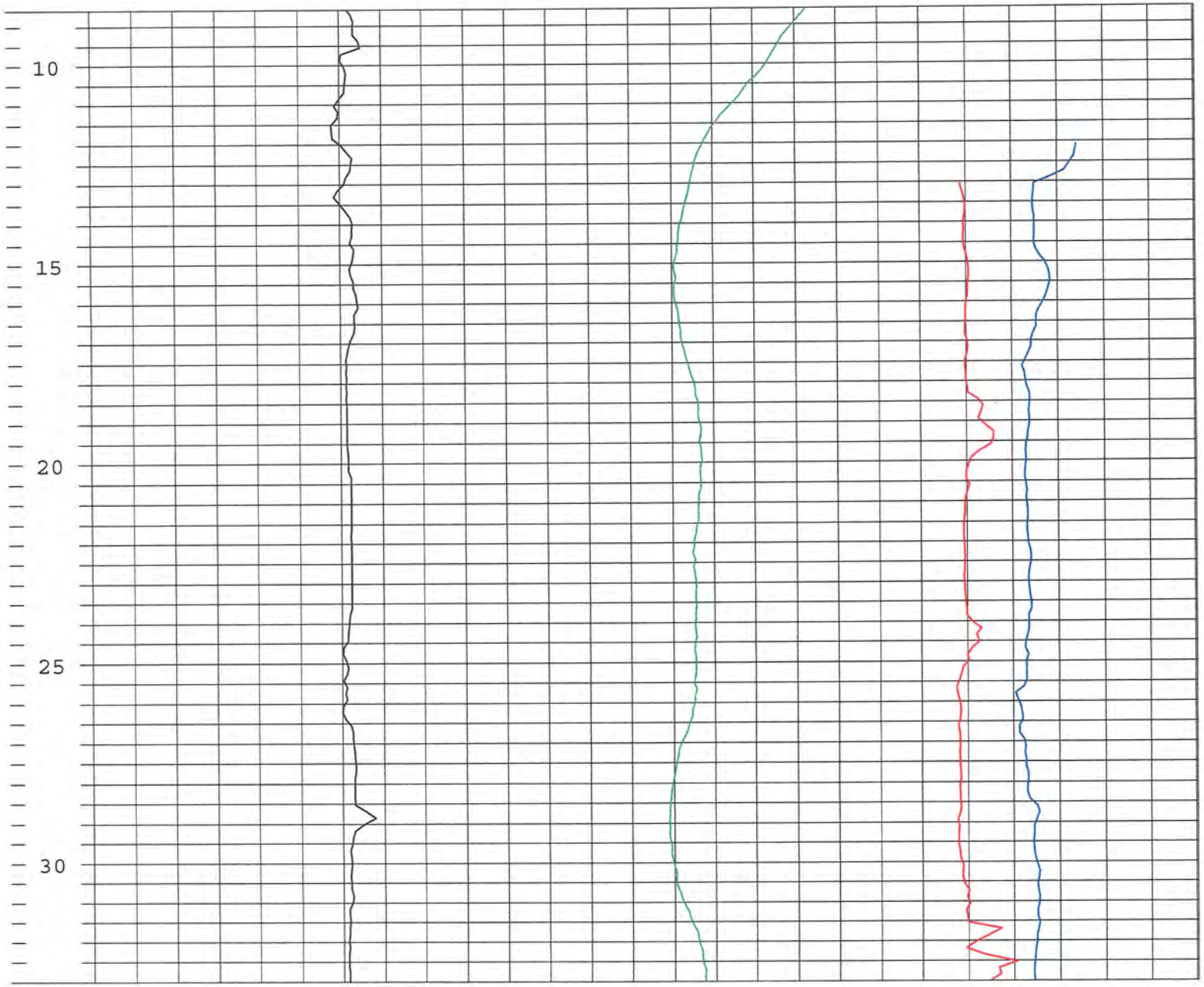
Location: Section 14, T1N, R69W, Boulder County, CO

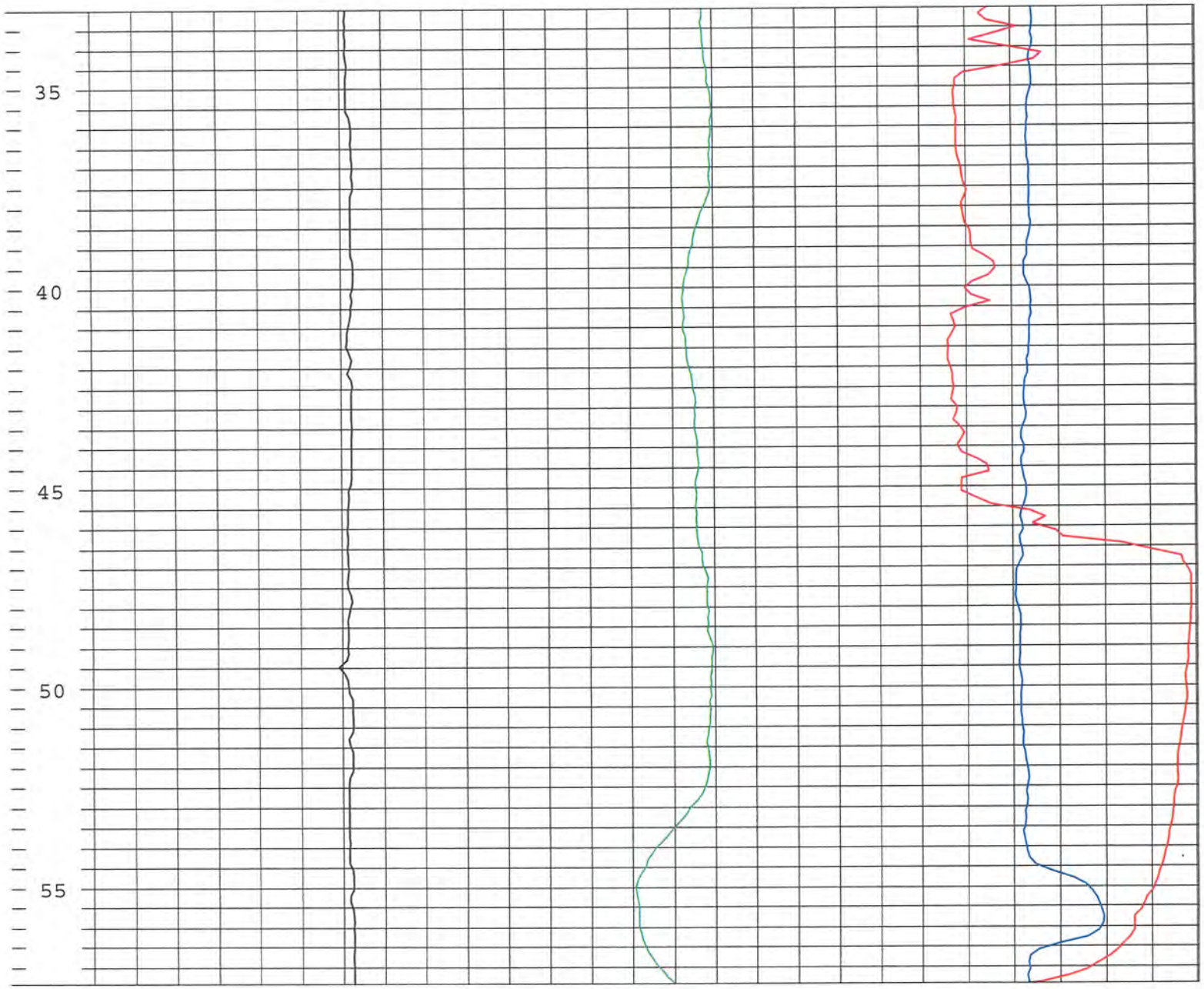
Well	W13		
Date	4/18/2005	BH Fluid	Mud
Casing	No		
File Name	W-14		
Depth Driller	100 feet		
Depth Logger	99 feet		
Logged by:	K. Abbott		
Witness:	N. Bideau		

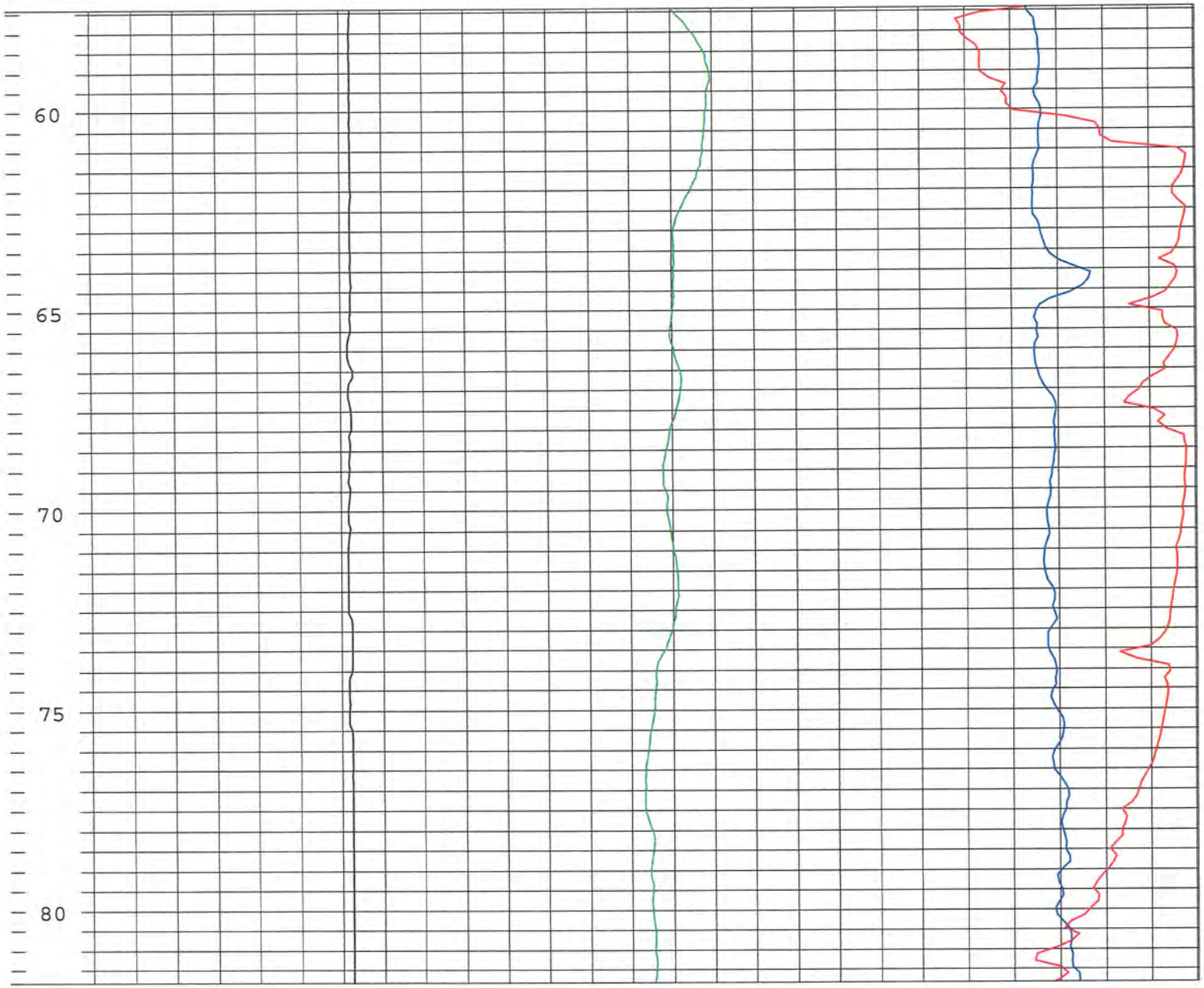
OTHER SERVICES

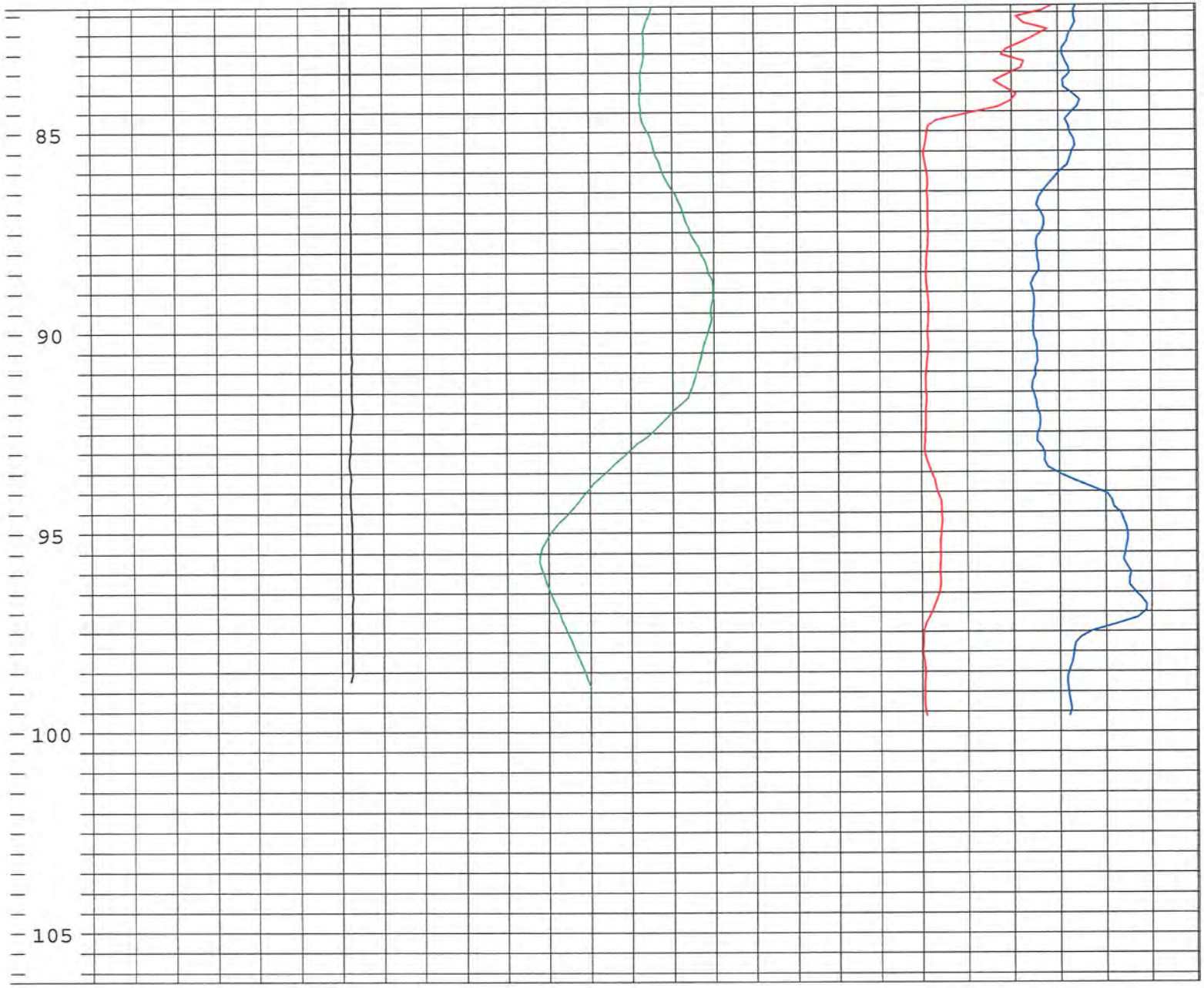
Depth 1ft:50ft	Caliper 0 inch 10	NaturalGamma 0 cps 250	SPR 0 Ohms 150	SP -50 mV 300




