FORM 15 Rev 6/99

01642083

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109

RECEIVED
DEC 14 2010
COGCC/Rifle Office

EARTHEN PIT REPORT/PERMIT

This form is to be used for both reporting and permitting pits. Rule 903 describes when a Permit with prior approval, or a Report within 30 days, is required for pits. Submit required attachments and forms.

Complete the Attachment Checklist

	Oper	OGCC
Detailed Site Plan	✓	
Topo Map w/ Pit Location	✓	
Water Analysis (Form 25)		
Source Wells (Form 26)	✓	
Pit Design/Plan & Cross Sect	✓	
Design Calculations	✓	
Sensitive Area Determ.	✓	
Mud Program		
Form 2A	✓	

FORM SUBMITTED FOR:

☐ Pit Report ☑ Pit Permit

OGCC Operator Number: 10335
Name of Operator: Axia Energy
Address: 1430 Larimer, Suite #400
City: Denver State: CO Zip: 80202

Contact Name and Telephone:
Jess A Peonio
No: 720-746-5212
Fax: 720-746-5201

API Number (of associated well): _____ OGCC Facility ID (of other associated facility): 421047
Pit Location (QtrQtr, Sec, Twp, Rng, Meridian): SWSE, Sec 23, Twp 9S, Rng 95W, 6th PM
Latitude: 39.256071 Longitude: 107.956503 County: Mesa
Pit Use: ☐ Production ☐ Drilling (Attach mud program) ☑ Special Purpose (Describe Use): Multi-well pit
Pit Type: ☑ Lined ☐ Unlined Surface Discharge Permit: ☐ Yes ☑ No
Offsite disposal of pit contents: ☐ Injection ☐ Commercial Pit/Facility Name: N/A Pit/Facility No: N/A
Attach Form 26 to identify Source Wells and Form 25 to provide Produced Water Analysis results.

Existing Site Conditions

Is the location in a "Sensitive Area?" ☑ Yes ☐ No **Attach data used for determination.**
Distance (in feet) to nearest surface water: ~ 100' ground water: ~ 80' water wells: ~ 1400'

LAND USE (or attach copy of Form 2A if previously submitted for associated well) Select one which best describes land use:

Crop Land: ☐ Irrigated ☐ Dry Land ☐ Improved Pasture ☐ Hay Meadow ☐ CRP
Non-Crop Land: ☑ Rangeland ☐ Timber ☐ Recreational ☐ Other (describe): _____
Subdivided: ☐ Industrial ☐ Commercial ☐ Residential

SOILS (or attach copy of Form 2A if previously submitted for associated well)

Soil map units form USNRCS survey: Sheet No: _____ Soil Complex/Series No: 23 & 58
Soils Series Name: 23 - Clapper very stony loam, 25 to 65% slopes Horizon thickness (in inches): A: 3 ; B: 9 ; C: 14
Soils Series Name: 58 - Peninsula loam, 3 to 9% slopes Horizon thickness (in inches): A: 4 ; B: 15 ; C: 9
Attach detailed site plan and topo map with pit location.

Pit Design and Construction

Size of pit (feet): Length: 270' Width: 205' Depth: 15'
Calculated pit volume (bbls): 102,500 Daily inflow rate (bbls/day): Varies
Daily disposal rates (attach calculations): Evaporation: N/A bbls/day Percolation: N/A bbls/day
Type of liner material: polysynthetic Thickness: 1-30 mil liner, 1-45 mil liner
Attach description of proposed design and construction (include sketches and calculations).
Method of treatment of produced water prior to discharge into pit (separator, heater treater, other): separator, filter
Is pit fenced? ☑ Yes ☐ No Is pit netted? ☐ Yes ☑ No See COA 49

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.
Print Name: Jess A Peonio Signed: Jess Peonio
Title: Sr. Drilling Engineer/Regulatory Manager Date: 11/23/10

OGCC Approved: David Kubeczko Title: Location Assessment Specialist Date: 3-3-11

CONDITIONS OF APPROVAL, IF ANY:

See Attached:

FACILITY NUMBER: 427607

CD 2/9/12

Scan No 2033537 Form 15 Pit Permit Form 2A#400111757

Axia Energy, Compressor and Water Handling Facility, SWSE Sec 23 T9S R95W, Mesa County, Form 15 Pit Permit Conditions of Approval, Associated Form 2A#400111757

COA 4 - Location is in a sensitive area because of its proximity to surface water; therefore, operator must ensure 110 percent secondary containment for any volume of fluids contained at the water handling facility site during natural gas development activities and operations; including, but not limited to, construction of a berm or diversion dike, diversion/collection trenches within and/or outside of berms/dikes, site grading, or other comparable measures (i.e., best management practices (BMPs) associated with stormwater management) sufficiently protective of nearby surface water. Any berm constructed at the well pad location will be stabilized, inspected at regular intervals (at least every 14 days), and maintained in good condition.
COA 5 - Operator must implement best management practices to contain any unintentional release of fluids, including any fluids conveyed via buried or temporary surface pipelines.
COA 90 - Notify COGCC Oil and Gas Location Assessment (OGLA) Specialist for Western Colorado (Dave Kubeczko; email dave.kubeczko@state.co.us) and the COGCC Field Inspection Supervisor for Northwest Colorado (Shaun Kellerby; email shaun.kellerby@state.co.us) 48 hours prior to start of construction.
COA 39 - No portion of any pit that will be used to hold liquids shall be constructed on fill material, unless the pit and fill slope are designed and certified by a professional engineer, subject to review and approval by the director prior to construction of the pit. The construction and lining of the pit shall be supervised by a professional engineer or their agent. The entire base of the pit must be in cut.
COA 47 - The completion/flowback fluids multi-well pit must be double-lined. The pit will also require a leak detection system (Rule 904.e).
COA 48 - Operator must submit a professional engineer (PE) approved/stamped as-built drawing (plan view and cross-sections) of the completion/flowback pit within 14 calendar days of construction.
COA 49 - The completion/flowback fluids multi-well pit must be fenced. If the completion/flowback pit is not closed (either drained and/or backfilled) immediately after natural gas development activities, then operator must appropriately net the completion/flowback pit, in a timely manner, and maintain the fencing and netting until the pit is closed in accordance with Rule 905. Closure of Pits, and Buried or Partially Buries Produced Water Vessels.
COA 25 - Flowback and stimulation fluids must be sent to tanks to allow the sand to settle out before the fluids can be placed into any pipeline or pit located on the facility pad. The flowback and stimulation fluid tanks must be placed on the pad in an area with additional downgradient perimeter berming. The area where flowback fluids will be stored/reused must be constructed to be sufficiently impervious to contain any spilled or released material (per Rule 604.a.(4)).
COA 91 – At the time of pit closure, operator must submit disposal information via a Form 4 Sundry Notice to the COGCC Loacation Specialist for Western Colorado (Dave Kubeczko; email dave.kubeczko@state.co.us). The disposal method will need to be approved prior to operator starting pit closure. In addition, operator will collect a pit water sample and, at a minimum, analyze for the following parameters: pH; alkalinity; specific conductance; major cations/anions (chloride, fluoride, sulfate, sodium); total dissolved solids (TDS); BTEX/DRO; TPH; PAH's (including benzo[a]pyrene); and metals (arsenic, barium, calcium, chromium, iron, magnesium, selenium). At the time of closure/disposal of pit water, COGCC may require additional analytes, as appropriate.

COGCC FORM 15

EARTHEN PIT PERMIT

SUPPLEMENTAL INFORMATION

Pit Name –Axia Water Handling Pit

Axia Energy (Operator Number 10335)

November, 2010

This supplement to the COGCC Form 15 for Axia Energy's (Axia) proposed Axia Water Handling Pit provides additional information required by COGCC Rules 902, 903, and 904. This information is identified in the following sections by reference to the applicable section of these rules.

This pit is a component of Axia's water management and reuse system. This pit is not used for the disposal of water. This pit will be used to store water that is produced from drilling, water handling and production operations associated with natural gas wells. Water is transported to the pit via pipelines from producing well sites. The water is stored in the pit and then transported to other well sites for natural gas development activities via pipeline.

A topographic map with the pit location is included in **Figure 1**.

902.a.

The pit has been designed with features to prevent spills or leaks from impacting the environment. The implementation of Axia's Stormwater Management Plan (Certification number COR03H037, **Attachment A**) and the operational policies and procedures described in this supplement are designed to minimize the risk to the environment and accommodate rapid response in the event of an accidental spill or release of fluids.

All transfers of water into and out of the pit will monitored by personnel during the entire transfer operation to ensure that adequate freeboard (minimum of 2 feet) is maintained in the pit at all times. The leak detection system in the pit will be checked at least once per week and, in the event that a leak is detected, the pit will be drained as quickly as possible so that the source of the leak can be determined.

902.b.

Axia's pits have been designed to provide for a minimum of two (2) feet of freeboard at all times. Pit design and cross section details, calculation details, and a copy of the source well(s) (Form 26), are included in **Attachment B**. Monitoring and maintaining free board is addressed as part of Axia's regular operations. Spills and releases will be reported in accordance with Rule 906.

902.c.

Any accumulation of oil or condensate in a pit shall be removed with in twenty-four (24) hours of discovery.

902.d.

The pit has been designed with a fence to prevent wildlife from entering.

902.e.

Axia is permitting this pit as a multi-well pit, which will be used for a period of no more than three years.

902.h.

Axia has instituted a treatment process that is in accordance with Rule 907.

902.i.

The water facility will be treated with biocide as necessary to control bacterial growth and related odors.

903.a.(4)

This supplemental information is being prepared for a multi-well pit in correlation with the COGCC Form 15 that is being submitted to the Director for prior approval.

903.d.

Instructions located in the COGCC Appendix I were used as a guide in the Water Handling of the Earthen Pit Report/Permit, Form 15.

904.a.(5)

The multi-well pit will be lined in accordance with Rule 904.

904.b.(1)

A polysynthetic material that is impervious, has high puncture and tear strength, has adequate elongation, and is resistant to deterioration by ultraviolet light, weathering, hydrocarbons, aqueous acids, alkali, fungi or other substances in the produced water will be used.

904.b.(2)

The pit liners will be constructed, installed, and maintained in accordance with the manufacturers' specification. The pits have also been designed with good engineering practices.

904.b.(3)

Field seams will be installed and tested in accordance with manufacturer specifications and good engineering practices. Test results will be maintained at the Parachute office and will be provided to the Director upon request.

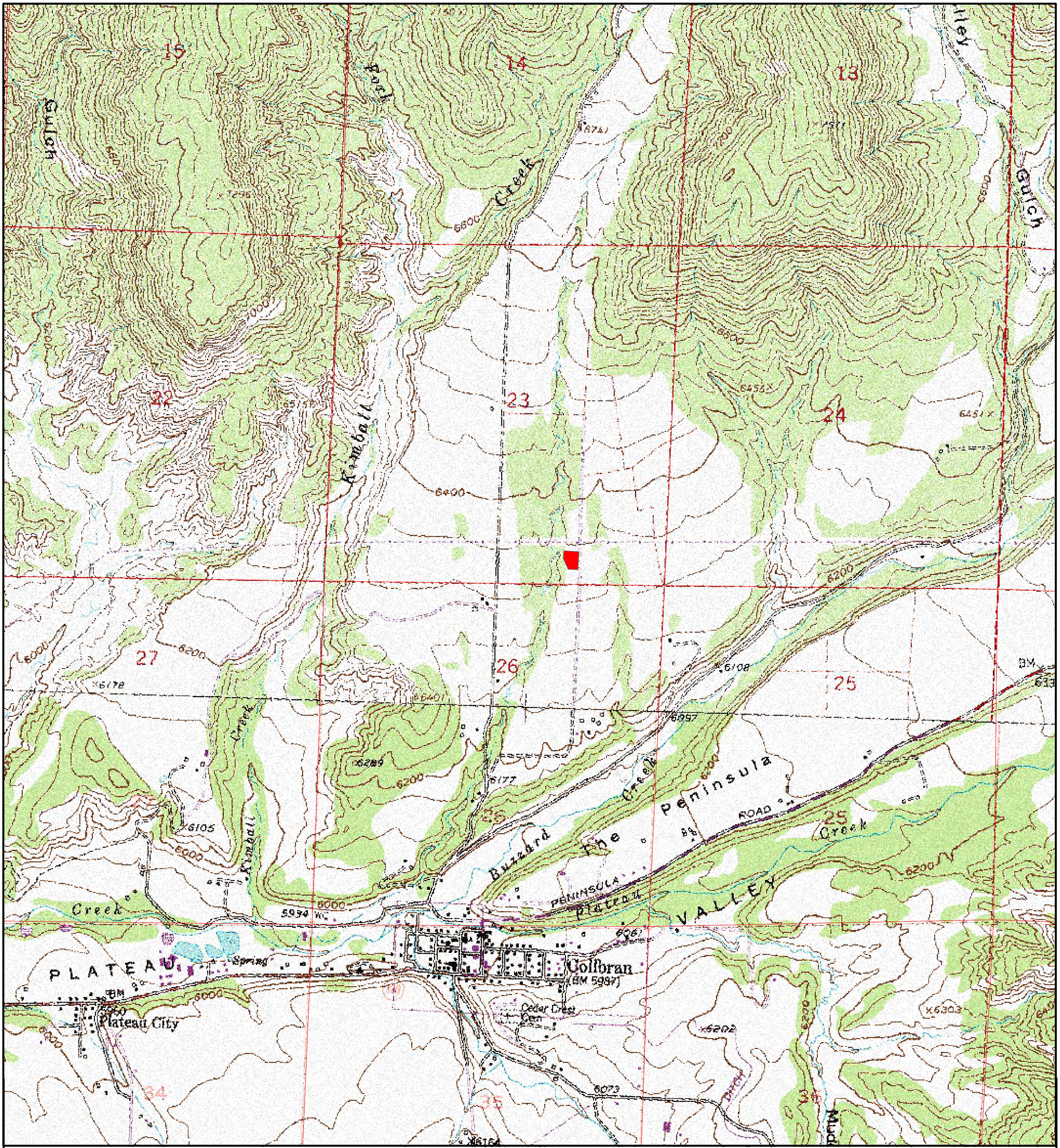
904.c

The water handling pit will utilize a double liner system consisting of 1-30 mil liner and 1-45 mil liner that shall cover the bottom and interior sides of the pit and will be anchored in at least a twelve (12) inch deep anchor trench. The pit will be built in accordance with the regulations set forth in Rule 904.c

904.e.

Since the facility is within close proximity to surface water it is considered to be in a sensitive area. The pit has been designed with features that significantly reduce the potential for the facility to impact nearby surface and ground water. The pit will be double lined in the manner described above and include a leak detection system. All material used in the sensitive area determination are included in **Attachment C**.

Figures



Legend

Water Handling Pit

0 0.25 0.5 1 Miles

N

PROJECT NO: 010-1659	TOPOGRAPHIC MAP WATER HANDLING PIT SWSE, SEC 23, T9S, R95W, 6TH PM MESA COUNTY, COLORADO	OLSSON ASSOCIATES 826 21-1/2 ROAD GRAND JUNCTION, CO 81505 TEL 970.263.7800 FAX 970.263.7456	FIGURE
DRAWN BY: JAS			1
DATE: 09/28/2010			

Attachment A

Stormwater Permit

Certification Number COR03H037

STATE OF COLORADO

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
WATER QUALITY CONTROL DIVISION
TELEPHONE: (303) 692-3500

CERTIFICATION TO DISCHARGE
UNDER
CDPS GENERAL PERMIT COR-0300000
STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES

Certification Number: **COR03H037**

This Certification to Discharge specifically authorizes:

Axia Energy LLC

to discharge stormwater from the facility identified as

Kimball Creek Field

to:

Kimball Creek, Buzzard Creek - Colorado River

Construction Activities : Oil and Gas Production and/or Exploration,

Facility Located at: Kimball Creek Road, Uninc Mesa County, CO 00000
Latitude 39.268, Longitude -107.958

Certification is effective: 11/9/2010 **Certification Expires:** 6/30/2012

This certification under the permit requires that specific actions be performed at designated times. The certification holder is legally obligated to comply with all terms and conditions of the permit.

Signed,

Nathan Moore
Construction/MS4/Pretreatment Unit Manager
Water Quality Control Division

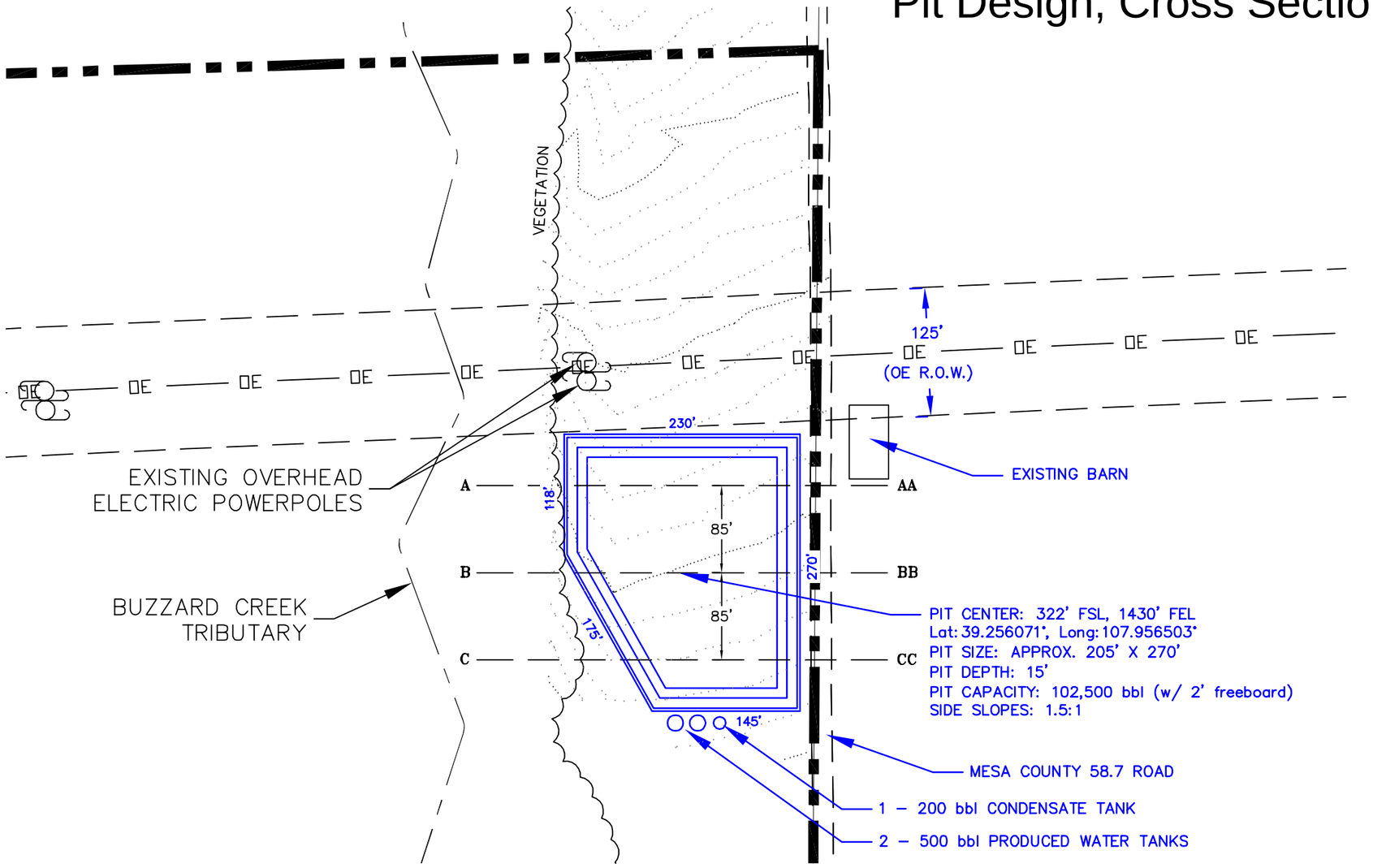
Attachment B

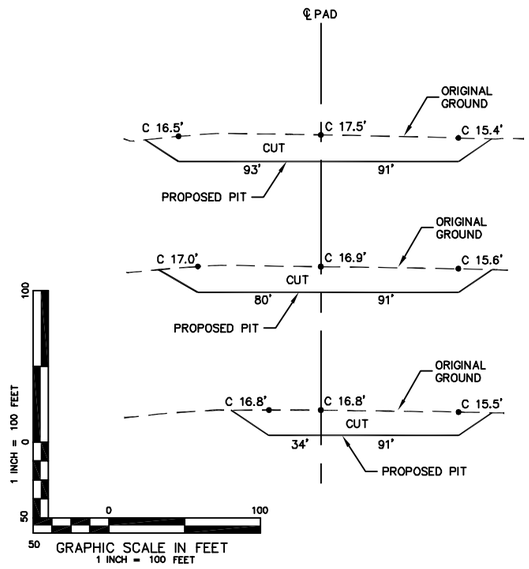
Pit Design and Cross Section

Volume Calculations

Form 26

Pit Design, Cross Section, & Calculation Details





PROPOSED TAYLOR COMPLETION PIT

SW1/4 SE1/4 OF SECTION 23, T.9S., R.95W.
OF THE 6th P.M. MESA COUNTY, COLORADO

120 0 120 240 360

GRAPHIC SCALE IN FEET
1 INCH = 120 FEET

CONSTRUCTION SURVEYS, INC.
0012 SUNRISE BLVD.
SILT, CO 81652
970-876-5753

CONSTRUCTION SURVEYS SILT COLO.

PREPARED FOR:
AXIA ENERGY

DRAFTED BY: BM	CHECKED BY: GB
DATE: 10/27/2010	DWG: AXIA\2006\TaylorParcels.dwg

FORM
26
Rev 6/99

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109

FOR OGCC USE ONLY

SOURCE OF PRODUCED WATER FOR DISPOSAL

This form must be completed for any new disposal site and for any change in sources of produced water for an existing disposal site.

Complete the Attachment Checklist

	Oper	OGCC
Chemical Analysis of flui	X	

If more space is required, attach additional sheet.

OGCC Operator Number: 10335
Name of Operator: Axia Energy
Address: 1430 Larimer, Suite #400
City: Denver State: CO Zip: 80202

Contact Name and Telephone:
Jess A Peonio
No: 720-746-5212
Fax: 720-746-5201

OGCC Disposal Facility Number:
Operator's Disposal Facility Name: Taylor Completion Pit Operator's Disposal Facility Number:
Location (QtrQtr, Sec, Twp, Rng, Meridian): SWSE, Section 23, Township 9S, Range 95W, 6th Prime Meridian
Address:
City: State: Zip: County:

Add Source: ☒ OGCC Lease No: API No: 05-077-08568 Well Name & No: Aitken 26-4
Operator Name: Encana Oil and Gas Operator No: 100185
Delete Source: ☐ Location: QtrQtr: Section: Township: Range: Producing Formation:
Analysis Attached? ☑ Yes ☐ No Transported to disposal site via: ☐ Pipeline ☐ Truck TDS:

Add Source: ☐ OGCC Lease No: API No: Well Name & No:
Operator Name: Operator No:
Delete Source: ☐ Location: QtrQtr: Section: Township: Range: Producing Formation:
Analysis Attached? ☐ Yes ☐ No Transported to disposal site via: ☐ Pipeline ☐ Truck TDS:

Add Source: ☐ OGCC Lease No: API No: Well Name & No:
Operator Name: Operator No:
Delete Source: ☐ Location: QtrQtr: Section: Township: Range: Producing Formation:
Analysis Attached? ☐ Yes ☐ No Transported to disposal site via: ☐ Pipeline ☐ Truck TDS:

Add Source: ☐ OGCC Lease No: API No: Well Name & No:
Operator Name: Operator No:
Delete Source: ☐ Location: QtrQtr: Section: Township: Range: Producing Formation:
Analysis Attached? ☐ Yes ☐ No Transported to disposal site via: ☐ Pipeline ☐ Truck TDS:

Add Source: ☐ OGCC Lease No: API No: Well Name & No:
Operator Name: Operator No:
Delete Source: ☐ Location: QtrQtr: Section: Township: Range: Producing Formation:
Analysis Attached? ☐ Yes ☐ No Transported to disposal site via: ☐ Pipeline ☐ Truck TDS:

Add Source: ☐ OGCC Lease No: API No: Well Name & No:
Operator Name: Operator No:
Delete Source: ☐ Location: QtrQtr: Section: Township: Range: Producing Formation:
Analysis Attached? ☐ Yes ☐ No Transported to disposal site via: ☐ Pipeline ☐ Truck TDS:

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.
Print Name: Jess A Peonio Signed:
Title: Sr. Drilling Engineer/Regulatory Manager Date: 11/23/10

OGCC Approved: Title: Date:

CONDITIONS OF APPROVAL, IF ANY:

Mountain States ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

09/09/10

Technical Report for

Olsson Associates

Axia-Aitken 26-4

010-1659_100_100001

Accutest Job Number: D16863

Sampling Date: 08/26/10

Report to:

Olsson Associates
826 21 1/2 Road
Grand Junction, CO 81505
tdobransky@oaconsulting.com

ATTN: Tim Dobransky

Total number of pages in report: 27

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Jesse L. Smith
Laboratory Director

Client Service contact: Shea Greiner 303-425-6021

Certifications: CO, ID, NE, NM, ND (R-027) (PW) UT (NELAP CO00049)

Test results relate only to samples analyzed.

Sections: 1 2 3 4 5 6 7

Table of Contents

-1-

Sample Summary

Olsson Associates

Job No: D16863

Axia-Aitken 26-4
Project No: 010-1659_100_100001

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
D16863-1	08/26/10	08:45	TPD	08/27/10	AQ	Water	AITKEN 26-4

ACCUTEST Laboratories

2

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Olsson Associates	**Job No**	D16863
Site:	Axia-Aitken 26-4	**Report Dat**	9/9/2010 12:30:49 PM

On 08/27/2010, one (1) sample, 0 Trip Blanks, and 0 Field Blanks were received at Accutest Mountain States (AMS) at a temperature of 5.6°C. The sample was intact and properly preserved, unless noted below. An AMS Job Number of D16863 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix AQ **Batch ID:** V5V559

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Samples D16950-1MS and D16950-1MSD were used as the QC samples indicated.

Volatiles by GC By Method SW846 8015B

Matrix AQ **Batch ID:** GFA241

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Samples D16987-3MS and D16987-3MSD were used as the QC samples indicated.
- D16863-1 for n-Butyl Alcohol: Outside control limits due to dilution.

Matrix AQ **Batch ID:** GGB372

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Samples D16644-1MS and D16644-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846-8015B

Matrix AQ **Batch ID:** OP2445

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Samples D17025-1MS and D17025-1MSD were used as the QC samples indicated.
- Sample D16863-1 has the surrogate outside control limits due to dilution.

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	AITKEN 26-4		
Lab Sample ID:	D16863-1	Date Sampled:	08/26/10
Matrix:	AQ - Water	Date Received:	08/27/10
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Axia-Aitken 26-4		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V10159.D	200	09/01/10	DC	n/a	n/a	V5V559
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	12900	200	60	ug/l	
108-88-3	Toluene	18600	400	200	ug/l	
100-41-4	Ethylbenzene	486	400	60	ug/l	
	m,p-Xylene	5060	800	120	ug/l	
95-47-6	o-Xylene	1020	400	120	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	86%		63-130%
2037-26-5	Toluene-D8	82%		68-130%
460-00-4	4-Bromofluorobenzene	82%		61-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	AITKEN 26-4		
Lab Sample ID:	D16863-1	Date Sampled:	08/26/10
Matrix:	AQ - Water	Date Received:	08/27/10
Method:	SW846 8015B	Percent Solids:	n/a
Project:	Axia-Aitken 26-4		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FA3889.D	10	09/01/10	JB	n/a	n/a	GFA241
Run #2							

	Initial Volume	Final Volume
Run #1	1.0 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
67-56-1	Methanol	294	10	10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
71-36-3	n-Butyl Alcohol	95% [a]		70-130%

(a) Outside control limits due to dilution.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	AITKEN 26-4		
Lab Sample ID:	D16863-1	Date Sampled:	08/26/10
Matrix:	AQ - Water	Date Received:	08/27/10
Method:	SW846 8015B	Percent Solids:	n/a
Project:	Axia-Aitken 26-4		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB6899.D	20	08/28/10	JL	n/a	n/a	GGB372
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	86.7	4.0	4.0	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	90%		60-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	AITKEN 26-4		
Lab Sample ID:	D16863-I	Date Sampled:	08/26/10
Matrix:	AQ - Water	Date Received:	08/27/10
Method:	SW846-8015B SW846 3510C	Percent Solids:	n/a
Project:	Axia-Aitken 26-4		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FE4103.D	100	09/07/10	JB	09/01/10	OP2445	GFE229
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH-DRO (C10-C28)	298	40	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	0% [a]		40-137%

(a) Surrogate diluted out.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST Laboratories
2235 Route 130, Dayton, NJ 08810
732-329-0200 FAX: 732-329-3499/3480

D16863

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #:

Client / Reporting Information

Company Name: OLSSON ASSOC.
Address: 826 21½ ROAD
City: GRAND JUNCTION State: CO Zip: 81505
Project Contact: TIM DOBRANSKY E-mail:
Phone #: 970.270.2986 tdobransky@olssonconsulting.com
Fax #:
Samplers's Name: TIM DOBRANSKY

Project Information

Project Name: AXIA - AITKEN 26-4
Street:
City: State:
Project #: 010-4659-100-100001
Client Purchase Order #:

Requested Analysis

GRO/DRO
BTEX
Methanol

Matrix Codes

DW- Drinking Water
GW- Ground Water
WW- Water
SW- Surface Water
SO- Soil
SL-Sludge
OI-Oil
LIQ- Other Liquid
AIR- Air
SOL-Other Solid
WP-Wipe

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Collection Date	Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles	GRO/DRO	BTEX	Methanol	LAB USE ONLY
	AITKEN 26-4	-	8/26/10	0845	TPD	W	9	9	X	X	X	01

Turnaround Time (Business days)

- ~~Std. 15 Business Days~~
- 10 Day RUSH
- X 5 Day RUSH
- 3 Day EMERGENCY
- 2 Day EMERGENCY
- 1 Day EMERGENCY
- Other

Approved By/ Date:

Emergency T/A data available VIA Labilnk

Data Deliverable Information

- X ~~Commercial "A"~~
- X Commercial "B"
- NJ Reduced
- NJ Full
- Other
- FULL CLP
- NYASP Category A
- NYASP Category B
- State Forms
- EDD Format

Commercial "A" = Results Only

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		8/26/10 1600	1	2		2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
5			5	Custody Seal # Fedt	Preserved where applicable	On Ice X Cooler Temp. 5.6

D16863: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D16863 **Client:** OLSSON ASS. **Immediate Client Services Action Required:** No

Date / Time Received: 8/27/2010 8:30:00 AM **No. Coolers:** 1 **Client Service Action Required at Login:** No

Project: AXIA-AITKEN 26-4 **Airbill #'s:** fedex

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Tempereture	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	Infared gun		
3. Cooler media:	Ice (beg)		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	
2. Trip Blank listed on COC:	☐		☐	
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume rec'd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Accutest Laboratories
V:(303) 425-6021

4036 Youngfield Street
F: (303) 425-6854

Wheat Ridge, CO
www.accutest.com

4.1

4

D16863: Chain of Custody
Page 2 of 2

GC/MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D16863
Account: CORCCOGJ Olsson Associates
Project: Axia-Aitken 26-4

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V559-MB1	5V10152.D	1	09/01/10	DC	n/a	n/a	V5V559

The QC reported here applies to the following samples: Method: SW846 8260B

D16863-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.30	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
	m,p-Xylene	ND	4.0	0.60	ug/l	
95-47-6	o-Xylene	ND	2.0	0.60	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	82%	63-130%
2037-26-5	Toluene-D8	78%	68-130%
460-00-4	4-Bromofluorobenzene	75%	61-130%

Blank Spike Summary

Job Number: D16863
Account: CORCCOGJ Olsson Associates
Project: Axia-Aitken 26-4

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V559-BS1	5V10154.D	1	09/01/10	DC	n/a	n/a	V5V559

The QC reported here applies to the following samples: Method: SW846 8260B

D16863-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	50	48.6	97	70-130
100-41-4	Ethylbenzene	50	52.4	105	70-130
108-88-3	Toluene	50	50.4	101	70-140
	m,p-Xylene	50	50.5	101	55-134
95-47-6	o-Xylene	50	48.3	97	55-134

CAS No.	Surrogate Recoveries	BSP	Limits
17060-07-0	1,2-Dichloroethane-D4	83%	63-130%
2037-26-5	Toluene-D8	78%	68-130%
460-00-4	4-Bromofluorobenzene	91%	61-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D16863
Account: CORCCOGJ Olsson Associates
Project: Axia-Aitken 26-4

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D16950-1MS	5V10156.D	1	09/01/10	DC	n/a	n/a	V5V559
D16950-1MSD	5V10157.D	1	09/01/10	DC	n/a	n/a	V5V559
D16950-1	5V10155.D	1	09/01/10	DC	n/a	n/a	V5V559

The QC reported here applies to the following samples: Method: SW846 8260B

D16863-1

CAS No.	Compound	D16950-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		50	45.5	91	46.2	92	2	59-132/30
100-41-4	Ethylbenzene	ND		50	48.7	97	50.1	100	3	68-130/30
108-88-3	Toluene	ND		50	47.0	94	47.9	96	2	56-142/30
	m,p-Xylene	ND		50	47.1	94	48.2	96	2	36-146/30
95-47-6	o-Xylene	ND		50	44.9	90	45.9	92	2	36-146/30

CAS No.	Surrogate Recoveries	MS	MSD	D16950-1	Limits
17060-07-0	1,2-Dichloroethane-D4	84%	80%	92%	63-130%
2037-26-5	Toluene-D8	82%	80%	86%	68-130%
460-00-4	4-Bromofluorobenzene	91%	90%	85%	61-130%

GC Volatiles

QC

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D16863
Account: CORCCOGJ Olsson Associates
Project: Axia-Aitken 26-4

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GFA241-MB	FA3879.D	1	09/01/10	JB	n/a	n/a	GFA241

The QC reported here applies to the following samples: Method: SW846 8015B

D16863-1

CAS No.	Compound	Result	RL	MDL	Units	Q
67-56-1	Methanol	ND	1.0	1.0	mg/l	

CAS No.	Surrogate Recoveries		Limits
71-36-3	n-Butyl Alcohol	91%	70-130%

6.1.1

Method Blank Summary

Job Number: D16863
Account: CORCCOGJ Olsson Associates
Project: Axia-Aitken 26-4

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB372-MB	GB6888.D	1	08/28/10	JL	n/a	n/a	GGB372

The QC reported here applies to the following samples: Method: SW846 8015B

D16863-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.20	mg/l	

CAS No.	Surrogate Recoveries		Limits
120-82-1	1,2,4-Trichlorobenzene	89%	60-140%

6.1.2

Blank Spike Summary

Job Number: D16863
Account: CORCCOGJ Olsson Associates
Project: Axia-Aitken 26-4

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GFA241-BS	FA3881.D	1	09/01/10	JB	n/a	n/a	GFA241

The QC reported here applies to the following samples: Method: SW846 8015B

D16863-1

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
67-56-1	Methanol	25	20.3	81	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
71-36-3	n-Butyl Alcohol	89%	70-130%

Blank Spike Summary

Job Number: D16863
Account: CORCCOGJ Olsson Associates
Project: Axia-Aitken 26-4

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB372-BS	GB6889.D	1	08/28/10	JL	n/a	n/a	GGB372

The QC reported here applies to the following samples: Method: SW846 8015B

D16863-1

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-GRO (C6-C10)	2.2	2.13	97	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	98%	60-140%

6.2.2

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D16863
Account: CORCCOGJ Olsson Associates
Project: Axia-Aitken 26-4

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GC1250-MS	FA3884.D	1	09/01/10	JB	n/a	n/a	GFA241
GC1250-MSD	FA3885.D	1	09/01/10	JB	n/a	n/a	GFA241
D16987-3	FA3886.D	1	09/01/10	JB	n/a	n/a	GFA241

The QC reported here applies to the following samples: Method: SW846 8015B

D16863-1

CAS No.	Compound	D16987-3 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
67-56-1	Methanol	137		25	156	76	149	48* [a]	5	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D16987-3	Limits
71-36-3	n-Butyl Alcohol	107%	105%	100%	70-130%

(a) Outside control limits due to high level in sample relative to spike amount.

6.3.1

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D16863
Account: CORCCOGJ Olsson Associates
Project: Axia-Aitken 26-4

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D16644-1MS	GB6891.D	10	08/28/10	JL	n/a	n/a	GGB372
D16644-1MSD	GB6892.D	10	08/28/10	JL	n/a	n/a	GGB372
D16644-1	GB6890.D	10	08/28/10	JL	n/a	n/a	GGB372

The QC reported here applies to the following samples: Method: SW846 8015B

D16863-1

CAS No.	Compound	D16644-1 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	26.9		22	47.3	93	50.1	105	6	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D16644-1	Limits
120-82-1	1,2,4-Trichlorobenzene	118%	119%	98%	60-140%

6.3.2

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D16863
Account: CORCCOGJ Olsson Associates
Project: Axia-Aitken 26-4

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2445-MB	FE4064.D	1	09/03/10	JB	09/01/10	OP2445	GFE227

The QC reported here applies to the following samples: Method: SW846-8015B

D16863-1

CAS No.	Compound	Result	RL	Units	Q
	TPH-DRO (C10-C28)	ND	0.40	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	99%	40-137%

Blank Spike Summary

Job Number: D16863
Account: CORCCOGJ Olsson Associates
Project: Axia-Aitken 26-4

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2445-BS	FE4065.D	1	09/03/10	JB	09/01/10	OP2445	GFE227

The QC reported here applies to the following samples: Method: SW846-8015B

D16863-1

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-DRO (C10-C28)	20	20.0	100	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	114%	40-137%

7.2.1

7

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D16863
Account: CORCCOGJ Olsson Associates
Project: Axia-Aitken 26-4

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP2445-MS	FE4066.D	1	09/03/10	JB	09/01/10	OP2445	GFE227
OP2445-MSD	FE4067.D	1	09/04/10	JB	09/01/10	OP2445	GFE227
D17025-1	FE4068.D	1	09/04/10	JB	09/01/10	OP2445	GFE227

The QC reported here applies to the following samples: Method: SW846-8015B

D16863-1

CAS No.	Compound	D17025-1 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	ND		20	19.8	99	21.9	110	10	70-130/30

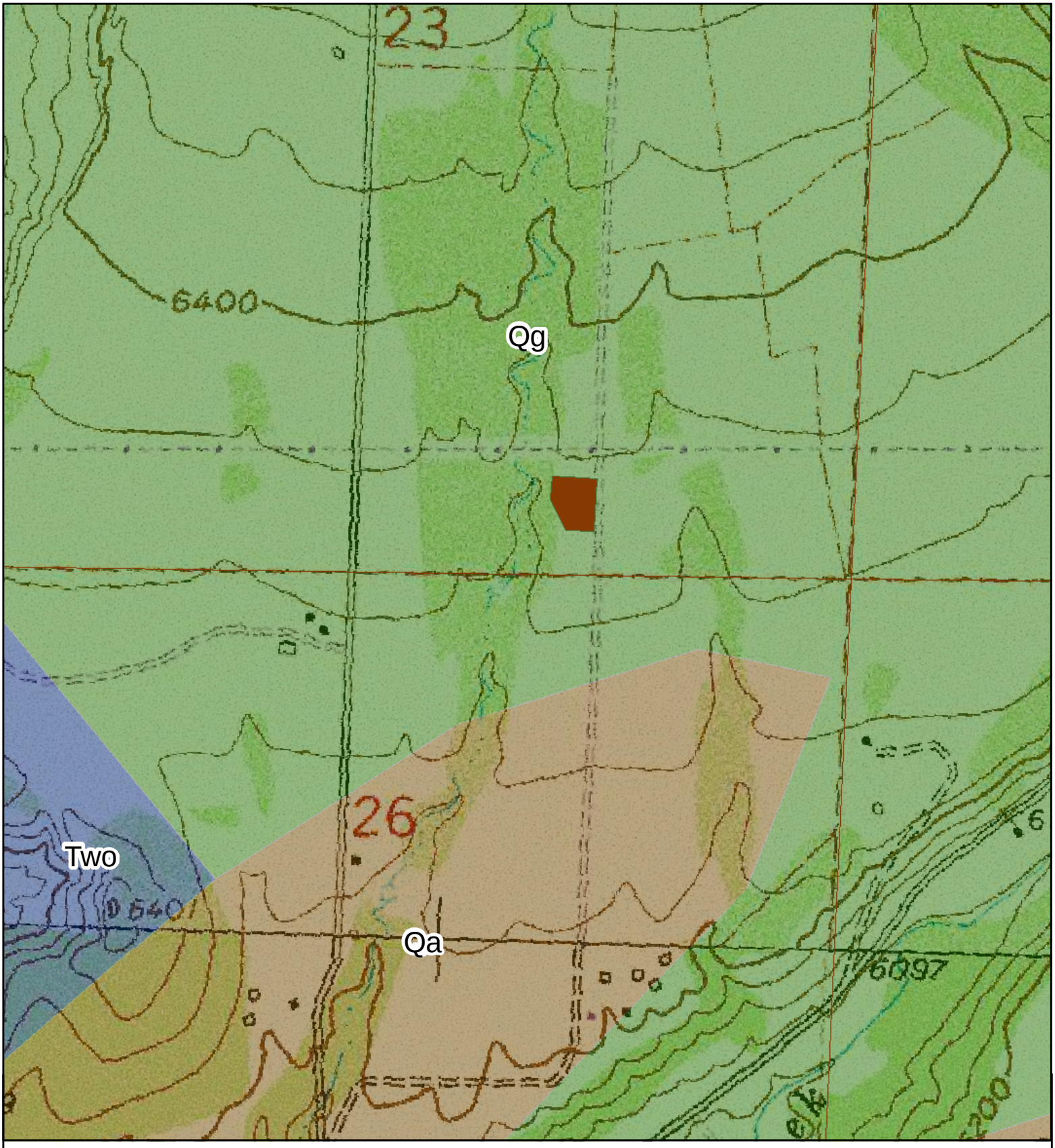
CAS No.	Surrogate Recoveries	MS	MSD	D17025-1	Limits
84-15-1	o-Terphenyl	115%	120%	103%	40-137%

7.3.1

7

Attachment C

Sensitive Area Determination



Legend

Water Handling Pit

Surface Geology

Qa - Modern Alluvium

Qg - Gravels and Alluviums (Pinedale and Bull Lake age)

Two -Wasatch Formation (including Fort Union equivalent at base) and Ohio Creek Formation

0 0.1 0.2 0.4 Miles

N

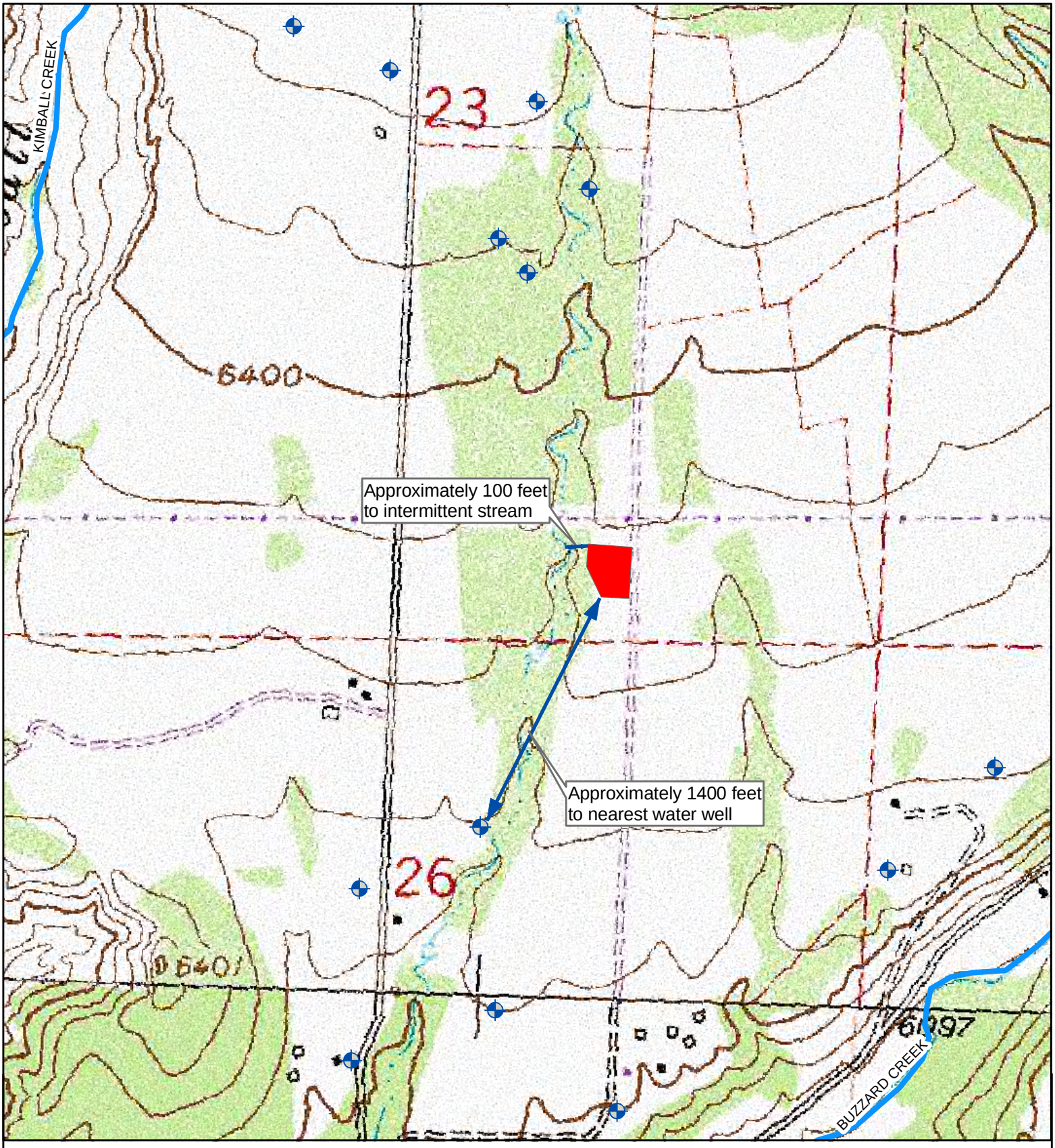
PROJECT NO:	010-1659
DRAWN BY:	JAS
DATE:	09/28/2010

SURFACE GEOLOGY
WATER HANDLING PIT
SWSE, SEC 23, T9S, R95W, 6TH PM
MESA COUNTY, COLORADO

OLSSON ASSOCIATES
826 21-1/2 ROAD
GRAND JUNCTION, CO 81505
TEL 970.263.7800
FAX 970.263.7456

FIGURE

2



Legend

- Water Wells
- Streams
- Water Handling Pit

0 0.1 0.2 0.4 Miles

N

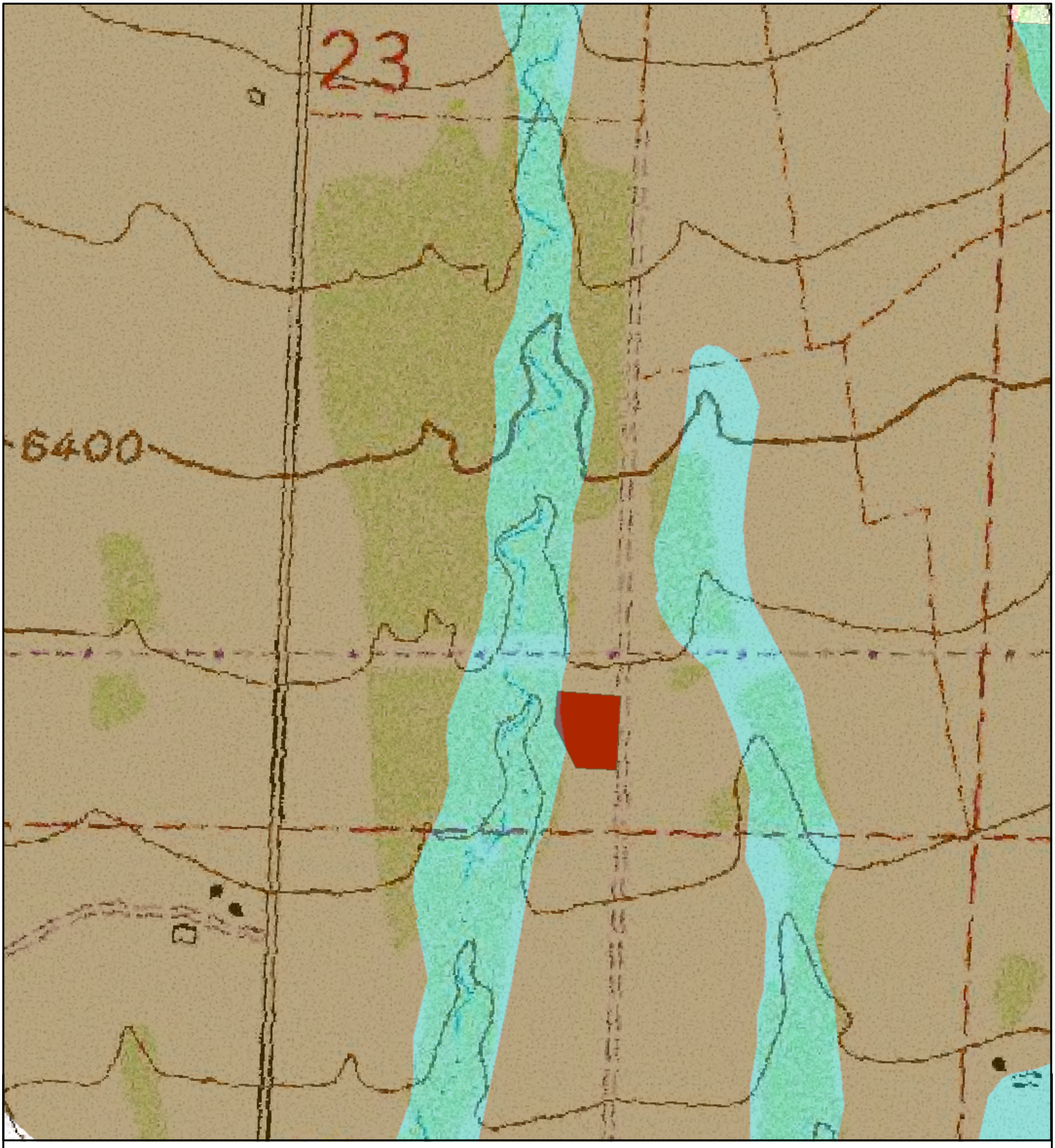
PROJECT NO:	010-1659
DRAWN BY:	JAS
DATE:	09/28/2010

HYDROLOGY
WATER HANDLING PIT
SWSE, SEC 23, T9S, R95W, 6TH PM
MESA COUNTY, COLORADO

OLSSON ASSOCIATES
826 21-1/2 ROAD
GRAND JUNCTION, CO 81505
TEL 970.263.7800
FAX 970.263.7456

FIGURE

3



Legend

Water Handling Pit

NRCS Soils Unit

23 - Clapper very stony loam, 25 to 65% slopes

58 - Peninsula loam, 3 to 9% slopes

0 0.05 0.1 0.2 Miles

N

PROJECT NO: 010-1659	SOILS MAP WATER HANDLING PIT SWSE, SEC 23, T9S, R95W, 6TH PM MESA COUNTY, COLORADO	OLSSON ASSOCIATES 826 21-1/2 ROAD GRAND JUNCTION, CO 81505 TEL 970.263.7800 FAX 970.263.7456	FIGURE
DRAWN BY: JAS			4
DATE: 09/28/2010			

Douglas-Plateau Area, Colorado, Parts of Garfield and Mesa Counties

23—Clapper very stony loam, 25 to 65 percent slopes

Map Unit Setting

Elevation: 5,600 to 7,100 feet
Mean annual precipitation: 12 to 15 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 150 days

Map Unit Composition

Clapper and similar soils: 85 percent

Description of Clapper

Setting

Landform: Mountains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Material weathered from glacial till derived from basalt

Properties and qualities

Slope: 25 to 65 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water capacity: Moderate (about 7.5 inches)

Interpretive groups

Land capability (nonirrigated): 7e
Ecological site: Juniperus osteosperma-Pinus edulis/Pleuraphis jamesii (F034XY447CO)

Typical profile

0 to 3 inches: Very stony loam
3 to 12 inches: Very stony loam
12 to 26 inches: Very cobbly loam

26 to 60 inches: Very cobbly loam, extremely cobbly loam

Data Source Information

Soil Survey Area: Douglas-Plateau Area, Colorado, Parts of Garfield and Mesa Counties
Survey Area Data: Version 5, Feb 1, 2008

Douglas-Plateau Area, Colorado, Parts of Garfield and Mesa Counties

58—Peninsula loam, 3 to 9 percent slopes

Map Unit Setting

Elevation: 6,200 to 6,800 feet
Mean annual precipitation: 15 to 19 inches
Mean annual air temperature: 42 to 45 degrees F
Frost-free period: 85 to 110 days

Map Unit Composition

Peninsula and similar soils: 80 percent
Minor components: 5 percent

Description of Peninsula

Setting

Landform: Benches
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed, transported rock spread deposits derived from volcanic and sedimentary rock

Properties and qualities

Slope: 3 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water capacity: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability (nonirrigated): 4e
Ecological site: Deep Loam (R048AY292CO)

Typical profile

0 to 4 inches: Loam
4 to 19 inches: Clay loam
19 to 28 inches: Clay loam
28 to 60 inches: Loam

Minor Components

Haplaquolls

Percent of map unit: 5 percent

Landform: Depressions

Data Source Information

Soil Survey Area: Douglas-Plateau Area, Colorado, Parts of Garfield and Mesa Counties
Survey Area Data: Version 5, Feb 1, 2008

Attachment D

Submitted COGCC Form 2A

FORM 2A Rev 04/01

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80205 Phone: (303) 894-2100 Fax: (303) 894-2109

DE	ET	OE	ES

Document Number: 400111757

Oil and Gas Location Assessment

☒ New Location ☐ Amend Existing Location Location#: _____

Submit original plus one copy. This form is to be submitted to the COGCC prior to any ground disturbance activity associated with oil and gas development operations. This Assessment may be approved as a standalone application or submitted as an informational report accompanying an Application for Permit-To-Drill, Form 2. Approval of this Assessment will allow for the construction of the below specified location; however, it does not supersede any land use rules applied by the local land use authority. This form may serve as notice to land owners and other interested parties, please see the COGCC web site at http://colorado.gov/cogcc/ for all accompanying information pertinent to this Oil and Gas Location Assessment.

Location ID: **421047**

Expiration Date: **12/30/2013**

☐ This location assessment is included as part of a permit application.

1. CONSULTATION

☐ This location is included in a Comprehensive Drilling Plan. CDP # _____

☐ This location is in a sensitive wildlife habitat area.

☐ This location is in a wildlife restricted surface occupancy area.

☐ This location includes a Rule 306.d.(1)A.ii. variance request.

2. Operator

Operator Number: 10335

Name: AXIA ENERGY LLC

Address: 1430 LARIMER STREET #400

City: DENVER State: CO Zip: 80202

3. Contact Information

Name: Jeff Stoddart

Phone: (970) 263-7800

Fax: (970) 263-7456

email: jstoddart@oaconsulting.com

4. Location Identification:

Name: Compressor and Water Handling Facil Number: _____

County: MESA

QuarterQuarter: SWSE Section: 23 Township: 9S Range: 95W Meridian: 6 Ground Elevation: 6470

Define a single point as a location reference for the facility location. This point should be used as the point of measurement in the drawings to be submitted with this application. When the location is to be used as a well site then the point shall be a well location.

Footage at surface: 100 feet FSL , from North or South section line, and 1500 feet FEL , from East or West section line.

Latitude: 39.255464 Longitude: -107.956971 PDOP Reading: 2.5 Date of Measurement: 11/09/2010

Instrument Operator's Name: Jeff Stoddart

5. Facilities (Indicate the number of each type of oil and gas facility planned on location):

Special Purpose Pits:		Drilling Pits:		Wells:		Production Pits:		Dehydrator Units:	1
Condensate Tanks:	2	Water Tanks:	3	Separators:	2	Electric Motors:		Multi-Well Pits:	1
Gas or Diesel Motors:		Cavity Pumps:		LACT Unit:		Pump Jacks:		Pigging Station:	1
Electric Generators:		Gas Pipeline:	1	Oil Pipeline		Water Pipeline:	2	Flare:	
Gas Compressors:	3			VOC Combustor:	1	Oil Tanks:	1	Fuel Tanks:	

Other: _____

6. Construction:

Date planned to commence construction: 03/01/2011 Size of disturbed area during construction in acres: 4.00

Estimated date that interim reclamation will begin: 03/15/2011 Size of location after interim reclamation in acres: 4.00

Estimated post-construction ground elevation: 6344 Will a closed loop system be used for drilling fluids: Yes ☐

Will salt sections be encountered during drilling: Yes ☐ No ☒ Is H2S anticipated? Yes ☐ No ☒

Will salt (>15,000 ppm TDS Cl) or oil based muds be used: Yes ☐ No ☒

Mud disposal: Offsite ☐ Onsite ☐ Method: Land Farming ☐ Land Spreading ☐ Disposal Facility ☐

Other: _____

7. Surface Owner:

Name: _____ Phone: _____

Address: _____ Fax: _____

Address: _____ Email: _____

City: _____ State: _____ Zip: _____ Date of Rule 306 surface owner consultation: _____

Surface Owner: ☒ Fee ☐ State ☐ Federal ☐ Indian

Mineral Owner: ☒ Fee ☐ State ☐ Federal ☐ Indian

The surface owner is: ☐ the mineral owner ☐ committed to an oil and gas lease ☐ is the executer of the oil and gas lease ☒ the applicant

The right to construct the location is granted by: ☐ oil and gas lease ☐ Surface Use Agreement ☐ Right of Way ☒ applicant is owner

Surface damage assurance if no agreement is in place: ☐ $2000 ☐ $5000 ☐ Blanket Surety ID _____

8. Reclamation Financial Assurance:

☐ Well Surety ID: _____ ☐ Gas Facility Surety ID: _____ ☐ Waste Mgnt. Surety ID: _____

9. Cultural:

Is the location in a high density area (Rule 603.b.): Yes ☐ No ☒

Distance, in feet, to nearest building: 870 , public road: 208 , above ground utilit: 63

, railroad: 75557 , property line: 30

10. Current Land Use (Check all that apply):

Crop Land: ☐ Irrigated ☐ Dry land ☐ Improved Pasture ☐ Hay Meadow ☐ CRP

Non-Crop Land: ☒ Rangeland ☐ Timber ☐ Recreational ☐ Other (describe): _____

Subdivided: ☐ Industrial ☐ Commercial ☐ Residential

11. Future Land Use (Check all that apply):

Crop Land: ☐ Irrigated ☐ Dry land ☐ Improved Pasture ☐ Hay Meadow ☐ CRP

Non-Crop Land: ☒ Rangeland ☐ Timber ☐ Recreational ☒ Other (describe): Oil and Gas Operations

Subdivided: ☐ Industrial ☐ Commercial ☐ Residential

12. Soils:

List all soil map units that occur within the proposed location. Attach the National Resource Conservation Service (NRCS) report showing the "Map Unit Description" report listing the soil typical vertical profile. This data is to used when segregating topsoil.

The required information can be obtained from the NRCS web site at http://soildatamart.nrcs.usda.gov/ or from the COGCC web site GIS Online map page found at http://colorado.gov/cogcc. Instructions are provided within the COGCC web site help section.

NRCS Map Unit Name: 23 - Clapper very stony loam, 25 to 65 percent slopes

NRCS Map Unit Name: 58 - Peninsula loam, 3 to 9 percent slopes

NRCS Map Unit Name:

13. Plant Community:

Complete this section only if any portion of the disturbed area of the location's current land use is on non-crop land.

Are noxious weeds present: Yes ☐ No ☒

Plant species from: ☒ NRCS or, ☐ field observation Date of observation:

List individual species: Galleta, Gambel oak, Mountain big sagebrush, Mountain snowberry, True mountain mahogany, Wyoming big sagebrush, Saskotoon serviceberry

Check all plant communities that exist in the disturbed area.

- ☐ Disturbed Grassland (Cactus, Yucca, Cheatgrass, Rye)
- ☐ Native Grassland (Bluestem, Grama, Wheatgrass, Buffalograss, Fescue, Oatgrass, Brome)
- ☒ Shrub Land (Mahogany, Oak, Sage, Serviceberry, Chokecherry)
- ☐ Plains Riparian (Cottonwood, Willow, Aspen, Maple, Poplar, Russian Olive, Tamarisk)
- ☐ Mountain Riparian (Cottonwood, Willow, Blue Spruce)
- ☐ Forest Land (Spruce, Fir, Ponderosa Pine, Lodgepole Pine, Juniper, Pinyon, Aspen)
- ☐ Wetlands Aquatic (Bullrush, Sedge, Cattail, Arrowhead)
- ☐ Alpine (above timberline)
- ☐ Other (describe):

14. Water Resources:

Rule 901.e. may require a sensitive area determination be performed. If this determination is performed the data is to be submitted with the Form 2A.

Is this a sensitive area: ☐ No ☒ Yes Was a Rule 901.e. Sensitive Areas Determination performed: ☐ No ☒ Yes

Distance (in feet) to nearest surface water: 80 , water well: 1200 , depth to ground water: 80

Is the location in a riparian area: ☒ No ☐ Yes Was an Army Corps of Engineers Section 404 permit filed ☒ No ☐ Yes

Is the location within a Rule 317B Surface Water Suppl Area buffer zone:

☒ No ☐ 0-300 ft. zone ☐ 301-500 ft. zone ☐ 501-2640 ft. zone

If the location is within a Rule 317B Surface Water Supply Area buffer have all public water supply systems within 15 miles been notified: ☐ No ☐ Yes

15. Comments:

This location is within Black Bear Habitat and is subject to Rule 1204a1. Bear proof dumpsters and trash receptacles will be installed and utilized for all food related trash.

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed: Date: 11/29/2010 Email: jstoddart@oaconsulting.com

Print Name: Jeff Stoddart Title: Assistant Scientist

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: David S. Neslin **Director of COGCC** Date: 12/31/2010

CONDITIONS OF APPROVAL, IF ANY:

All representations, stipulations and conditions of approval stated in this Form 2A for this location shall constitute representations, stipulations and conditions of approval for any and all subsequent operations on the location unless this Form 2A is modified by Sundry Notice, Form 4 or an Amended Form 2A.