10
15
20
25
30


35
40
45
50
55


60
65
70
75
80


85
90
95
100
105

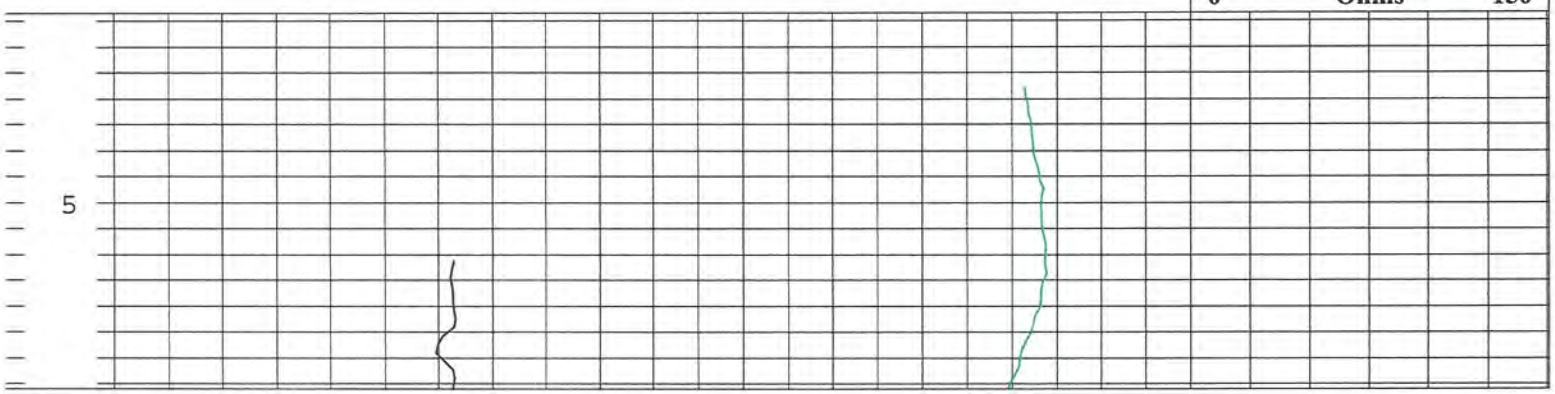
WESTERN ENVIRONMENT AND ECOLOGY, INC

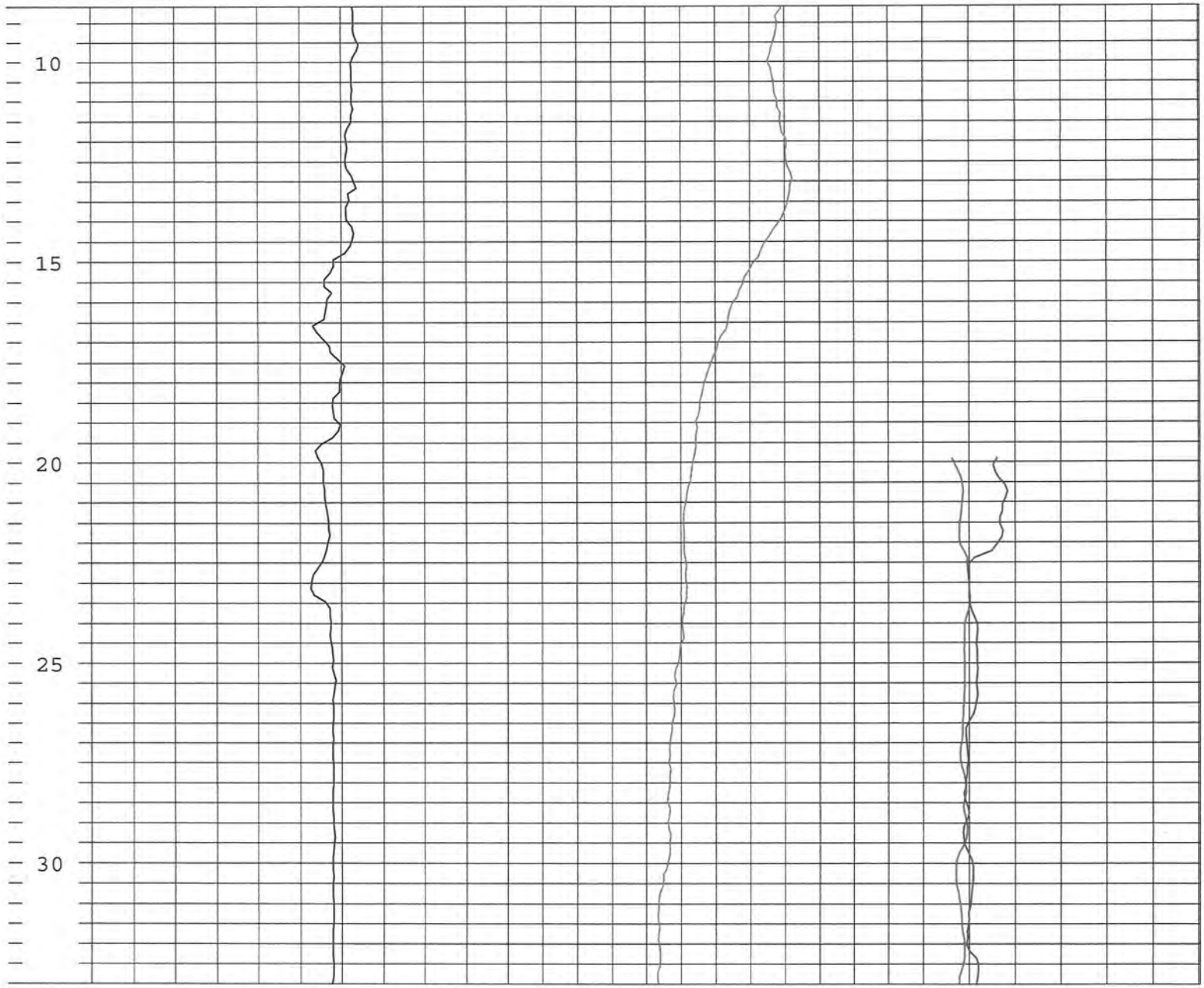
Location: Section 14, T1N, R69W, Boulder County, CO

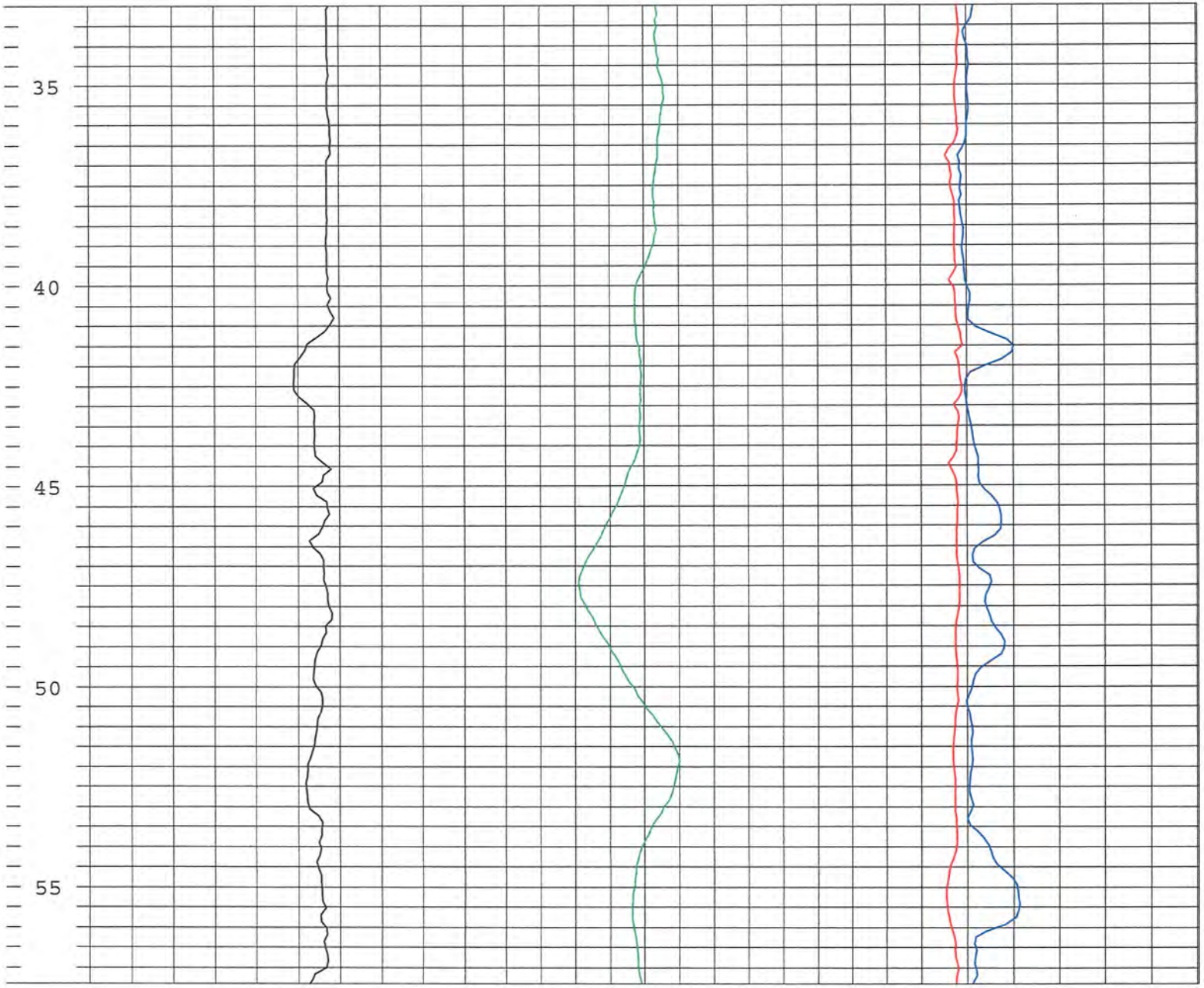
Well	W14		
Date	4/20/2005	BH Fluid	Mud
Casing	No		
File Name	W-14		
Depth Driller	160		
Depth Logger	159		
Logged by:	K. Abbott		
Witness:	N. Bideau		

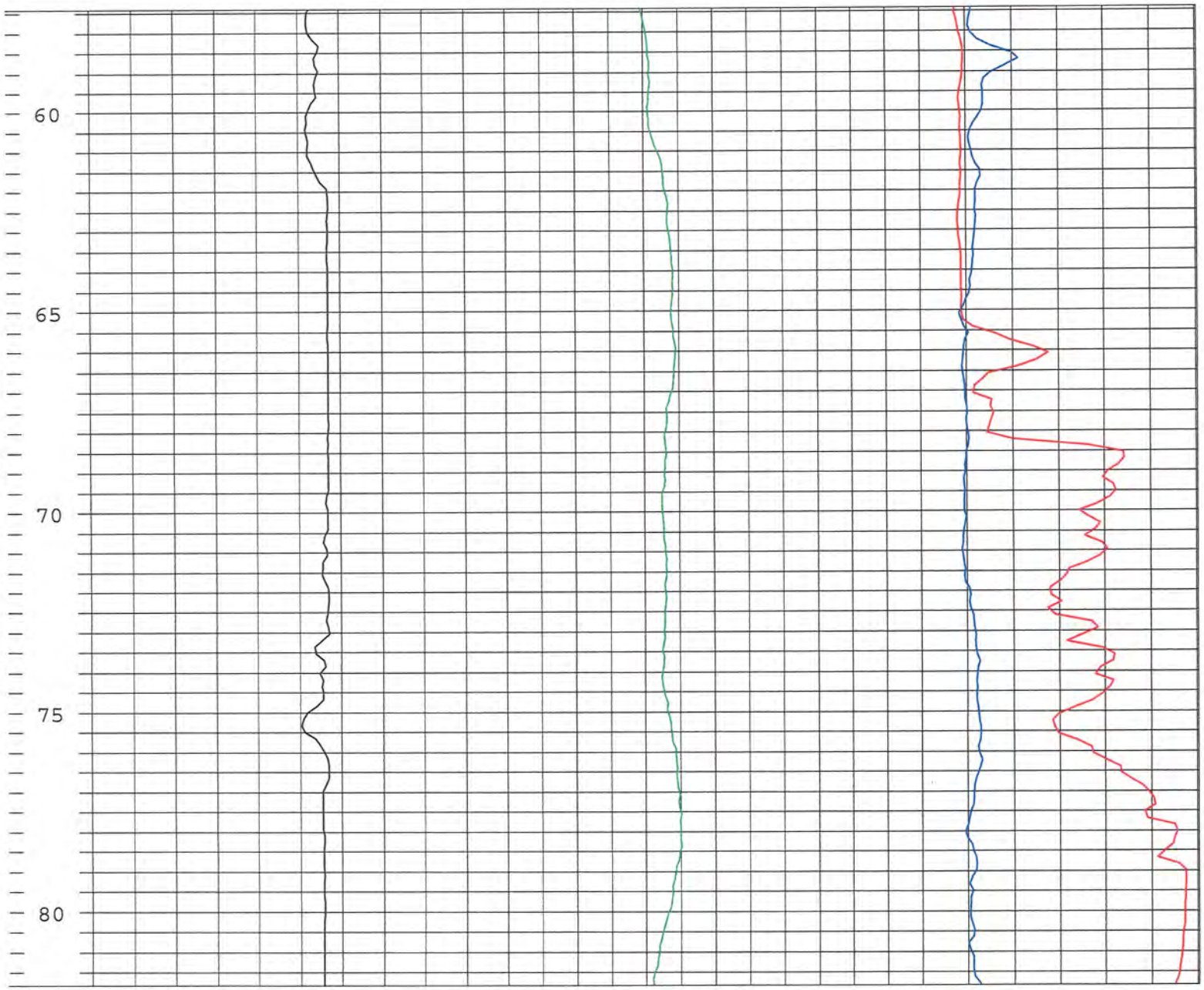
OTHER SERVICES

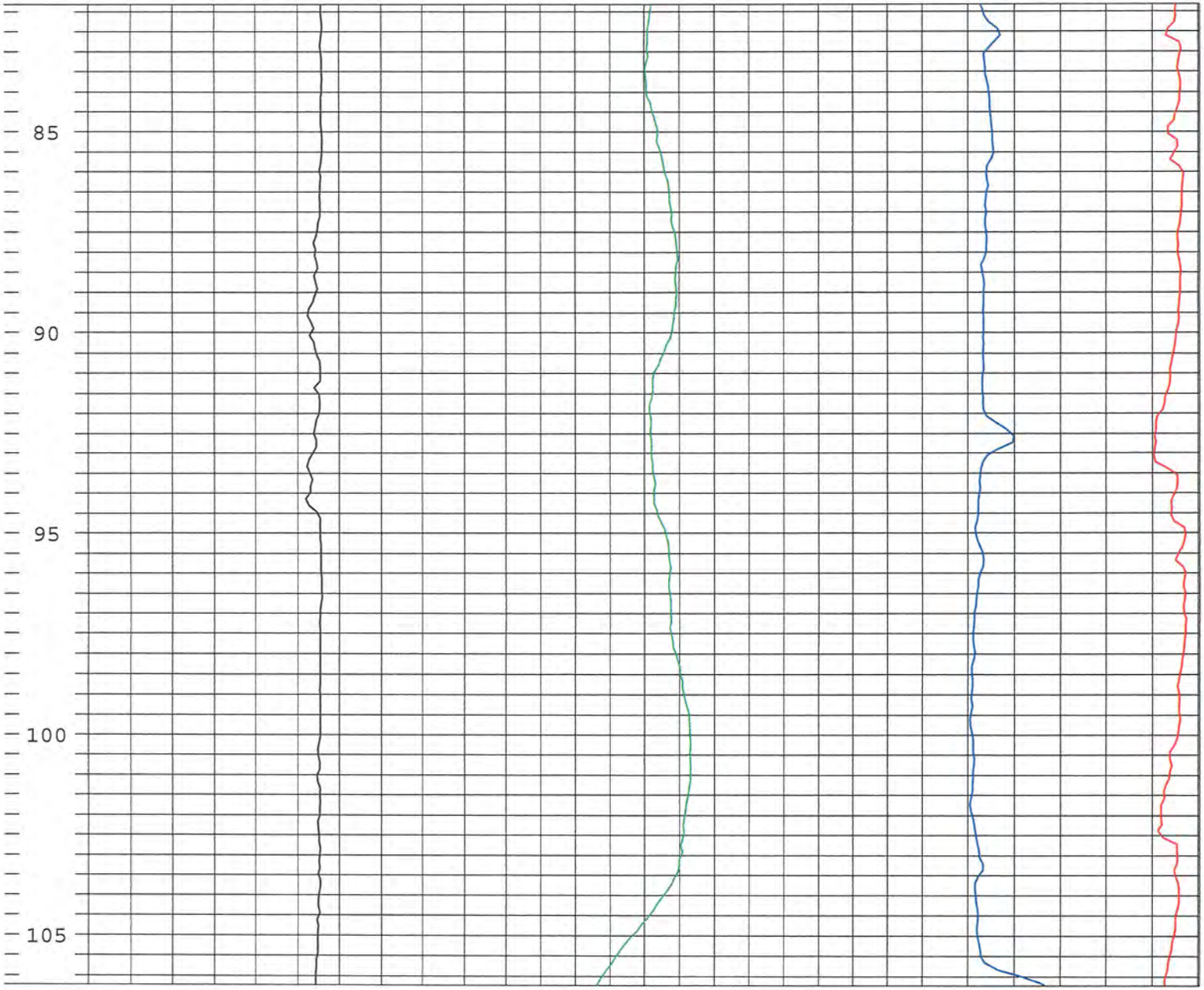
Depth 1ft:50ft	Caliper 0 inch 10	NaturalGamma 0 cps 300	SP 0 mV 300	SPR 0 Ohms 150