The completion/flowback fluids multi-well pit must be fenced. If the completion/flowback pit is not closed (either drained and/or backfilled) immediately after natural gas development activities, then operator must appropriately net the completion/flowback pit, in a timely manner, and maintain the fencing and netting until the pit is closed in accordance with Rule 905. Closure of Pits, and Buried or Partially Buries Produced Water Vessels.
The access road will be constructed as to not allow any sediment to migrate from the access road to nearby surface water or any drainages leading to surface water.
At the time of pit closure, operator must submit disposal information via a Form 4 Sundry Notice to Dave Kubeczko. The disposal method will need to be approved prior to operator starting pit closure. In addition, operator will collect a pit water sample and, at a minimum, analyze for the following parameters: pH; alkalinity; specific conductance; major cations/anions (chloride, fluoride, sulfate, sodium); total dissolved solids (TDS); BTEX/DRO; TPH; PAH's (including benzo[a]pyrene); and metals (arsenic, barium, calcium, chromium, iron, magnesium, selenium). At the time of closure/disposal of pit water, COGCC may require additional analytes, as appropriate.
Notify COGCC Oil and Gas Location Assessment (OGLA) Specialist for Western Colorado (Dave Kubeczko; email dave.kubeczko@state.co.us; phone 970-309-2514) 48 hours prior to start of construction.
All tanks and aboveground vessels containing fluids must have secondary containment structures. All secondary containment structures/areas must be lined. Operator must ensure 150 percent secondary containment for the largest structure containing fluids within each bermed area the facility during operations. The construction and lining of the secondary containment structures/areas shall be supervised by a professional engineer or their agent.
Location is in a sensitive area because of its proximity to surface water; therefore, operator must ensure 110 percent secondary containment for any volume of fluids contained at the water handling facility site during natural gas development activities and operations; including, but not limited to, construction of a berm or diversion dike, diversion/collection trenches within and/or outside of berms/dikes, site grading, or other comparable measures (i.e., best management practices (BMPs) associated with stormwater management) sufficiently protective of nearby surface water. Any berm constructed at the well pad location will be stabilized, inspected at regular intervals (at least every 14 days), and maintained in good condition.
Operator shall implement reasonable noise reduction equipment on compressors and other production equipment or add sound barriers to limit noise levels at property boundaries.
The completion/flowback fluids multi-well pit must be double-lined. The pit will also require a leak detection system (Rule 904.e).
Operator must submit a professional engineer (PE) approved/stamped as-built drawing (plan view and cross-sections) of the completion/flowback pit within 14 calendar days of construction.
The location is in an area of high run off/run-on potential; therefore the pad shall be constructed to prevent any stormwater run-on and/or stormwater runoff. Standard stormwater BMPs must be implemented at this location to insure compliance with CDPHE and COGCC requirements and to prevent any stormwater run-on and /or stormwater runoff.
Operator must implement best management practices to contain any unintentional release of fluids, including any fluids conveyed via temporary surface pipelines.

Flowback and stimulation fluids must be sent to tanks to allow the sand to settle out before the fluids can be placed into any pipeline or pit located on the facility pad. The flowback and stimulation fluid tanks must be placed on the pad in an area with additional downgradient perimeter berming. The area where flowback fluids will be stored/reused must be constructed to be sufficiently impervious to contain any spilled or released material (per Rule 604.a.(4)).
No portion of any pit that will be used to hold liquids shall be constructed on fill material, unless the pit and fill slope are designed and certified by a professional engineer, subject to review and approval by the director prior to construction of the pit. The construction and lining of the pit shall be supervised by a professional engineer or their agent. The entire base of the pit must be in cut.

Attachment Check List

Att Doc Num	Name
2033537	OTHER
2033549	CORRESPONDENCE
400111757	FORM 2A APPROVED
400111766	LOCATION PICTURES
400111767	LOCATION DRAWING
400111768	HYDROLOGY MAP
400111769	ACCESS ROAD MAP
400111770	REFERENCE AREA MAP
400111771	REFERENCE AREA PICTURES
400111773	SENSITIVE AREA MAP
400111776	NRCS MAP UNIT DESC
400111815	OTHER
400120235	FORM 2A SUBMITTED

Total Attach: 13 Files

General Comments

User Group	Comment	Comment Date
OGLA	Initiated/Completed OGLA Form 2A review on 12-14-10 by Dave Kubeczko; requested aknowledgement of fluid containment, spill/release BMPs, double-lined pit, lined secondary containment, noise reduction, flowback to tanks, no pit in fill, access road sediment control, fencing/netting of pit COAs from operator on 12-14-10; received acknowledgement of COAs from operator on 12-22-10; no CDOW; passed OGLA Form 2A review on 12-29-10 by Dave Kubeczko; fluid containment, spill/release BMPs, double-lined pit, lined secondary containment, noise reduction, flowback to tanks, no pit in fill, access road sediment control, fencing/netting of pit COAs.	12/14/2010 10:27:53 AM

Total: 1 comment(s)

BMP

Type	Comment

Total: 0 comment(s)

Rule 303.d.(3) D.

A topographic map showing all surface waters and riparian areas within one thousand (1,000) feet of the proposed facility is provided in **Figure 3**. As noted on this figure, the closest surface water is an unnamed drainage located approximately 100 feet west of the water handling facility, and approximately 80 feet east of the compressor site. This proposed facility is located approximately 20 feet in elevation above the level of the drainage.

Rule 303.d.(3) E.

The proposed access to the facility is indicated in **Figure 4.** This facility will utilize the existing access from Mesa County roads to the Facility access point on Kimball Creek Road. The only new access that will be constructed for this facility will be from Kimball Creek Road to the proposed compressor site. All access to public roads and the plan for constructing the new access roads for the facility will be approved as part of the Mesa County Conditional Use Permit (CUP) for this facility.

Rule 303.d.(3) F.

The current land use in the vicinity of this facility is rangeland. A topographic map showing a reference area for the location is provided in **Figure 5**. Color photographs of the reference area have been provided in **Figure 6**.

Rule 303.d.(3) G.

Attachment A provides a Natural Resources Conservation Service (NRCS) soils map and description of the soils for the proposed facility.

Rule 303.d.(3) H.

Since the location of the disturbance occurs on lands were slopes are less than 10%, no additional information is required.

Rule 303.d.(3) I.

No oil and gas wells are proposed for this location, so no additional information is required under this rule.

Rule 303.d.(3) J.

The primary impetus for Axia's plan to construct this facility is to mitigate the impact of its operations. This facility will dramatically decrease truck traffic and associated emissions since produced water and condensate will be delivered via buried underground pipelines. Reduction of truck traffic will also mitigate impacts to wildlife and significantly reduce the impact from this traffic on local roads and communities. The water handling facility has been designed with a fence to prevent impact to wildlife. The water handling facility will be constructed to include a double liner and a leak detection system.

Rule 303.d.(3) K.

This area is not covered by a Comprehensive Drilling Plan.

Rule 303.d.(3) L.

Axia is the surface owner; there for no surface use agreement is needed.

Axia Energy, LLC
1430 Larimer St., Suite 400
Denver, CO 80202
(720) 746-5200

Rule 303.d.(3) M.

The proposed location was compared to all sensitive wildlife habitat and restricted surface occupancy areas provided in the GIS files available on the COGCC's website. The facility does not occur within either of these areas. **Figure 7** provides a map of the sensitive wildlife habitat or restricted surface occupancy areas surrounding the facility.

Rule 303.d.(3) N.

The proposed location was compared to the COGCC GIS map of zones subject to Rule 317 B, and the proposed facility is not located within these zones.

Rule 303.d.(3) O.

Not applicable.

Figures

Figure 1- Location Pictures
(Page 1 of 2)

Date Taken: November 5, 2010

Location Name: Proposed Compressor Station & Water Handling Facility

Looking North

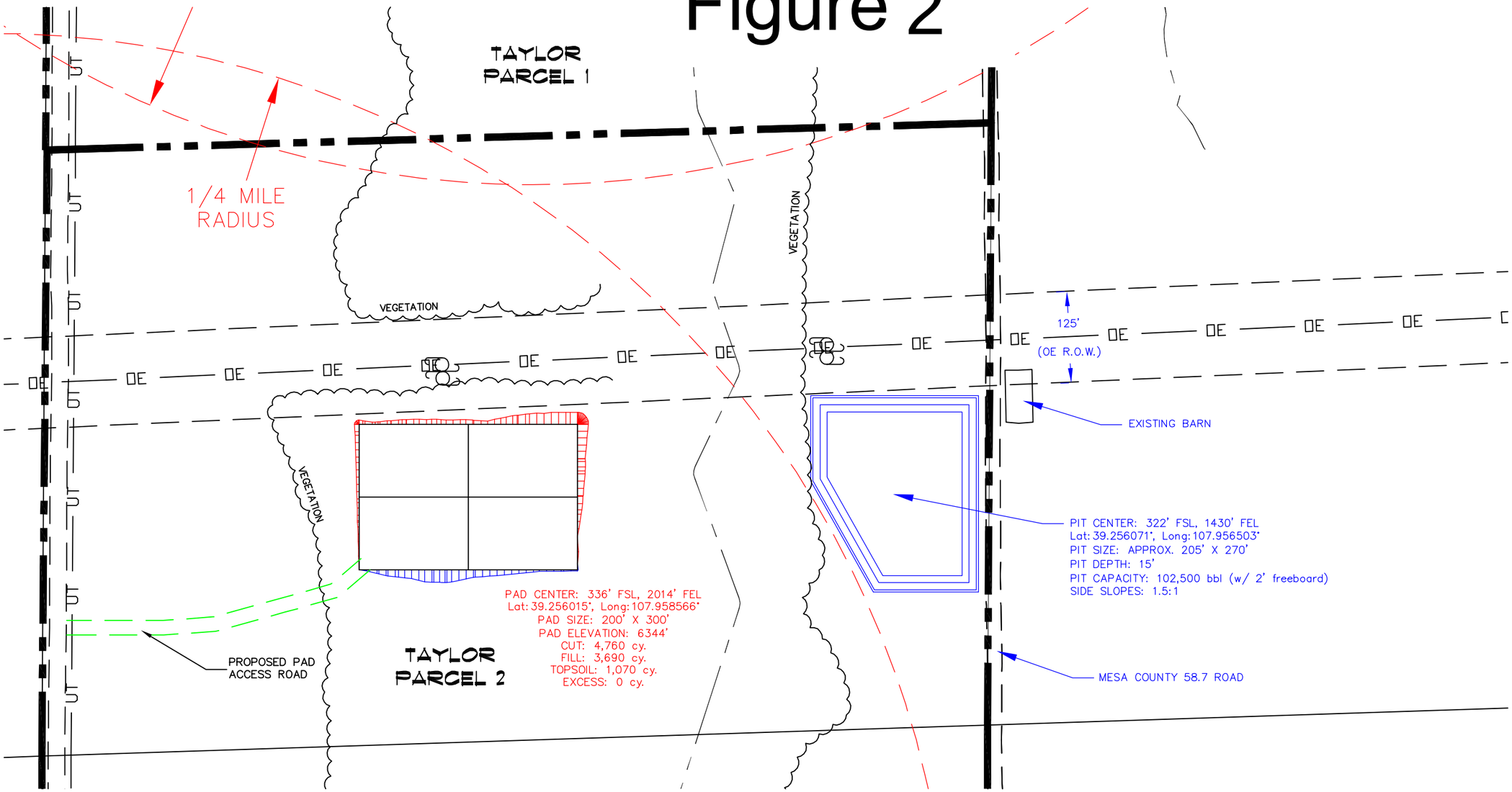
Looking East

Figure 1- Location Pictures
(Page 2 of 2)

Looking South

Looking West

Figure 2



PROPOSED TAYLOR COMPRESSION & COMPLETION PADS
SW1/4 SE1/4 OF SECTION 23, T.9S., R.95W.
OF THE 6th P.M. MESA COUNTY, COLORADO

N

150 0 150 300 450

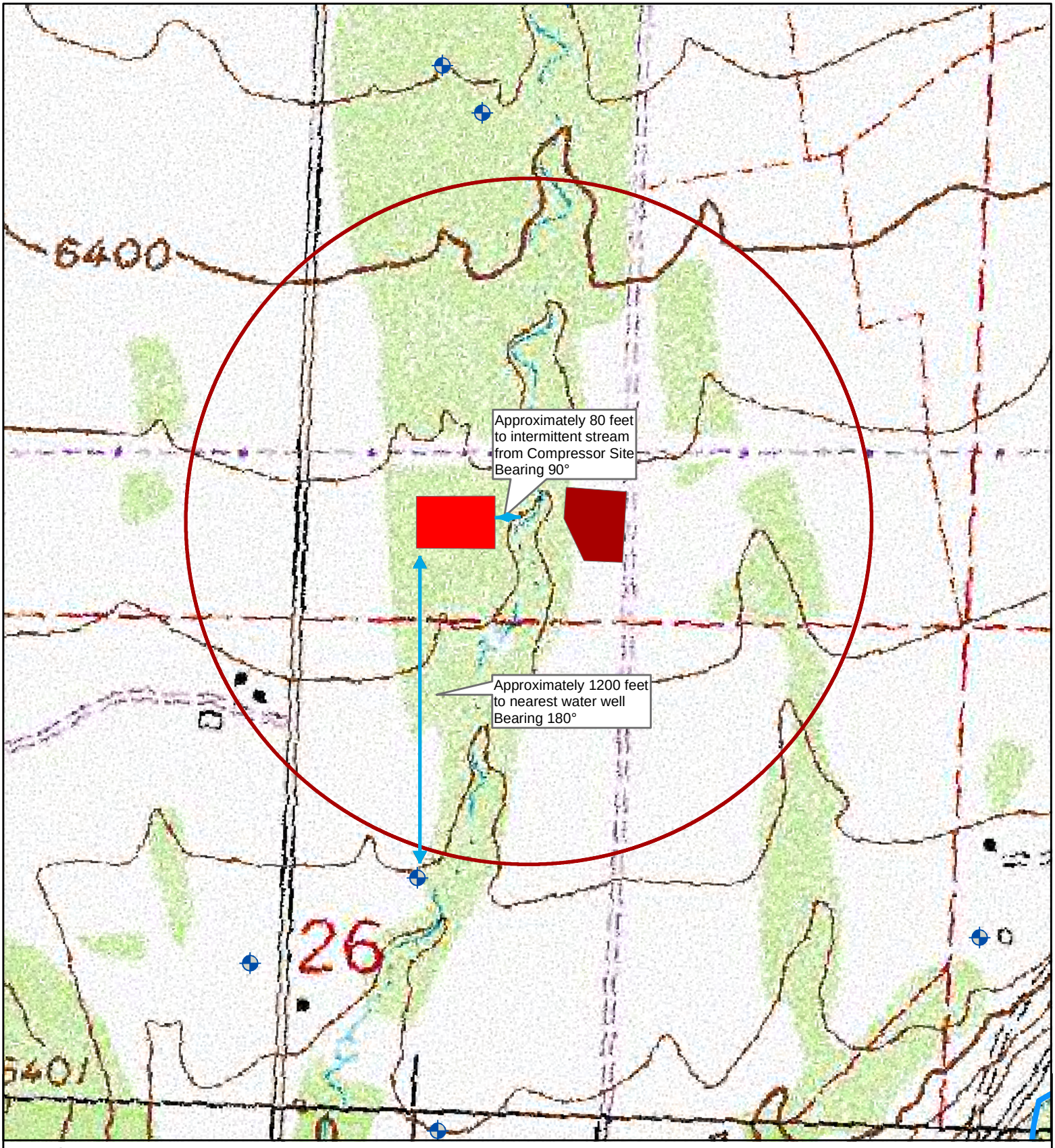
GRAPHIC SCALE IN FEET
1 INCH = 150 FEET

CONSTRUCTION SURVEYS, INC.
0012 SUNRISE BLVD.
SILT, CO 81652
970-876-5753

CONSTRUCTION SILT COLO. SURVEYS

PREPARED FOR:
AXIA ENERGY

DRAFTED BY: BM	CHECKED BY: GB
DATE: 9/9/2010	DWG: AXIA\2006\TaylorParcels.dwg



Legend

- Water Wells
- Streams
- Compressor Station
- Water Handling Facility

1000' Radius Indicated by Dark Red Circle

0 0.1 0.2 0.4 Miles

N

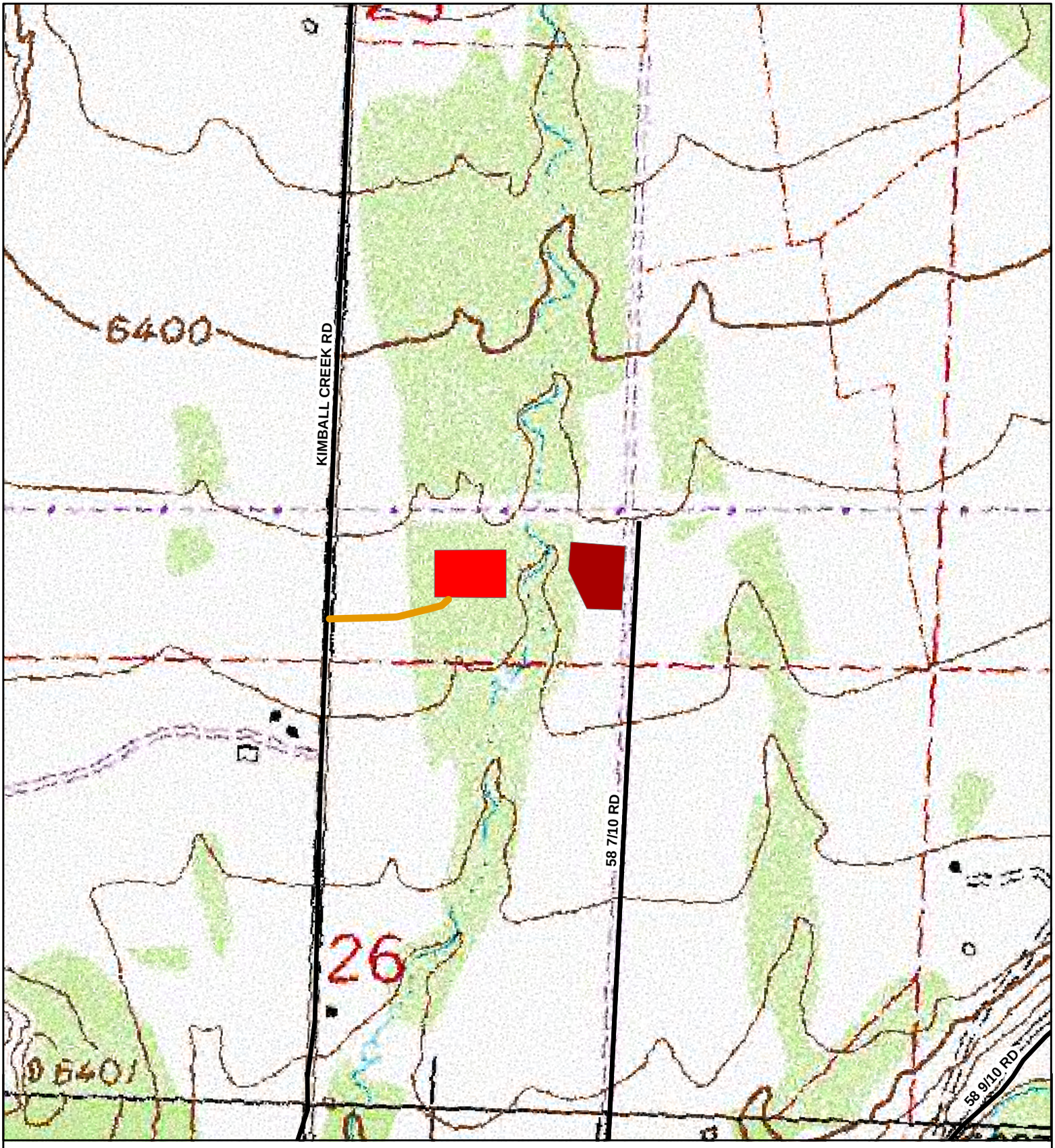
PROJECT NO:	010-1659
DRAWN BY:	JAS
DATE:	11/12/2010

SURFACE WATER MAP
AXIA COMPRESSOR STATION &
WATER HANDLING FACILITY
SWSE, SEC 23, T9S, R95W, 6TH PM
MESA COUNTY, COLORADO

OLSSON ASSOCIATES
826 21-1/2 ROAD
GRAND JUNCTION, CO 81505
TEL 970.263.7800
FAX 970.263.7456

FIGURE

3



Legend

- Compressor Station
- Water Handling Facility
- County Roads
- Proposed Access Road

0 0.1 0.2 0.4 Miles

N

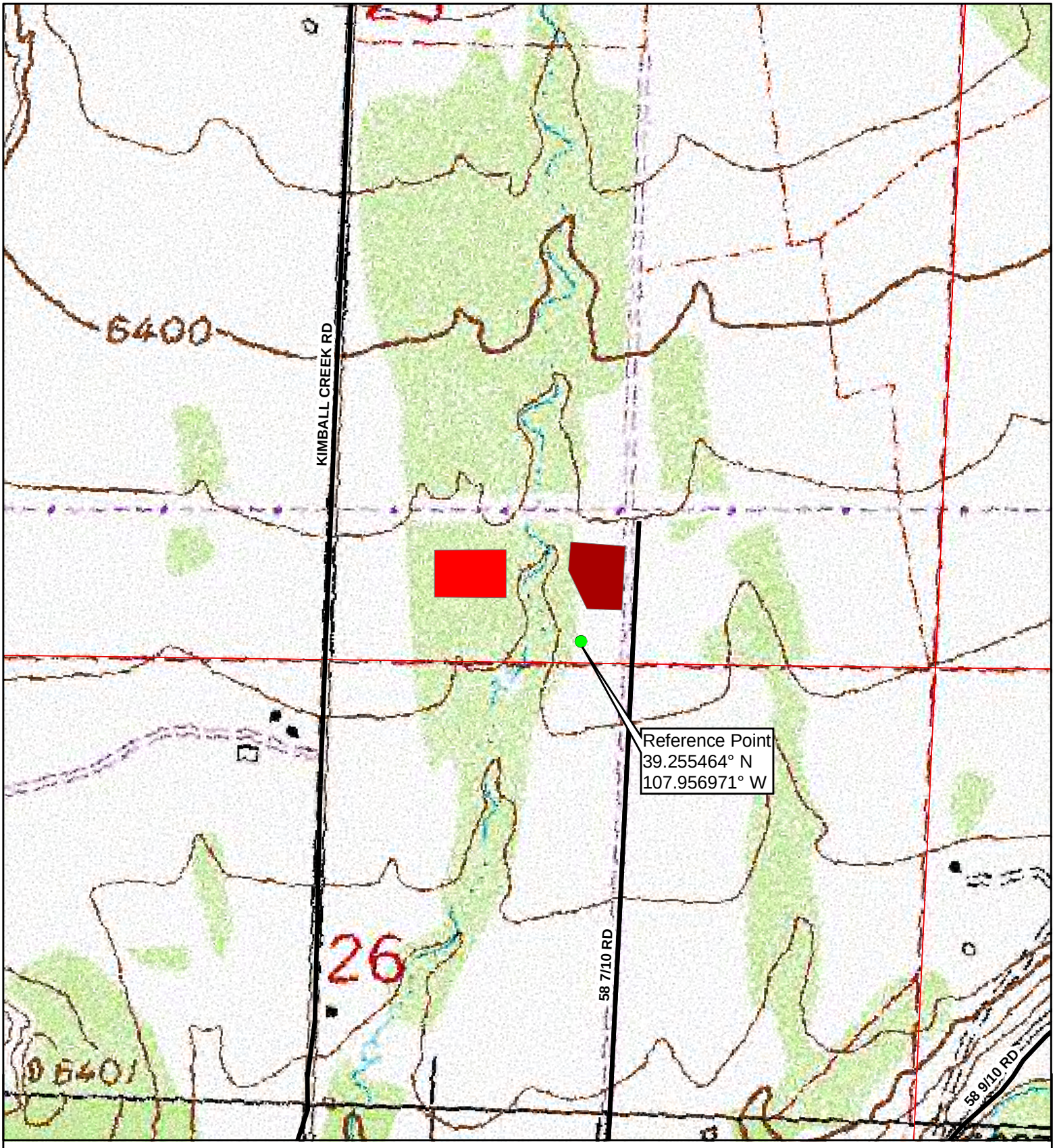
PROJECT NO:	010-1659
DRAWN BY:	JAS
DATE:	11/12/2010

PROPOSED ACCESS
AXIA COMPRESSOR STATION AND
WATER HANDLING FACILITY
SWSE, SEC 23, T9S, R95W, 6TH PM
MESA COUNTY, COLORADO

OLSSON ASSOCIATES
826 21-1/2 ROAD
GRAND JUNCTION, CO 81505
TEL 970.263.7800
FAX 970.263.7456

FIGURE

4



Legend

- Compressor Station
- Water Handling Facility
- County Roads

0 0.1 0.2 0.4 Miles

N

PROJECT NO:	010-1659
DRAWN BY:	JAS
DATE:	11/12/2010

REFERENCE AREA
AXIA COMPRESSOR STATION AND
WATER HANDLING FACILITY
SWSE, SEC 23, T9S, R95W, 6TH PM
MESA COUNTY, COLORADO

OLSSON ASSOCIATES
826 21-1/2 ROAD
GRAND JUNCTION, CO 81505
TEL 970.263.7800
FAX 970.263.7456

FIGURE

5

Figure 6 – Reference Area Pictures

All pictures taken on November 5, 2010

Reference Point (39.255464, -107.956971)

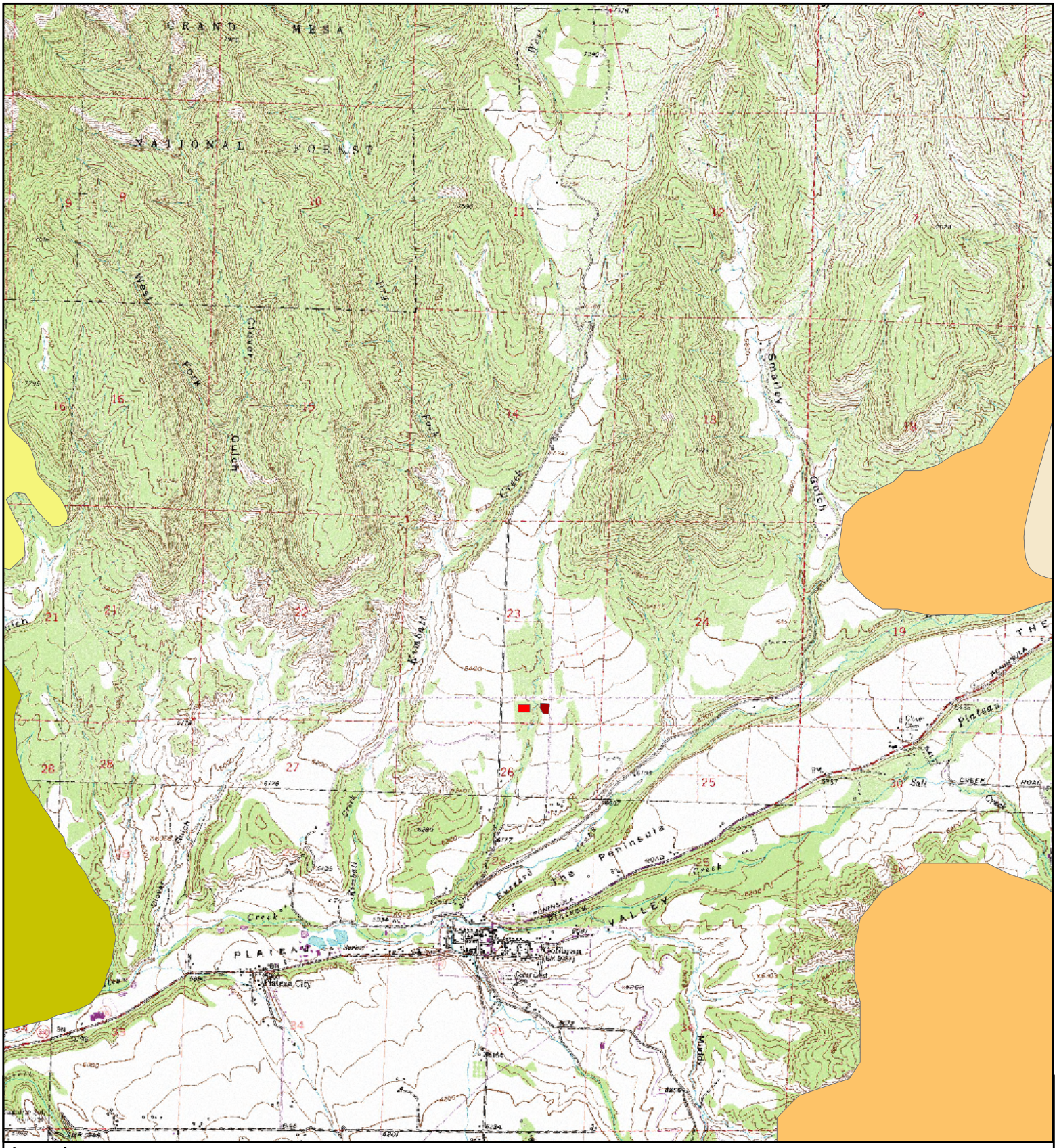
Looking North

Looking East

Figure 6 – Reference Area Pictures

Looking South

Looking West



Legend

- Compressor Station
- Water Handling Facility
- Bighorn Sheep Production Area
- Mule Deer Critical Winter Range
- Elk Winter Concentration Area
- Elk Production Area

Data obtained from COGCC website - Wildlife Habitat Drawings

0 0.375 0.75 1.5 Miles

N

PROJECT NO:	010-1659
DRAWN BY:	JAS
DATE:	11/12/2010

SENSITIVE WILDLIFE HABITAT
AXIA COMPRESSOR STATION AND
WATER HANDLING FACILITY
SWSE, SEC 23, T9S, R95W, 6TH PM
MESA COUNTY, COLORADO

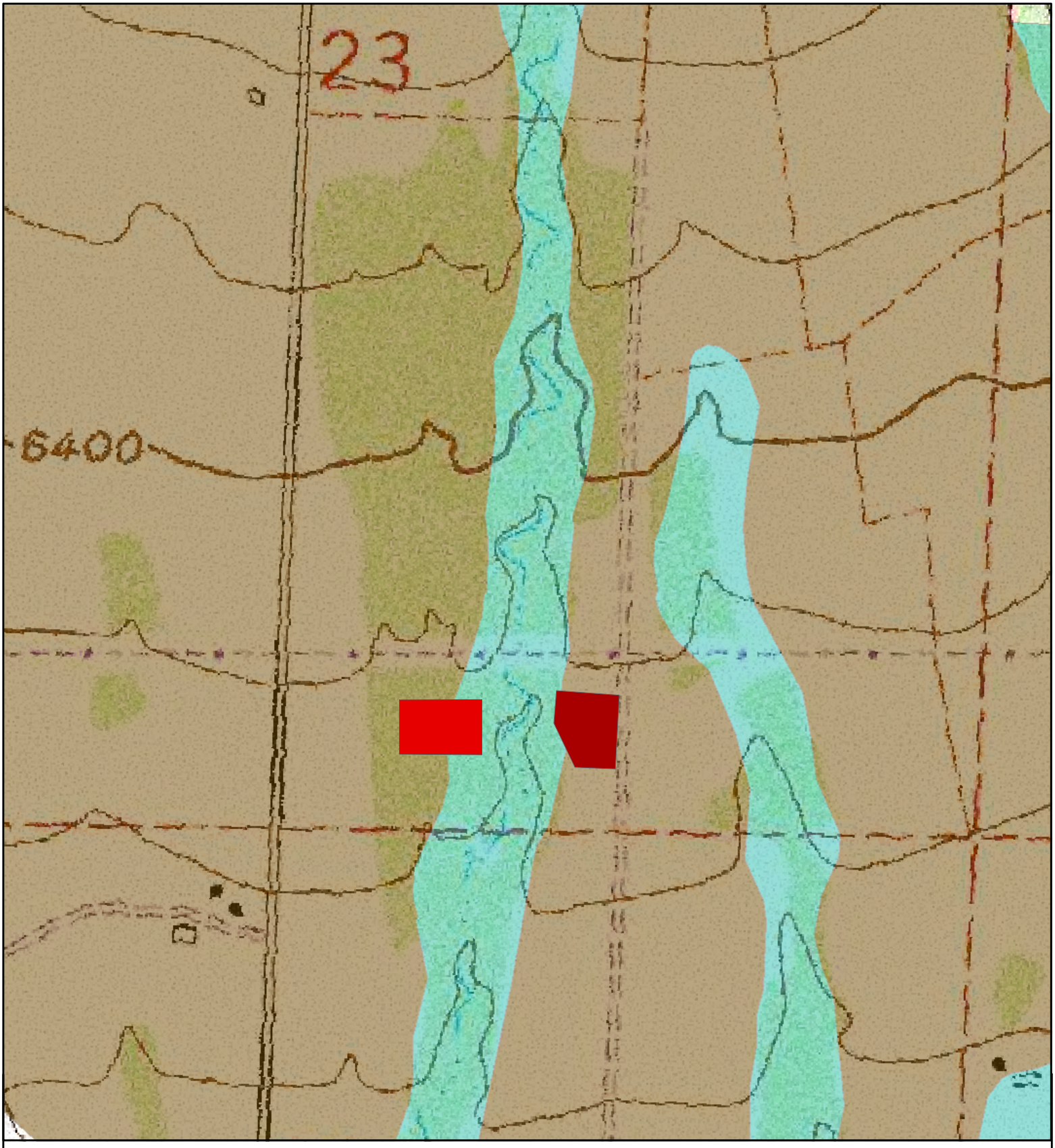
OLSSON ASSOCIATES
826 21-1/2 ROAD
GRAND JUNCTION, CO 81505
TEL 970.263.7800
FAX 970.263.7456

FIGURE

7

Attachment A

NRCS Soils Map & Unit Description



Legend

- Compressor Station
- Water Handling Facility

NRCS Soils Unit

- 23 - Clapper very stony loam, 25 to 65% slopes
- 58 - Peninsula loam, 3 to 9% slopes

0 0.05 0.1 0.2 Miles

N

PROJECT NO: 010-1659	SOILS MAP WATER HANDLING PIT SWSE, SEC 23, T9S, R95W, 6TH PM MESA COUNTY, COLORADO	OLSSON ASSOCIATES 826 21-1/2 ROAD GRAND JUNCTION, CO 81505 TEL 970.263.7800 FAX 970.263.7456	FIGURE
DRAWN BY: JAS			8
DATE: 09/28/2010			

Douglas-Plateau Area, Colorado, Parts of Garfield and Mesa Counties

23—Clapper very stony loam, 25 to 65 percent slopes

Map Unit Setting

Elevation: 5,600 to 7,100 feet
Mean annual precipitation: 12 to 15 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 100 to 150 days

Map Unit Composition

Clapper and similar soils: 85 percent

Description of Clapper

Setting

Landform: Mountains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Material weathered from glacial till derived from basalt

Properties and qualities

Slope: 25 to 65 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water capacity: Moderate (about 7.5 inches)

Interpretive groups

Land capability (nonirrigated): 7e
Ecological site: Juniperus osteosperma-Pinus edulis/Pleuraphis jamesii (F034XY447CO)

Typical profile

0 to 3 inches: Very stony loam
3 to 12 inches: Very stony loam
12 to 26 inches: Very cobbly loam

26 to 60 inches: Very cobbly loam, extremely cobbly loam

Data Source Information

Soil Survey Area: Douglas-Plateau Area, Colorado, Parts of Garfield and Mesa Counties
Survey Area Data: Version 5, Feb 1, 2008

Douglas-Plateau Area, Colorado, Parts of Garfield and Mesa Counties

58—Peninsula loam, 3 to 9 percent slopes

Map Unit Setting

Elevation: 6,200 to 6,800 feet
Mean annual precipitation: 15 to 19 inches
Mean annual air temperature: 42 to 45 degrees F
Frost-free period: 85 to 110 days

Map Unit Composition

Peninsula and similar soils: 80 percent
Minor components: 5 percent

Description of Peninsula

Setting

Landform: Benches
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed, transported rock spread deposits derived from volcanic and sedimentary rock

Properties and qualities

Slope: 3 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water capacity: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability (nonirrigated): 4e
Ecological site: Deep Loam (R048AY292CO)

Typical profile

0 to 4 inches: Loam
4 to 19 inches: Clay loam
19 to 28 inches: Clay loam
28 to 60 inches: Loam

Minor Components

Haplaquolls

Percent of map unit: 5 percent

Landform: Depressions

Data Source Information

Soil Survey Area: Douglas-Plateau Area, Colorado, Parts of Garfield and Mesa Counties
Survey Area Data: Version 5, Feb 1, 2008

Axia Energy, Compressor and Water Handling Facility, SWSE Sec 23 T9S R95W, Mesa County, Pit Facility ID#427583 As-Built Drawings; Associated Form 2A#400111757

OLSSON ASSOCIATES

TRANSMITTAL

	Overnight
x	Regular Mail
	Hand Delivery
	Other: FE 2-day

TO:	David Kubeczko, GOGCC	**DATE:**	10/17/2011
ADDRESS:	707 Wapiti Court, Suite 204 Rifle, CO 81650		
PHONE:	(970) 625-2497, x 5	**PROJECT #:**	010-1659
		PHASE:	100
FROM:	Mike Markus	**TASK:**	100001
RE:	Axia Energy Completion Pit As-Built		

MATERIAL:		QUANTITY	DATE	DESCRIPTION
x	Correspondence	1	10/17/2011	Cover letter
x	Plans	1	10/17/2011	Completion pit as-built drawing
	Reports			
	Specifications			
	Other			

REMARKS:		NOTES:
	For your approval	
x	For your use	
x	As requested	
	For review & comment	
	Other	
	Comments	

Received by: _____ Date: _____

826 21½ Road
Grand Junction, CO 81505

TEL 970.263.7800
FAX 970.263.7456

www.oaconsulting.com

OLSSON ASSOCIATES

October 17th, 2011

David Kubeczko
Location Assessment Specialist
Colorado Oil and Gas Conservation Commission
707 Wapiti Ct., Suite 204
Rifle, CO 81650

RE: Compliance with Form 15 COA #48 - Axia Energy Water Handling Facility in Mesa County, CO

Axia Operator No.: 10335

David,

Olsson Associates (Olsson) was contracted by Axia Energy (Axia) to provide Environmental Engineering and Consulting Services associated with permitting natural gas development operations in Mesa County, Colorado.

On behalf of Axia, attached please find a hard copy of a PE approved/stamped as-built drawing of the Axia completion pit. This submittal is made pursuant to COA #48 of the approved Form 15 (attached), which states: "Operator must submit a professional engineer (PE) approved/stamped as-built drawing (plan view and cross-sections) of the completed/flowback pit within 14 calendar days of construction.

A PDF of this submittal, included the as-built drawing, has been sent to you via email.

If you have any questions or require additional information, please contact me at the number given below.

Mike Markus
Project Scientist

Enclosures: as stated

cc: Jess Peonio, Axia Energy
Project File 010-1659

826 21½ Road
Grand Junction, CO 81505

TEL 970.263.7800
FAX 970.263.7456

www.oaconsulting.com

FORM 15 Rev 6/99

State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109

FOR OGCC USE ONLY
RECEIVED
DEC 14 2010
COGCC/Rifle Office

EARTHEN PIT REPORT/PERMIT

This form is to be used for both reporting and permitting pits. Rule 903 describes when a Permit with prior approval, or a Report within 30 days, is required for pits. Submit required attachments and forms.

Complete the Attachment Checklist

	Oper	OGCC
Detailed Site Plan	✓	
Topo Map w/ Pit Location	✓	
Water Analysis (Form 25)		
Source Wells (Form 26)	✓	
Pit Design/Plan & Cross Sect	✓	
Design Calculations	✓	
Sensitive Area Determ.	✓	
Mud Program		
Form 2A	✓	

FORM SUBMITTED FOR:

☐ Pit Report ☑ Pit Permit

OGCC Operator Number: 10335
Name of Operator: Axia Energy
Address: 1430 Larimer, Suite #400
City: Denver State: CO Zip: 80202

Contact Name and Telephone:
Jess A Peonio
No: 720-746-5212
Fax: 720-746-5201

API Number (of associated well): _____ OGCC Facility ID (of other associated facility): 421047

Pit Location (QtrQtr, Sec, Twp, Rng, Meridian): SWSE, Sec 23, Twp 9S, Rng 95W, 6th PM

Latitude: 39.256071 Longitude: 107.956503 County: Mesa

Pit Use: ☐ Production ☐ Drilling (Attach mud program) ☑ Special Purpose (Describe Use): Multi-well pit

Pit Type: ☑ Lined ☐ Unlined Surface Discharge Permit: ☐ Yes ☑ No

Offsite disposal of pit contents: ☐ Injection ☐ Commercial Pit/Facility Name: N/A Pit/Facility No: N/A

Attach Form 26 to identify Source Wells and Form 25 to provide Produced Water Analysis results.

Existing Site Conditions

Is the location in a "Sensitive Area?" ☑ Yes ☐ No **Attach data used for determination.**

Distance (in feet) to nearest surface water: ~ 100' ground water: ~ 80' water wells: ~ 1400'

LAND USE (or attach copy of Form 2A if previously submitted for associated well) Select one which best describes land use:

Crop Land: ☐ Irrigated ☐ Dry Land ☐ Improved Pasture ☐ Hay Meadow ☐ CRP

Non-Crop Land: ☑ Rangeland ☐ Timber ☐ Recreational ☐ Other (describe): _____

Subdivided: ☐ Industrial ☐ Commercial ☐ Residential

SOILS (or attach copy of Form 2A if previously submitted for associated well)

Soil map units form USNRCS survey: Sheet No: _____ Soil Complex/Series No: 23 & 58

Soils Series Name: 23 - Clapper very stony loam, 25 to 65% slopes Horizon thickness (in inches): A: 3 ; B: 9 ; C: 14

Soils Series Name: 58 - Peninsula loam, 3 to 9% slopes Horizon thickness (in inches): A: 4 ; B: 15 ; C: 9

Attach detailed site plan and topo map with pit location.

Pit Design and Construction

Size of pit (feet): Length: 270' Width: 205' Depth: 15'

Calculated pit volume (bbls): 102,500 Daily inflow rate (bbls/day): Varies

Daily disposal rates (attach calculations): Evaporation: N/A bbls/day Percolation: N/A bbls/day

Type of liner material: polysynthetic Thickness: 1-30 mil liner, 1-45 mil liner

Attach description of proposed design and construction (include sketches and calculations).

Method of treatment of produced water prior to discharge into pit (separator, heater treater, other): separator, filter

Is pit fenced? ☑ Yes ☐ No Is pit netted? ☐ Yes ☑ No See COA 49

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Jess A Peonio Signed: Jess Peonio

Title: Sr. Drilling Engineer/Regulatory Manager Date: 11/23/10

OGCC Approved: David Kubeczko Title: Location Assessment Specialist Date: 3-3-11

CONDITIONS OF APPROVAL, IF ANY:

See Attached:

FACILITY NUMBER:

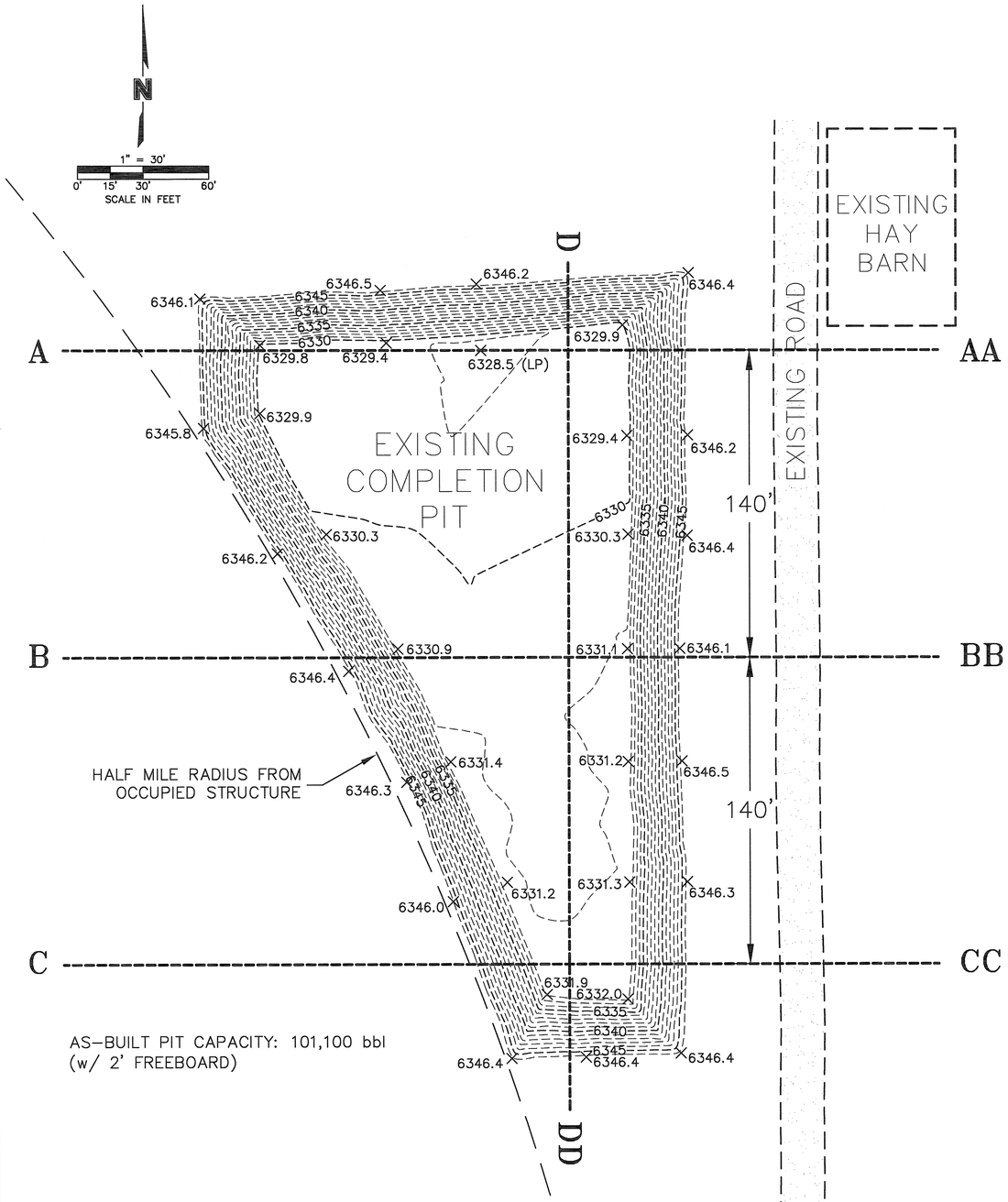
Scan No 2033537 Form 15 Pit Permit Form 2A#400111757

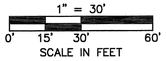
Axia Energy, Compressor and Water Handling Facility, SWSE Sec 23 T9S R95W, Mesa County, Form 15 Pit Permit Conditions of Approval, Associated Form 2A#400111757

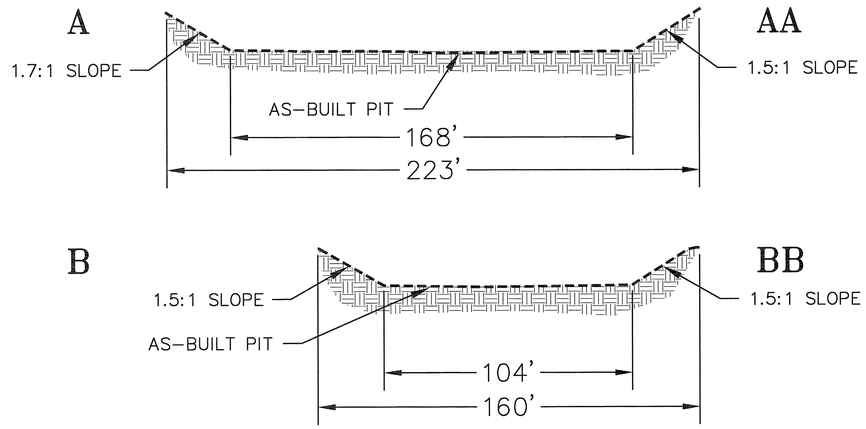
COA 4 - Location is in a sensitive area because of its proximity to surface water; therefore, operator must ensure 110 percent secondary containment for any volume of fluids contained at the water handling facility site during natural gas development activities and operations; including, but not limited to, construction of a berm or diversion dike, diversion/collection trenches within and/or outside of berms/dikes, site grading, or other comparable measures (i.e., best management practices (BMPs) associated with stormwater management) sufficiently protective of nearby surface water. Any berm constructed at the well pad location will be stabilized, inspected at regular intervals (at least every 14 days), and maintained in good condition.
COA 5 - Operator must implement best management practices to contain any unintentional release of fluids, including any fluids conveyed via buried or temporary surface pipelines.
COA 90 - Notify COGCC Oil and Gas Location Assessment (OGLA) Specialist for Western Colorado (Dave Kubeczko; email dave.kubeczko@state.co.us) and the COGCC Field Inspection Supervisor for Northwest Colorado (Shaun Kellerby; email shaun.kellerby@state.co.us) 48 hours prior to start of construction.
COA 39 - No portion of any pit that will be used to hold liquids shall be constructed on fill material, unless the pit and fill slope are designed and certified by a professional engineer, subject to review and approval by the director prior to construction of the pit. The construction and lining of the pit shall be supervised by a professional engineer or their agent. The entire base of the pit must be in cut.
COA 47 - The completion/flowback fluids multi-well pit must be double-lined. The pit will also require a leak detection system (Rule 904.e).
COA 48 - Operator must submit a professional engineer (PE) approved/stamped as-built drawing (plan view and cross-sections) of the completion/flowback pit within 14 calendar days of construction.
COA 49 - The completion/flowback fluids multi-well pit must be fenced. If the completion/flowback pit is not closed (either drained and/or backfilled) immediately after natural gas development activities, then operator must appropriately net the completion/flowback pit, in a timely manner, and maintain the fencing and netting until the pit is closed in accordance with Rule 905. Closure of Pits, and Buried or Partially Buries Produced Water Vessels.
COA 25 - Flowback and stimulation fluids must be sent to tanks to allow the sand to settle out before the fluids can be placed into any pipeline or pit located on the facility pad. The flowback and stimulation fluid tanks must be placed on the pad in an area with additional downgradient perimeter berming. The area where flowback fluids will be stored/reused must be constructed to be sufficiently impervious to contain any spilled or released material (per Rule 604.a.(4)).
COA 91 – At the time of pit closure, operator must submit disposal information via a Form 4 Sundry Notice to the COGCC Loacation Specialist for Western Colorado (Dave Kubeczko; email dave.kubeczko@state.co.us). The disposal method will need to be approved prior to operator starting pit closure. In addition, operator will collect a pit water sample and, at a minimum, analyze for the following parameters: pH; alkalinity; specific conductance; major cations/anions (chloride, fluoride, sulfate, sodium); total dissolved solids (TDS); BTEX/DRO; TPH; PAH's (including benzo[a]pyrene); and metals (arsenic, barium, calcium, chromium, iron, magnesium, selenium). At the time of closure/disposal of pit water, COGCC may require additional analytes, as appropriate.

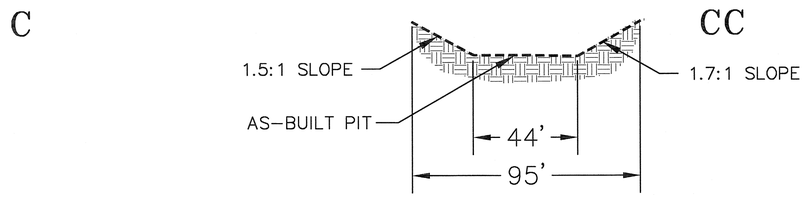
NOTES:

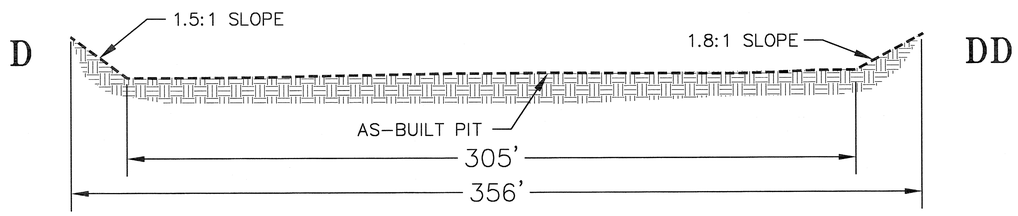
1. AS-BUILT EXHIBIT IS BASED UPON SURVEY DATA AND OTHER PERTINENT DATA PROVIDED BY CONSTRUCTION SURVEYS, INC. DATED SEPTEMBER 28, 2011. CONSTRUCTION OBSERVATION CONDUCTED PERIODICALLY BETWEEN AUGUST 3, 2011 THROUGH OCTOBER 6, 2011 AND COMPACTION TEST RESULTS PROVIDED BY H.P.GEOTECH. THE FACILITY SHOWN ON THIS AS BUILT EXHIBIT WAS CONSTRUCTED IN COMPLIANCE WITH THE APPROVED DRAINAGE REPORT AND/OR CONSTRUCTION DRAWINGS AND ENGINEER INTENT.
2. LINEWORK FOR EXHIBIT PROVIDED BY
   CONSTRUCTION SURVEYS, INC.
   0012 SUNRISE BOULEVARD
   SILT, CO 81562
   970.876.5753











OLSSON ASSOCIATES
TEL 970.263.7600
FAX 970.263.7456
www.oaconsulting.com
826 21 1/4 Road
Grand Junction, CO 81505

COLORADO REGISTERED WILLIAM E. PRATT 38514 PROFESSIONAL ENGINEER 10/11/11

REV. NO.	DATE	REVISIONS DESCRIPTION
		REVISIONS

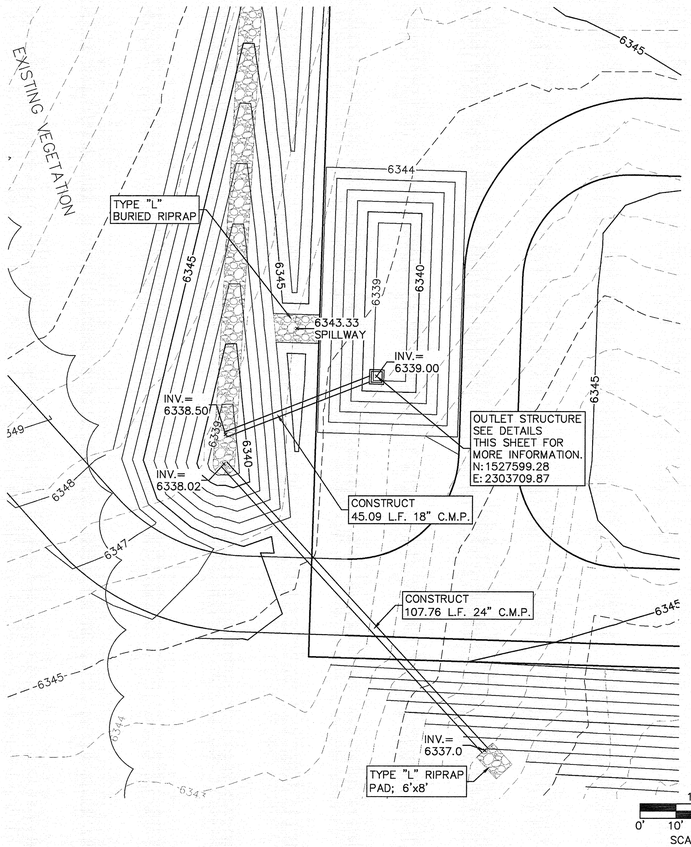
AS-BUILT AXIA COMPLETION PIT

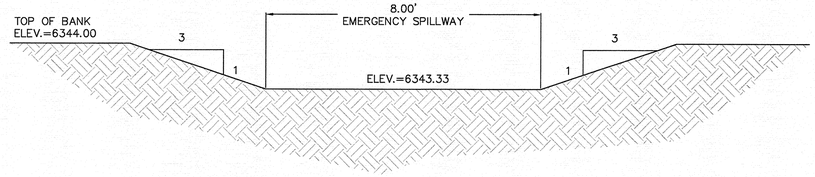
AXIA ENERGY
SW 1/4 SE 1/4 OF SEC. 23, T.9S., R.95W. OF THE 6TH P.M.
MESA COUNTY, COLORADO
2011

drawn by: JB
checked by: WEP
approved by: WEP
QA/QC by:
project no.:
drawing no.101659_ASBUILT.dwg
date:

SHEET
1 of 1

DWG: F:\Projects\010-1659 Axia Local & State Permitting_MUNI\As-Built\101659_ASBUILT.dwg USER: jbowser
DATE: Oct 11, 2011 7:44am XREFS: 101659_PTBLK





NOTES

1. NO BUILDING, STRUCTURE OR FILL WILL BE PLACED IN THE DETENTION POND OR WATER IMPOUNDMENT AREAS AND NO CHANGES OR ALTERATIONS AFFECTING THE HYDRAULIC CHARACTERISTICS OF THE DETENTION POND OR WATER IMPOUNDMENT AREAS WILL BE MADE WITHOUT THE APPROVAL OF THE COUNTY.
2. MAINTENANCE AND OPERATION OF THE DETENTION POND AND WATER IMPOUNDMENT AREAS IS THE RESPONSIBILITY OF THE PROPERTY OWNER. IF OWNER FAILS IN THIS RESPONSIBILITY, THE COUNTY HAS THE RIGHT TO ENTER THE PROPERTY, MAINTAIN THE DETENTION POND OR WATER IMPOUNDMENT AREAS, AND BE REIMBURSED FOR COSTS INCURRED.
3. ALL DRAINAGE APPURTENANCES AND BASIN BOUNDARIES SHALL BE VERIFIED. AS-BUILT DRAWINGS SHALL BE PREPARED BY A REGISTERED PROFESSIONAL ENGINEER PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY FOR ANY STRUCTURE WITHIN THE DEVELOPMENT.
4. PERMISSION TO REPRODUCE THESE PLANS IS HEREBY GIVEN TO MESA COUNTY FOR COUNTY PURPOSES ASSOCIATED WITH PLAN REVIEW, APPROVAL, PERMITTING, INSPECTION AND CONSTRUCTION OF WORK.

Orifice Plate Perforation Sizing

Circular Perforation Sizing

Chart may be applied to orifice plate or vertical pipe outlet.

Hole Dia (in) *	Hole Dia (in)	Min. Sc (in)	Area per Row (sq in) n=1	n=2	n=3
1/4	0.250	1	0.05	0.10	0.15
5/16	0.313	2	0.08	0.15	0.23
3/8	0.375	2	0.11	0.22	0.33
7/16	0.438	2	0.15	0.30	0.45
1/2	0.500	2	0.20	0.39	0.59
9/16	0.563	3	0.25	0.50	0.75
5/8	0.625	3	0.31	0.61	0.92
11/16	0.688	3	0.37	0.74	1.11
3/4	0.750	3	0.44	0.88	1.33
13/16	0.813	3	0.52	1.04	1.56
7/8	0.875	3	0.60	1.20	1.80
15/16	0.938	3	0.69	1.38	2.07
1	1.000	4	0.79	1.57	2.36
1 1/16	1.063	4	0.89	1.77	2.66
1 1/8	1.125	4	0.99	1.99	2.98
1 3/16	1.188	4	1.11	2.22	3.32
1 1/4	1.250	4	1.23	2.45	3.68
1 5/16	1.313	4	1.35	2.71	4.06
1 3/8	1.375	4	1.48	2.97	4.45
1 7/16	1.438	4	1.62	3.25	4.87
1 1/2	1.500	4	1.77	3.53	5.30
1 9/16	1.563	4	1.92	3.83	5.75
1 5/8	1.625	4	2.07	4.15	6.22
1 11/16	1.688	4	2.24	4.47	6.71
1 3/4	1.750	4	2.41	4.81	7.22
1 13/16	1.813	4	2.58	5.16	7.74
1 7/8	1.875	4	2.76	5.52	8.28
1 15/16	1.938	4	2.95	5.90	8.84
2	2.000	4	3.14	6.28	9.42
n = Number of columns of perforations					
Minimum steel plate thickness			1/4 "	5/16 "	3/8 "

* Designer may interpolate to the nearest 32nd inch to better match the required area, if desired.

Rectangular Perforation Sizing

Only one column of rectangular perforations allowed.

Rectangular Height = 2 inches

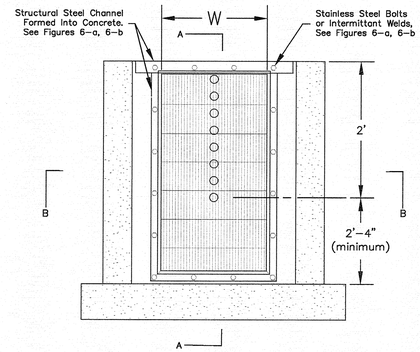
$$\text{Rectangular Width (inches)} = \frac{\text{Required Area per Row (sq in)}}{2"}$$

Rectangular Hole Width	Min. Steel Thickness
5"	1/4 "
6"	1/4 "
7"	5/32 "
8"	5/16 "
9"	11/32 "
10"	3/8 "
>10"	1/2 "

Urban Drainage and Flood Control District
Drainage Criteria Manual (V.3)
File: V3-Outlet Details.dwg

Figure 5
WQCV Outlet Orifice Perforation Sizing

Note: Vertical WQCV Trash Racks are shown in Figures 6, 6-a, and 6-b for suggested standardized outlet design. Adverse-Slope Trash Rack design may be used for non-standardized designs, but must meet minimum design criteria.



Elevation

WQCV Trash Racks:

1. Well-screen trash racks shall be stainless steel and shall be attached by intermittant welds along the edge of the mounting frame.
2. Bar grate trash racks shall be aluminum and shall be bolted using stainless steel hardware.
3. Trash Rack widths are for specified trash rack material. Finer well-screen or mesh size than specified is acceptable, however, trash rack dimensions need to be adjusted for materials having a different open area/gross area ratio (R value)
4. Structural design of trash rack shall be based on full hydrostatic head with zero head downstream of the rack.