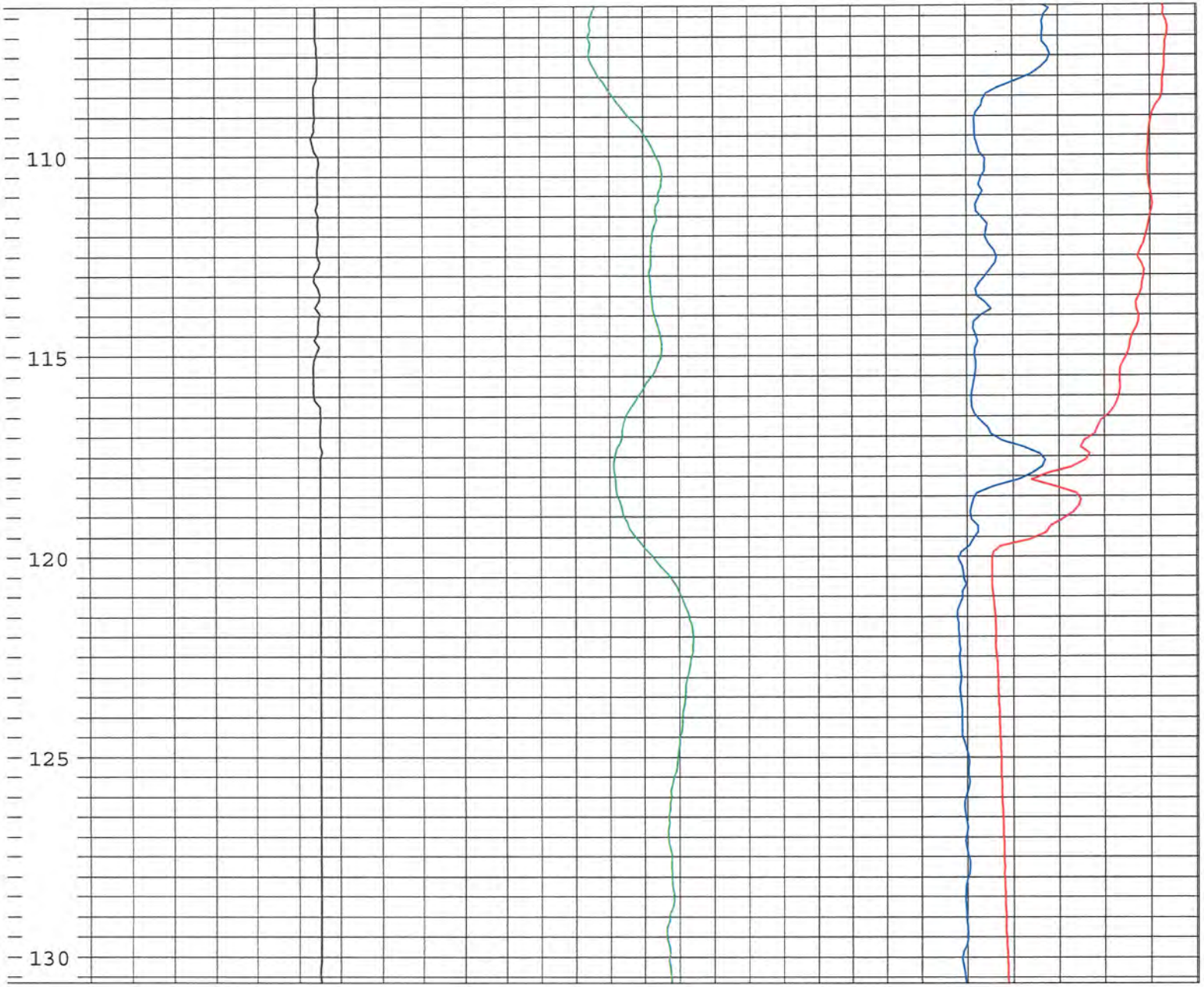


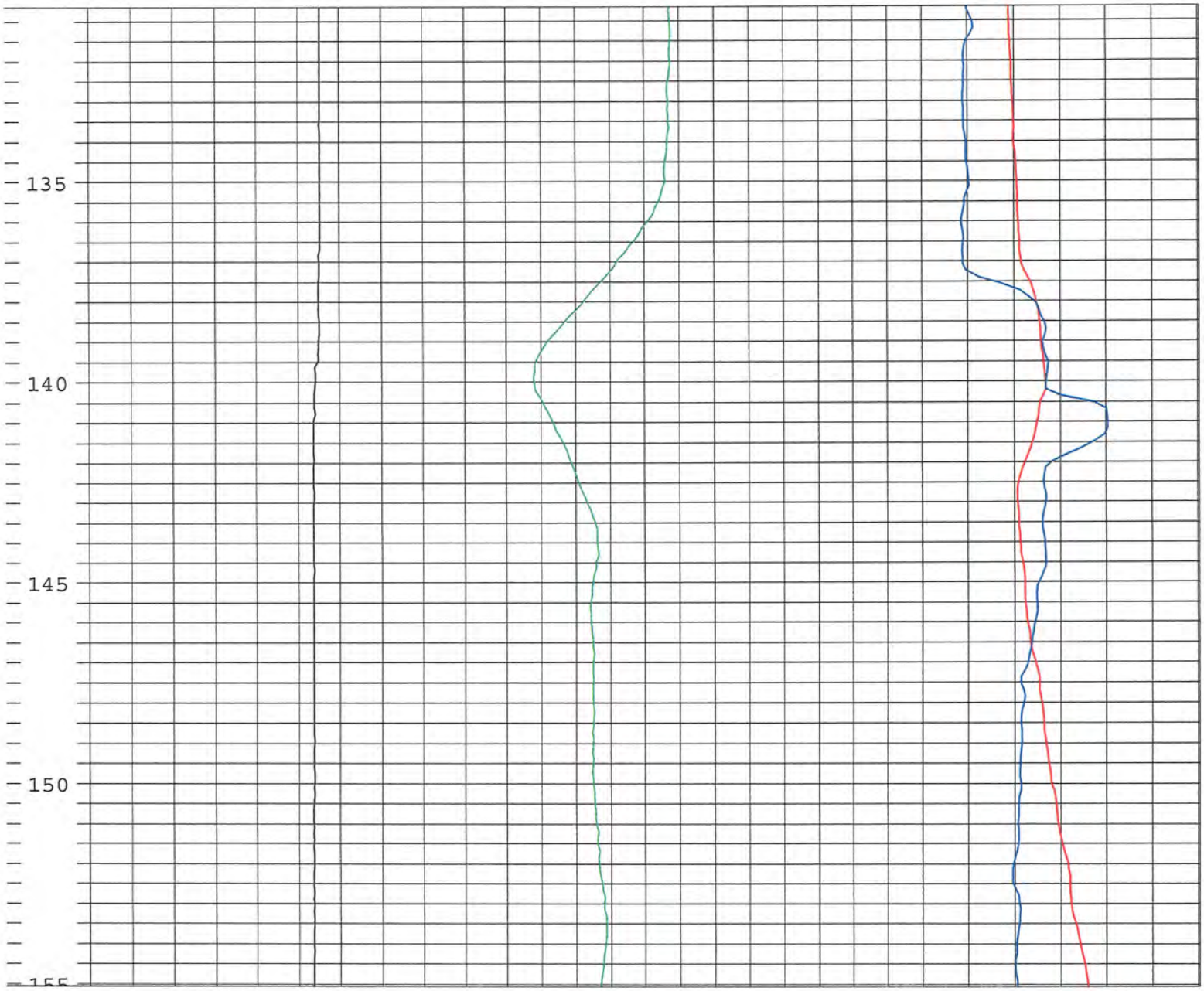

10
15
20
25
30


35
40
45
50
55


60
65
70
75
80


85
90
95
100
105


110
115
120
125
130


135
140
145
150

LSC TRANSPORTATION CONSULTANTS, INC.

1889 York Street
Denver, CO 80206
(303) 333-1105
FAX (303) 333-1107
E-mail: lsc@lscdenver.com

July 31, 2014

Mr. James Dullea
Jasper Land Investments, LLC
9162 S. Kenwood Court
Highlands Ranch, CO 80126

Re: Wise Farms
Traffic Analysis
(LSC #120761)

Dear Mr. Dullea:

At your request, we have prepared this response to address the comments received from the Town of Erie to our traffic impact analysis, dated April 21, 2014 for the Wise Farms development. The following are the Town's comments and our responses:

Comment 1a: **Zero left turns are shown onto Highway 287 which seems extremely unrealistic. Even without a signal, a high percentage of traffic will attempt to turn left onto Highway 287 and not use 109th Street.**

Response: *The trip assignment has been adjusted to show some traffic making the southbound left-turn movement from Jasper Road to US 287.*

Comment 1b: **At the access on 119th Street, 17 northbound left turn movements are shown. 119th Street is classified as a minor arterial and left turning movements of greater than 10 require a dedicated left turn lane. The turn lane is shown in the preliminary construction plans but needs to be added to the recommended improvements in the traffic study.**

Response: *The traffic study has been updated accordingly.*

Comment 1c: **At the east access on Jasper Road, 24 westbound left turn movements are shown. While barely under the 25 turning movements requiring a dedicated turn lane, a dedicated turn lane needs to be provided in the interest of traffic safety.**

Response: *It appears this comment should refer to the west access rather than the east access. The trigger is greater than 25 vph so the projected 24 vph is two vehicles per hour below the threshold. The other left-turn movement from Jasper Road into the site is estimated to be only about 7 vph for a total of*

about 31 left-turning vehicles per hour entering the site from Jasper Road. At this time, the applicant is not proposing a left-turn lane at either site access because the threshold is not met at either location.

* * * * *

We trust these responses will assist you in gaining approval of the Wise Farms development. Please contact me if you have any questions or need further assistance.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By_____
Christopher S. McGranahan, P.E., PTOE
Principal

CSM/wc

Z:\LSC\Projects\2012\120761-WiseFarms(Jasper)\July-2014\WiseFarms-RTC-073114.wpd

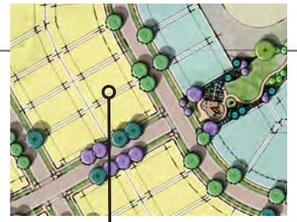
CONCEPT PLAN EXHIBIT

EXHIBIT A

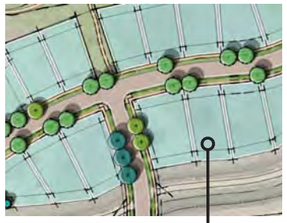
PROJECT SUMMARY

- THE PROJECT AREA IS APPROXIMATELY 169 ACRES
- THE CURRENT PROPOSAL IS FOR 166 UNITS ON THE 169 ACRES
- THE COMPREHENSIVE PLAN DESIGNATION IS RURAL RESIDENTIAL, WHICH ALLOWS FOR 0-2 DU/AC, WITH A RECOMMENDED AVERAGE DENSITY OF 1 DU/AC
- THE PROPOSAL COMPLIES WITH THE COMPREHENSIVE PLAN DESIGNATION

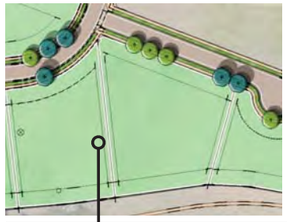
LEGEND



AREA WITH LOTS FROM 5,000 - 9,999 SF (60' MINIMUM WIDTH) - 98 UNITS



AREA WITH A PORTION OF LOTS OVER 10,000 SF (70' MINIMUM WIDTH) - 27 UNITS



AREA WITH LOTS OVER 40,000 SF (100' MINIMUM WIDTH) - 39 UNITS

TOTAL NUMBER OF HOMES PROPOSED IS 166 INCLUDING THE TWO EXISTING RESIDENCES.

200' 600'
100' 400'

CVL CONSULTANTS

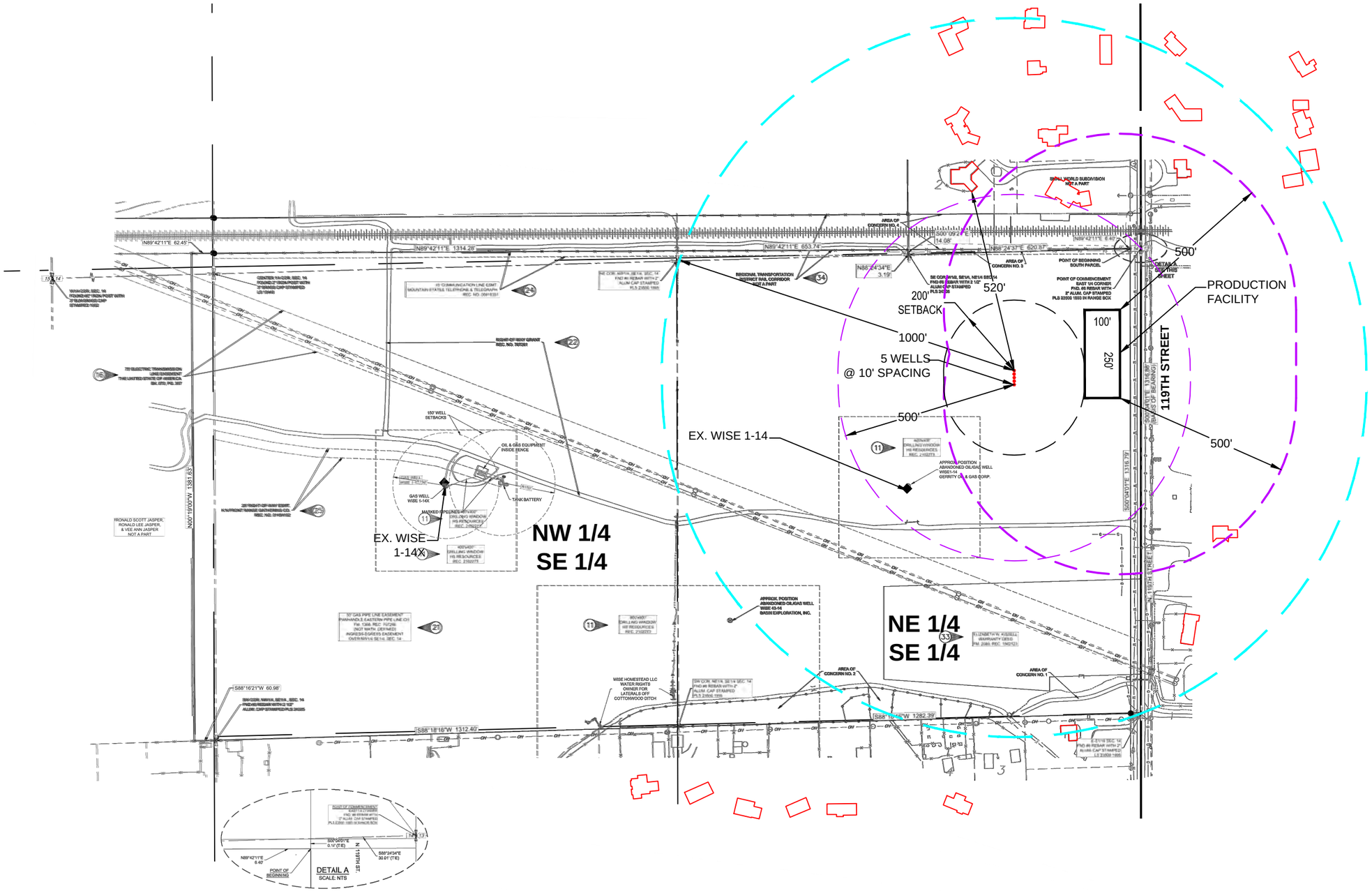
WISE FARMS

PREPARED FOR:
JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT, HIGHLANDS RANCH, CO - 80126

pcs group inc. www.pcsgroupco.com
1001 16th street . B-180 . denver co 80265
t 303 531 4905 f 303 531 4908

ILLUSTRATIVE DEPICTION, SUBJECT TO CHANGE. 7-25-2014

ALTA EXHIBIT



LEGEND

EXISTING HOUSE

0 150 300

SCALE:1'=300'

EXHIBIT B

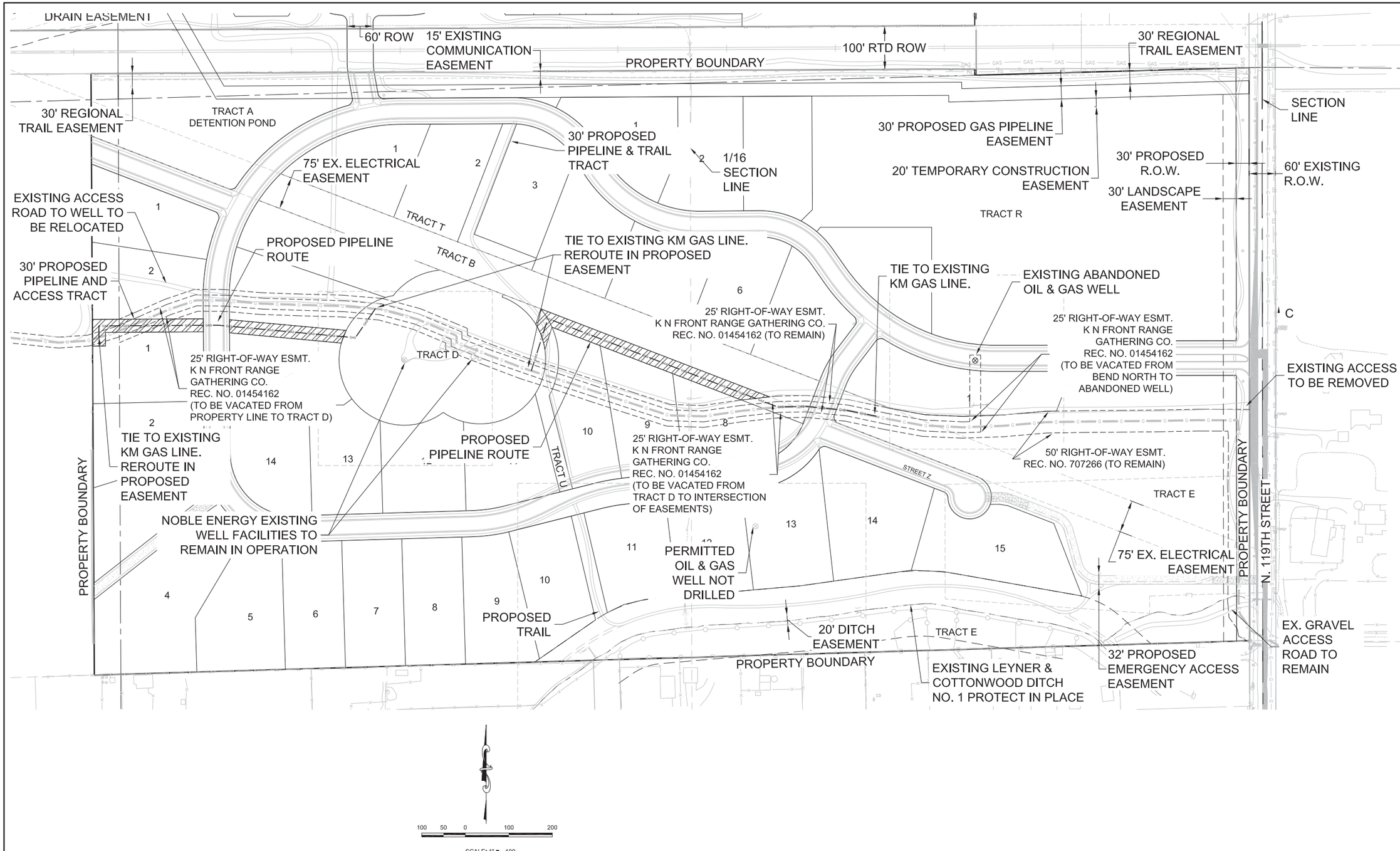


EXHIBIT C

No.	Revisions	Date	Init.	Apvr.	Date

CVL CONSULTANTS
10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

JASPER LAND INVESTMENTS, LLC
5162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
PRELIMINARY DEVELOPMENT PLAN
OIL & GAS EXHIBIT

SCALE: AS SHOWN
FILE NO: 8.13.0230901
DRAWN BY: BPC
CHECKED BY: MEL
DATE: OCTOBER 2014
SHEET NUMBER E1

N:\PROJECTS\3023\0901 WISE FARMS\CAD\ENGINEERING\EXHIBITS\OIL&GAS EASEMENTS-ANADARKO ALTERNATIVE.DWG, SARAH KOLZ, 9/26/14

SURFACE USE AGREEMENT

This Surface Use Agreement ("**Agreement**") is dated and made effective this _____ day of _____, 20__, and is between Kerr-McGee Oil & Gas Onshore LP ("**KMG**") with an address of 1099 18th Street, Suite 1800, Denver, CO 80202, and Wise Homestead, LLC (collectively hereinafter referred to as "**Surface Owner**") all with an address of 11497 Jasper Road, Lafayette, CO - 80026.