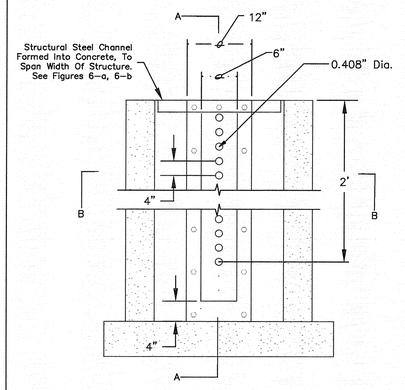
Overflow Trash Racks:

1. All trash racks shall be mounted using stainless steel hardware and provided with hinged and lockable or boltable access panels.
2. Trash racks shall be stainless steel, aluminum, or steel. Steel trash racks shall be hot dip galvanized and may be hot powder painted after galvanizing.
3. Trash Racks shall be designed such that the diagonal dimension of each opening is smaller than the diameter of the outlet pipe.
4. Structural design of trash rack shall be based on full hydrostatic head with zero head downstream of the rack.

Urban Drainage and Flood Control District
Drainage Criteria Manual (V.3)
File: V3-Outlet Details.dwg

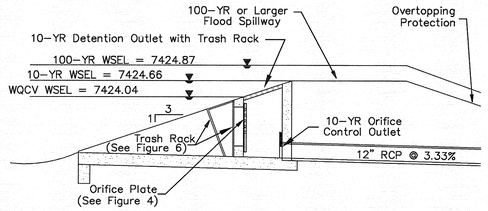
Figure 6
Suggested WQCV Outlet Standardized Trash Rack Design

Orifice Perforation Details



Urban Drainage and Flood Control District
Drainage Criteria Manual (V.3)
File: V3-Outlet Details.dwg

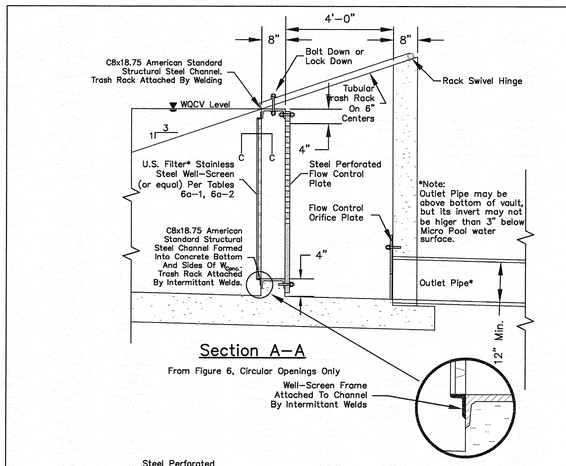
Figure 4
Orifice Details for Draining WQCV



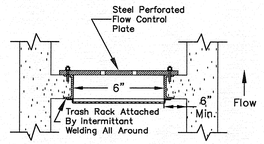
Overtopping Spillway Option

Urban Drainage and Flood Control District
Drainage Criteria Manual (V.3)
File: V3-Outlet Details.dwg

Figure 2
Typical WQCV Outlet Structure Profiles Including 2- to 10-Year and 100-Year Detention



Section A-A
From Figure 6, Circular Openings Only

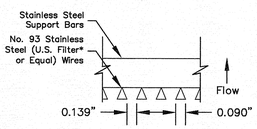


Section B-B - Plan View
From Figure 6, Circular Openings Only

Limits for this Standardized Design:

1. All outlet plate openings are circular.
2. Maximum diameter of opening = 2 inches.

*U.S. Filter, St. Paul, Minnesota, USA



Section C-C
From Figure 6, Circular Openings Only

R Value = (net open area)/(gross rack area) = 0.60

Urban Drainage and Flood Control District
Drainage Criteria Manual (V.3)
File: V3-Outlet Details.dwg

Figure 6-a
Suggested Standardardized Trash Rack and Outlet Design For WQCV Outlets With Circular Openings

OLSSON ASSOCIATES
2111 South 67th Street
Omaha, NE 68106
TEL. 402.341.1116
FAX 402.341.5895
www.oaconsulting.com

COLORADO REGISTERED WILLIAM E. PRATT 38514 PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION
1	04/12/11	MSP SUBMITTAL

REVISIONS

DETENTION POND
COMPRESSOR STATION

AXIA TAYLOR COMPRESSOR STATION
MESA COUNTY, COLORADO

COLLBRAN, COLORADO

2010

drawn by:	MDB/LRW
checked by:	WEP
approved by:	WEP
QA/QC by:	LP
project no.:	010-1659
drawing no.:	
date:	04/04/2011

SHEET
C2.3

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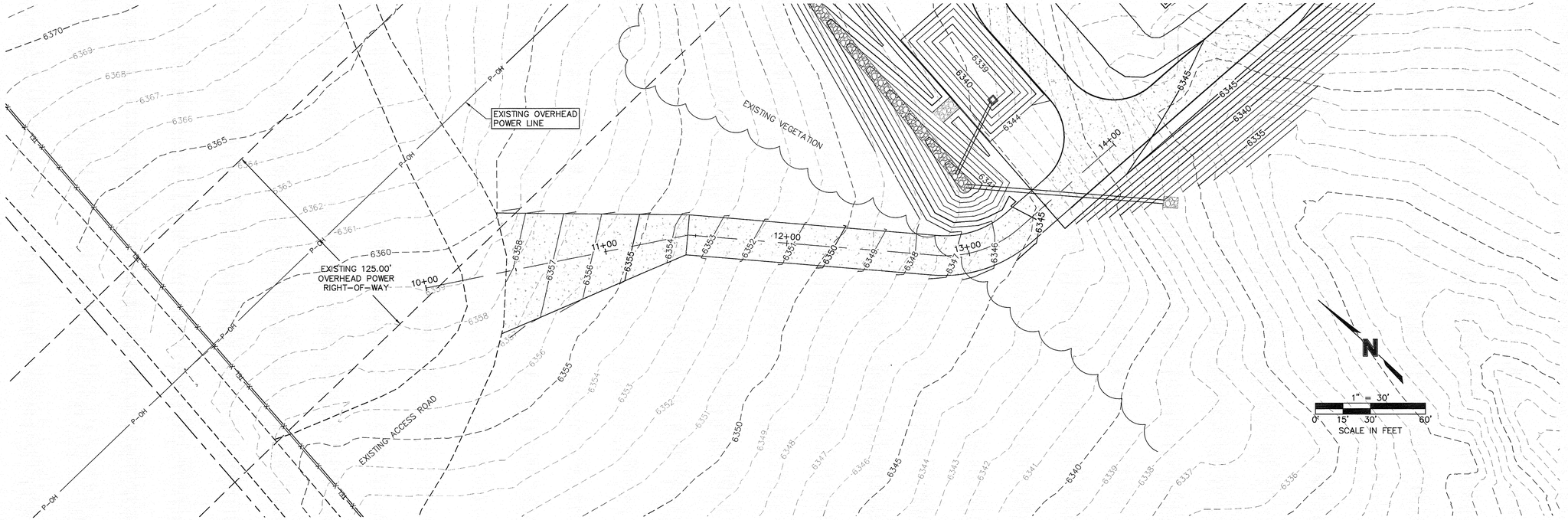
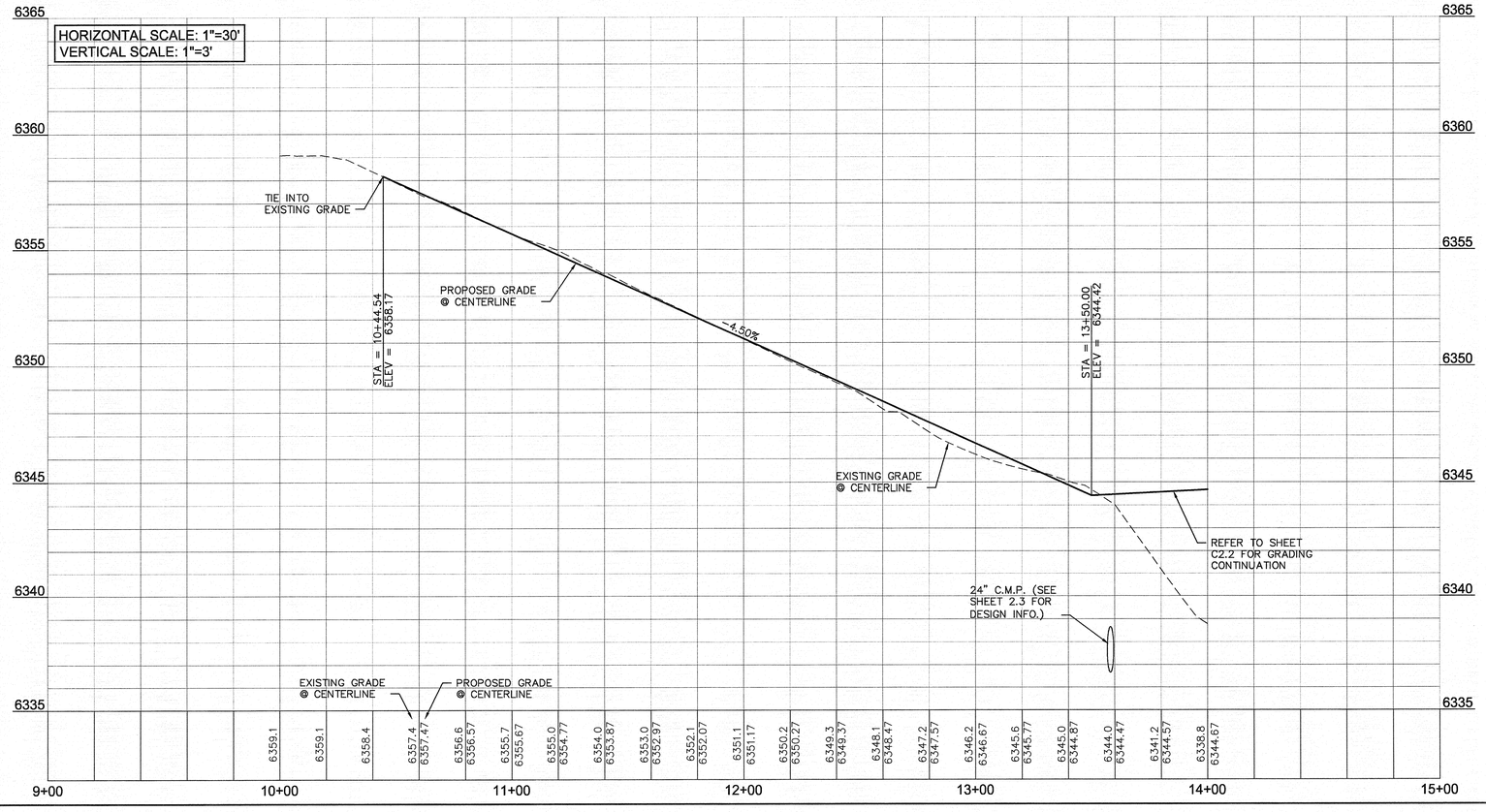


NOTES

1. REFER TO SHEET C2.1 FOR ACCESS ROAD CENTERLINE AND CURVE DATA.
2. CONTRACTOR TO FIELD VERIFY EXISTING GRADES AT TIE-IN PRIOR TO CONSTRUCTION.
3. OFFSITE STORMWATER TO SHEET FLOW OVER ACCESS ROAD.



OLSSON ASSOCIATES
2111 South 67th Street
Omaha, NE 68106
TEL 402.341.1116
FAX 402.341.5895
www.olssonassoc.com

COLORADO REGISTERED WATER RESOURCE ENGINEER 38514 PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION
1	04/12/11	MSP SUBMITTAL

REVISIONS

ACCESS ROAD - PLAND & PROFILE
COMPRESSOR STATION

AXIA TAYLOR COMPRESSOR STATION
MESA COUNTY, COLORADO

2010

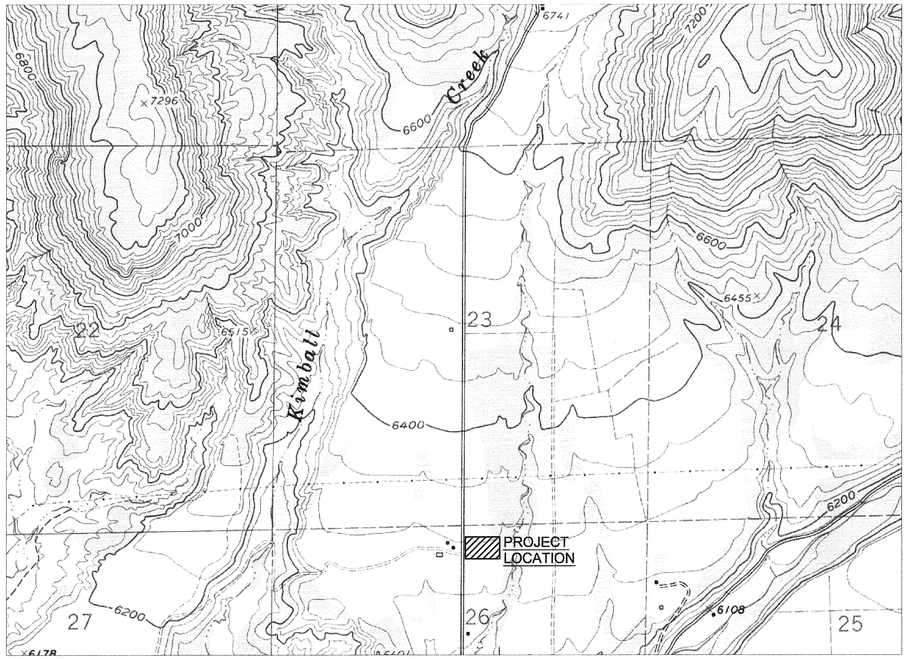
COLLBRAN, COLORADO

drawn by: MDB/LRW
checked by: WEP
approved by: WEP
QA/QC by: LP
project no.: 010-1659
drawing no.:
date: 04/04/2011

SHEET
C2.4

DWG: F:\Projects\010-1659_LDVP\Final Plans\101659_PROF.dwg USER: mbickford
DATE: Apr 12, 2011 5:04pm XREFS: 101659_GRDR 101659_XBASE 101659_PBASE

AXIA COMPRESSOR PAD SITE
AND WATER IMPOUNDMENT
DELTA PETROLEUM CORPORATION
SITE CIVIL CONSTRUCTION DOCUMENTS
LOCATED IN SECTION 26, TOWNSHIP 9 SOUTH, RANGE 95 WEST OF THE 6TH P.M.
MESA COUNTY, STATE OF COLORADO



GENERAL NOTES

1. ALL WORK WITHIN PUBLIC RIGHTS-OF-WAY AND/OR EASEMENT AND ALL ON-SITE UTILITY WORK SHALL CONFORM TO THE TECHNICAL SPECIFICATIONS AND DESIGN CRITERIA FOR PUBLIC IMPROVEMENT PROJECTS OF MESA COUNTY AND THE GRANTOR OF THE EASEMENT.
2. ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF THE APPROPRIATE GOVERNING AGENCY. THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT ALL TIMES (1) SIGNED COPY OF THE PLANS, STANDARDS, AND SPECIFICATIONS AS APPROVED BY THE APPROPRIATE GOVERNING AGENCY. THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FOR ANY VARIANCE TO THE ABOVE DOCUMENTS.
3. THE CONTRACTOR SHALL OBTAIN, AT HIS OWN EXPENSE, ALL APPLICABLE CODES, LICENSES, STANDARDS, PERMITS, BONDS, ETC. WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK.
4. THE EXISTING UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MAY NOT INCLUDE ALL LINES PRESENT. THE CONTRACTOR WILL BE RESPONSIBLE FOR CALLING THE UTILITY NOTIFICATION CENTER OF COLORADO AT 1-800-922-1987 AND COORDINATING FIELD LOCATIONS OF EXISTING UNDERGROUND UTILITIES PRIOR TO BEGINNING GRADING AND UTILITY WORK.
5. LOCATIONS AND ELEVATIONS OF EXISTING IMPROVEMENTS TO BE MET (OR AVOIDED) BY WORK TO BE DONE SHALL BE CONFIRMED BY THE CONTRACTOR THROUGH FIELD EXPLORATIONS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL REPORT TO THE ENGINEER ANY DISCREPANCIES BETWEEN HIS MEASUREMENTS AND THESE PLANS.
6. ANY CONSTRUCTION DEBRIS OR MUD DROPPED INTO MANHOLES, INLETS, PIPES OR TRACKED ONTO EXISTING ROADWAYS SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR. THE CONTRACTOR SHALL REPAIR ANY EXCAVATIONS OR PAVEMENT FAILURES CAUSED BY HIS CONSTRUCTION. THE CONTRACTOR SHALL PROPERLY BARRICADE THE CONSTRUCTION SITE UNTIL CONSTRUCTION IS COMPLETE.
7. PRIOR TO BEGINNING THE WORK, THE CONTRACTOR SHALL OBTAIN ANY WRITTEN AGREEMENTS FOR INGRESS AND EGRESS TO THE WORK FORM ADJACENT PRIVATE PROPERTY OWNERS. ACCESS TO ANY ADJACENT PRIVATE PROPERTY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS NOT OBTAINED BY THE OWNER OR OWNER'S REPRESENTATIVES AND PAY ALL FEES AS REQUIRED BY THE CONSTRUCTION COVERED IN THESE PLANS.
9. EXCEPT FOR MATERIALS DESIGNED TO BE RELOCATED ON THIS PLAN, ALL OTHER CONSTRUCTION MATERIALS SHALL BE NEW.
10. NO WORK SHALL BE BACKFILLED (INCLUDING BEDDING MATERIAL ABOVE THE SPRING LINE OF THE PIPE) UNTIL THE CONSTRUCTION HAS BEEN INSPECTED AND APPROVED FOR BACKFILLING BY THE APPROPRIATE GOVERNING AGENCY.
11. ALL WORK AND MATERIALS WILL BE SUBJECT TO INSPECTION AND APPROVAL BY THE OWNER OR THE OWNERS REPRESENTATIVE.
12. SHOP DRAWINGS AND MATERIAL SPECIFICATIONS SHALL BE SUBMITTED TO OWNER/ENGINEER FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT OF MATERIAL.
13. ALL WORK SHALL CONFORM TO ALL LOCAL, STATE, AND FEDERAL APPLICABLE LAWS AND REGULATIONS.
14. ALL ESTIMATES OF QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR DETERMINING ALL QUANTITIES. CONTRACTOR SHALL PROVIDE ALL WORK AND MATERIALS AS SHOWN ON THESE PLANS.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR JOB SITE SAFETY OF HIS OWN PERSONNEL, ALL VISITORS TO THE SITE, AND THE GENERAL PUBLIC INCLUDING, BUT NOT LIMITED TO, TRENCH EXCAVATION AND SHORINGS, TRAFFIC CONTROL, AND SECURITY NOT LIMITED TO NORMAL WORKING HOURS.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ALL EXISTING FEATURES TO REMAIN THAT ARE DAMAGED DURING CONSTRUCTION ACTIVITIES TO EQUAL OR BETTER CONDITION, AT HIS OWN EXPENSE.
17. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL SITE IMPROVEMENTS (INCLUDING BUT NOT LIMITED TO: UTILITIES, STRUCTURES, PAVING, LANDSCAPING, ETC.) SUCH THAT NO DAMAGE IS DONE TO SITE IMPROVEMENTS (I.E.: SAWCUTTING NEW PAVEMENT). SITE IMPROVEMENTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST TO THE OWNER.
18. IF, DURING THE CONSTRUCTION PROCESS, CONDITIONS ARE ENCOUNTERED WHICH COULD INDICATE THAT A PRIOR UNIDENTIFIED SITUATION IS PRESENT, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY.
19. THE CONTRACTOR SHALL REMOVE ALL DEBRIS RESULTING FROM WORK UNDER THIS CONTRACT TO AN APPROVED DUMP SITE.
20. DIMENSIONS SHOWN ON THE PLANS ARE TO FACE OF CURB LINE IN CURBED AREA AND EXTERIOR FACE OF BUILDING, AND TO CENTERLINE OF UTILITIES, UNLESS OTHERWISE SPECIFIED.
21. USE ONLY DIMENSIONS PROVIDED ON THESE PLANS. DO NOT SCALE DRAWINGS. INFORM ENGINEER OF ANY DISCREPANCIES AND/OR MISSING INFORMATION.
22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ACCESS TO ADJACENT PARCELS DURING ALL HOURS OF OPERATION FOR THE BUSINESSES LOCATED ON THOSE PARCELS.
23. CONTRACTOR TO OBTAIN TEMPORARY POWER, TELEPHONE AND WATER FOR THE SITE.
24. CONTRACTOR MUST COORDINATE CONSTRUCTION WITH OWNER/ADJACENT PROPERTY OWNER'S CONSTRUCTION MANAGER.
25. THE CONTRACTOR SHALL OBTAIN A COPY OF THE STANDARD SPECIFICATIONS AND DETAILS OF ALL AGENCIES EXERCISING JURISDICTION OVER THIS PROJECT. A COPY OF THESE SPECIFICATIONS AND DETAILS SHALL BE MAINTAINED ON THE JOBSITE AT ALL TIMES. A COPY OF ALL APPLICABLE STANDARD DETAILS AND SPECIFICATIONS ARE INCORPORATED HEREIN BY REFERENCE.
26. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ADJACENT COUNTY ROADS FREE AND CLEAN OF ALL DEBRIS AND DIRT FROM THE JOB SITE.
27. THE GEOSYNTHETICS WILL SELECTED TO MEET OR EXCEED THE REQUIREMENTS INDICATED ON DESIGN DRAWINGS AND IN SPECIFICATIONS. A TEXTURED PRIMARY LINER IS RECOMMENDED. PLACING TEXTURED SIDE DOWN WILL ENHANCE GEOSYNTHETIC ANCHORAGE ON THE STEEP SLOPES. ALTERNATES TO THE MATERIALS SPECIFIED ARE SELECTED SHALL BE APPROVED BY THE ENGINEER.
28. SINCE SITE-SPECIFIC DATA WAS NOT AVAILABLE, THE VALUE FOR THE FRICTION ANGLES BETWEEN GEOMEMBRANES AND SOIL/GEOMEMBRANE HAS BEEN ESTIMATED FROM LITERATURE GUIDANCE FROM WASTE CONTAINMENT SYSTEMS, WASTE STABILIZATION, AND LANDFILLS, SHARMA/LEWIS 1994 AND A STUDY DONE BY MARTIN ET. AL. [MARTIN, J.P., KOERNER R.M., AND WHITEY, J.E., 'EXPERIMENTAL FRICTION EVALUATION OF SLIPPAGE BETWEEN GEOMEMBRANES, GEOTEXTILES AND SOILS," PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON GEOMEMBRANES, IFAI, 1984, PP. 191-196]. CONSERVATIVE VALUES FROM THE RANGES PROVIDED IN THE AFORE MENTIONED LITERATURE WAS USED DETERMINING ANCHOR TRENCH DIMENSIONS AND RUN OUT LENGTH.

GRADING

1. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL PROPERTY CORNERS. ANY PROPERTY CORNERS DISTURBED OR DAMAGED BY GRADING ACTIVITIES SHALL BE RESET BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF COLORADO, AT THE CONTRACTORS EXPENSE.
2. THE CONTOUR LINES SHOWN ARE TO FINISH GRADE FOR SURFACE OF ROADWAY, SURFACE OF POND, ETC. ALL SPOT ELEVATIONS SHOWN ARE TO FLOWLINE UNLESS OTHERWISE INDICATED. REFER TO TYPICAL SECTIONS FOR MULCH, SOD, PAVING, SLAB AND AGGREGATE BASE THICKNESS TO DEDUCT FOR GRADING LINE ELEVATIONS.
3. THE CONTRACTOR SHALL FINISH GRADE SLOPES AS SHOWN NO STEEPER THAN ONE FOOT VERTICAL IN THREE FEET HORIZONTAL UNLESS OTHERWISE SPECIFIED.
4. THE CONTRACTOR SHALL CLEAN OUT ALL EXISTING AND PROPOSED INLETS, PIPES AND MANHOLES OF DEBRIS AND SEDIMENT AT COMPLETION OF SITEWORK. THIS WORK SHALL BE DONE TO THE SATISFACTION OF THE OWNER.
5. CONTRACTOR SHALL COORDINATE TESTING ACTIVITIES WITH THE GEOTECHNICAL ENGINEER.
6. ALL GRADING, COMPACTION, AND PAVEMENT CONSTRUCTION WILL BE IN ACCORDANCE WITH RECOMMENDATIONS FROM THE GEOTECHNICAL INVESTIGATION.

CONTACT LIST:

OWNER:
AXIA ENERGY
1430 LARMER STREET
SUITE 400
DENVER, CO 80202
PHONE: (720) 746-5212
CONTACT: JESS PEONIO

SURVEYOR:
CONSTRUCTION SURVEYS, INC.
0012 SUNRISE BOULEVARD
SILT, CO 81652
PHONE: (970) 876-5753
CONTACT: GEORGE BAUER

ENGINEER:
OLSSON ASSOCIATES
826 21 1/2 ROAD
GRAND JUNCTION, CO 81505
PHONE: (970) 263-7800
CONTACT: WYATT POPP, PE
MELISSA LAMBERT, PE

BENCHMARK:

CORS GPS BASE STATION
MCOB NAD83
LATITUDE: 39° 14' 08.56018"
LONGITUDE: 107° 58' 39.51424"

GEOTECHNICAL STUDY NOTE

1. CONTRACTOR TO OBTAIN AND READ THE GEOTECHNICAL ENGINEERING STUDY (GEOTECHNICAL REPORT FOR TAYLOR COMPRESSOR STATION, PROJECT NO. 010-1659, DATED DECEMBER 15, 2010) PREPARED BY OLSSON ASSOCIATES. IN CASE OF ANY CONFLICT WITH THESE PLANS AND SITEWORK SPECIFICATIONS REGARDING PAVING AND EARTHWORK, THE GEOTECHNICAL REPORT WILL GOVERN. ALL PAVING AND EARTH WORK SHALL CONFORM TO THE RECOMMENDATIONS OF THIS REPORT.

DEWATERING PERMITS

1. CONTRACTOR TO OBTAIN DEWATERING PERMIT FROM CDPHE PRIOR TO COMMENCING WORK. DISCHARGES SHALL BE MONITORED ACCORDING TO THE CONDITIONS OF THE CDPHE PERMIT.

Sheet Index	
Sheet Number	Sheet Title
C0.1	Cover Sheet
C1.1	Location Map
C2.1	Site Plan
C2.2	Grading Plan
C2.3	Detention Pond
C2.4	Access Road - Pland & Profile
C2.5	Drainage Plan
C2.6	Construction Phasing Plan
C3.1	Site Plan
C3.2	Pond Sections
C3.3	Grading Plan
C3.4	Detention Pond
C3.5	Access Road - Plan & Profile
C3.6	Drainage Plan
C5.1	Details
C5.2	Details
C6.1	Bird Netting Layout Plan

EROSION & SEDIMENT CONTROL

1. THIS PROJECT REQUIRES A PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITY FROM THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT. CONTRACTOR TO COMMENCE WORK ON THIS SITE ONLY AFTER AN ACTIVE PERMIT NUMBER HAS BEEN OBTAINED FROM THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT.
2. THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS PRIOR TO ANY SITE PREPARATION WORK (E.G., CLEARING, GRUBBING, OR EXCAVATION).
3. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN PREPARED FOR THE PROJECT.
4. CONTRACTOR TO ADJUST EROSION CONTROL MEASURES AS NEEDED FOR VARIOUS PHASES OF WORK.
5. CONTRACTOR TO ENSURE THAT NO DIRT AND SEDIMENT IS TRACKED ONTO ADJACENT ROADWAYS AND WATERWAYS.
6. A GROUNDWATER DISCHARGE PERMIT IS REQUIRED FROM THE STATE ENGINEER'S OFFICE, PRIOR TO PUMPING IT OUT.
7. GROUNDWATER SHALL BE SAMPLED AND SENT TO AN APPROVED LABORATORY FOR TESTING PRIOR TO BEING DISCHARGED. TESTING SHALL BE IN ACCORDANCE WITH PERMIT FOR STORMWATER DISCHARGE.
8. APPROVED EROSION AND SEDIMENT CONTROL "BEST MANAGEMENT PRACTICES" (BMPS) SHALL BE MAINTAINED AND KEPT IN GOOD REPAIR FOR THE DURATION OF THIS PROJECT. AT A MINIMUM, THE CONTRACTOR SHALL INSPECT ALL BMPS EVERY 14 DAYS, AND AFTER ALL SIGNIFICANT PRECIPITATION EVENTS I.E. RAINFALL, SNOWMELT. ALL NECESSARY MAINTENANCE AND REPAIR ACTIVITIES SHALL BE COMPLETED WITHIN TWENTY-FOUR (24) HOURS AFTER DIRECTION BY THE INSPECTOR. ACCUMULATED SEDIMENT AND CONSTRUCTION DEBRIS SHALL BE REMOVED WEEKLY FROM ALL BMPS, OR AT ANY TIME THAT SEDIMENT OR CONSTRUCTION DEBRIS ADVERSELY IMPACTS THE FUNCTIONING OF THE BMPS.
9. TOPSOIL SHALL BE STOCKPILED WITHIN LIMITS OF CONSTRUCTION FOR USE ON AREAS TO BE RE-VEGETATED. ANY AND ALL STOCKPILES SHALL BE PLACED IN AN APPROVED LOCATION AND PROTECTED FROM EROSIVE ELEMENTS USING MEASURES SPECIFIED IN THE EROSION CONTROL PLAN.
10. SOILS THAT WILL BE STOCKPILED FOR MORE THAN THIRTY (30) DAYS SHALL BE MULCHED AND SEEDED WITH A TEMPORARY OR PERMANENT GRASS COVER WITHIN FOURTEEN (14) DAYS OF STOCKPILE CONSTRUCTION.
11. ANY SETTLEMENT OR SOIL ACCUMULATIONS BEYOND THE LIMITS OF CONSTRUCTION DUE TO GRADING OR EROSION SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR REMEDIATION OF ANY ADVERSE IMPACTS TO ADJACENT WATERWAYS, WETLANDS, PROPERTIES, ETC. RESULTING FROM WORK DONE AS PART OF THIS PROJECT.
12. A WATER SOURCE MUST BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
13. THE CONTRACTOR MUST KEEP ALL POLLUTANTS, INCLUDING SEDIMENT, CONSTRUCTION DEBRIS, AND TRENCH BACKFILL MATERIALS FROM ENTERING THE STORM SEWER SYSTEM.
14. ALL SPILLS INCLUDING, BUT NOT LIMITED TO, PETROLEUM PRODUCTS, SOLVENTS, AND CEMENT SHALL BE CLEANED UP IMMEDIATELY. MESA COUNTY ENGINEERING DIVISION SHALL BE NOTIFIED IMMEDIATELY.
15. THE CONTRACTOR SHALL ENSURE THAT ALL LOADS OF CUT AND FILL MATERIAL IMPORTED TO OR EXPORTED FROM THE SITE SHALL BE PROPERLY COVERED TO PREVENT LOSS OF THE MATERIAL DURING TRANSPORT ON PUBLIC RIGHT-OF-WAY.
16. THE CONTRACTOR SHALL ENSURE THAT ALL MATERIAL EXPORTED FROM THE SITE, IS DISPOSED OF AT A SITE PERMITTED TO ACCEPT SUCH MATERIAL.
17. THE USE OF REBAR, STEEL STAKES OR STEEL FENCE POSTS FOR STAKING DOWN STRAW OR HAY BALES, OR TO SUPPORT SILT FENCING USED AS AN EROSION CONTROL MEASURE, IS PROHIBITED.
18. THE CLEANING OF CONCRETE DELIVERY TRUCK CHUTES IS RESTRICTED TO APPROVED LOCATIONS ON THE JOB SITE. THE DISCHARGE OF WATER CONTAINING WASTE CEMENT TO THE STORM SEWER SYSTEM IS PROHIBITED. ALL CONCRETE WASTE SHALL BE PROPERLY CLEANED UP AND DISPOSED OF AT AN APPROPRIATE LOCATION.
19. PRIOR TO ACTUAL CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES. FOR INFORMATION, CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 1-800-922-1987.
20. CONTRACTOR TO FILE "NOTICE OF TERMINATION" WITH CDPHE ONCE PROJECT IS COMPLETE AND ALL DISTURBED AREAS HAVE BEEN STABILIZED INCLUDING TEMPORARY BMPS REMOVED.

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COLORADO REGISTERED WITH EXPIRATION DATE OF PROFESSIONAL ENGINEER 38514 7/1/11

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION
1	04/12/11	MSP SUBMITTAL

COVER SHEET

AXIA TAYLOR COMPRESSOR STATION
MESA COUNTY, COLORADO

2010

COLLBRAN, COLORADO

drawn by: MDB/LRW
checked by: WEP
approved by: WEP
QA/QC by: LP
project no.: 010-1659
drawing no.:
date: 04/04/2011

SHEET
C0.1

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DATE: Apr 12, 2011 5:03pm XREFS: 101659_BRDR

EXISTING KIMBALL CREEK
23-4C PAD

WATER IMPOUNDMENT ACCESS ROAD; REF. SHEETS 3.1 THRU 3.6 FOR WATER IMPOUNDMENT DESIGN

N

1" = 20'

0' 10' 20' 40'

SCALE IN FEET

EXISTING OVERHEAD POWER LINE

P-OH

EXISTING ACCESS ROAD

EXISTING 125.00' OVERHEAD POWER RIGHT-OF-WAY

N: 1527738.87
E: 2303469.57

10+00

N: 1527734.90
E: 2303413.64

6358

6357

L1

6356

11+00

6355

N: 1527688.51
E: 2303426.86

N: 1527666.23
E: 2303546.03

6354

6353

N: 1527651.43
E: 2303529.75

ACCESS ROAD

6352

12+00

L2

6350

6349

22.00"

6348

6347

13+00

N: 1527551.48
E: 2303620.67

C1

N: 1527741.93
E: 2303695.18

6350

C2

N: 1527723.28
E: 2303675.65

N: 1527721.01
E: 2303697.01

DRAINAGE SWALE

TYPE "L" BURIED RIPRAP

DEHYDRATION

COMBUSTOR

FILTER SEP

TYPE "L" BURIED RIPRAP

METER HOUSE

N: 1527747.37
E: 2303979.54

N: 1527746.51
E: 2303997.84

6355

L6

6354

6355

6355

L5

6350

6350

C3

6350

N: 1527714.24
E: 2304025.66

N: 1527712.27
E: 2303996.88

PLANT OUTLET

6347

6346

500GAL GLYCOL TANK

LP DRAIN TANK

6345

N: 1527669.59
E: 2303965.75

500BBL CONDENSATE TANK

500BBL WATER TANK

500GAL WASTER OIL TANK

R50.40'

N: 1527676.84
E: 2303784.70

ACCESS ROAD

20.57'

N: 1527651.43
E: 2303913.90

R30.00' (TYP)

N: 1527655.50
E: 2303781.33

FUTURE COMPRESSOR UNIT

COMPRESSOR UNITS

6344

L4

6345

6345

N: 1527627.19
E: 2303734.19

6339

6340

STORMWATER DETENTION POND

N: 1527626.44
E: 2303784.59

N: 1527626.44
E: 2303750.42

N: 1527625.52
E: 2303780.41

N: 1527621.44
E: 2303912.98

N: 1527620.52
E: 2303942.97

20.59'

200.00'

16.15'

N: 1527603.62
E: 2303942.45

N: 1527598.78
E: 2303937.30

6345

6346

18" DIA. C.M.P.

N: 1527583.19
E: 2303936.82

N: 1527574.67
E: 2303667.43

6339

6340

N: 1527577.05
E: 2303748.91

N: 1527576.13
E: 2303778.89

N: 1527567.53
E: 2303914.35

N: 1527578.04
E: 2303941.66

N: 1527572.06
E: 2303911.46

N: 1527571.14
E: 2303941.45

N: 1527565.48
E: 2303637.67

N: 1527578.36
E: 2303702.86

N: 1527577.54
E: 2303732.85

FUTURE BUILDING

INLET SCRUBBER

N: 1527565.53
E: 2303961.30

N: 1527549.15
E: 2303673.30

N: 1527546.14
E: 2303777.97

PLANT INLET

14+00

L3

N: 1527548.37
E: 2303702.04

N: 1527527.05
E: 2303701.39

6345

ACCESS ROAD

21.43'

N: 1527542.07
E: 2303910.54

FUTURE SLUG CATCHER

ESD

6345

N: 1527520.56
E: 2303912.90

R47.00'

N: 1527527.97
E: 2303671.72

N: 1527521.10
E: 2303691.18

300.00'

6345

24" DIA. C.M.P.

6340

N: 1527512.35
E: 2303991.05

N: 1527495.09
E: 2303740.32

6335

VENT SILENCER

ACCESS ROAD				
NO.	LENGTH	RADIUS	LINE/CHORD DIRECTION	CHORD LENGTH
C1	49.14'	61.00'	S65°22'07"E	47.82'
L1	146.07'		S58°28'54"E	
L2	135.80'		S42°17'28"E	
L3	68.99'		S88°26'46"E	
DRAINAGE SWALE				
NO.	LENGTH	RADIUS	LINE/CHORD DIRECTION	CHORD LENGTH
C2	29.74'	19.74'	N46°19'27"E	27.00'
C3	47.13'	30.87'	S40°39'19"E	42.69'
L4	148.84'		N3°10'03"E	
L5	284.41'		N88°54'16"E	
L6	18.32'		S87°19'05"E	

NOTES:

1. SITE TOPOGRAPHY PROVIDED BY:
   CONSTRUCTION SURVEYS, INC. 0012 SUNRISE BLVD.
   SILT, CO 81652 (970-876-5753)
2. SITE FEATURES PROVIDED BY: AXIA ENERGY
3. ALL CONTOUR INFORMATION USED FOR DESIGN WILL NEED TO BE FIELD VERIFIED.
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5. EQUIPMENT LAYOUT WITHIN LOAD IN/LOAD OUT AREA SHALL BE DESIGNED BY OTHERS. EQUIPMENT SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.

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COLORADO REGISTERED WATER RESOURCE ENGINEER PROFESSIONAL ENGINEER 38514 7/11/11

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION
1	04/12/11	MSP SUBMITTAL

SITE PLAN
COMPRESSOR STATION

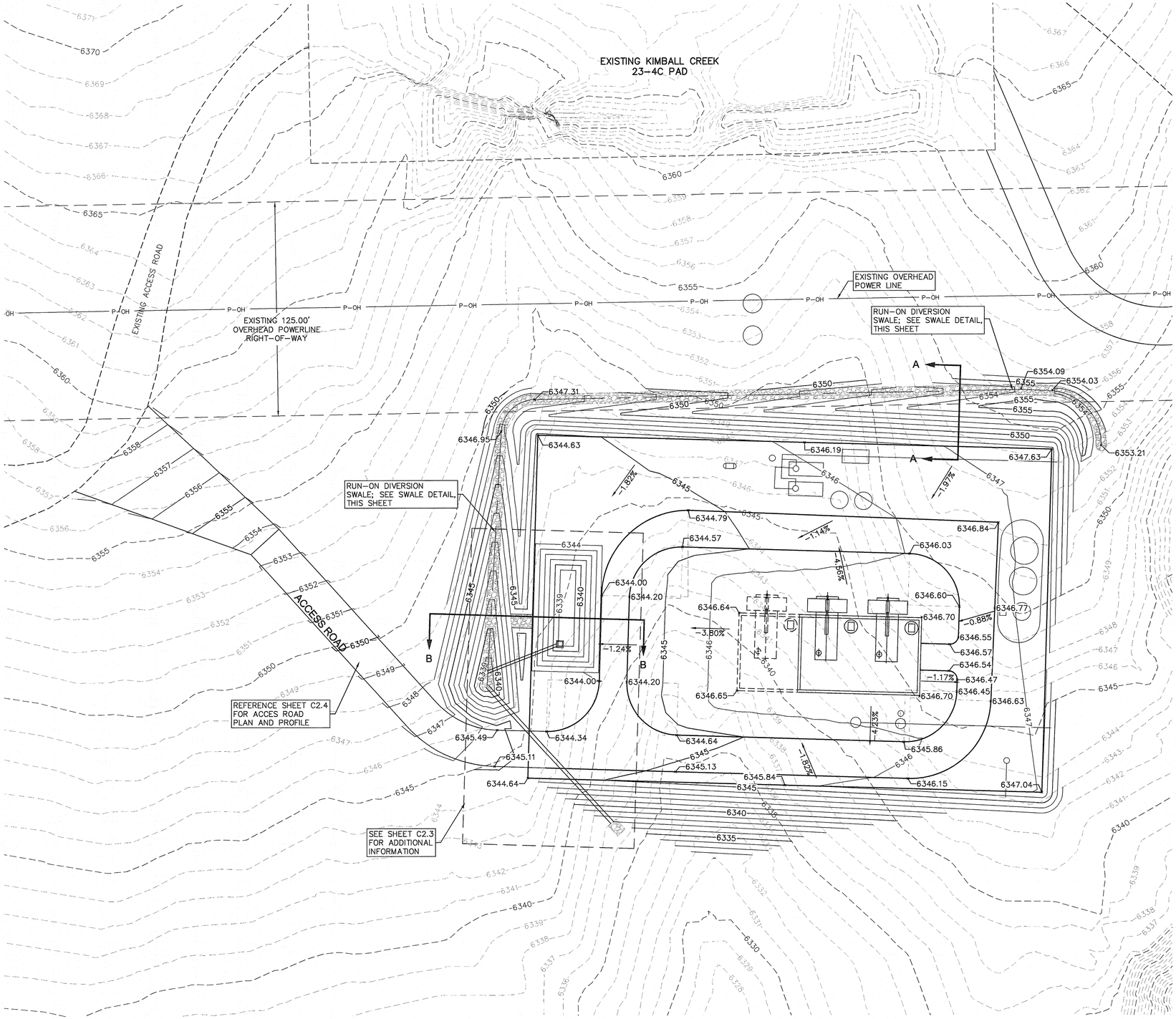
AXIA TAYLOR COMPRESSOR STATION
MESA COUNTY, COLORADO

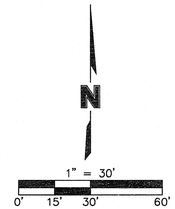
COLLBRAN, COLORADO

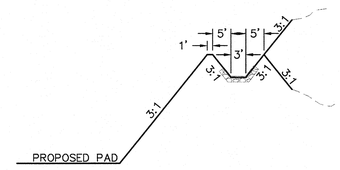
2010

drawn by: MDB/LRW
checked by: WEP
approved by: WEP
QA/QC by: LP
project no.: 010-1659
drawing no.:
date: 04/04/2011

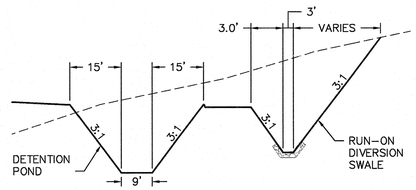
SHEET
C2.1







RUN-ON DIVERSION SWALE DETAIL A-A
NOT TO SCALE



DETENTION POND SECTION B-B
NOT TO SCALE

COMPRESSOR STATION (INCLUDING ACCESS ROAD) EARTHWORK VOLUMES:

VOLUME CUT: 3,834 CY
VOLUME FILL: 6,612 CY (RAW)
VOLUME NET: 2,778 CY (FILL)

EARTHWORK DISCLAIMER

THE EARTHWORK CUT AND FILL QUANTITIES ARE BASED ON THE DIFFERENCE BETWEEN FINISHED AND EXISTING SURFACES AND ARE UNADJUSTED. THE ENGINEER DOES NOT GUARANTEE THAT THESE WILL BE THE ACTUAL EARTHWORK CUT AND FILL QUANTITIES GENERATED ON-SITE. THESE NUMBERS ARE NOT TO BE USED FOR BIDDING PURPOSES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING HIS OWN DIRT TAKE-OFF OF THE PROPOSED GRADING AND SHALL EVALUATE THE GEOTECHNICAL REPORT TO MAKE HIS OWN ASSUMPTIONS PRIOR TO THE START OF GRADING. THE CONTRACTOR'S BID FOR THE SITE GRADING SHALL ASSUME THAT ANY IMPORT OR EXPORT NOT IDENTIFIED IN THE PLANS SHALL BE CONSIDERED INCIDENTAL TO THE BID, AND NO ADDITIONAL COMPENSATION SHALL BE PAID TO THE GRADING CONTRACTOR FOR HAULING OFF OR IMPORT OF FILL UNLESS MUTUALLY AGREED TO BY THE PROJECT MANAGER.

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COLORADO REGISTERED
WILLIAM E. PRATT
38514
7/6/11
PROFESSIONAL ENGINEER

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION
1	04/12/11	MSP SUBMITTAL

GRADING PLAN
COMPRESSOR STATION

AXIA TAYLOR COMPRESSOR STATION
MESA COUNTY, COLORADO

2010

COLLBRAN, COLORADO

drawn by: MDB/LRW
checked by: WEP
approved by: WEP
QA/QC by: LP
project no.: 010-1659
drawing no.:
date: 04/04/2011

SHEET
C2.2

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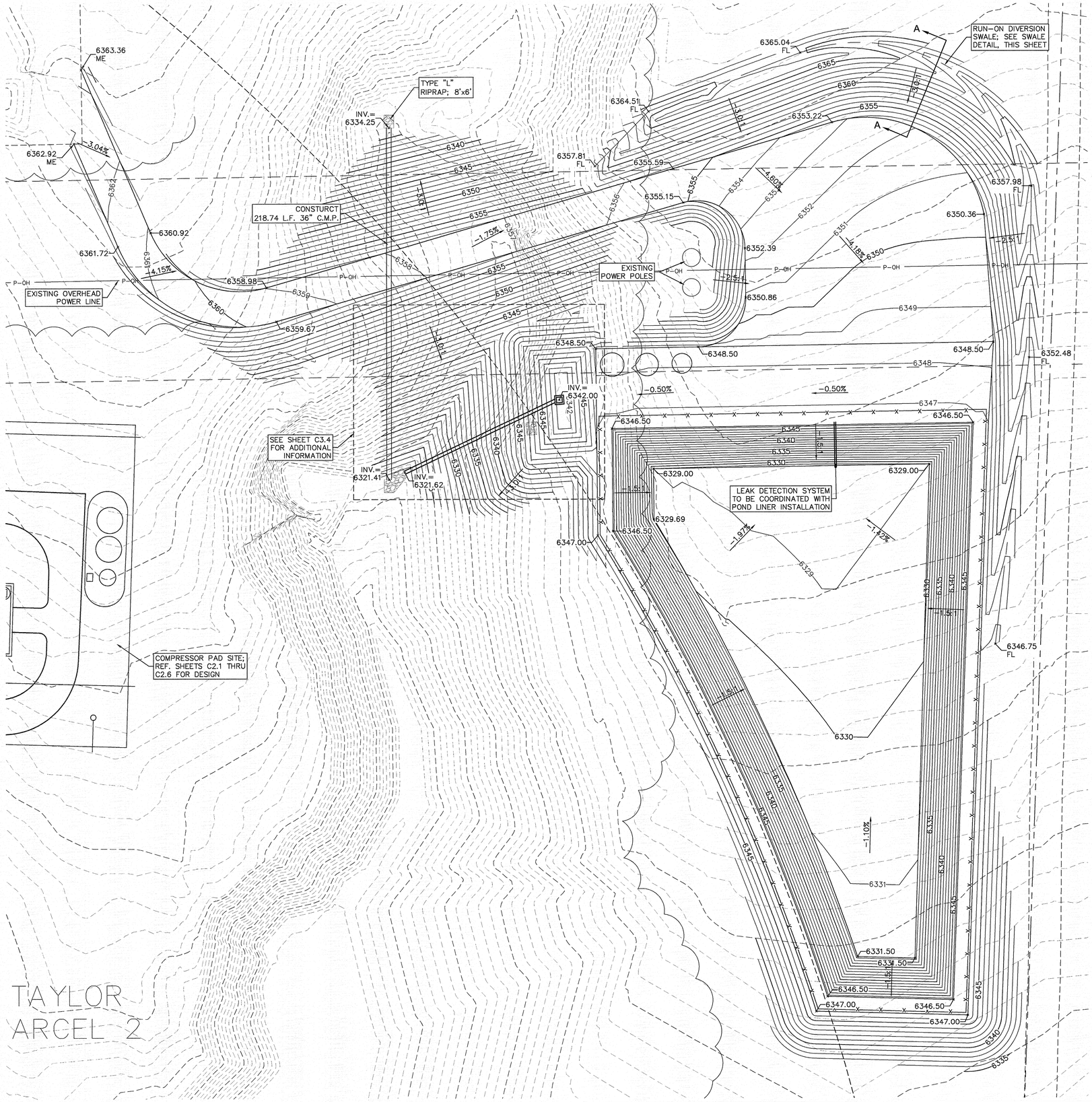

N

1" = 30'

0' 15' 30' 60'

SCALE IN FEET

NOTES:

1. SITE TOPOGRAPHY PROVIDED BY:
   CONSTRUCTION SURVEYS, INC. 0012 SUNRISE BLVD.
   SILT, CO 81652 (970-876-5753)
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ABBREVIATION KEY:

HP	HIGH POINT
ME	MATCH EXISTING
FL	FLOWLINE OF SWALE

WATER IMPOUNDMENT (INCLUDING ACCESS ROAD) EARTHWORK VOLUMES:

VOLUME CUT: 42,848 CY
VOLUME FILL: 16,025 CY (RAW)
VOLUME NET: 26,823 CY (CUT)

EARTHWORK DISCLAIMER

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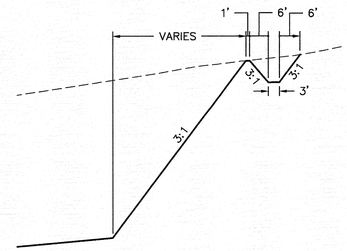

RUN-ON DIVERSION SWALE DETAIL A-A
NOT TO SCALE

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COLORADO REGISTERED 38514 PROFESSIONAL ENGINEER
7/1/11

REV. NO.	DATE	REVISIONS DESCRIPTION
1	04/12/11	MSP SUBMITTAL

REVISIONS

GRADING PLAN
WATER IMPOUNDMENT

AXIA TAYLOR COMPRESSOR STATION
MESA COUNTY, COLORADO

2010

COLLBRAN, COLORADO

drawn by: MDB/LRW
checked by: WEP
approved by: WEP
QA/QC by: LP
project no.: 010-1659
drawing no.:
date: 04/04/2011

SHEET
C3.3

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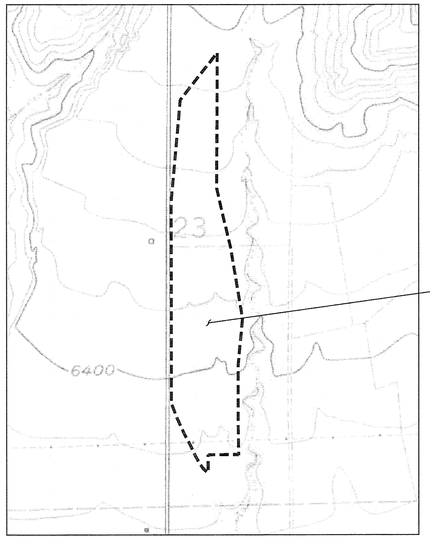
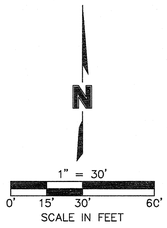


OVERALL DRAINAGE AREA MAP
NOT TO SCALE



LEGEND

- DRAINAGE BOUNDARY
- 6400 EXISTING MAJOR CONTOUR
- 6400 EXISTING MINOR CONTOUR
- XX BASIN DESIGNATION
- X.XX 10-YR RUNOFF COEFF.
- XX 100-YR RUNOFF COEFF.
- BASIN AREA IN AC.

DRAINAGE PLAN NOTES:

1. NO BUILDING, STRUCTURE, OR FILL WILL BE PLACED IN THE DETENTION AREAS AND NO CHANGES OR ALTERATIONS AFFECTING THE HYDRAULIC CHARACTERISTICS OF THE DETENTION AREAS WILL BE MADE WITHOUT THE APPROVAL OF THE COUNTY.
2. MAINTENANCE AND OPERATION OF THE DETNTION AND WATER QUALITY AREAS IS THE RESPONSIBILITY OF PROPERTY OWNER. IF OWNER FAILS IN THIS RESPONSIBILITY, THE COUNTY HAS THE RIGHT TO ENTER THE PROPERTY, MAINTAIN THE DETENTION AREAS, AND BE REIMBURSED FOR COSTS INCURRED.
3. DETENTION POND VOLUMES, ALL DRAINAGE APPURTENANCES, AND BASIN BOUNDARIES SHALL BE VERIFIED. AS-BUILT DRAWINGS SHALL BE PREPARED BY A REGISTERED PROFESSIONAL ENGINEER PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY FOR ANY STRUCTURE WITHIN THE DEVELOPMENT.
4. PERMISSION TO REPRODUCE THESE PLANS IS HEREBY GIVEN TO MESA COUNTY FOR COUNTY PURPOSES ASSOCIATED WITH PLAN REVIEW, APPROVAL, PERMITTING, INSPECTION AND CONSTRUCTION OF WORK.

P-OH
TEL
6360
6355
6350
6345
6340
6335
6330
6325
6320
EXISTING VEGETATION
PROPOSED DRAINAGE CHANNEL
EXISTING VEGETATION
2B
1.48 AC
2.10
6344
6342
6340
6338
6336
6334
6352
6354
KIMBAL CREEK ROAD
ACCESS ROAD

OLSSON ASSOCIATES
2111 South 67th Street
Omaha, NE 68106
TEL 402.341.1116
FAX 402.341.5895
www.olssonsulting.com

COLORADO REGISTERED
WILLIAM E. PATTON
38514
PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION
1	04/12/11	MSP SUBMITTAL

REVISIONS

DRAINAGE PLAN
COMPRESSOR STATION

AXIA TAYLOR COMPRESSOR STATION
MESA COUNTY, COLORADO

COLLBRAN, COLORADO

2010

drawn by: MDB/LRW
checked by: WEP
approved by: WEP
QA/QC by: LP
project no.: 010-1859
drawing no.:
date: 04/04/2011

SHEET
C2.5

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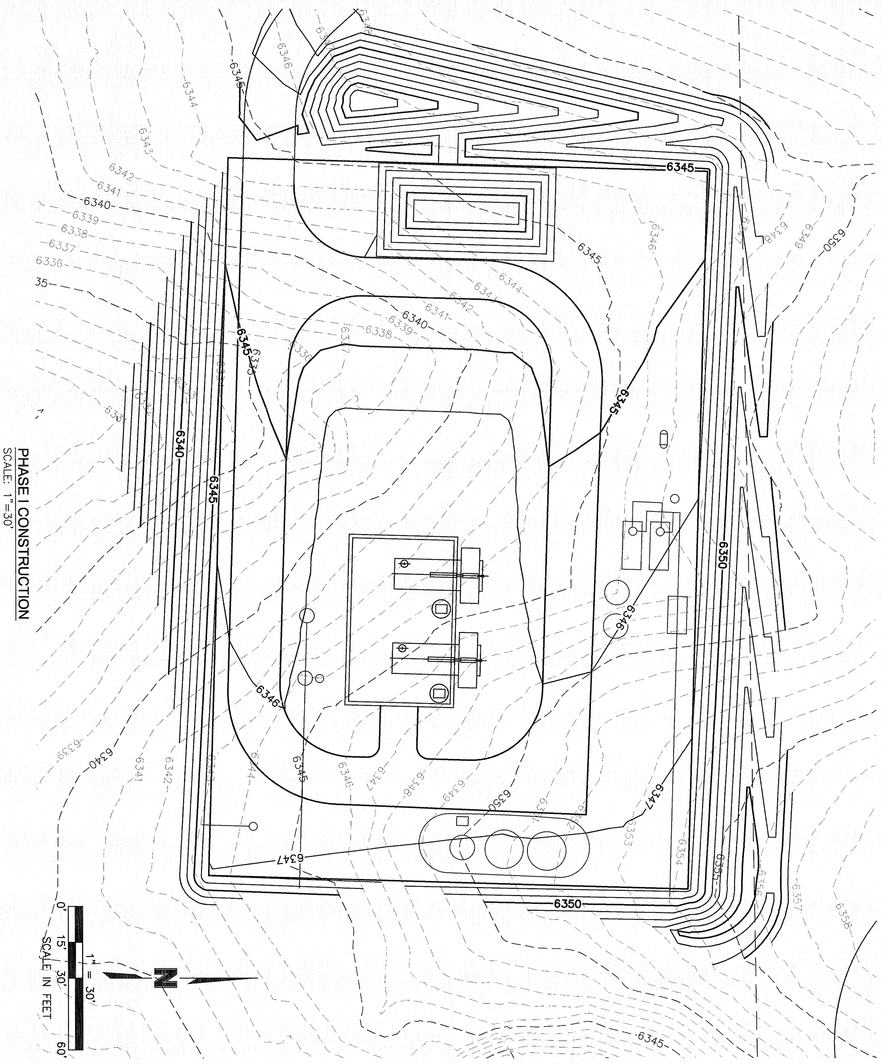
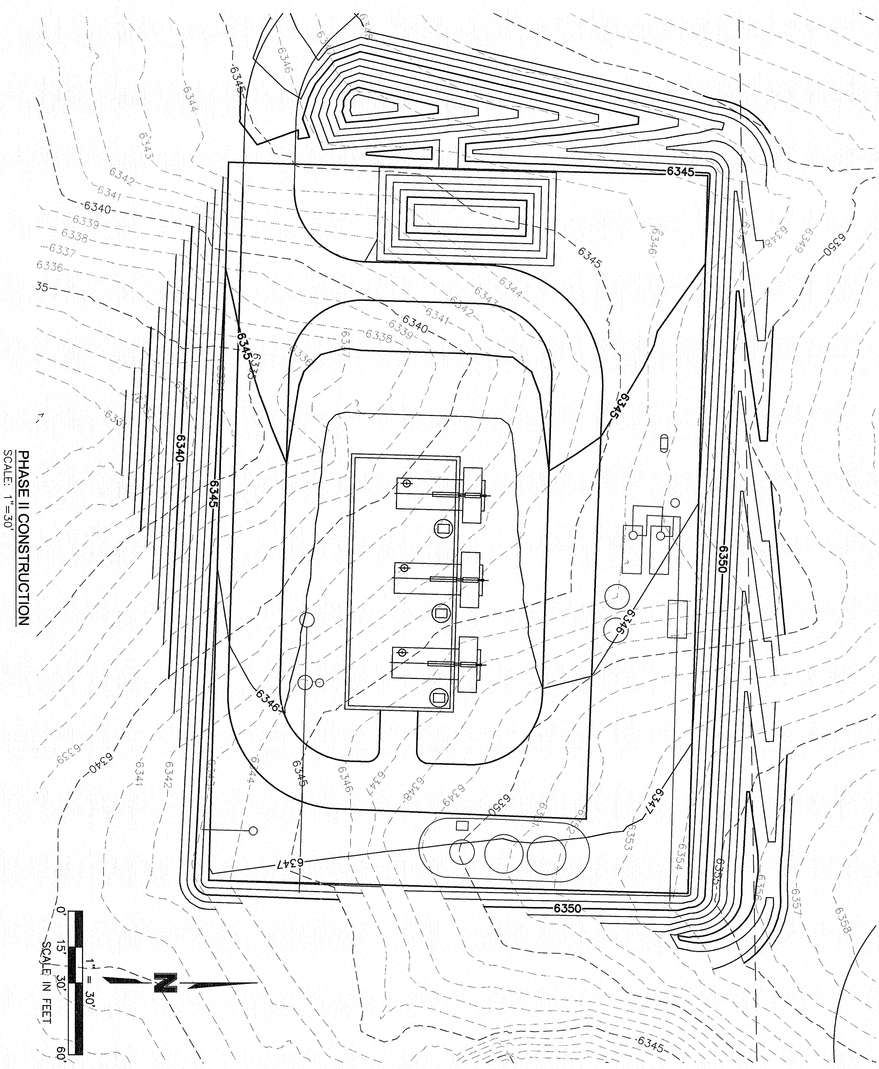


PHASE I CONSTRUCTION
SCALE: 1"=30'



PHASE II CONSTRUCTION
SCALE: 1"=30'

NOTE:
ADDITIONAL COMPRESSOR TO BE ADDED IN THE SECOND PHASE ALONG WITH BUILDING ADDITION.