A. **OPTION ONE**: Surface Owner owns the surface estate of that certain tract of land more particularly described on Exhibit "A" attached hereto, being the 169 Acre Wise Homestead Property in Boulder County, Colorado (hereinafter referred to as the "**Property**");

A. **OPTION TWO (N/A)**: Surface Owner owns the exclusive right to acquire the surface estate of that certain tract of land more particularly described on Exhibit A attached hereto, being Weld County, Colorado (hereinafter referred to as the "Property");

B. Surface ownership of the Property is subject to the rights of the oil and gas mineral leasehold estate, a portion of which is now owned by KMG;

C. Surface Owner plans to develop the surface of the Property as Single Family Residential known as **Wise Farms**;

D. KMG currently operates 0 well(s) on the Property, known as N/A, (the "**Existing Well(s)**") generally located N/A of Section N/A, described above, and has the right to develop its oil and gas leasehold estate by drilling additional wells (the "**Future Well(s)**") on the Property; and

E. This Agreement sets forth the parties' rights and obligations regarding the relationship between the development of the Property by Surface Owner and KMG's operation and development of its oil and gas leasehold estate underlying the Property, such rights and obligations to be binding upon the parties' successors and assigns.

In consideration of the mutual covenants contained herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. OIL AND GAS OPERATIONS.

Surface Owner shall set aside and provide to KMG that portion of the Property hereinafter referred to as the "**Oil and Gas Operations Area(s)**" ("OGOA(s)"), such area(s) being depicted on **Exhibit "B"** attached hereto. The OGOA(s) are to be made available to KMG for its exclusive use other than use by other oil and gas operators in their present condition for any operations conducted by KMG in connection with the Existing Well or any Future Well, including, but not limited to, drilling and production activities, workovers, well deepenings, recompletions, fracturing, re-fracturing and replacement wells. Except for the OGOA(s), and the

DRAFT

access roads and easements associated with flowlines ~~, gathering lines~~ and pipelines as provided in this Agreement, KMG shall not occupy the surface of the Property except in the event of an emergency or for reasonable incidental, temporary and non-damaging activities, for which KMG shall be strictly and solely responsible for any damages that may occur.

a. ***Well Locations.***

KMG shall have the right to drill Future Wells within the OGOA(s), including horizontal and directional wells that produce and drain the Property and lands other than the Property, so long as such locations are permitted locations under the then applicable well spacing regulations of the Colorado Oil and Gas Conservation Commission ("**COGCC**") or exceptions granted thereto by the Director of the COGCC. As part of the consideration for this Agreement, Surface Owner hereby waives its right to, and covenants that it shall not protest or object to any such exception location or application for same by KMG. KMG shall not otherwise have the right to drill new wells on the Property.

b. ***Production Facilities.***

KMG shall have the right to locate, build, repair and maintain tanks, separators, dehydrators, compressors and other equipment reasonably appropriate for the operation and production of the Existing Well(s) or any Future Wells only within the OGOA(s), unless otherwise agreed to by the Surface Owner.

With respect to KMG's equipment and facilities other than flowlines or pipelines:

(i) KMG shall install and maintain, at its sole cost and expense, all fences around the Existing Well(s) and any Future Wells in compliance with the Rules and Regulations of the COGCC and local rules and regulations in effect at the time KMG files an application for a permit to drill with the COGCC. The fence material may be upgraded at Surface Owner's option and expense, so long as the upgrade complies with COGCC and local rules and regulations and KMG consents to such upgraded fence. KMG shall not unreasonably refuse Surface Owner's request to upgrade the fence material, which consent shall not be unreasonably withheld. If the Surface Owner's development plans require a zoning change(s) or annexation, Surface Owner shall pay the cost and expense for the upgraded fence material required by the zoning change or annexation;

(ii) KMG shall install and maintain, at its sole cost and expense, all gates and locks reasonably necessary for the security of any wells or facilities in the OGOA(s). Such gates and locks shall be the standard gates and locks used by KMG;

DRAFT

(iii) KMG shall paint any production facilities for any wells, including wellhead guards, with paint that is approved by the COGCC; and

(iv) Surface Owner shall not inhibit KMG's access to the OGOA(s) or inhibit KMG's operations within the OGOA(s) by landscaping or other improvements, unless otherwise agreed upon between Surface Owner and KMG.

c. ***Setback Requirements.***

Surface Owner will not locate any lot line, building, or structure within 150' of the boundary of any OGOA or within any OGOA. Surface Owner understands and acknowledges that the COGCC has rules and regulations that apply to the distance between a wellhead and public roads, production facilities, building units and surface property lines, among other things. In order to give full effect to the purposes of this Agreement, Surface Owner hereby waives its right to object to the location of any of KMG's facilities on the basis of setback requirements in the rules and regulations of the COGCC, as those rules and regulations may be amended from time to time. Moreover, Surface Owner acknowledges that the COGCC density classification of the Property and surrounding area at the time an application for permit to drill is filed. For the operations contemplated by this Agreement, Surface Owner hereby waives the high density setback distances, as required by COGCC rules and regulations.

Surface Owner further and similarly waives its right to object to any other state or local setback requirements or other requirements or regulations that are or become inconsistent with this Agreement or that would prohibit or interfere with the rights of KMG, its successors and assigns, to explore for and produce the oil and gas in accordance with this Agreement. KMG or its successors and assigns may cite the waiver in this paragraph in order to obtain a location exception or variance under COGCC rules or from any other state or local governmental body having jurisdiction over the oil and gas operation. Surface Owner agrees not to object to the use of the surface in the OGOA(s) so long as such use is consistent with this Agreement and Surface Owner will provide KMG or its successors and assigns with any and all written support they may reasonably require to obtain permits from the COGCC or any local jurisdiction.

2. ~~Gathering Lines,~~ Flowlines, and Easements.

a. ***Existing and Future Pipelines.***

Subject to the limitations hereinafter described, KMG, its affiliate Kerr-McGee Gathering LLC ("KMGG") or other designated gas gatherer has a continuing right and entitlement to own, operate, maintain, repair and replace all flowlines ~~, gathering lines~~ and other pipelines that may be necessary or convenient to its operations on the Property. Although this Agreement is intended to confine the placement of those pipelines to certain specified locations within the Property, nothing herein shall be construed as a limitation on KMG's, KMGG's or other designated gas gatherer ultimate right to make all necessary well connections to any Existing or Future Well. The current development plans for Wise Farms may anticipate the relocation of certain existing gathering lines or flowlines ("**Existing Pipelines**") to a designated easement corridor shown on Exhibit "C" as the "**Petroleum Pipeline Easement.**" It is further anticipated

Comment [ks1]: The easement for the gathering lines to KMGG will be granted separately.

DRAFT

that any additional pipelines and~~,~~ flowlines ~~and gathering lines~~ that may be required in the future ("**Future Pipelines**") may also need to be placed within the Petroleum Pipeline Easement. If a certified survey has not been completed for the Existing Pipelines or the Future Pipelines, then the location of such pipelines on Exhibit "C" are only approximate locations.

b. ***Relocated Pipelines***.

Surface Owner may request that KMG relocate the Existing Pipelines or Future Pipelines owned by KMG or KMGG to the Petroleum Pipeline Easement at the Surface Owner's sole cost and expense. At such time as Surface Owner desires to have any Existing Pipelines or Future Pipelines owned by KMG or KMGG relocated to the Petroleum Pipeline Easement, it shall give written notice to KMG who shall promptly prepare, or commission the preparation of, a cost estimate to accomplish the relocation. As soon as available, KMG will then provide the cost estimate to Surface Owner who will then have the opportunity to review same and make a final determination about whether it wishes to proceed with the relocation. If Surface Owner elects to have KMG effectuate the relocation of pipeline owned by KMG or KMGG, it shall tender the estimated costs of such to KMG together with its written request to commence the project as soon as reasonably practicable, or as otherwise requested by Surface Owner. If it has not already done so, Surface Owner shall also deliver to KMG or KMGG an executed and acknowledged Pipeline Right of Way Grant on the form that is attached hereto as Exhibit "C" in order to convey the Petroleum Pipeline Easement lands as shown on Exhibit "C". Prior to execution and acknowledgement of the Pipeline Right-of-Way Grant by Surface Owner, KMG or KMGG will complete a certified survey and submit a plat of the certified survey to the Surface Owner if the pipelines have been constructed. If the pipelines are not constructed, Surface Owner will execute and deliver the Pipeline Right of Way Grant and KMG or KMGG will complete an "as-built" survey when construction is completed and submit the same to the Surface Owner. The "as-built" survey will be attached to the Pipeline Right of Way Grant and the Grantee may record the same.

c. ***Petroleum Pipeline Easement.***

The Petroleum Pipeline Easement shall be fifty feet (50') in width during construction, installation or relocation operations and otherwise reduced to thirty feet (30') in width for post-construction usage. All relocated and Future Pipelines owned by KMG or KMGG shall be located within the Petroleum Pipeline Easement unless otherwise agreed upon between Surface Owner and KMG or KMGG. KMG acknowledges that the Petroleum Pipeline Easement will be non-exclusive and agrees that it will not object to its concurrent use by other oil and gas operators or utilities, as Surface Owner may grant from time to time, so long as such other parties comply with KMG's pipeline guidelines, attached hereto as Exhibit "C". Notwithstanding the foregoing, Surface Owner shall not permit, nor shall it place any other utility or structure within ten feet horizontally or two feet vertically of any KMG pipeline. The Petroleum Pipeline Easement and OGOA(s) shall be depicted and labeled on all subdivision plats submitted to Weld County.

KMG shall not, without the prior written consent of Surface Owner, have the right to lay additional flowlines or pipelines on the Property, outside the Petroleum Pipeline Easement. All flowlines and pipelines shall be buried to a depth of approximately 48 inches from the surface.

DRAFT

Surface Owner shall maintain a minimum of 48 inches and not more than 72 inches of cover over all pipelines and flowlines during any of Surface Owner's operations on the Property. The construction and burying of additional flowlines ~~, gathering lines~~ and pipelines shall be at the sole cost and expense of KMG or its gas purchaser.

d. ***Pipeline Crossings.***

If Surface Owner's development plans anticipate that roadways will or may in the future cross over existing Pipelines, Surface Owner will pothole or request that KMG pothole the Existing Pipelines or Future Pipelines to check the depth of such Pipelines. Prior to Surface Owner's installation of a new roadway, KMG or KMGG will lower, as required, the affected Existing or Future Pipelines to sufficient depth for the road elevations. Surface Owner agrees to pay KMG or KMGG the reasonable cost of inspecting and lowering the Pipelines, as well as the reasonable cost of any sub-grade work required to achieve the road construction specifications.

3. ACCESS.

Surface Owner shall provide KMG with continuous access to all of the OGOA(s) and the Petroleum Pipeline Easement. The access roads to be used by KMG will either be those roads that currently are in place or those that are anticipated to be constructed by Surface Owner at its sole cost and expense as part of Surface Owner's development of the Property. All access roads, whether existing or newly constructed, shall be of sufficient scope to allow KMG to conduct its oil and gas operations and shall be at least 30 feet in width and built to withstand a minimum of 104,000 pounds and 26,000 pounds per axle. KMG agrees to access the Property according to the routes depicted and described on the attached Exhibit "A". If and when new access routes are constructed by Surface Owner, Surface Owner agrees to provide KMG notice of such but KMG may continue to use its present access routes until that time and until receipt of such notice from Surface Owner.

4. NOTICE OF FUTURE OPERATIONS.

KMG shall provide at least seven (7) days written notice to Surface Owner prior to commencing actual operations in connection with the reworking, fracturing, deepening or recompletion operation on the Existing Well(s) or any Future Wells; provided, however, that KMG shall provide at least thirty (30) days written notice to Surface Owner and/or any homeowner's association formed by Surface Owner that is associated with the Property prior to commencing the drilling of any Future Wells. Regardless of the foregoing notice requirements, KMG shall have immediate access to any of its facilities in the event of an emergency.

After receipt of the above notice, but not less than five (5) working days prior to KMG's mobilization on the applicable OGOA(s), either KMG or Surface Owner may request an on-site meeting. The purpose of the meeting shall be to inform Surface Owner of the expected activity and to coordinate site access, hazards, barricades, restoration or any other issues that affect the use and safety of Surface Owner's development.

DRAFT

5. NOTICE TO HOMEOWNERS, BUILDERS, TENANT FARMERS AND OTHER SURFACE LESSEES.

Surface Owner shall furnish all buyers of the Property from Surface Owner, current and future tenant farmers and other surface lessees with a plat or map showing the OGOA(s) and the Petroleum Pipeline Easement. In addition, Surface Owner shall provide notice to all builders, homeowners, homeowner associations, other buyers of the Property from Surface Owner, current and future tenant farmers and other lessees that:

a. There may be ongoing oil and gas operations and production in the OGOA(s) on the surface of the Property;

b. There are likely to be additional Future Wells drilled and oil and gas operations and production from the OGOA(s) that affect the surface of the Property;

c. Heavy equipment may be used by KMG from time to time for oil and gas production operations and that such operations nay be conducted on a 24 hour basis;

d. Future purchasers of all or a portion of the Property, as successors in interest to Surface Owner, will be acquiring a proportionate interest in Surface Owner's rights under this Agreement and assuming those obligations undertaken by Surface Owner pursuant to this Agreement; and

e. Homeowner associations and buyers of individual lots or homes, as successors in interest to Surface Owner, will be acquiring a proportionate interest in Surface Owner's rights under this Agreement, and will be subject to the waivers contained in Sections 1, 6, 17, and the covenants contained in Section 1 prohibiting the location of any building or structure within the OGOA(s) or the Petroleum Pipeline Easement and waiving objection to any setback rules of the COGCC or any local jurisdiction.

6. DRILLING AND COMPLETION OPERATIONS.

KMG shall endeavor to diligently pursue any drilling operations to minimize the total time period and to avoid rig relocations or startup during the course of drilling. Surface Owner waives any objections to continuous (i.e., 24-hour) drilling operations.

7. GOVERNMENTAL PROCEEDINGS.

Surface Owner shall not oppose KMG in any agency or governmental proceedings, including but not limited to the COGCC, the Town of Erie or other governing body proceedings, related to KMG's operations on the Property, including but not limited to drilling, workovers, well deepenings and recompletions, provided that KMG's position in such proceedings is consistent with this Agreement. For purposes of seeking a COGCC hearing on the approval of KMG's Application for Permit to Drill ("Form 2") for Existing or Future Wells or KMG's Oil and Gas Location Assessment ("Form 2A") for any related location, the Surface Owner hereby waives its right to allege noncompliance with COGCC rules or applicable statute, or to allege

DRAFT

potential adverse impacts to public health, safety, and welfare, including the environment and wildlife resources, that are within the jurisdiction of the COGCC as the basis for such a hearing. Surface Owner further agrees to oppose any conditions of approval that would be incorporated into KMG's Form 2A or Application for Permit to Drill Form 2 pursuant to COGCC rule 306 that are inconsistent with this Agreement.

8. LIMITATION OF LIABILITY, RELEASE AND INDEMNITY.

a. No party shall be liable for, or be required to pay for, special, punitive, exemplary, incidental, consequential or indirect damages to any other party for activities undertaken within the scope of this agreement;

b. Except as to claims arising out of pollution or environmental damage (which claims are governed by Section 9 below) or out of other provisions of this Agreement (which claims shall be governed by the terms of this Agreement), each party shall be and remain responsible for its own liability for all losses, claims, damages, demands, suits, causes of action, fines, penalties, expenses and liabilities, including without limitation attorneys' fees and other costs associated therewith (all of the aforesaid herein referred to collectively as "Claims"), arising out of or connected with each such party's ownership or operations on the Property, no matter when asserted, subject to applicable statutes of limitations. Each such party shall release, defend, indemnify and hold the other parties, their officers, directors, employees, successors and assigns, harmless against all such Claims. This provision does not, and shall not be construed to, create any rights in persons or entities not a party to this Agreement, nor does it create any separate rights in parties to this Agreement other than the right to be indemnified for Claims as provided herein;

c. Upon the assignment or conveyance of a party's entire interest in the Property, that party shall be released from its indemnification in Section 8.b. above, for all actions or occurrences happening after such assignment or conveyance.

9. ENVIRONMENTAL INDEMNITY.

The provisions of Section 8 above, except for Section 8.a., shall not apply to any environmental matters, which shall be governed exclusively by the following, subject to the limitations of Section 8.a. above:

a. "Environmental Claims" shall mean all Claims asserted by governmental bodies or other third parties for pollution or environmental damage of any kind, arising from operations on or ownership of the Property or ownership of the oil and gas leasehold interest, whichever is applicable, and all cleanup and remediation costs, fines and penalties associated therewith, including but not limited to any Claims arising from Environmental Laws or relating to asbestos or to naturally occurring radioactive material. Environmental Claims shall not include the costs of

DRAFT

any remediation undertaken voluntarily by any party, unless such remediation is performed under the imminent threat of a Claim by a governmental body or other third party;

b. "Environmental Laws" shall mean any laws, regulations, rules, ordinances, or order of any governmental authority(ies), which relate to or otherwise impose liability, obligation, or standards with respect to pollution or the protection of the environment, including but not limited to, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 U.S.C. § 9601 et seq.), the Resource Conservation and Recovery Act of 1976 (42 U.S.C. §§ 6901 et seq.), the Clean Water Act (33 U.S.C. §§ 466 et seq.), the Safe Drinking Water Act (14 U.S.C. §§ 1401-1450), the Hazardous Material Transportation Act (49 U.S.C. §§ 1801 et seq.), the Clean Air Act, and the Toxic Substances Control Act (15 U.S.C. §§ 2601-2629); and

c. Environmental Indemnification. KMG shall protect, indemnify, and hold harmless Surface Owner, homeowners association and any lot owner who purchases a lot from Surface Owner from any Environmental Claims relating to the Property or oil and gas leasehold thereunder that arise out of KMG's ownership and operation of the OGOA(s) and its ownership and operation of its pipeline easement or rights-of-way on the Property. Surface Owner shall fully protect, defend, indemnify and hold harmless KMG from any and all Environmental Claims relating to the Property that arise out of Surface Owner's development of the Property.