SHEET
C2.6

drawn by:	MRB/BMJ
designed by:	WEP
approved by:	WEP
QA/QC by:	WEP
project no.:	010-1659
drawing no.:	
date:	04/05/2011

CONSTRUCTION PHASING PLAN
COMPRESSOR STATION

AXIA TAYLOR COMPRESSOR STATION
MESA COUNTY, COLORADO

COLLBRAN, COLORADO 2010

REV. NO.	DATE	REVISIONS DESCRIPTION
1	04/12/11	MSP SUBMITTAL

REVISIONS

COLORADO REGISTERED PROFESSIONAL ENGINEER 39514 WILLIAM E. PRATT

OLSSON ASSOCIATES
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Omaha, NE 68106
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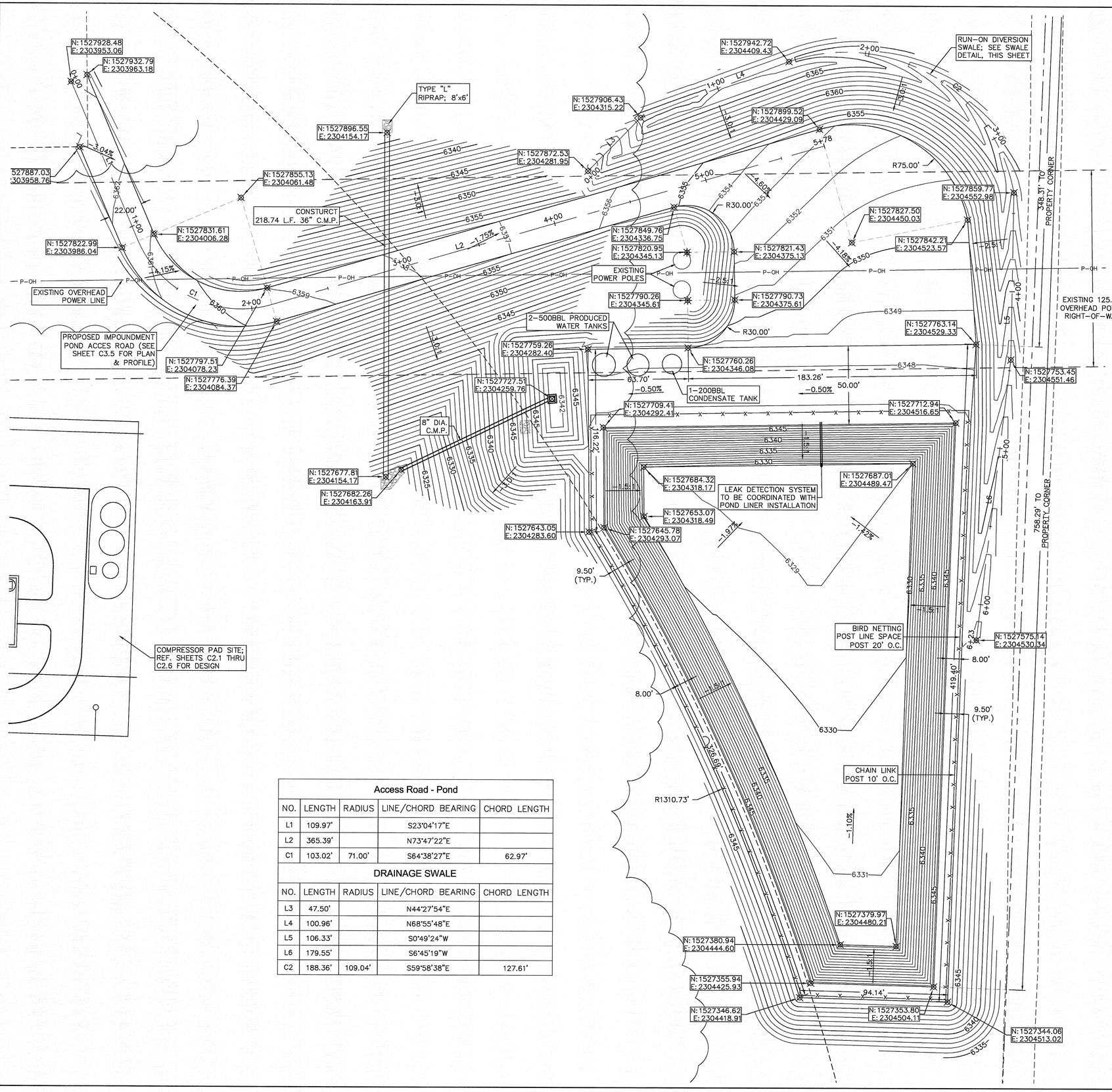
FAX 402.341.5895
www.oaconsulting.com



Access Road - Pond				
NO.	LENGTH	RADIUS	LINE/CHORD BEARING	CHORD LENGTH
L1	109.97'		S23°04'17"E	
L2	365.39'		N73°47'22"E	
C1	103.02'	71.00'	S64°38'27"E	62.97'
DRAINAGE SWALE				
NO.	LENGTH	RADIUS	LINE/CHORD BEARING	CHORD LENGTH
L3	47.50'		N44°27'54"E	
L4	100.96'		N68°55'48"E	
L5	106.33'		S0°49'24"W	
L6	179.55'		S6°45'19"W	
C2	188.36'	109.04'	S59°58'38"E	127.61'

NOTES:

1. SITE TOPOGRAPHY PROVIDED BY:
   CONSTRUCTION SURVEYS, INC. 0012 SUNRISE BLVD.
   SILT, CO 81652 (970-876-5753)
2. SITE FEATURES PROVIDED BY: AXIA ENERGY
3. ALL CONTOUR INFORMATION USED FOR DESIGN WILL NEED TO BE FIELD VERIFIED.
4. POND VOLUMES SHOWN ON PLANS ARE MEASURED FROM WATER SURFACE ELEVATION TO BOTTOM OF POND.
5. EQUIPMENT LAYOUT WITHIN LOAD IN/LOAD OUT AREA SHALL BE DESIGNED BY OTHERS. EQUIPMENT SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.

OLSSON ASSOCIATES
2111 South 67th Street
Omaha, NE 68106
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FAX 402.341.5895
www.oaconsulting.com

COLORADO REGISTERED WATER CAMPAIGN MANAGER
38514
7/6/11
PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION
1	04/12/11	MSP SUBMITTAL

REVISIONS

SITE PLAN
WATER IMPOUNDMENT

AXIA TAYLOR COMPRESSOR STATION
MESA COUNTY, COLORADO

COLLBRAN, COLORADO

2010

drawn by: MDB/LRW
checked by: WEP
approved by: WEP
QA/QC by: LP
project no.: 010-1659
drawing no.:
date: 04/04/2011

SHEET
C3.1

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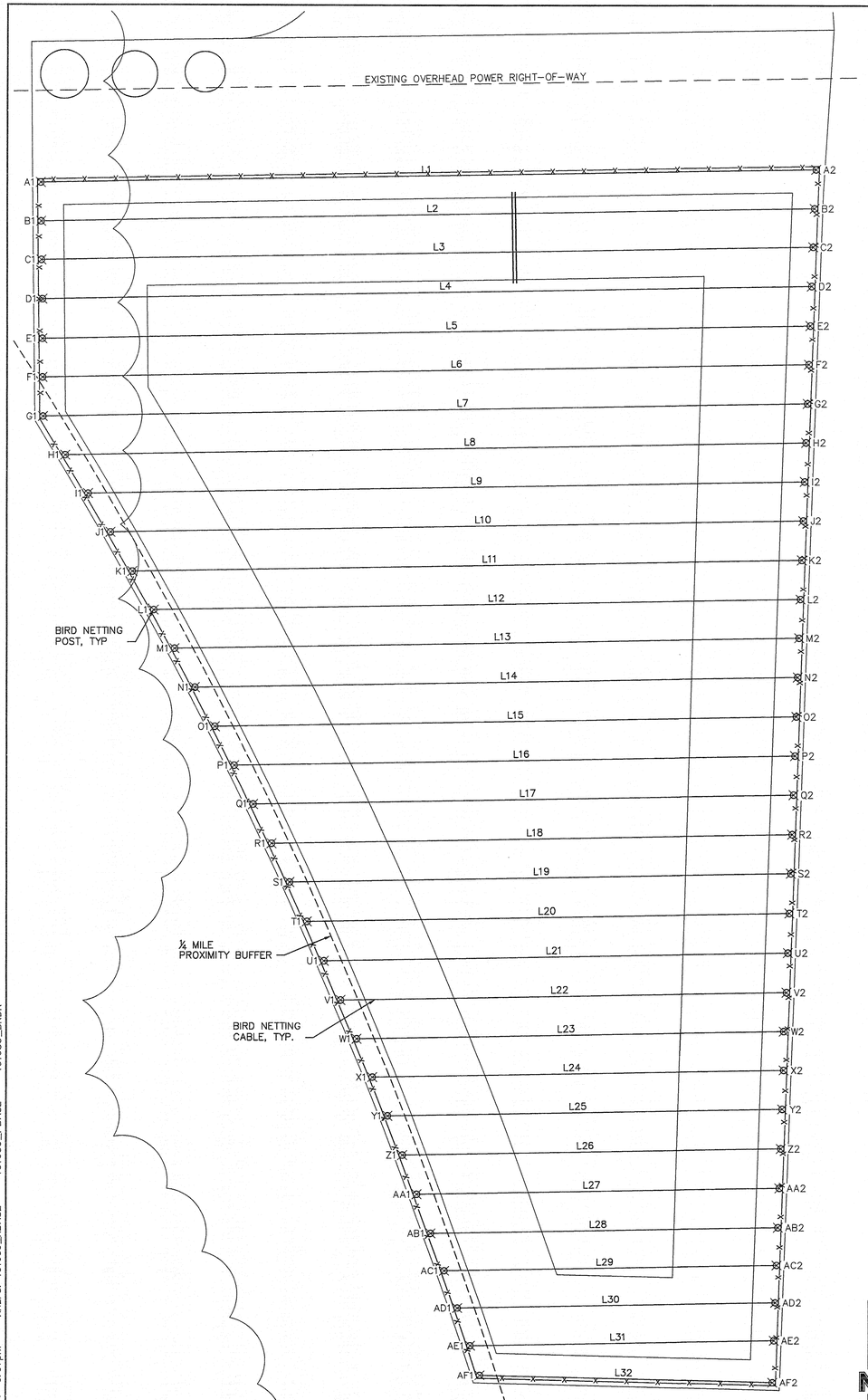
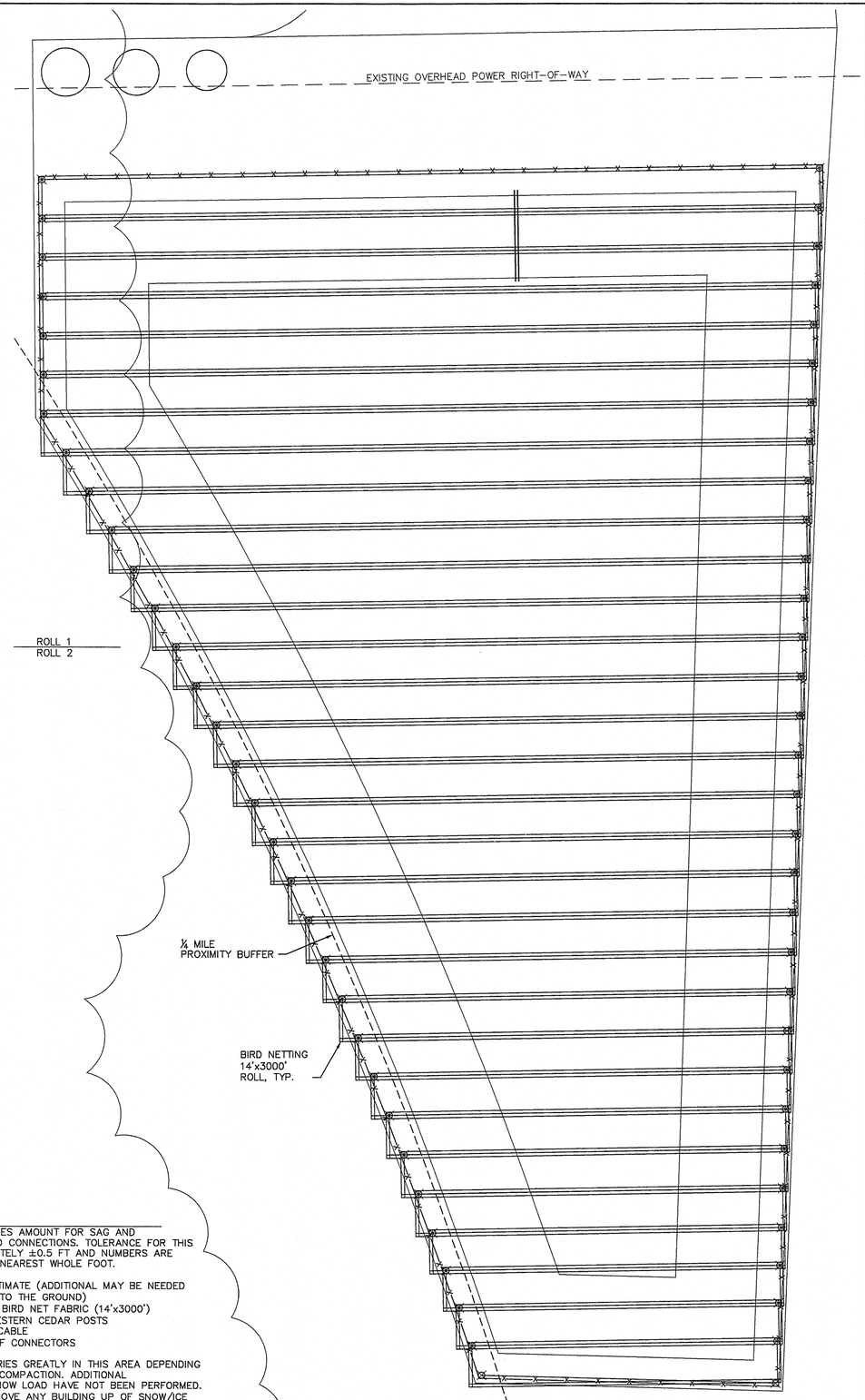


BIRD NETTING CABLE AND POST LAYOUT PLAN

BIRD NET POST DATA		
	NORTHING	EASTING
A1	1527716.30	2304285.34
A2	1527720.05	2304523.91
B1	1527704.30	2304285.46
B2	1527708.05	2304523.49
C1	1527692.30	2304285.59
C2	1527696.04	2304523.07
D1	1527680.31	2304285.91
D2	1527684.03	2304522.65
E1	1527668.31	2304285.91
E2	1527672.02	2304522.23
F1	1527656.31	2304285.96
F2	1527660.01	2304521.81
G1	1527644.31	2304286.08
G2	1527648.01	2304521.39
H1	1527632.41	2304293.01
H2	1527636.00	2304520.97
I1	1527620.52	2304300.09
I2	1527623.99	2304520.55
J1	1527608.63	2304307.00
J2	1527611.98	2304520.13
K1	1527596.74	2304313.75
K2	1527599.97	2304519.71
L1	1527584.84	2304320.34
L2	1527587.97	2304519.29
M1	1527572.94	2304326.76
M2	1527575.96	2304518.87
N1	1527561.03	2304333.04
N2	1527563.95	2304518.46
O1	1527549.13	2304339.16
O2	1527551.94	2304518.04
P1	1527537.22	2304345.13
P2	1527539.93	2304517.62
Q1	1527525.31	2304350.95
Q2	1527527.92	2304517.20
R1	1527513.40	2304356.62
R2	1527515.92	2304516.78
S1	1527501.48	2304362.15
S2	1527503.91	2304516.36
T1	1527489.57	2304367.53
T2	1527491.90	2304515.94
U1	1527477.65	2304372.78
U2	1527479.89	2304515.52
V1	1527465.73	2304377.88
V2	1527467.88	2304515.10
W1	1527453.80	2304382.85
W2	1527455.88	2304514.26
X1	1527441.88	2304387.68
X2	1527443.87	2304514.26
Y1	1527429.95	2304392.38
Y2	1527431.86	2304513.84
Z1	1527418.02	2304396.94
Z2	1527419.85	2304513.42
AA1	1527406.09	2304401.37
AA2	1527407.84	2304513.00
AB1	1527394.16	2304405.67
AB2	1527395.84	2304512.59
AC1	1527382.22	2304409.85
AC2	1527383.83	2304512.17
AD1	1527370.28	2304413.89
AD2	1527371.82	2304511.75
AE1	1527358.34	2304417.81
AE2	1527359.81	2304511.33
AF1	1527349.07	2304420.76
AF2	1527346.62	2304510.87

LINE TABLE	
NO.	LENGTH
L1	238.60'
L2	238.05'
L3	237.51'
L4	236.77'
L5	236.42'
L6	235.88'
L7	235.34'
L8	227.99'
L9	220.49'
L10	213.16'
L11	205.99'
L12	198.98'
L13	192.13'
L14	185.44'
L15	178.90'
L16	172.51'
L17	166.27'
L18	160.18'
L19	154.23'
L20	148.43'
L21	142.76'
L22	137.24'
L23	131.85'
L24	126.60'
L25	121.48'
L26	116.50'
L27	111.65'
L28	106.93'
L29	102.33'
L30	97.87'
L31	93.53'
L32	90.14'



BIRD NETTING CABLE AND POST LAYOUT PLAN

NOTES:

1. CABLE LENGTH INCLUDES AMOUNT FOR SAG AND OVERLAPPING FOR END CONNECTIONS. TOLERANCE FOR THIS LENGTH IS APPROXIMATELY ±0.5 FT AND NUMBERS ARE ROUNDED UP TO THE NEAREST WHOLE FOOT.
2. MATERIALS ROUGH ESTIMATE (ADDITIONAL MAY BE NEEDED FOR DRAPING FABRIC TO THE GROUND)
   - 2.1 – (2) ROLLS OF BIRD NET FABRIC (14'x3000')
   - 2.2 – (62) 4"x4" WESTERN CEDAR POSTS
   - 2.3 – 5,562 LF OF CABLE
   - 2.4 – (32) BOXES OF CONNECTORS
3. DENSITY OF SNOW VARIES GREATLY IN THIS AREA DEPENDING UPON MOISTURE AND COMPACTION. ADDITIONAL CALCULATIONS FOR SNOW LOAD HAVE NOT BEEN PERFORMED. IT IS CRITICAL TO REMOVE ANY BUILDING UP OF SNOW/ICE GREATER THAN 0.5 INCHES AS QUICKLY AS POSSIBLE.
4. ALLOW FABRIC TO DRAPE TO GROUND (AT LEAST 5' ON EACH SIDE) AND SECURE FABRIC WITH LANDSCAPING STAPLES SO THAT THE SIDES OF THE PIT ARE ALSO ENCLOSED WITH BIRD NETTING.

N

1" = 20'

0' 10' 20' 40'

SCALE IN FEET

OLSSON ASSOCIATES
2111 South 67th Street
Omaha, NE 68106
TEL 402.341.1116
FAX 402.341.5895
www.olssonsulting.com

COLORADO REGISTERED PROFESSIONAL ENGINEER

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION
1	04/12/11	MSP SUBMITTAL

BIRD NETTING LAYOUT PLAN
WATER IMPOUNDMENT

AXIA TAYLOR COMPRESSOR STATION
MESA COUNTY, COLORADO

2010

COLLBRAN, COLORADO

drawn by: MDB/LRW
checked by: WEP
approved by: WEP
QA/QC by: LP
project no.: 010-1659
drawing no.:
date: 04/04/2011

SHEET
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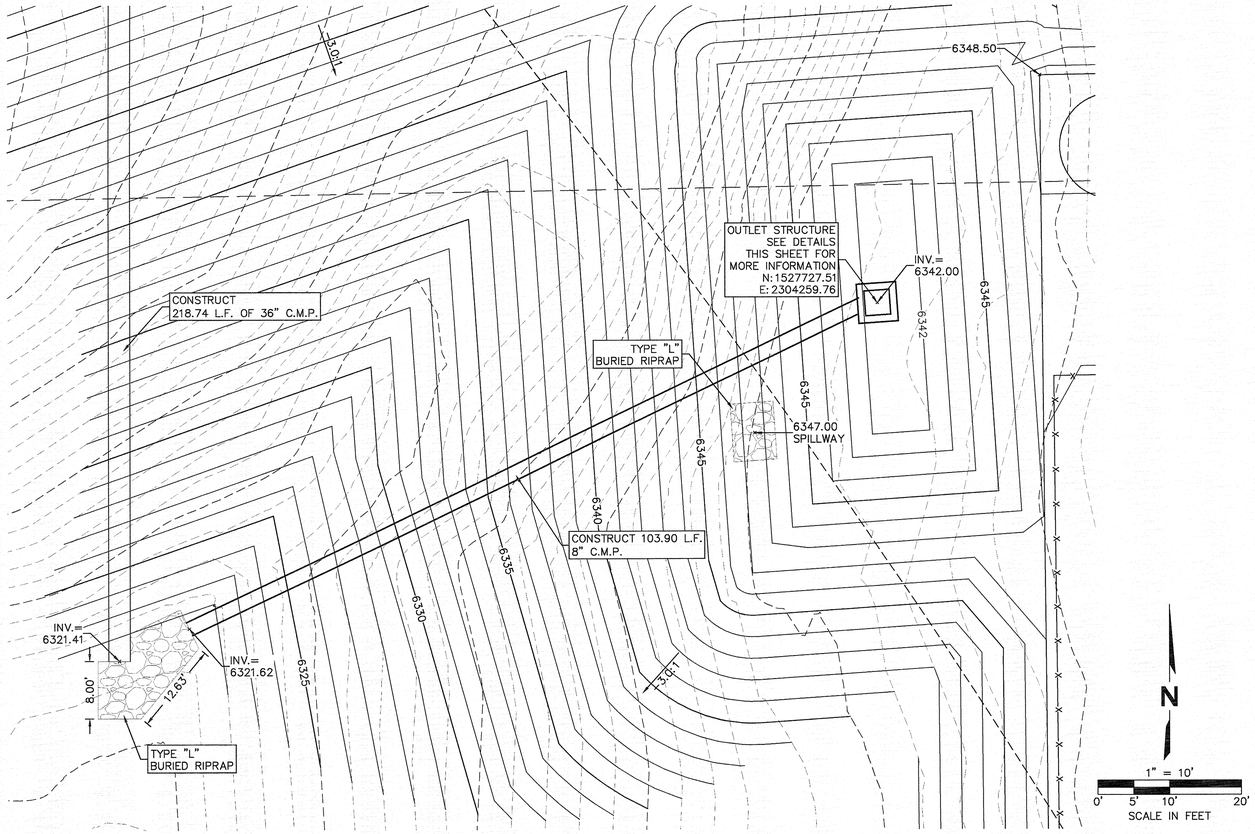
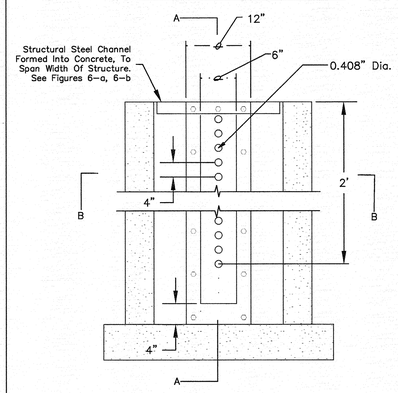


Orifice Perforation Details



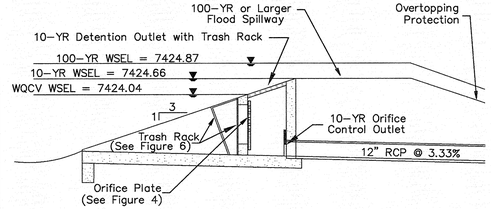
Urban Drainage and Flood Control District

Drainage Criteria Manual (V.3)

File: V3-Outlet Details.dwg

Figure 4

Orifice Details for Draining WQCV



Overtopping Spillway Option

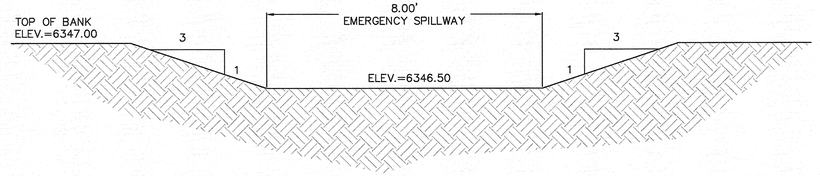
Urban Drainage and Flood Control District

Drainage Criteria Manual (V.3)

File: V3-Outlet Details.dwg

Figure 2

Typical WQCV Outlet Structure Profiles Including 2- to 10-Year and 100-Year Detention



NOTES

1. NO BUILDING, STRUCTURE OR FILL WILL BE PLACED IN THE DETENTION POND OR WATER IMPOUNDMENT AREAS AND NO CHANGES OR ALTERATIONS AFFECTING THE HYDRAULIC CHARACTERISTICS OF THE DETENTION POND OR WATER IMPOUNDMENT AREAS WILL BE MADE WITHOUT THE APPROVAL OF THE COUNTY.
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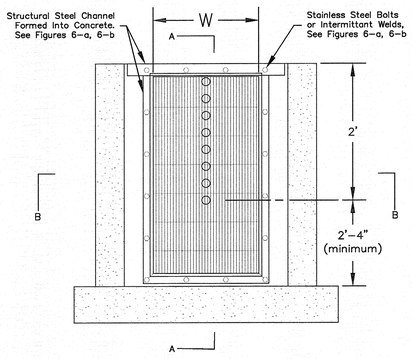
Note: Vertical WQCV Trash Racks are shown in Figures 6, 6-a, and 6-b for suggested standardized outlet design. Adverse-Slope Trash Rack design may be used for non-standardized designs, but must meet minimum design criteria.



Elevation

WQCV Trash Racks:

1. Well-screen trash racks shall be stainless steel and shall be attached by intermittant welds along the edge of the mounting frame.
2. Bar grate trash racks shall be aluminum and shall be bolted using stainless steel hardware.
3. Trash Rack widths are for specified trash rack material. Finer well-screen or mesh size than specified is acceptable, however, trash rack dimensions need to be adjusted for materials having a different open area/gross area ratio (R value)
4. Structural design of trash rack shall be based on full hydrostatic head with zero head downstream of the rack.

Overflow Trash Racks:

1. All trash racks shall be mounted using stainless steel hardware and provided with hinged and lockable or boltable access panels.
2. Trash racks shall be stainless steel, aluminum, or steel. Steel trash racks shall be hot dip galvanized and may be hot powder painted after galvanizing.
3. Trash Racks shall be designed such that the diagonal dimension of each opening is smaller than the diameter of the outlet pipe.
4. Structural design of trash rack shall be based on full hydrostatic head with zero head downstream of the rack.

Urban Drainage and Flood Control District

Drainage Criteria Manual (V.3)

File: V3-Outlet Details.dwg

Figure 6

Suggested WQCV Outlet Standardized Trash Rack Design

Orifice Plate Perforation Sizing

Circular Perforation Sizing

Chart may be applied to orifice plate or vertical pipe outlet.

Hole Dia (in) *	Hole Dia (in)	Min. S_c (in)	Area per Row (sq in) n=1	n=2	n=3
1/4	0.250	1	0.05	0.10	0.15
5/16	0.313	2	0.08	0.15	0.23
3/8	0.375	2	0.11	0.22	0.33
7/16	0.438	2	0.15	0.30	0.45
1/2	0.500	2	0.20	0.39	0.59
9/16	0.563	3	0.25	0.50	0.75
5/8	0.625	3	0.31	0.61	0.92
11/16	0.688	3	0.37	0.74	1.11
3/4	0.750	3	0.44	0.88	1.33
13/16	0.813	3	0.52	1.04	1.56
7/8	0.875	3	0.60	1.20	1.80
15/16	0.938	3	0.69	1.38	2.07
1	1.000	4	0.79	1.57	2.36
1 1/16	1.063	4	0.89	1.77	2.66
1 1/8	1.125	4	0.99	1.99	2.98
1 3/16	1.188	4	1.11	2.22	3.32
1 1/4	1.250	4	1.23	2.45	3.68
1 5/16	1.313	4	1.35	2.71	4.06
1 3/8	1.375	4	1.48	2.97	4.45
1 7/16	1.438	4	1.62	3.25	4.87
1 1/2	1.500	4	1.77	3.53	5.30
1 9/16	1.563	4	1.92	3.83	5.75
1 5/8	1.625	4	2.07	4.15	6.22
1 11/16	1.688	4	2.24	4.47	6.71
1 3/4	1.750	4	2.41	4.81	7.22
1 13/16	1.813	4	2.58	5.16	7.74
1 7/8	1.875	4	2.76	5.52	8.28
1 15/16	1.938	4	2.95	5.90	8.84
2	2.000	4	3.14	6.28	9.42
n = Number of columns of perforations					
Minimum steel plate thickness			1/4 "	5/16 "	3/8 "

* Designer may interpolate to the nearest 32nd inch to better match the required area, if desired.

Rectangular Perforation Sizing

Only one column of rectangular perforations allowed.

Rectangular Height = 2 inches

Rectangular Width (inches) = $\frac{\text{Required Area per Row (sq in)}}{2"}$

Rectangular Hole Width	Min. Steel Thickness
5"	1/4 "
6"	1/4 "
7"	5/32 "
8"	5/16 "
9"	11/32 "
10"	3/8 "
>10"	1/2 "

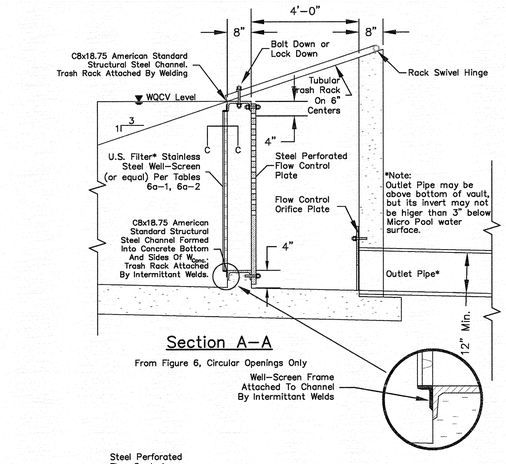
Urban Drainage and Flood Control District

Drainage Criteria Manual (V.3)

File: V3-Outlet Details.dwg

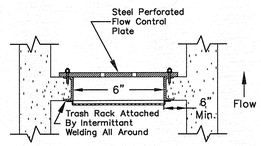
Figure 5

WQCV Outlet Orifice Perforation Sizing



Section A-A

From Figure 6, Circular Openings Only



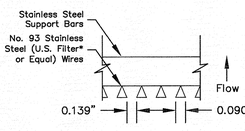
Section B-B - Plan View

From Figure 6, Circular Openings Only

Limits for this Standardized Design:

1. All outlet plate openings are circular.
2. Maximum diameter of opening = 2 inches.

*U.S. Filter, St. Paul, Minnesota, USA



Section C-C

From Figure 6, Circular Openings Only

R Value = (net open area)/(gross rack area) = 0.60

Urban Drainage and Flood Control District

Drainage Criteria Manual (V.3)

File: V3-Outlet Details.dwg

Figure 6-a

Suggested Standardized Trash Rack and Outlet Design For WQCV Outlets With Circular Openings

OLSSON ASSOCIATES
2111 South 67th Street
Omaha, NE 68106
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www.oaconsulting.com

COLORADO REGISTERED WATER RESOURCE ENGINEER 38514 7/1/11 PROFESSIONAL ENGINEER

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION
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DETENTION POND
WATER IMPOUNDMENT

AXIA TAYLOR COMPRESSOR STATION
MESA COUNTY, COLORADO

COLLBRAN, COLORADO

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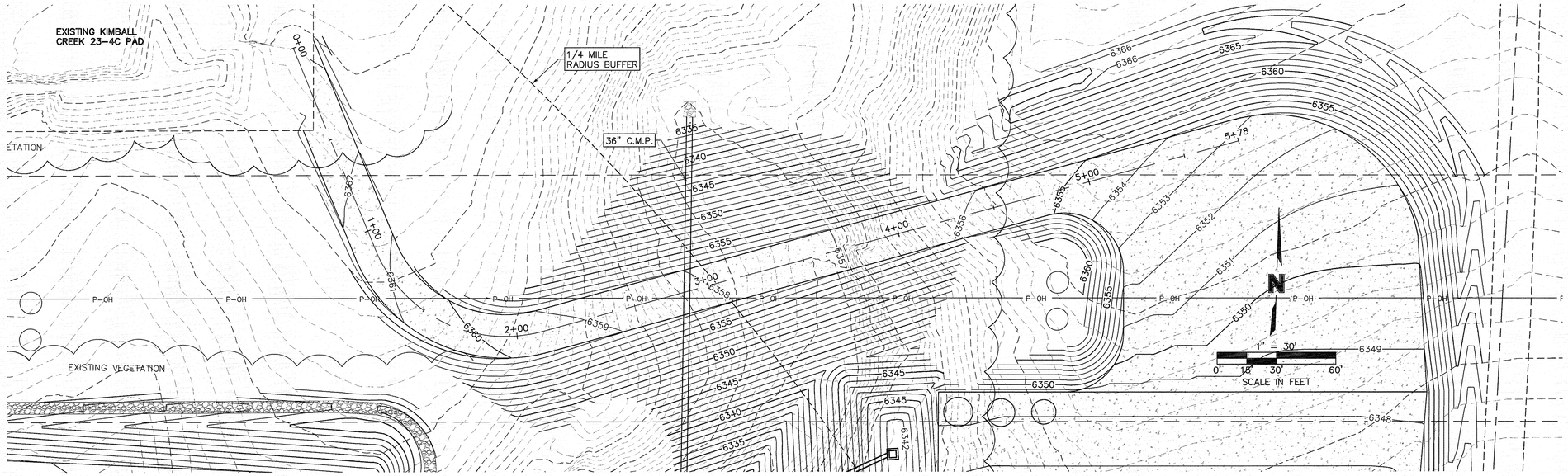
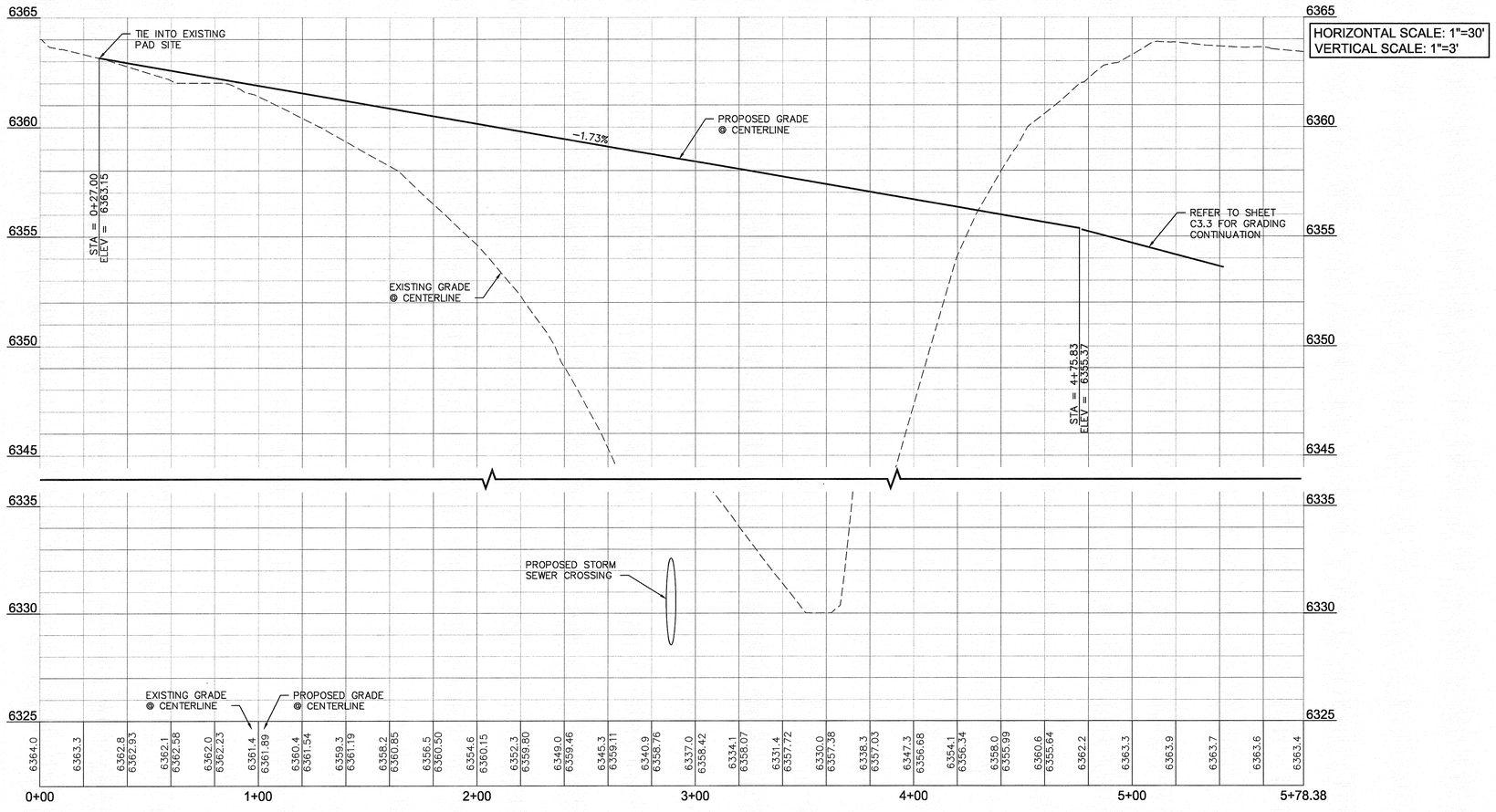


NOTES

1. REFER TO SHEET C3.1 FOR ACCESS ROAD CENTERLINE AND CURVE DATA.
2. CONTRACTOR TO FIELD VERIFY EXISTING GRADES AT TIE-IN PRIOR TO CONSTRUCTION.