10. EXCLUSION FROM INDEMNITIES.

The indemnities of the parties herein shall not cover or include any amounts which the indemnified party is actually reimbursed by any third party. The indemnities in this Agreement shall not relieve any party from any obligations to third parties.

11. NOTICE OF CLAIM FOR INDEMNIFICATION.

If a Claim is asserted against a party for which the other party would be liable under the provisions of Section 8 or 9 above, it is a condition precedent to the indemnifying party's obligations hereunder that the indemnified party give the indemnifying party written notice of such Claim setting forth all particulars of the Claim, as known by the indemnified party, including a copy of the Claim (if it is a written Claim). The indemnified party shall make a good faith effort to notify the indemnifying party within five days of receipt of a Claim and shall affect such notice in all events within such time as will allow the indemnifying party to defend against such Claim.

12. REPRESENTATIONS.

Each party represents that it has the full right and authority to enter into this Agreement. KMG does not represent that it has rights to settle matters for all of the mineral owners or any

DRAFT

other lessees in the Property and this Agreement shall only apply to and bind the KMG leasehold interest in the property.

13. SUCCESSORS.

The terms, covenants, and conditions hereof shall be binding upon and shall inure to the benefit of the parties and their respective heirs, devises, executors, administrators, successors and assigns; provided, as to KMG, successors and assigns shall be deemed to be limited to lessees under the oil and gas leases which KMG owns.

14. TERM.

This Agreement shall become effective when it is fully executed and shall remain in full force and effect until KMG's leasehold estate expires or is terminated, and KMG has plugged and abandoned all wells owned all or in part by KMG and complied with the requirements of all applicable oil and gas leases pertaining to removal of equipment, reclamation, cleanup and all other applicable provisions of the leases and existing laws and regulations.

15. NOTICES.

Any notice or other communication required or permitted under this Agreement shall be sufficient if deposited in U.S. Mail, postage prepaid, addressed to each of the following:

If to KMG:

Kerr McGee Oil & Gas Onshore LP
1099 18th Street, Suite 1800
Denver, Colorado 80202
Attention: Director of Land Denver Basin

If to Kerr-McGee Gathering

Kerr-McGee Gathering LLC
1099 18th Street, Suite 1800
Denver, CO 80202
Attention: Wattenberg Area Midstream

If to Surface Owner:

Kotke & Brantz, LLC
Jon Kotke
2975 Valmont Rd., #240
Boulder, Colorado 80301

Any party may, by written notice so delivered to the other parties, change the address or individual to which delivery shall thereafter be made.

DRAFT

16. RECORDING AND SUBORDINATION.

This Agreement and any amendment hereto shall be recorded by KMG. KMG shall provide the Surface Owner with a copy showing the recording information as soon as practicable thereafter.

a. Surface Owner agrees to cooperate in any reasonable way with KMG, its successors and assigns, to secure subordinations of any encumbrances placed of record upon the Property prior to the execution of this Agreement.

17. SURFACE DAMAGES.

Surface Owner hereby waives all surface damage payments pursuant to any COGCC or local regulation, state statute, common law or prior agreement, for each and every well that is drilled, tank battery and emissions control device located on the Property within the OGOA(s) and also including but not limited to any access road, flowline, or pipeline constructed within the Petroleum Pipeline Easement. KMG may provide a copy of this Agreement to the COGCC as evidence of this waiver.

18. ARBITRATION.

Any controversy or claim arising out of or relating to this Agreement, or the breach thereof, shall be resolved by arbitration conducted in Denver, Colorado and shall be administered by the American Arbitration Association under its commercial rules, and judgment on the award rendered by the arbitrator(s) may be entered in any court having jurisdiction thereof.

19. APPLICABLE LAW.

This Agreement shall be governed by and construed in accordance with the laws of the State of Colorado, without reference to its conflict of laws provisions.

20. ENTIRE AGREEMENT.

This Agreement sets forth the entire understanding among the parties hereto regarding the matters addressed herein, and supersedes any previous communications, representations or agreement, whether oral or written. This Agreement shall not be amended, except by written document signed by all parties.

21. EXECUTION AND BINDING EFFECT

This Agreement may be executed in any number of counterparts each of which shall be deemed an original instrument but all of which together shall constitute one and the same instrument, and shall be binding upon and inure to the benefit of the parties, and each of their respective heirs, executors, administrators, successors and assigns and is executed by the parties as of the Effective Date set forth above.

DRAFT

22. COMPLIANCE WITH REGULATION.

Surface Owner expressly acknowledges that this Agreement satisfies KMG's obligation under COGCC rules 305 and 306, as amended, to consult in good faith with the Surface Owner regarding the proposed oil and gas operations. Surface Owner further expressly acknowledges that this Agreement shall be deemed to be specifically applicable to and to fully satisfy, the obligation of KMG to accommodate Surface Owner's use of the surface of the Property, existing or future, and waives any statutory or common law claims with respect thereto, except for actions to enforce this Agreement or obtain damages for its breach.

The parties have executed this Agreement on the day and year first above written.

KERR-McGEE OIL & GAS ONSHORE LP

By: _____
Jane Ann Byroad
Agent and Attorney-in-fact

KERR-McGEE GATHERING LLC (limited to the provisions of Section 2 of this Agreement)

By: _____
_____
_____

SURFACE OWNERS

_____

ACKNOWLEDGMENTS

STATE OF TEXAS)
)ss.
COUNTY OF MONTGOMERY)

DRAFT

The foregoing instrument was acknowledged before me this _ _____day of _____, 20__, by Jane Ann Byroad, as Agent and Attorney-in-Fact of Kerr-McGee Oil & Gas Onshore LP and Kerr-McGee Gathering LLC, on behalf of such corporations.

Witness my hand and official seal.

_____
Notary Public

My Commission Expires: _____

STATE OF COLORADO)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____2006, by_____.

Witness my hand and official seal.

_____
Notary Public

My Commission Expires: _____

DRAFT

Exhibit "___"

Attached hereto and made a part of that certain Agreement Surface Use Agreement between _____ and Kerr-McGee Oil & Gas Onshore LP, dated _____ of _____, 20__.

RIGHT-OF-WAY GRANT

THIS RIGHT-OF-WAY GRANT ("Grant) is made this _____day of _____ , 20__, from _____, whose address is,_____, Colorado _____ ("Grantor"), to Kerr-McGee _____, a Colorado limited liability company, whose address is 1099 18th Street, Suite 1800, Denver, Colorado 80202 ("Grantee"). The parties agree as follows:

For and in consideration of Ten Dollars ($10.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged**,** Grantor hereby grants, conveys and warrants unto Grantee, its successors and assigns, a ~~perpetual~~ right-of-way(s) and easement(s) to survey, construct, maintain, inspect, operate, repair, replace, modify, change the size of, reconstruct, mark, monitor, abandon or remove, at Grantee's election, a pipeline~~s~~ and all appurtenances, below ~~and/or above~~ ground, ~~including but not limited to launchers and receivers~~, convenient for the transportation or transmission of oil, gas, petroleum products, water, hydrocarbons and any other substances, whether fluid, solid or gaseous, and any products, derivatives, combinations or mixtures of any of the foregoing, in, on, ~~over,~~ under, or through the lands situated in _____ County, State of Colorado, being described as follows:

TOWNSHIP NORTH, RANGE WEST, 6TH PM
Section :

The specific route and course of the right-of-way(s) and easement(s) conveyed hereby ("Right-of-Way Lands") is more particularly described on Exhibit "A" attached hereto and made a part hereof. The width of the Right-of-Way Lands during construction shall be fifty feet (50'), and subsequent to construction shall be thirty feet (30').

Grantors represent and warrant to Grantee that Grantors are the sole owner in fee simple of the Right-of-Way Lands and have full right, power and authority to make this Grant.

Grantee shall lay all pipe at a depth of not less than ~~36~~ 48 inches. Grantee shall repair and/or restore any fence on or adjacent to the Right-of-Way Lands removed or severed by Grantee in the course of the operations provided for in this Grant to the condition such fence was in prior to the removal or damage by Grantee. If necessary to prevent the escape of Grantor's livestock, Grantee shall construct temporary gates or fences.

Grantee shall level and restore any lands affected by Grantee's operations that may have excessive settling and sufficiently compact the soil within a reasonable period of time after completion of construction to the condition that existed at the time immediately prior to the

DRAFT

placement of Grantee's pipeline(s), to the extent reasonably practicable. Additional subsidence shall be corrected from time to time at the request of Grantor.

The Grantor shall have the right to cross pipeline easements with roadways and other utilities provided that such crossing is made at an angle of not less than 60 degrees and not more than 90 degrees. Grantor shall also have the right to install and maintain easements that are both adjacent to, and/or within, the pipeline easements for utility lines, including those for water, gas, sewer, electric, telephone, cable, television, and fiber optic and other pipelines; provided, however: i) any new underground facilities that travel along a pipeline easement shall be located a distance horizontally of at least ten (10) feet from parallel existing pipelines; ii) any new underground facilities shall have at least twenty-four (24) inches of vertical clearance between such new facility and a pipeline; and iii) any overhead power lines shall be at least twenty (20) feet above the ground. Grantor agrees that it will notify each utility company that, except in case of emergency, KMGG must be contacted at least ten (10) business days prior to commencement of any trenching or digging activities within ten (10) feet of their easement areas.

Grantee shall have all rights, privileges and benefits necessary or convenient for the full use and enjoyment of this Grant, including ~~but not limited to, the right of ingress and egress over and across Grantor's lands lying adjacent to the Right-of-Way Lands for any and all purposes necessary and incidental to exercising Grantee's rights hereunder. Grantors agree not to build, create, construct or permit to be built, created or constructed, any obstruction, building, fence, landscaping, reservoir, engineering works or other structures or improvements over, under, on or across the Right-of-Way Lands without prior written consent of Grantee.~~access to the Right-of-Way from the roads shown on Exhibit A.

Grantee shall be obligated to pay for, repair, replace or otherwise compensate Grantors for any damages resulting from Grantee's activities and operations on the Right-of-Way Lands; and, Grantors shall pay for, reimburse, indemnify and hold Grantee harmless from any and all claims or damages resulting from Grantor's activities on the Right-of-Way Lands. Grantors shall have the right to use and enjoy the Right-of Way Lands, subject to the rights herein granted.

This Grant cannot be modified, except in writing signed by all parties hereto.

The rights granted herein may be assigned in whole or in part, and the terms, conditions, and provisions of this Grant are a covenant running with the land and shall extend to and be binding upon the successors, and assigns of Grantors and Grantee.

This Grant shall last as long as KMGG is using the pipeline to transport hydrocarbons. If there is a cessation in transportation of hydrocarbons for two years or longer, the pipeline will be deemed to be abandoned.

~~Grantee agrees to level and restore any lands that may have excessive settling and sufficiently compact the soil within a reasonable period of time after completion of construction.~~

This Grant may be executed in counterparts each of which shall be considered one and the same agreement.

DRAFT

IN WITNESS WHEREOF, the parties have executed this Grant as of the date first above written.

Grantors:	Grantee: Kerr-McGee_____ By its Manager, Kerr-McGee Oil & Gas Onshore LP,
By: _____	By:_____ Jane Ann Byroad, Agent & Attorney-in-Fact

STATE OF COLORADO)
) ss.
COUNTY OF)

The foregoing instrument was acknowledged before me this _____ day of _____, 20__, by _____, as _____.

Witness my hand and official Seal.

My Commission Expires:_____

_____
Notary Public

STATE OF TEXAS)
) ss.
COUNTY OF MONTGOMERY)

The foregoing instrument was acknowledged before me this _____ day of_____, 2006, by Jane Ann Byroad, as Agent and Attorney-in-Fact of Kerr-McGee Gathering LLC, a Colorado limited liability company, on behalf of such company.

Witness my hand and official Seal.

My Commission Expires:_____

_____
Notary Public

DRAFT

SURFACE USE AGREEMENT

THIS SURFACE USE AGREEMENT (the "Agreement") is made and entered into this ___ day of _____, 2014, by and between **NOBLE ENERGY, INC.** a Delaware corporation, ("Noble"), 1625 Broadway Suite 2200, Denver, Colorado 80202 and _____ ("Landowner") _____.

RECITALS

A. Landowner is the owner of the surface estate in the NWSE of Section 14, Township 1 North, Range 69 West of the 6th P.M., County of Weld, State of Colorado (the "Property") as shown on Exhibit "A" attached hereto and made a part hereof.

B. Noble currently operates the Wise 1-14X well (the "Well") and the associated flow lines and production facilities on the Property.

C. Noble and Landowner enter into this Agreement to provide for the coexistence and joint development of the surface estate and the oil and gas estate of the Property, and to delineate the process with which the parties shall comply with respect to the development of the two estates.

NOW, THEREFORE, in consideration of the covenants set forth herein and the mutual benefits to be derived by the parties hereto, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties do hereby agree as follows:

1. AREAS RESERVED FOR OIL AND GAS OPERATIONS.

1.1. Oil and Gas Operations. The oil and gas operations area for the Well, access road and flow line easements are shown on Exhibit A attached hereto and incorporated herein by this reference ("Oil and Gas Operations Areas").

1.2 Oil and Gas Operations Areas. The Oil and Gas Operations Areas shall be reserved and utilized for the exclusive purpose of any and all Oil and Gas Operations by Noble.

1.3 Compensation. Noble shall not be obligated to pay, and Landowner hereby waives any right to receive, any further surface damage payments, license or use fees, now or in the future, associated with the normal and customary operations of Noble within the Oil and Gas Operation Area.

1.4 Waiver of Certain Requirements. Landowner waives all setback requirements in Colorado Oil and Gas Conservation Commission ("COGCC") Rule 603, or any successor rule or amendment to the COGCC setback rules, and to any other state or local setback requirements or other requirements or regulations that are or become inconsistent with this Agreement or that would prohibit or interfere with the rights of Noble to explore for and produce the oil and gas in accordance with this Agreement. Landowner understands that Noble may cite the waiver in this Section 1.4 in order to obtain a location requirement exception or variance under COGCC rules or from a local jurisdiction. Landowner also agrees that it will not object in any forum to the use by Noble of the surface of the Property consistent with this Agreement and that it will also

provide Noble with whatever support in writing they may reasonably require to obtain permits from the COGCC or any local jurisdiction.

2. SURFACE RECLAMATION. Noble or succeeding oil and gas operators shall be responsible for their respective costs of interim and final reclamation and surface restoration related to such future operations to the extent required by the COGCC.

3. NOTICE OF FUTURE OPERATIONS. Noble shall provide at least seven (7) days prior written notice to Landowner in advance of any operations within the Oil and Gas Operations Areas in connection with the reworking, fracturing, deepening or other unusual or other than routine operations on the Well; provided, however, that Noble shall have immediate access in the event of an emergency.

4. NOTICE TO HOMEOWNERS AND BUILDERS. This Agreement shall serve as notice to homeowners and builders that:

4.1 There will be ongoing Oil and Gas Operations in the Oil and Gas Operations Area;

4.2 Purchasers of all or a portion of the Property, as successors in interest to Landowner, will be acquiring a proportionate interest in Landowner's rights and obligations under this Agreement and will be subject to the waivers contained in this Agreement which, with respect to operations within the Oil and Gas Operations to Section 1.4 above, shall constitute a waiver of the setback requirements provided in Commission Rule 603.e.(6) or any successor or amended state setback rule and also local setback requirements, among other obligations.

5. PRELIMINARY AND FINAL PLATS. The Final Plat prepared by the Landowner as part of the subdivision approval process for the Property shall include the Wells, Pipeline Easements and Access Roads as depicted on the attached Exhibit "A". Within fifteen (15) days of approval by the Weld County of a Final Plat, Landowner shall record a copy of the Final Plat in the real property records of the County of Weld, Colorado.

6. GOVERNMENTAL PROCEEDINGS.

6.1 Landowner shall not, directly or indirectly, oppose or encourage opposition to Noble in any agency, administrative or other governmental proceedings, including but not limited to the COGCC, Weld County or other governing body proceedings, related to the operations of Noble on the Property, including but not limited to drilling and production activities, workovers, well deepenings, recompletions, fracturing, replacement wells and re-fracturing, provided that the position of Noble in such proceedings is not materially inconsistent with this Agreement.

6.2 Noble shall not directly or indirectly oppose or encourage opposition to Landowner in any agency, administrative, or other governing body proceedings, relating to Landowner's operations on and development of the Property, including residential and associated development, provided that Landowner's position in such proceedings is not materially inconsistent with this Agreement.

7. REPRESENTATIONS. Each party represents that it has the full right and authority to enter into this Agreement. Noble represents that it owns the oil and gas leasehold interest in the

Lease as set forth in Recital B under the Property. Noble does not represent and specifically asserts that they do not have the right to bind any other oil and gas leasehold interest owner, mineral owner, lessee or assignee for the Property.

8. SUCCESSORS. The terms, covenants and conditions hereof shall be binding upon and shall inure to the benefit of the Parties and their respective heirs, devises, executors, administrators, successors and assigns. This Agreement and all of the covenants herein shall be covenants running with the land.

9. NOTICES. Any notice or other communication required or permitted under this Agreement shall be sufficient if deposited in the U.S. Mail, postage prepaid to the address in the introductory paragraph of this Agreement. Any party may, by written notice so delivered to the other party, change the address, fax number or individual to which delivery shall thereafter be made.

10. RECORDING. Within fifteen (15) days of the Effective Date, Landowner shall record a copy of this Agreement in the real property records of the County of Weld, Colorado.

11. SURFACE DAMAGES. In consideration of the parties' respective rights, obligations and benefits, as outlined herein, this Agreement shall constitute a surface use or surface damage agreement provided for under the COGCC's Rules and Regulations or under any oil and gas leases covering the Property.

12. APPLICABLE LAW. This Agreement shall be governed by and construed in accordance with the laws of the State of Colorado, without reference to its conflict of laws provisions.

13. ENTIRE AGREEMENT. This Agreement sets forth the entire understanding among the Parties regarding the matters addressed herein, and supersedes any previous communications, representations or agreement, whether oral or written. This Agreement shall not be amended, except by written document signed by all parties.

14. HEADINGS. The section headings contained herein are for convenience in reference and are not intended to define or limit the scope of any provision of this Agreement.

15. NON-WAIVER. Waiver by either party or of the failure of any party to insist upon the strict performance of any provision of this Agreement shall not constitute a waiver of the right or prevent any such party from requiring the strict performance of any provision in the future.

16. SEVERABILITY. Any covenant, condition or provision herein contained that is held to be invalid by any court of competent jurisdiction shall be considered deleted from this Agreement, but such deletion shall in no way affect any other covenant, condition or provision herein contained so long as such deletion does not materially prejudice a party in its rights and obligations contained in valid covenants, conditions or provisions. In the event that any part of this Agreement would otherwise be unenforceable or in conflict with applicable laws due to the term or period for which such part is in effect, the term or period for which such part of this Agreement shall be in effect shall be limited to the longest period allowable which does not cause such part to be unenforceable or in conflict with applicable laws.

17. EFFECTIVE DATE. This Agreement shall become effective as of the date first set forth above.

18. COUNTERPARTS. This Agreement may be executed by facsimile and in any number of counterparts, each of which shall be deemed an original instrument, but all of which together shall constitute but one and the same instrument.

The parties have executed this Agreement as of the day and year first above written.

NOBLE ENERGY, INC., a Delaware Corporation

By: _____

LANDOWNER

By: _____

ACKNOWLEDGMENTS

STATE OF COLORADO)
) ss.
CITY & COUNTY OF DENVER)

The foregoing instrument was acknowledged before me this _____ day of _____, 2014 by _____ as _____ for Noble Energy, Inc., a Delaware corporation, on behalf of that corporation.

Witness my hand and official seal.

_____
Notary Public

My commission expires:

STATE OF _____)
) ss.
COUNTY OF_____)

Before me the undersigned, a Notary Public, in and for said County and State, on this _____ day of _____, 200__, personally appeared _____, as _____ to me known to be the identical person who executed the within and foregoing instrument and acknowledged to me that he executed the same as his free and voluntary act and deed for the uses and purposes therein set forth.

Witness my hand and official seal.

_____
Notary Public

My commission expires:

ERIE WISE PROPERTY
Draft SUA Information

DATE/TIME: 10-17-2014

Encana

1. We have submitted a revised draft Exhibit A, in addition, we received a new CAD base file from Encana, that base file has been incorporated into our submittal. We anticipate receiving an updated agreement, and finalized Exhibit A within the next few weeks.

Anadarko

1. We received a layout for the wells for Anadarko and have incorporated that into our submittal documents. We have prepared and submitted to Anadarko a draft SUA, based on the template that Anadarko provided. Terry Enright has responded that he does not believe there will be too many changes from their end.

Noble

1. We submitted a draft SUA to Noble for their review, we have included a copy.

COMPATIBLE DEVELOPMENT AND SURFACE USE AGREEMENT

This Compatible Development and Surface Use Agreement (this "Agreement") is made and entered into this 31st day of July, 2013 by and betweenWise Homestead, LLC, c/o Jon Kottke ("Owner") with an address of 2975 Valmont Road, Suite 240, Boulder, CO 80301 and Encana Oil & Gas (USA) Inc., a Delaware corporation ("Encana") with an address of 370 17th Street, Suite 1700, Denver, Colorado 80202. Encana and Owner may be referred to as a "Party" or collectively as the "Parties".

RECITALS

A. Owner owns the surface of that tract of land located in the SE/4NW/4 of Section 14, Township 1 North, Range 69 West, Boulder County, Colorado as more particularly delineated on Exhibit A attached hereto (the "Described Premises"), and Owner's right to develop the surface estate and Encana's right to develop the leasehold estate are subject to C.R.S. §34-60-127. All or a portion of the leasehold estate is owned by Encana.

B. Encana is the Operator of the Oil and Gas Leases covering all or parts of the Described Premises, currently operates one or more oil and gas wells ("Existing Wells") on the Described Premises and/or lands pooled therewith, and has the right to develop its oil and gas leasehold estate by drilling additional wells ("Future Wells") on the Described Premises. Existing Wells and Future Wells are sometimes referred to herein individually as a "Well" and collectively as "Wells".

C. Colorado Oil & Gas Conservation Commission ("Commission") rules and regulations allow the owner of the oil and gas rights under the Described Premises to drill, twin, deepen or recomplete a well for production from the Cretaceous Age formations from drilling locations comprised of a square with sides four hundred (400) feet in length, the center of which is the center of any quarter quarter section, and a square with sides eight hundred (800) feet in length, the center of which is the center of any quarter section ("Drilling Location Windows"). Owner and Encana recognize that Encana has the right to a reasonable use of the surface of the Described Premises for oil and gas operations subject to C.R.S. §34-60-127.

D. This Agreement is entered into to specifically designate operations areas, access roads, flowlines, and pipelines to accommodate the surface rights of Owner and Encana.

E. This Agreement provides for and is limited to the compatible development of the surface estate and the oil and gas estate for the Described Premises.

NOW THEREFORE, in consideration of the covenants and the agreements set forth herein, including the representations set forth in the recitals, the parties agree as follows:

1. **Operations.**

a. Encana may commence drilling operations on the Described Premises only after July, 31 2013, and shall cease all operations on June 30, 2015 with the exception of production and maintenance operations on Wells drilled prior to that time. Encana may resume drilling operations on the Described Premises on and after January 1, 2018. After Encana commences drilling the initial Well, Encana will engage in continuous drilling operations for each additional Well until such time as all Wells planned by Encana are drilled and completed. If Encana has commenced drilling operations prior to June 30, 2015, but has not drilled and completed all its planned Wells by June 30, 2015, then Encana may continue to

drill and complete its remaining planned Wells after June 30, 2015 as long as Encana is engaged in continuous drilling operations. For purposes of this Agreement, "continuous drilling operations" shall mean no more than thirty (30) days elapse between the completion of drilling and/or completion of a Well and commencement of drilling and/or completion of the next Well. The drilling and continuous drilling operations periods set forth in this paragraph shall be extended for each day Encana is unable to conduct drilling, completion or other operations on the Described Premises due to force majeure or other events beyond Encana's reasonable control, including the inability to obtain permits or otherwise due to applicable laws, rule, regulations, ordinances, moratoria or court orders.

b. This Agreement shall only apply to the sixteen (16) potential horizontal Future Wells to be drilled from the proposed pad in the SE/4NW/4 of Section 14-1N-69W, Boulder County, CO, and which would extend from the N/2 of Section 14 northward into Section 11-1N-69W, Boulder County, CO. The number of Wells drilled by Encana, if any, shall be determined by Encana in its sole discretion. Any additional Wells to be drilled would require a new or amended agreement between Owner and Encana. If Encana decides to drill less than all sixteen (16) Wells, Encana will notify Owner.

2. **Compensation.** Prior to the commencement of drilling operations on the Described Premises for a Well, Encana shall pay Owner the sum of Ten Thousand Dollars ($10,000) for each horizontal Well and Two Thousand Five Hundred Dollars ($2,500) for each vertical or directional Well ("Damage Amount"). The Damage Amount shall constitute payment in full by Encana and its affiliates for all normal damages, including but not limited to damages to growing crops, associated with the access to and the drilling, construction, completion, recompletion, reworking, re-entry, production, operation and maintenance of the Wells. Normal damages include, but are not limited to, reasonable and customary ingress, egress, rights-of-way, construction of all access roads, preparation and use of the drillsite and Wellsite areas, , and construction, installation and maintenance of production equipment and facilities such as flowlines, gas pipelines, separators, tank batteries and other equipment or facilities necessary or convenient for the production, transportation and sale of oil and/or gas therefrom. If, by reason of Encana's operations, there is damage to personal property located on the Described Premises or there is damage to the surface of the Described Premises caused by the negligence of Encana or its contractors, or if Encana should unreasonably use the surface of the Described Premises in such a manner so as to damage structures, fences, culverts and cement ditches, such damage shall be repaired by Encana or Encana shall promptly pay Owner for such damage.

3. **Drillsite Location and Access.**

a. In consideration of the agreements set forth herein, Encana agrees to limit its future oil and gas operations to those locations depicted on Exhibit B1 identified as "Oil and Gas Operations Area(s)". Oil and gas operations include but are not limited to drilling, completion and maintenance of wells and equipment, production operations, workovers, well recompletions and deepenings, fracturing, twinning, drilling replacement wells, plugging and abandonment operations, location of associated oil and gas production and facilities, drilling of oil and gas wells that produce from and drain the Described Premises as well as lands which are pooled or communitized with the Described Premises, and/or wells that are directionally or horizontally drilled to bottomhole locations outside the Described Premises. The Oil and Gas Operations Areas shall be in the configuration specified as the "Initial Oil and Gas Operations Area" on Exhibit B1 until Encana has drilled and completed all sixteen (16) proposed horizontal Future Wells and reclaimed the area. After Encana has drilled and completed the sixteen (16) proposed horizontal Future Wells and reclaimed the area, the Oil and Gas Operations Areas shall be reduced to the configuration specified as the "Permanent Oil and Gas Operations Area" on Exhibit B1. The Oil and Gas Operations Areas shall be for Encana's exclusive use and Owner shall not develop or construct any improvements, structures or landscaping in the Oil and Gas Operations Areas. Provided however, after such time as the Oil and Gas Operations Areas is reduced to the Permanent Oil and Gas Operations Area,

Owner may, at its sole cost: (i) plant native grasses and other shallow root landscaping within the outer 100 feet of the Oil and Gas Operations Area (the "Permitted Landscaping") and (ii) may irrigate the Permitted Landscaping by sprinkler systems installed on the perimeter of the Oil and Gas Operations Area. Encana shall not be liable for any unintentional damage to the Permitted Landscaping or irrigation systems resulting from its operations.

b. Encana agrees to locate its production facilities within the Oil and Gas Operations Areas provided that Encana is able to expand those facilities, but not the Oil and Gas Operations Areas, to accommodate additional production. Such expansion may involve, among other things, installation and connection of flowlines, installation of additional tank batteries, separators, combustors, vapor recovery units, water and oil tanks. In order to minimize surface use for oil and gas operations, Oil and Gas Operations Areas, access, and pipeline easements may be used by other oil and gas operators so long as Encana has consented to such use in writing (which consent shall not be unreasonabley withheld) and such use does not unreasonably interfere with the use of the Oil and Gas Operations Areas by Encana.

c. Access to the Oil and Gas Operations Areas shall be along the routes depicted on Exhibits B1. Owner agrees to locate curb cut access to the Oil and Gas Operations Areas of no less than forty (40) feet with a turn radius of no less than twenty-two (22) feet in width. Encana shall be assured of uninterrupted access to all the Oil and Gas Operations Areas and no such access may be closed to Encana until an acceptable replacement access route is available.

d. Owner may request a relocation of an access route. All costs and expenses of such relocations will be borne by Owner and agreed to by Encana in advance of any relocation. Encana will designate the contractor to complete the work and Encana will provide Owner with a written estimate of the relocation costs and Owner will remit to Encana prior to the commencement of the relocation work by Encana. Encana will schedule the work with Owner at the time a written estimate is presented to Owner. After completion of the work, Encana will provide to Owner an itemized statement showing the actual cost of the work. If the actual cost of the work is less than the estimate, Encana will pay the difference to Owner within ten (10) days of receipt of the itemized statement. If the actual cost of the work is greater than the estimate, Owner will pay the difference to Encana within ten (10) days of receipt of the itemized statement. Encana will be assured of uninterrupted access to all the Oil and Gas Operations Areas and no such access may be closed to Encana until an acceptable replacement access route is available for use.

e. Encana shall keep the portions of the access roads used exclusively by Encana in good condition and repair; provided, however, Owner agrees to promptly repair any damage to such roads caused by Owner. Owner shall keep the portions of access roads jointly used by both Owner and its subdivision occupants and Encana in good condition and repair until such roads are dedicated to the local jurisdiction; provided, however, if Encana causes damage to a portion of a road that is jointly used by both Encana and Owner or its development occupants and which is constructed to the specifications in section 3.g.(1). Encana agrees to promptly repair any damage that is a direct result of its use of the road.

f. No party shall unreasonably interfere with the use by the other of an access road.

g. <u>Construction and Width of Access Roads</u>.

(1) Access roads or portions of access roads that are jointly used by Encana and Owner shall be thirty (30) feet in width and Owner shall construct or improve all paved or improved joint access roads so as to withstand the weight of oilfield equipment. Specifically, Owner shall construct the roads so that they can be used to withstand the weight of 110,000 pounds and 28,000 pounds per axle. If the requirements set forth in this paragraph for joint access roads exceed the standards required by the the County or other applicable local jurisdiction, then Owner shall be responsible for the costs to

construct or improve the joint roads to County or other applicable local jurisdiction standards and Encana shall be responsible for the additional costs, if any, to meet the standards set forth in this paragraph.

(2) Access roads or portions of access roads that are used exclusively by Encana shall be thirty (30) feet in width and Encana shall install and maintain them to Commission standards that apply to oil and gas operations and shall maintain them according to local regulations.

h. Encana shall install and maintain in good condition, a fence around the wells drilled within the Oil and Gas Operations Areas that meet the Commission's fencing and landscaping requirements. The Parties shall use good faith efforts to agree upon a fencing design that is compatible with the design and quality of the intended surface development provided that the fencing is operationally, technically and economically feasible, practicable and reasonable and does not interfere with Encana's operations and does not violate Commission rules.

i. Owner shall not erect a fence which interferes with Encana's access, flowlines, pipelines, Oil and Gas Operations Areas or to the Existing Wells.

j. No compressors shall be located on the leased premises, except for wellhead compressors necessary to transport gas from the leased premises to the border thereof.

k. There shall be no pits on the Described Premises.

l. There shall be no disposal of oilfield waste on the Described Premises and there shall be no wells drilled thereon for injection of produced water, flow back fluids, or other liquid waste.

4. **Pipelines, Flowlines and Pipeline Easements.**

a. Owner acknowledges and understands that Encana has the right to continue to use the flowlines, pipelines and pipeline easements that it is currently utilizing to service the Existing Wells and to construct, repair, maintain and replace the flowlines and pipelines. All new pipelines and flowlines shall be placed in the Oil and Gas Operations Area.

b. ~~Easements for flowlines and pipelines to be installed in the future shall be at the approximate locations as shown on Exhibit B, and such~~ flowlines and pipelines shall be installed to a minimum depth of forty eight (48) inches below the surface of the ground. SMW ACW TMC

c. Locations of existing and future flowlines, pipelines and easements may be changed at the request of Owner provided that the change does not interfere with oil and gas operations and is paid for by Owner. In the event that Owner requests the relocation of an existing pipeline or flowline, Encana will provide Owner with a written estimate of the relocation costs. Owner will remit to Encana prior to the commencement of the relocation work. Encana will designate the contractor to complete the work and schedule the work with Owner at the time a written estimate is presented to Owner. After completion of the work Encana will provide to Owner an itemized statement showing the actual cost of the work. Should the actual cost of the work be less than the estimate, Encana will pay the difference to Owner. Should the actual cost of the work be greater than the estimate, Owner will pay the difference to Encana within ten (10) days of receipt of the itemized statement. Portions of the easements covering the relocated pipelines or flowlines and no longer used shall be quitclaimed to Owner upon Owner's request.

d. All current and future flowline and pipeline easements shall be fifty (50) feet in width during

original construction activities and thirty (30) feet in width for all other operations, maintenance and transportation activities.

e. Owner shall have the right to cross the pipeline easements at approximately right angles (or at another angle with Encana's written consent, which will not be unreasonably withheld), and Owner shall also have the right to install and maintain access to such easements for utility lines, including those for water, gas, sewer, electric, telephone, cable, television and fiber optic and other pipelines that travel along, but not within, the pipeline easements provided for herein; provided however, *i)* any new underground facilities which travel along a pipeline easement identified herein shall be located a distance horizontally of at least ten (10) feet from parallel existing pipelines; *ii)* any new underground facilities shall have at least twenty-four (24) inches of vertical clearance between such new facility and a pipeline provided for herein; and *iii)* any overhead power lines shall be at least twenty (20) feet above the ground. Owner shall pay Encana all costs and expenses incurred by Encana to encase its pipelines and flowlines, other than those encroachments related to the proposed access points off of Jasper Road specifically shown on Exhibit C, to the extent that such pipelines and flowlines intersect and underlie any street or any other road either in advance of or at the time that Owner commences construction of any street and/or such other road, at the place where the Encana pipelines and flowlines intersect with any street or such other road.

f. Under no circumstances shall Owner prohibit Encana from flowing gas through its flowlines and pipelines at any time.

g. Owner shall maintain a minimum ground cover of 48 inches and not more than 72 inches over pipelines and flowlines in the conduct of its operations and its construction activities on the Described Premises.

h. Owner, its successors and assigns, hereby agrees to cooperate, with such cooperation at Owner's sole cost and expense, with Encana in its efforts to obtain all necessary permits, licenses and other approvals from state, county and municipal authorities for applications to drill all future wells.

i. Encana is evaluating the construction and use of a centralized oil, gas and water gathering and handling facility near the Described Premises ("Proposed Facility"). Nothing in this Agreement shall commit or obligate Encana to construct, operate and/or use the Proposed Facility for the Wells and Owner understands and acknowledges that Encana may not constuct or use the Proposed Facility for any reason. To accommodate the possible use of the Proposed Facility, Owner shall grant to Encana an additional pipeline easement of 50 feet for one (1) or more pipelines at a mutually agreed upon location on the Described Premises for the transportation or transmission of oil, gas, petroleum products, water, hydrocarbons and any other related substances from the Wells (the "Facility Pipeline Easement"). The location of the Facility Pipeline Easement shall be agreed upon before Owner submits its subdivision plats and other development applications with the applicable local juridictions. Owner shall identify the Facility Pipeline Easement on its subdivision plats and in all applications for development that it files with a local jurisdiction pursuant to Paragraph 6 below, and in addition, if requested by Encana, Owner will execute a separate easement agreement for Encana to record. If Encana constructs the Proposed Facility and uses it for the Wells, then Encana and Owner shall amend this Agreement to reduce the size of the Permanent Oil and Gas Operations Area to that shown on Exhibit B-2. If Encana elects not to construct or use the Proposed Facility or is unable to use the Proposed Facility for the Wells (which may be for any reason), then the Oil and Gas Operations Areas shall remain as set forth in Exhibit B-1 and at such time Encana shall vacate the Facility Pipeline Easement.

5. **Surface Construction Activities.** Owner shall notify Encana at least twenty (20) days before Owner intends to commence construction activities where it will utilize heavy equipment or other equipment that may cause damage to the Encana's flowlines or pipelines. Owner shall pay Encana mutually agreed upon shut-in payments if Encana shuts-in any Wells due to Owner's surface development activities. Owner shall pay Encana all costs that Encana incurs to change electrical equipment at an Oil and Gas Operations Areas where Encana is required to make the change because of the impending or actual surface development of the Described Premises.

6. **Subdivision Plat.** Owner shall identify the Oil and Gas Operations Areas (both Initial and Permanent Oil and Gas Operations Area) and all access and pipeline easements on its subdivision plats and in all applications for development that it files with a local jurisdiction, and the plats shall include restrictions that no temporary or permanent buildings, structures, or other improvements shall be located, constructed or installed within the Oil and Gas Operations Areas. Owner shall record the subdivision plat in the Office of the Clerk and Recorder of Boulder County and provide written evidence to Encana within fifteen (15) days of recording.

7. **Accommodation of Surface Use.** Owner expressly acknowledges that this Agreement satisfies the obligations and requirements of Encana pursuant to Colorado Oil and Gas Conservation Commission rules and regulations and Colorado statutes to consult in good faith with Owner regarding proposed oil and gas operations on the Described Premises. Owner expressly acknowledges that this Agreement shall be deemed to be specifically applicable to, and to satisfy fully, the obligation of Encana to accommodate the Owner's use of the surface of the Described Premises, existing and future, and Owner waives any statutory or common law claims to the contrary including, but not limited to, any claims pursuant to C.R.S. 34-60-127. Owner also acknowledges and agrees that Encana has fully complied with all other applicable governmental regulations and statutes, if any, relating to the settlement of the damages contemplated in this Agreement.

8. **Waiver of Surface Damage Payments.** Except as provided in Paragraph 2 above, Owner, for itself and its successors and assigns, in consideration of the Damage Amount does hereby release, relinquish and discharge Encana, its affiliates, successors and assigns from all claims, demands, damages, liabilities and causes of action that Owner may have by reason of the drilling of the Wells and all other damage or injury to the Described Premises caused by the drilling, completion, recompletion, reworking, re-entry, production, operation and maintenance of the Wells and all associated pipelines, tank batteries and other facilities, and Owner accepts the Damage Amount as full compensation therefor.

9. **Waiver of Setbacks and Other Requirements.** Owner understands and acknowledges that the Commission has rules and regulations that apply to the distance between a wellhead and public roads, production facilities, building units and surface property lines, among other things. To the extent permitted by law or regulations, Owner hereby waives all setback requirements in Commission Rules 603, 604 and 318A., or other rule or amendment to the Commission setback rules, and to any other state or local setback requirements, or other requirements or regulations, that are or become inconsistent with this Agreement or that would prohibit or interfere with the rights of Encana or its lessees and assignees to explore for and produce oil and gas in accordance with this Agreement. Owner understands, and shall notify parties who purchase all or portions of the Described Premises from Owner, that Encana may cite the waiver in this section 9 in order to obtain a location requirement exception or variance under Commission rules or from a local jurisdiction.

10. **Governmental Proceedings.**

a. Owner Will Not Object. Owner agrees that it will not object in any forum to the use by Encana of the surface of the Described Premises consistent with this Agreement and hereby waives any such right to object. Owner further agrees that it will provide such other written approvals and waivers

which are reasonably requested by Encana and consistent with this Agreement, including, but not limited to, all approvals and waivers to drill a well or to conduct oil and gas operations on the Described Premises that are needed because of any law or regulation, including any local ordinance and regulations of the Commission, and including, for example, waivers to state and local setback requirements and to any setback requirements from a surface Described Premises line or for an exception location.

b. Encana Will Not Object. Encana agrees that it will not object in any forum to a request by Owner to annex, zone, rezone, plat or replat all or any portion of the Described Premises, or to Owner's sale or development of all or portions of the Described Premises, to the extent such request, sale or development is consistent with this Agreement.

11. **Notices of Hearings.** Owner shall provide Encana with written notice not less than thirty (30) days before each hearing for consideration of a plat application or other land use application for the Described Premises or portions of the Described Premises that is to be held before the County or other local jurisdiction.

12. **Notice to Commercial and/or Retail Builders and/or other Developers.** Owner shall furnish all builders, developers and retailers which purchase all or any portion of the Described Premises and each person or entity who proposes to enter into a contract to purchase, lease or otherwise own any portion of the Described Premises which is adjacent to or any part of which is within 350 feet from an Oil and Gas Operations Areas or a pipeline easement, with a plat that shows the locations of the Oil and Gas Operations Areas, access routes, and pipeline easements. In addition, Owner shall provide written notice to all such purchasers that includes the following:

a. There may be ongoing oil and gas operations and production on the surface of the Described Premises within the Oil and Gas Operations Areas, pipeline easements and access routes;

b. There are likely to be wells drilled and oil and gas production facilities constructed and installed within the Oil and Gas Operations Areas and flowlines and pipelines constructed and maintained on the Described Premises;

c. Heavy equipment will be used by Encana from time to time for oil and gas drilling and production operations and such operations may be conducted on a 24-hour basis; and

d. Commercial and retailer associations and/or buyers of individual portions of the Described Premises will be subject to and burdened by all of the covenants and waivers made by Encana and Owner in this Agreement, including, but not limited to those covenants and waivers; *i)* prohibiting the location of any building, structure, or other improvement within the Oil and Gas Operations Areas; *ii)* waiving objections to the drilling of wells, the construction of facilities, and the conduct of oil and gas operations on the Described Premises consistent with this Agreement; and *iii)* waiving objections to the setback requirements under the rules of the Commission or any local jurisdiction.

13. **Notice of Oil and Gas Operations.** Encana shall provide Owner with notice of drilling operations and subsequent well operations in accordance with Commission rules and regulations.

14. **Notice of Construction Activities by Owner.** Owner shall provide Encana with thirty (30) days written notice prior to commencement of any dirt work, grading or other surface construction activities it will be conducting on the Described Premises. Owner shall meet with Encana representatives at the Described Premises to locate existing flowlines, gathering lines or pipelines and to coordinate proposed surface construction activities with current and prospective oil and gas operations.

15. **Impact Mitigation.**

a. Encana Mitigation. Encana agrees that it will install and maintain at its sole cost and expense such fences, gates and locks around the wells and production facilities as are required by the

Commission. Owner may upgrade fences, gates and locks at its expense and with the consent of Encana, such consent not to be unreasonably withheld, provided that such fences, gates and locks comply with Commission and local regulations. Encana shall, at its sole cost and expense, install noise and visual impact mitigation measures which are required by local governmental regulations and Commission regulations for areas of high density.

b. Owner Mitigation. Owner shall bear all costs and expense to install such noise and visual impact mitigation measures it desires or the County or other local jurisdiction requires at or around the Oil and Gas Operations Areas which are in excess of or in addition to those measures which are required by Commission regulations for areas which are high density; provided, however, Encana shall have reasonable discretion to refuse to allow impact mitigation measures which interfere with, or prevent, safe oil and gas operations.

16. **Authority to Execute Agreement.** Each party represents that it has the full right and authority to enter into this Agreement with respect to the surface rights or oil and gas interests or oil and gas leasehold interests that it owns in the Described Premises, as applicable. Owner warrants that Owner is the owner of the entire surface of the Described Premises and that only Owner, and no other party, is entitled to payment for damages to the surface of the Described Premises as provided for in this Agreement.

17. **No Waiver of Rights.** Encana does not waive the rights it has pursuant to its oil and gas interests to explore for, drill and produce the oil and gas underlying the Described Premises or for ingress and egress to the Oil and Gas Operations Areas, and Owner does not waive the ownership rights it has, except as specifically provided in this Agreement.

18. **Successors and Assigns.** This Agreement and all of the covenants in it shall be binding upon the successors and assigns of the parties and the benefits of this Agreement shall inure to their successors and assigns. This Agreement and all of the covenants in it shall be covenants running with the land.

19. **Recording.** Encana shall record a Memorandum of this Agreement with the Clerk and Recorder of Boulder County and provide evidence to Owner of the recording.

20. **Governing Law.** The validity, interpretation and performance of this Agreement shall be governed and construed in accordance with the laws of the State of Colorado without reference to its conflicts of laws provisions.

21. **Severability.** If any part of this Agreement is found to be in conflict with applicable laws, such part shall be inoperative, null and void insofar as it conflicts with such laws; however, the remainder of this Agreement shall be in full force and effect. In the event that any part of this Agreement would otherwise be unenforceable or in conflict with applicable laws due to the term or period for which such part is in effect, the term or period for which such part of this Agreement shall be in effect shall be limited to the longest period allowable which does not cause such part to be unenforceable or in conflict with applicable laws.

21. **Notices.** Any notice or other communication required or permitted under this Agreement shall be given in writing either by; i) personal delivery; ii) expedited delivery service with proof of delivery; iii) United States mail, postage prepaid, and registered or certified mail with return receipt requested; or iv) prepaid telecopy or fax, the receipt of which shall be acknowledged, addressed as follows:

Encana:	Owner:
Encana Oil & Gas (USA) Inc. 370 17th Street, Suite 1700 Denver, Colorado 80202 Attn: DJ Land Department	Wise Homestead, LLC c/o Jon Kottke 2975 Valmont Road, Suite 240 Boulder, CO 80301

22. **Incorporation of Exhibits.** Exhibits A, B-1, B-2 and C are incorporated into this Agreement by this reference.

23. **Entire Agreement.** This Agreement sets forth the entire understanding between the parties and supersedes any previous communication, representation or agreement, whether oral or written. No change of any of the terms or conditions herein shall be valid or binding on any party unless in writing and signed by an authorized representative of both parties.

24. **Counterpart Executions.** This Agreement may be executed in counterparts, each of which shall be deemed an original

IN WITNESS WHEREOF, the undersigned parties have caused this Agreement to be executed by a duly authorized representative on the day and year first above written.

ENCANA OIL & GAS (USA) INC.

By _____
Helen M. Capps, Attorney-in-Fact

WISE HOMESTEAD, LLC

By _____
Sarah Allene Wise, Manager

By _____
Alan C. Wise, Manager

ACKNOWLEDGEMENTS

STATE OF COLORADO)
)ss
CITY AND COUNTY OF DENVER)

On this 31st day of July, 2013, before me personally appeared Helen M. Capps, who, being by me duly sworn, did say that she is an Attorney-in-Fact for Encana Oil & Gas (USA) Inc., that he signed the foregoing instrument on behalf of said corporation and acknowledged the instrument to be the free and voluntary act and deed of said corporation for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I hereunto set my hand and affixed my official seal the day and year first above written.

My Commission Expires: Dec 20, 2015

(SEAL) Notary Public:

STATE OF COLORADO)
)ss
CITY AND COUNTY OF BOULDER)

On this 31st day of JULY, 2013, before me personally appeared SARAH ALLENE WISE, who, being by me duly sworn, did say that he is MANAGER for WISE HOMESTEAD, LLC, that he signed the foregoing instrument on behalf of said corporation and acknowledged the instrument to be the free and voluntary act and deed of said corporation for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I hereunto set my hand and affixed my official seal the day and year first above written.

My Commission Expires: 10/24/2015

(SEAL) JON F. KOTTKE NOTARY PUBLIC STATE OF COLORADO

Notary Public:

STATE OF COLORADO)
)ss
CITY AND COUNTY OF BOULDER)

On this 31st day of JULY, 2013, before me personally appeared ALAN C. WISE, who, being by me duly sworn, did say that she is MANAGER for WISE HOMESTEAD, LLC, that she signed the foregoing instrument on behalf of said corporation and acknowledged the instrument to be the free and voluntary act and deed of said corporation for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I hereunto set my hand and affixed my official seal the day and year first above written.

My Commission Expires: 10/24/2015

(SEAL)

JON F. KOTTKE NOTARY PUBLIC STATE OF COLORADO

Notary Public: J. F. Kottke

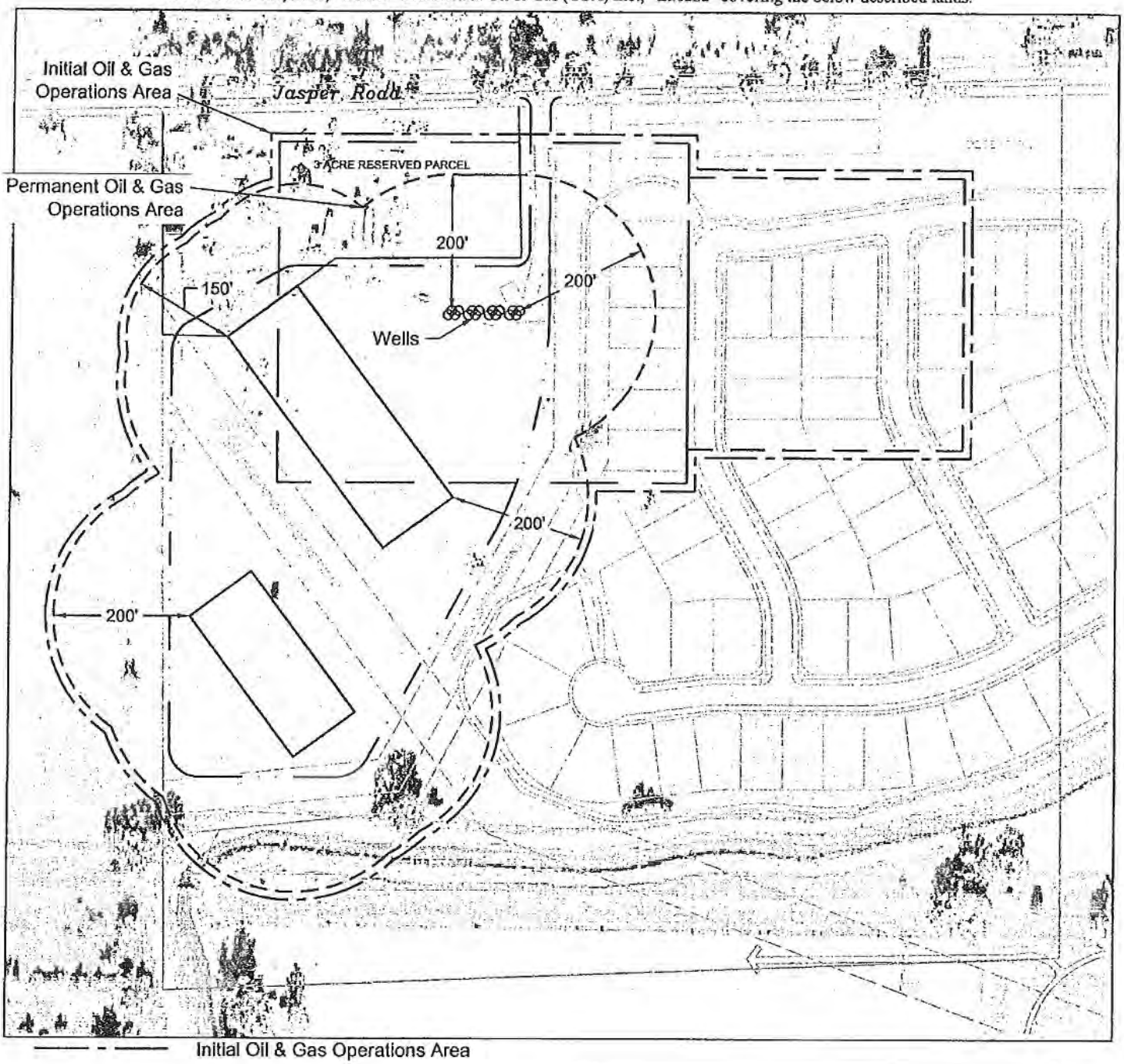
EXHIBIT "A"

Attached hereto and made a part hereof that certain Compatible Development and Surface Use Agreement dated the 31st day of July, 2013, by and between Wise Homestead, LLC, "Owner" and Encana Oil & Gas (USA) Inc., "Encana" covering the below described lands.

The Southeast quarter of the Northwest quarter of Section 14, Township 1 North, Range 69 West, 6th Principal Meridian; less that portion South of the Union Pacific Railroad right-of-way and containing 32.84 acres, more or less.
County of Boulder, State of Colorado

EXHIBIT "B-1"

Attached hereto and made part hereof that certain Compatible Development and Surface Use Agreement dated the 31st of JULY, 2013, by and between Wise Homestead, LLC, "Owner" and Encana Oil & Gas (USA) Inc., "Encana" covering the below described lands.



Initial Oil & Gas Operations Area

Access Roads

Well site

Completions Area: temporary during drilling and completions

Facilities Area

Permanent Oil & Gas Operations Area

encana

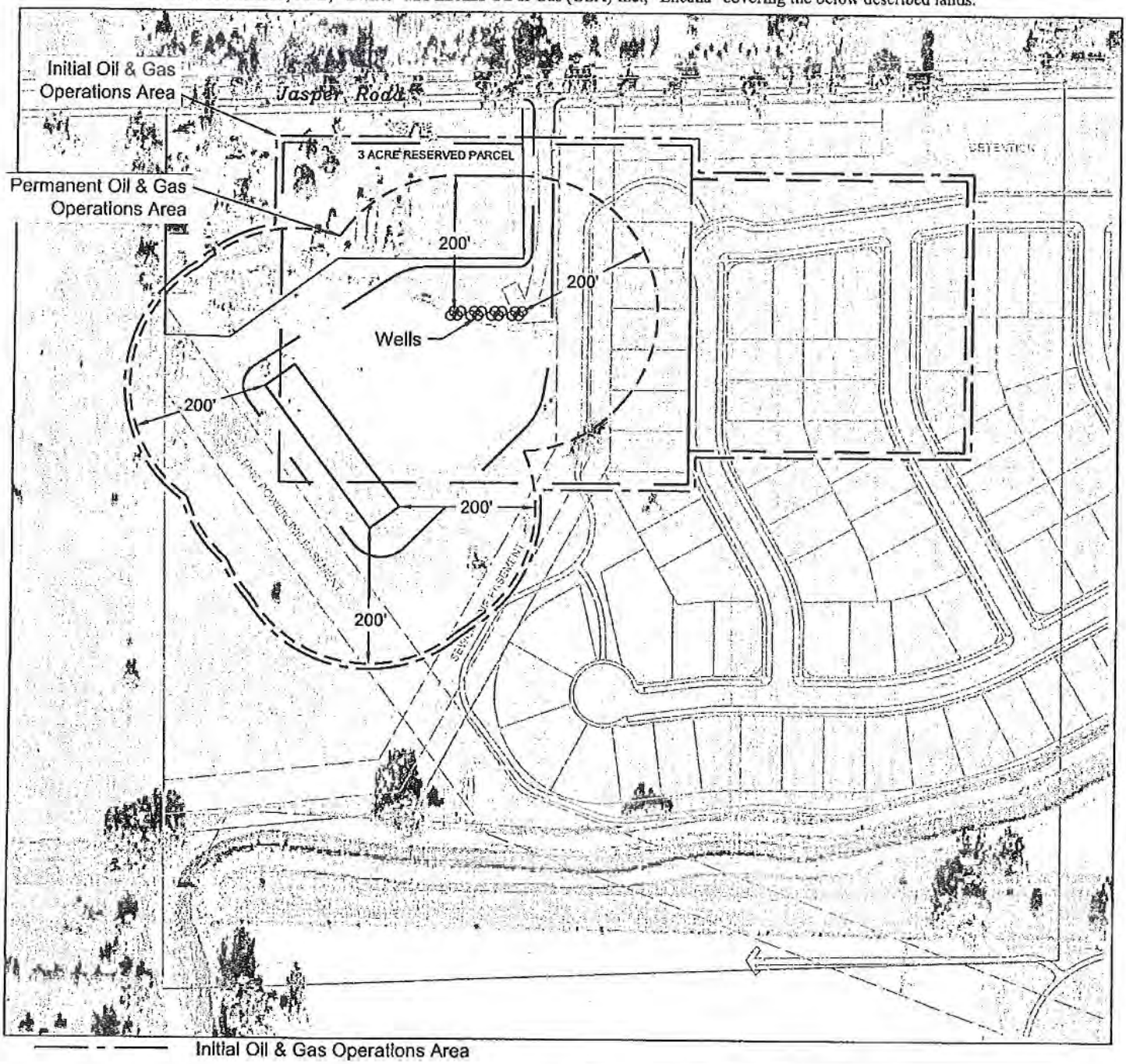
TOWNSHIP 1 NORTH, RANGE 69 WEST
SECTION 14: SENW

BOULDER COUNTY, COLORADO

JULY 31, 2013

EXHIBIT "B-2"

Attached hereto and made part hereof that certain Compatible Development and Surface Use Agreement dated the 31st of July, 2013, by and between Wise Homestead, LLC, "Owner" and Encana Oil & Gas (USA) Inc., "Encana" covering the below described lands.



Initial Oil & Gas Operations Area

Access Roads

Well site

Completions Area: temporary during drilling and completions

Facilities Area

Permanent Oil & Gas Operations Area

encana

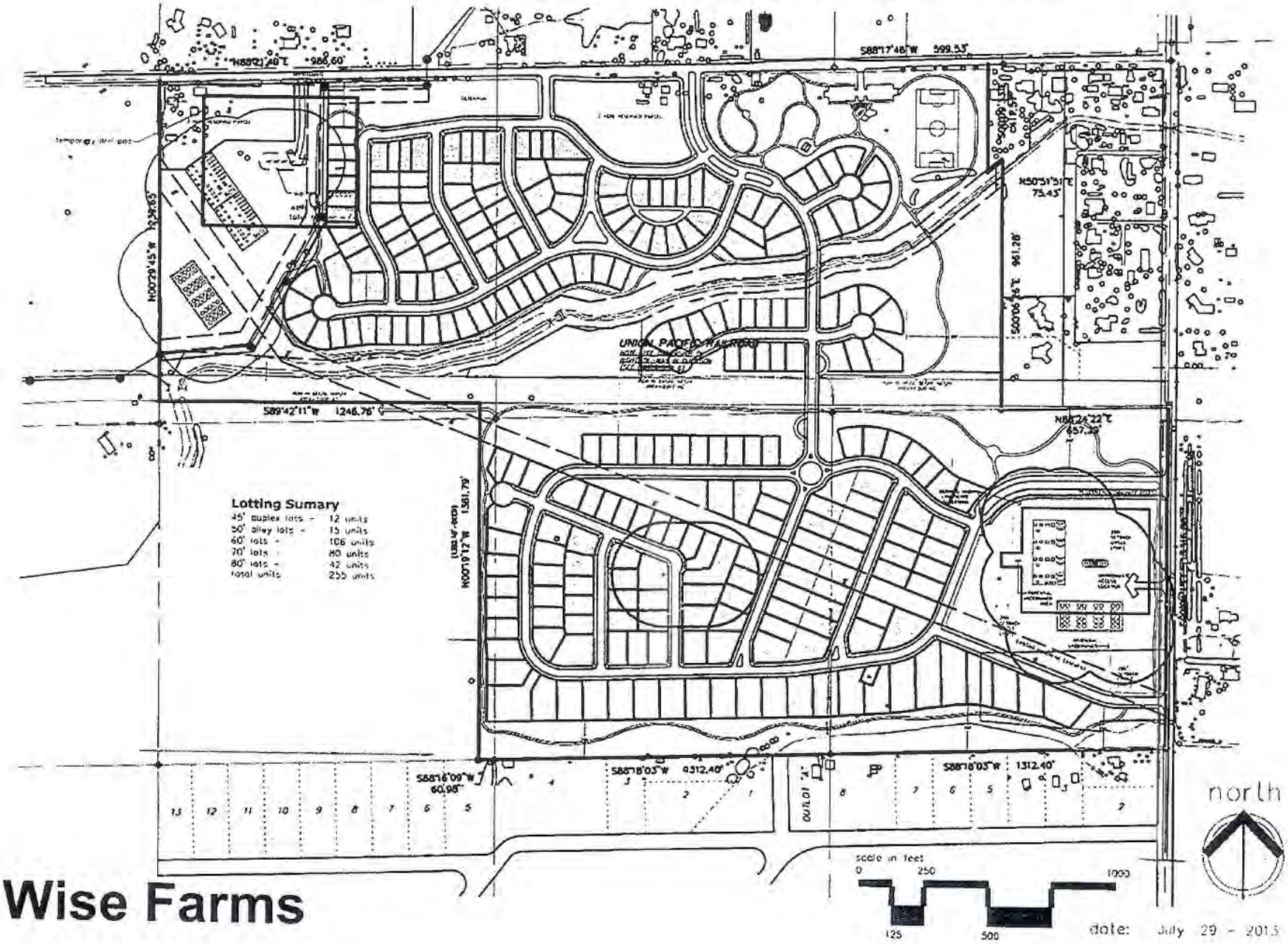
TOWNSHIP 1 NORTH, RANGE 69 WEST
SECTION 14: SENW

BOULDER COUNTY, COLORADO

JULY 31, 2013

Exhibit "C"

Attached hereto and made a part hereof that certain Compatible Development and Surface Use Agreement dated the 31st day of July, 2013, by and between Wise Homestead, LLC, "Owner" and Encana Oil & Gas (USA) Inc., "Encana" covering the below described lands.



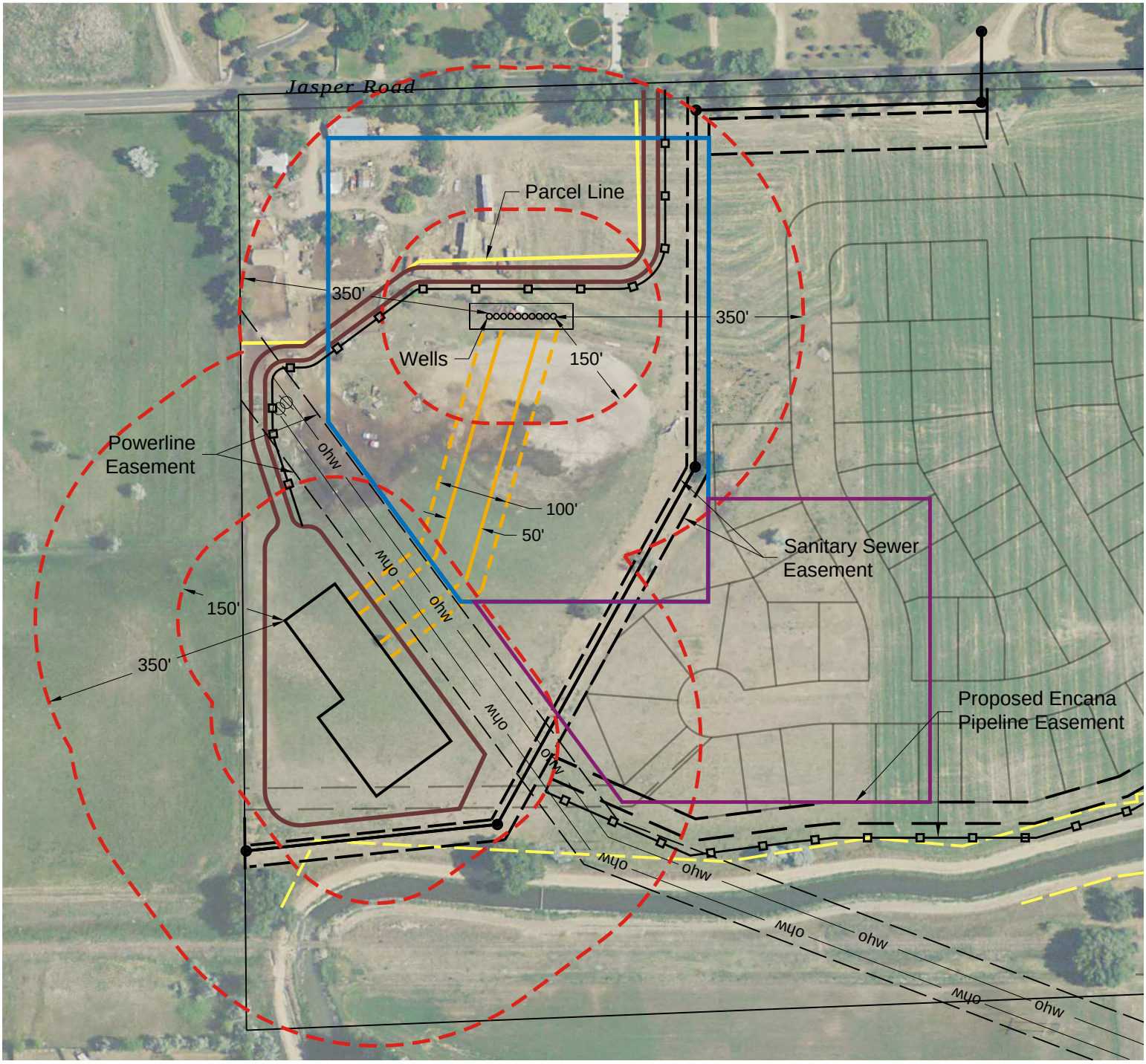
Wise Farms

date: July 29 - 2013

EXHIBIT " "

Attached hereto and made part hereof that certain Amended Compatible Development and Surface Use Agreement dated the of , 2014, by and between

Wise Homestead, LLC, and Encana Oil & Gas (USA) Inc.



Completions Area: temporary during drilling and completions

Facilities Area

Access Roads

Electric Line

100' Temporary Construction Flowline Easement

Proposed 50' Permanent Flowline Easement

Wellsite

Setback

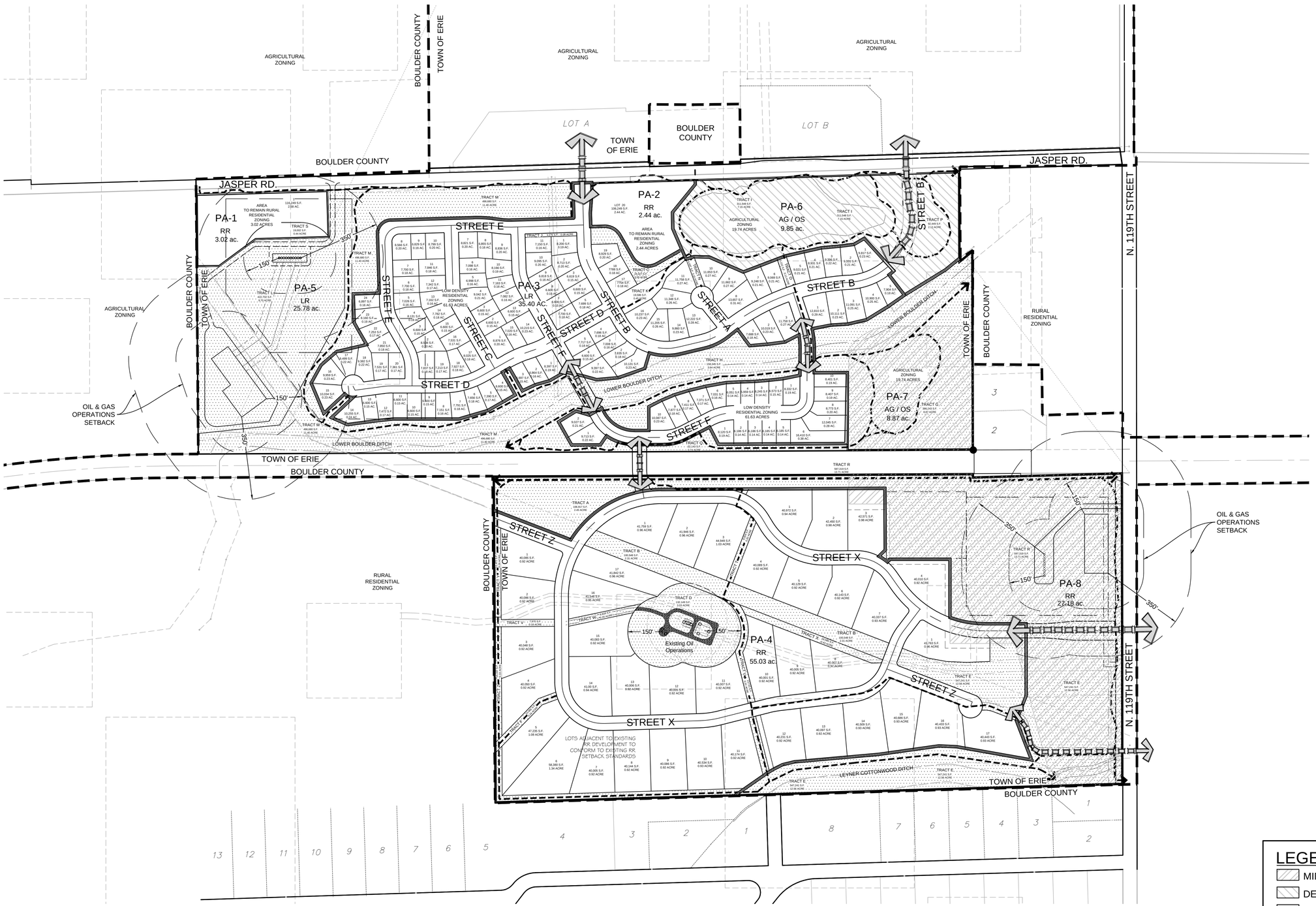
encana

TOWNSHIP 1 NORTH, RANGE 69 WEST
SECTION 14: SENW

BOULDER COUNTY, COLORADO

SCALE: 1"= 200'

OCTOBER 31, 2014



LEGEND

- MINING SUBSIDENCE AREA
- DEDICATED PUBLIC OPEN SPACE
- PRIVATE OPEN SPACE
- TRAIL CONNECTIONS
- OIL & GAS SETBACKS
- EASEMENT ACCESS
- ACCESS

No.	Revisions	Date	Init.	Date	Appr.

10333 E. Dry Creek Rd.
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546

CVL CONSULTANTS

JASPER LAND INVESTMENTS, LLC
9162 S. KENWOOD COURT
HIGHLANDS RANCH, CO 80126

WISE FARMS
PLAT, PUD, AND ZONING EXHIBIT

SCALE: AS SHOWN
FILE NO: 8.13.0230801
DRAWN BY: BPW
CHECKED BY: MEL
DATE: DECEMBER 2014
SHEET NUMBER 1