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COLORADO REGISTERED
WILLIAM E. PRATT
38514
PROFESSIONAL ENGINEER

REV. NO.	DATE	REVISIONS DESCRIPTION
1	04/12/11	MSP SUBMITTAL

REVISIONS

ACCESS ROAD - PLAN & PROFILE
WATER IMPOUNDMENT

AXIA TAYLOR COMPRESSOR STATION
MESA COUNTY, COLORADO

COLLBRAN, COLORADO

2010

drawn by:	MDB/LRW
checked by:	WEP
approved by:	WEP
QA/QC by:	LP
project no.:	010-1659
drawing no.:	
date:	04/04/2011

SHEET
C3.5

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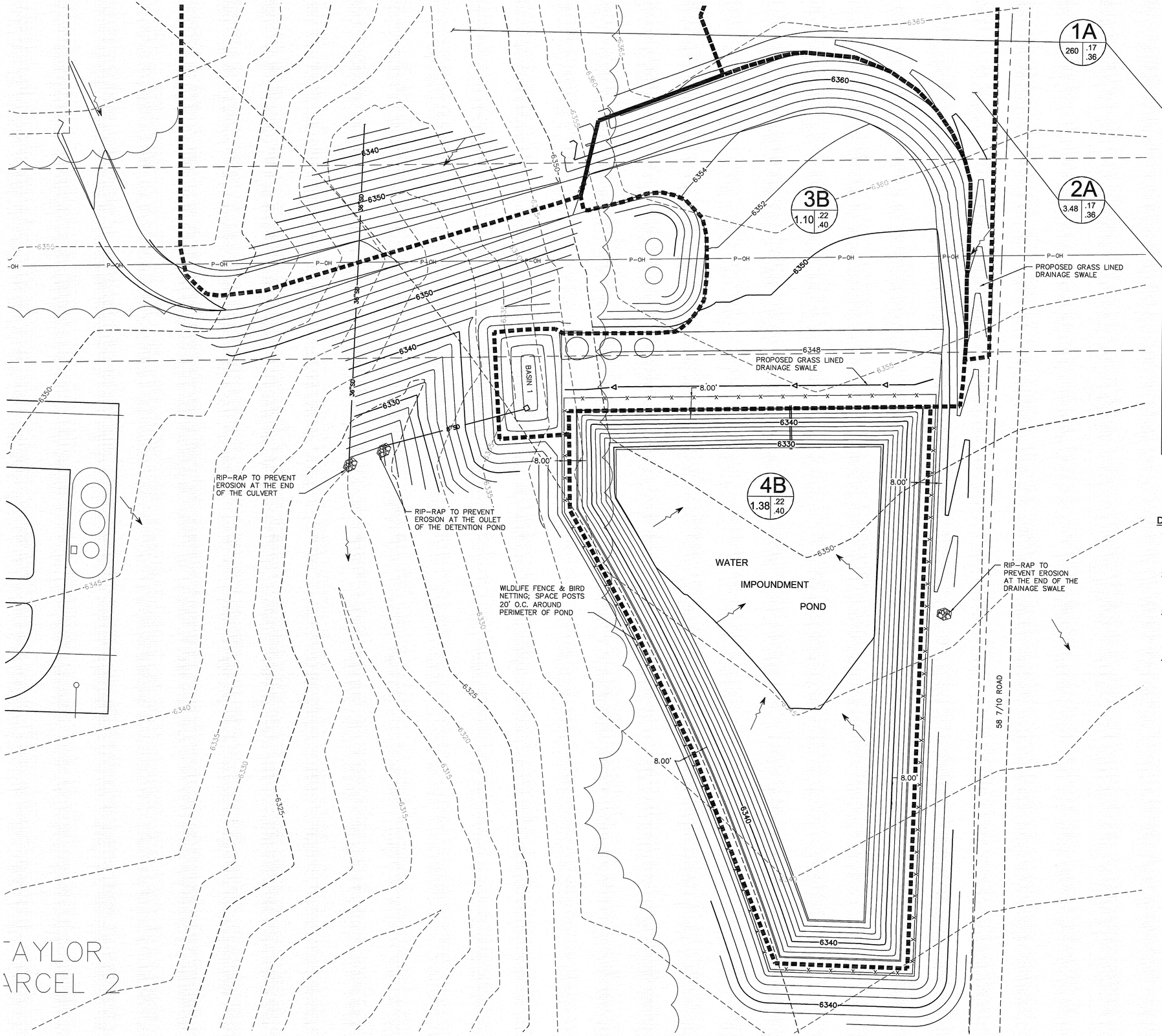
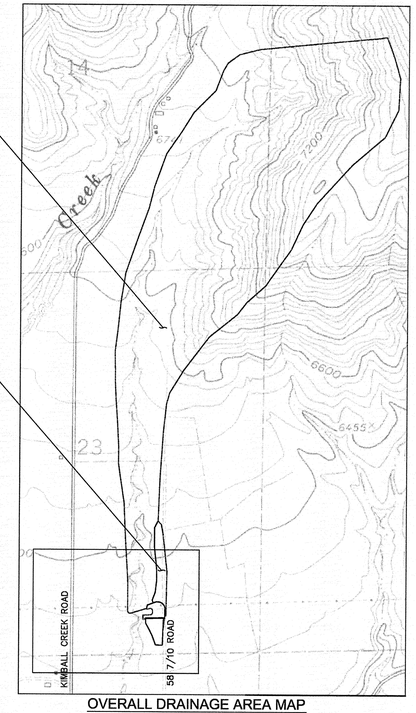
DATE: Apr 12, 2011 5:06pm XREFS: 101659_BRDR 101659_XBASE 101659_PBASE





OVERALL DRAINAGE AREA MAP
NOT TO SCALE

DRAINAGE PLAN NOTES:

1. NO BUILDING, STRUCTURE, OR FILL WILL BE PLACED IN THE DETENTION AREAS AND NO CHANGES OR ALTERATIONS AFFECTING THE HYDRAULIC CHARACTERISTICS OF THE DETENTION AREAS WILL BE MADE WITHOUT THE APPROVAL OF THE COUNTY.
2. MAINTENANCE AND OPERATION OF THE DETNTION AND WATER QUALITY AREAS IS THE RESPONSIBILITY OF PROPERTY OWNER. IF OWNER FAILS IN THIS RESPONSIBILITY, THE COUNTY HAS THE RIGHT TO ENTER THE PROPERTY, MAINTAIN THE DETENTION AREAS, AND BE REIMBURSED FOR COSTS INCURRED.
3. DETENTION POND VOLUMES, ALL DRAINAGE APPURTENANCES, AND BASIN BOUNDARIES SHALL BE VERIFIED. AS-BUILT DRAWINGS SHALL BE PREPARED BY A REGISTERED PROFESSIONAL ENGINEER PRIOR TO ISSUANCE OF CERTIFICATE OF OCCUPANCY FOR ANY STRUCTURE WITHIN THE DEVELOPMENT.
4. PERMISSION TO REPRODUCE THESE PLANS IS HEREBY GIVEN TO MESA COUNTY FOR COUNTY PURPOSES ASSOCIATED WITH PLAN REVIEW, APPROVAL, PERMITTING, INSPECTION AND CONSTRUCTION OF WORK.

LEGEND

- DRAINAGE BOUNDARY
- 6400 — PROPOSED MAJOR CONTOUR
- 6400 — PROPOSED MINOR CONTOUR
- PROPOSED DRAINAGE FLOW DIRECTION
- PROPOSED DRAINAGE SWALE
- XX / X.XX — BASIN DESIGNATION
  - .XX — 10-YR RUNOFF COEFF.
  - .XX — 100-YR RUNOFF COEFF.
  - BASIN AREA IN AC.

N

1" = 30'
0' 15' 30' 60'
SCALE IN FEET

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COLORADO REGISTERED PROFESSIONAL ENGINEER
38514
7/1/11

REV. NO.	DATE	REVISIONS DESCRIPTION
1	04/12/11	MSP SUBMITTAL

REVISIONS

DRAINAGE PLAN
WATER IMPOUNDMENT

AXIA TAYLOR COMPRESSOR STATION
MESA COUNTY, COLORADO

COLLBRAN, COLORADO

2010

drawn by: MDB/LRW
checked by: WEP
approved by: WEP
QA/QC by: LP
project no.: 010-1659
drawing no.:
date: 04/04/2011

SHEET
C3.6

DWG: F:\Projects\010-1659_LDVP\Final_Plans\101659_DRNG_WATR.dwg USER: mbickford
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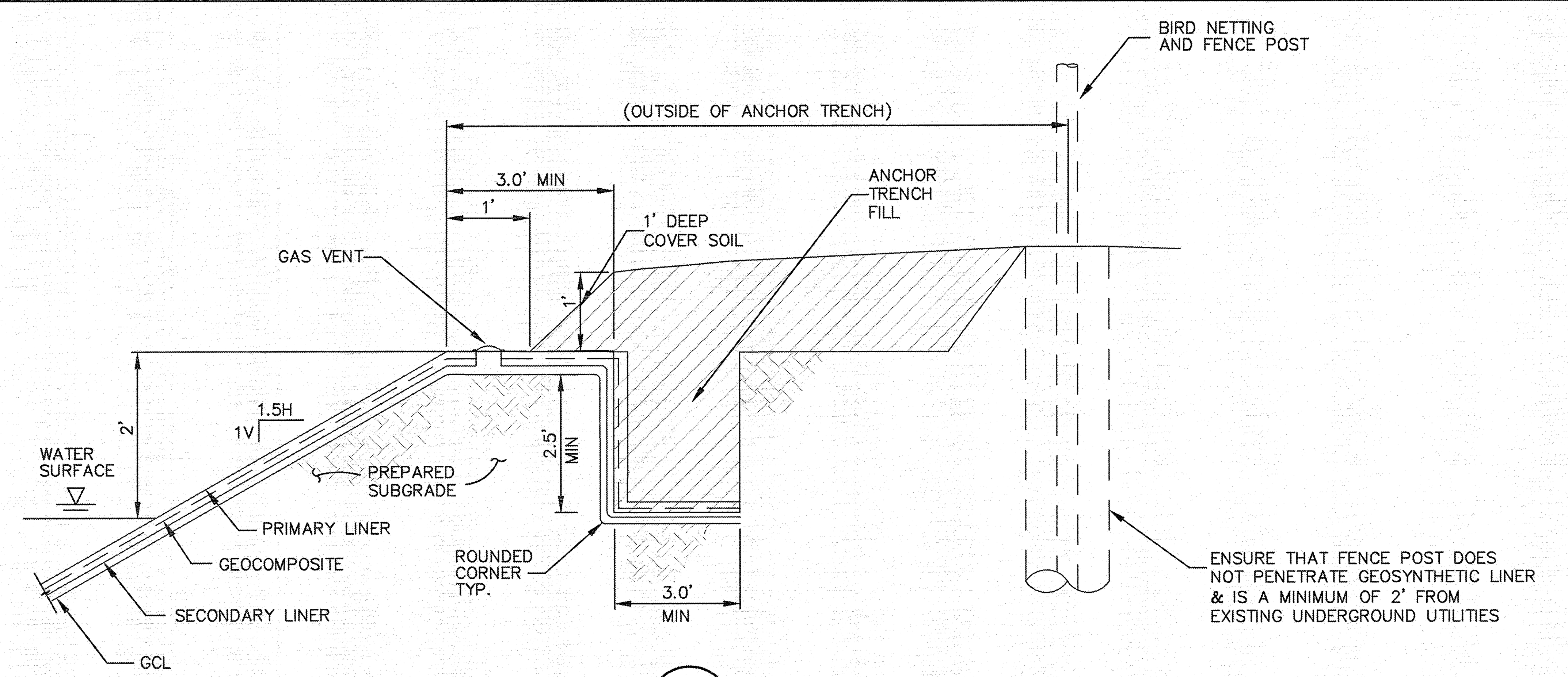
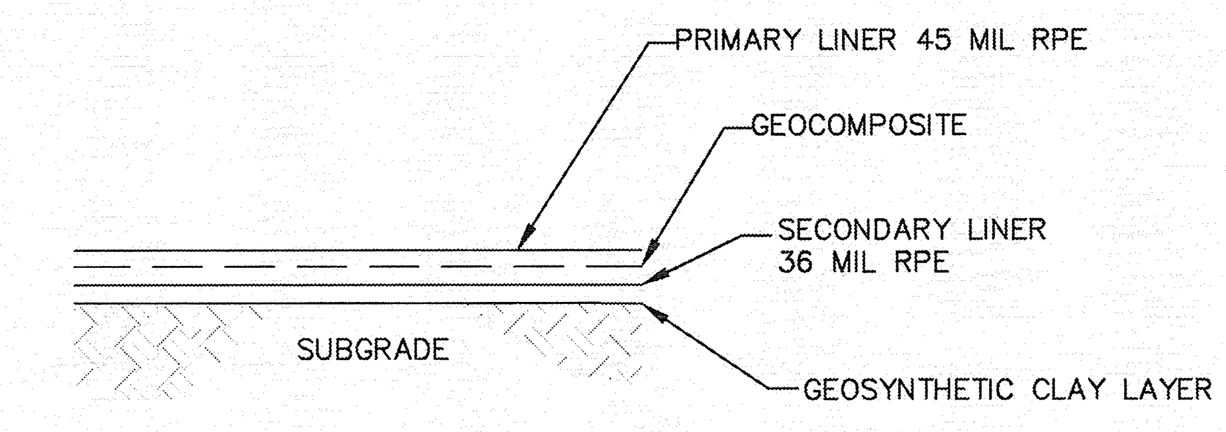
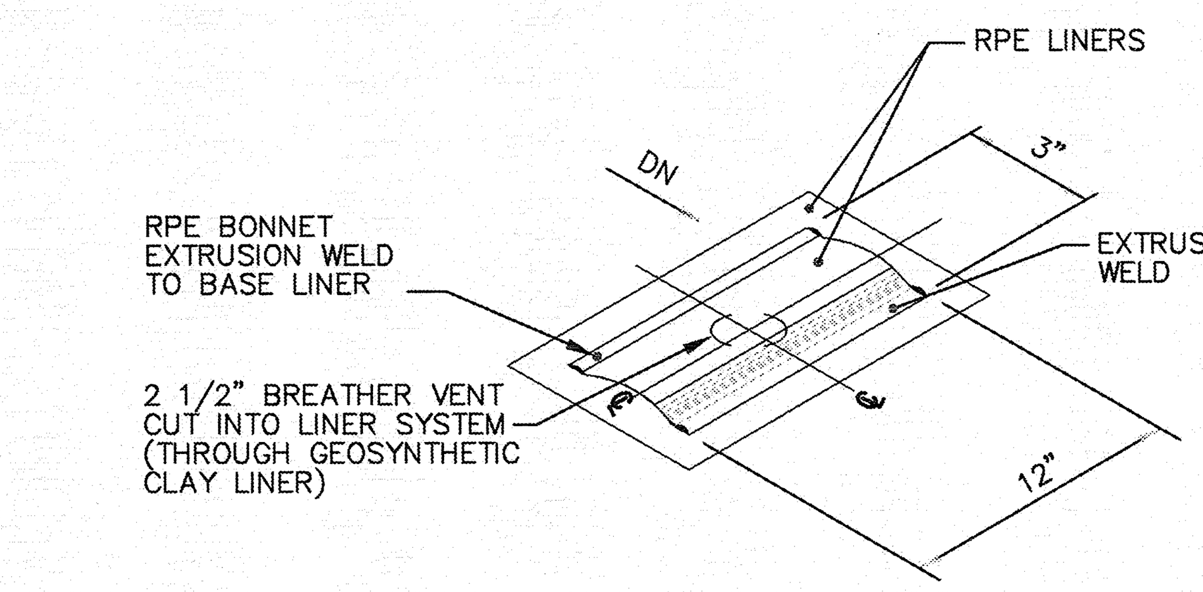


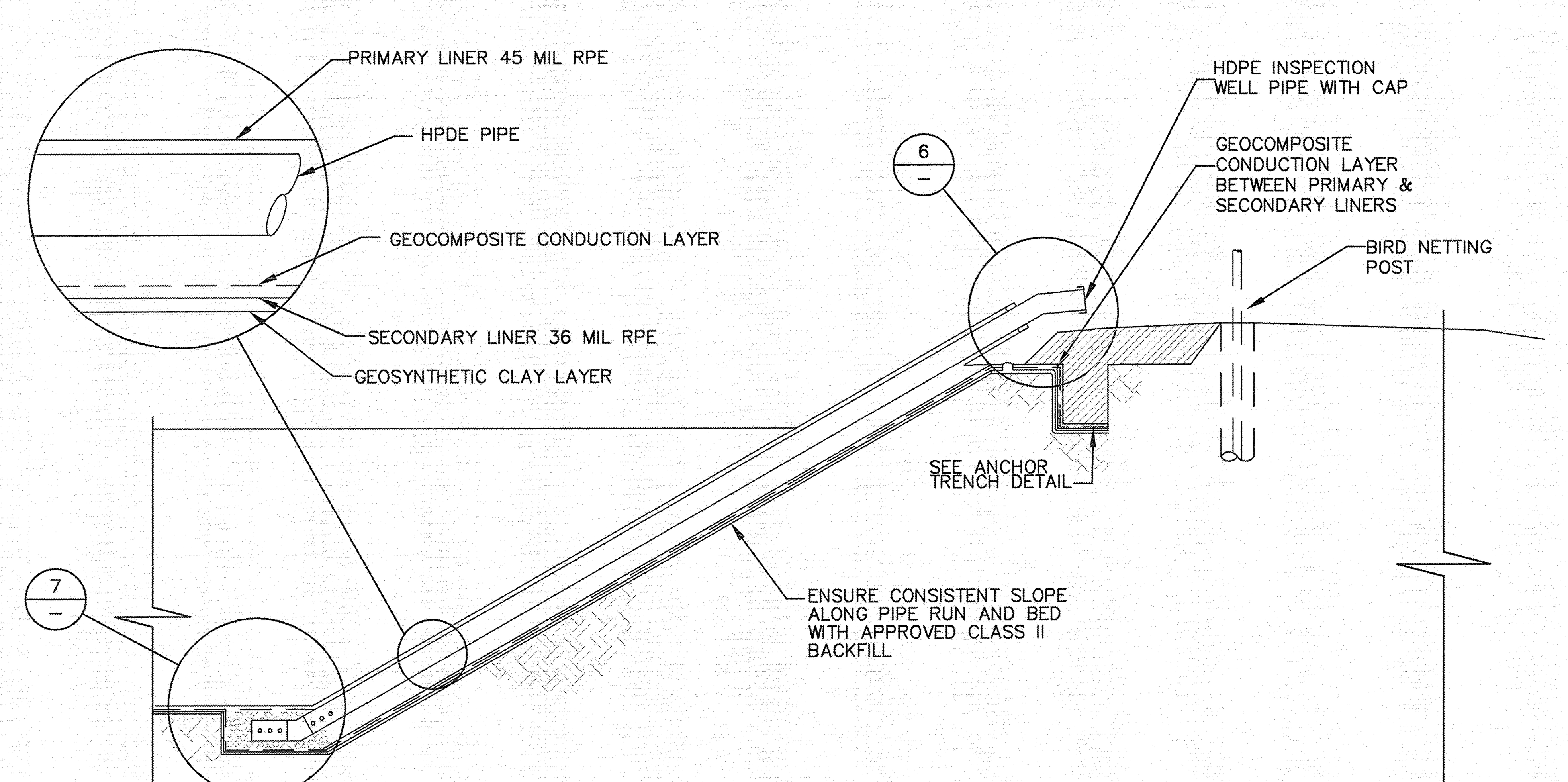
1 – ANCHOR TRENCH DETAIL
N.T.S.



2 – TYPICAL POND LINING SYSTEM DETAIL
N.T.S.

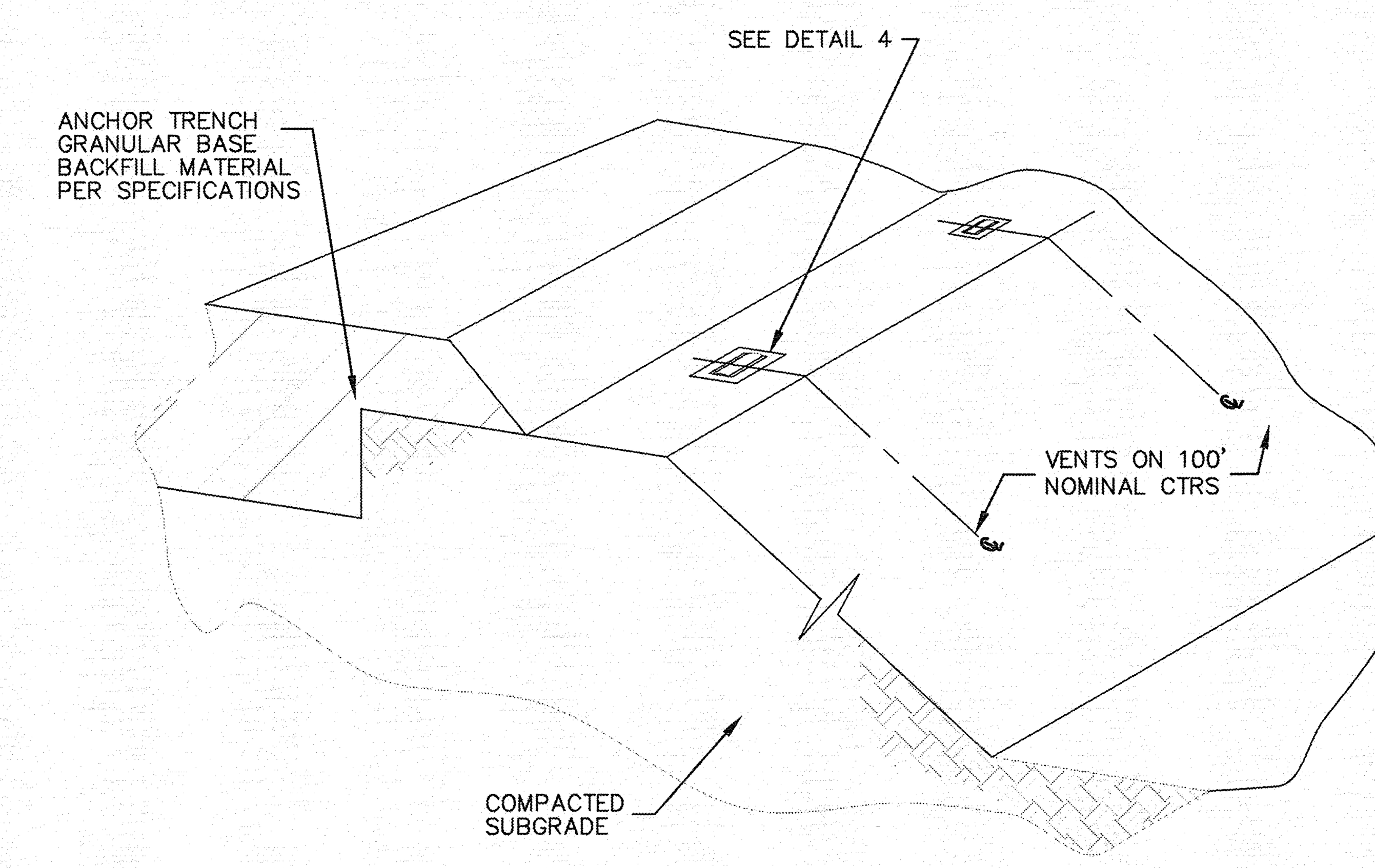


4 – AIR/GAS VENT DETAIL
N.T.S.

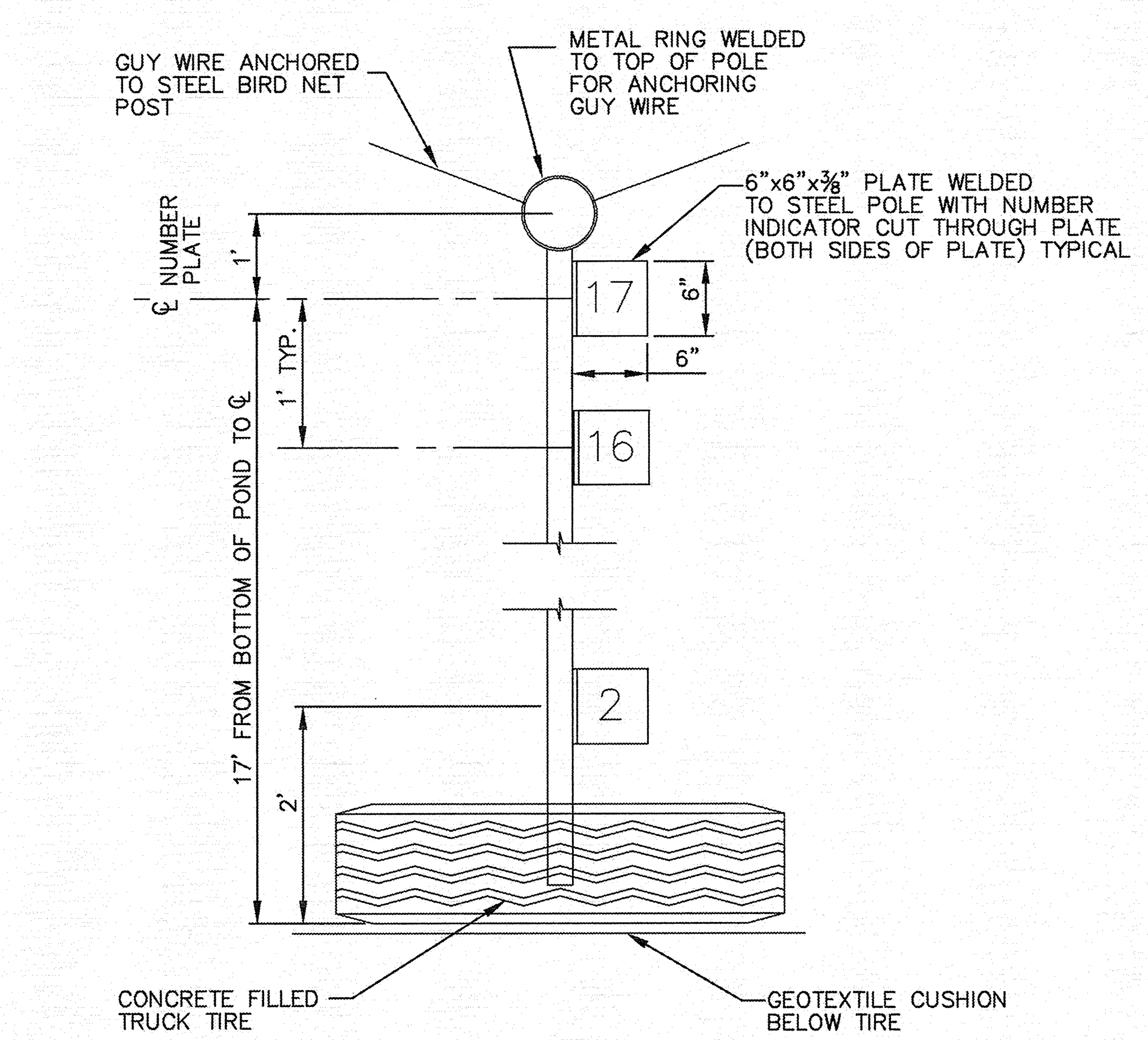


5 – LEAK DETECTION WELL DETAIL WITH PIPE RESTING ON SLOPE GRADE
N.T.S.

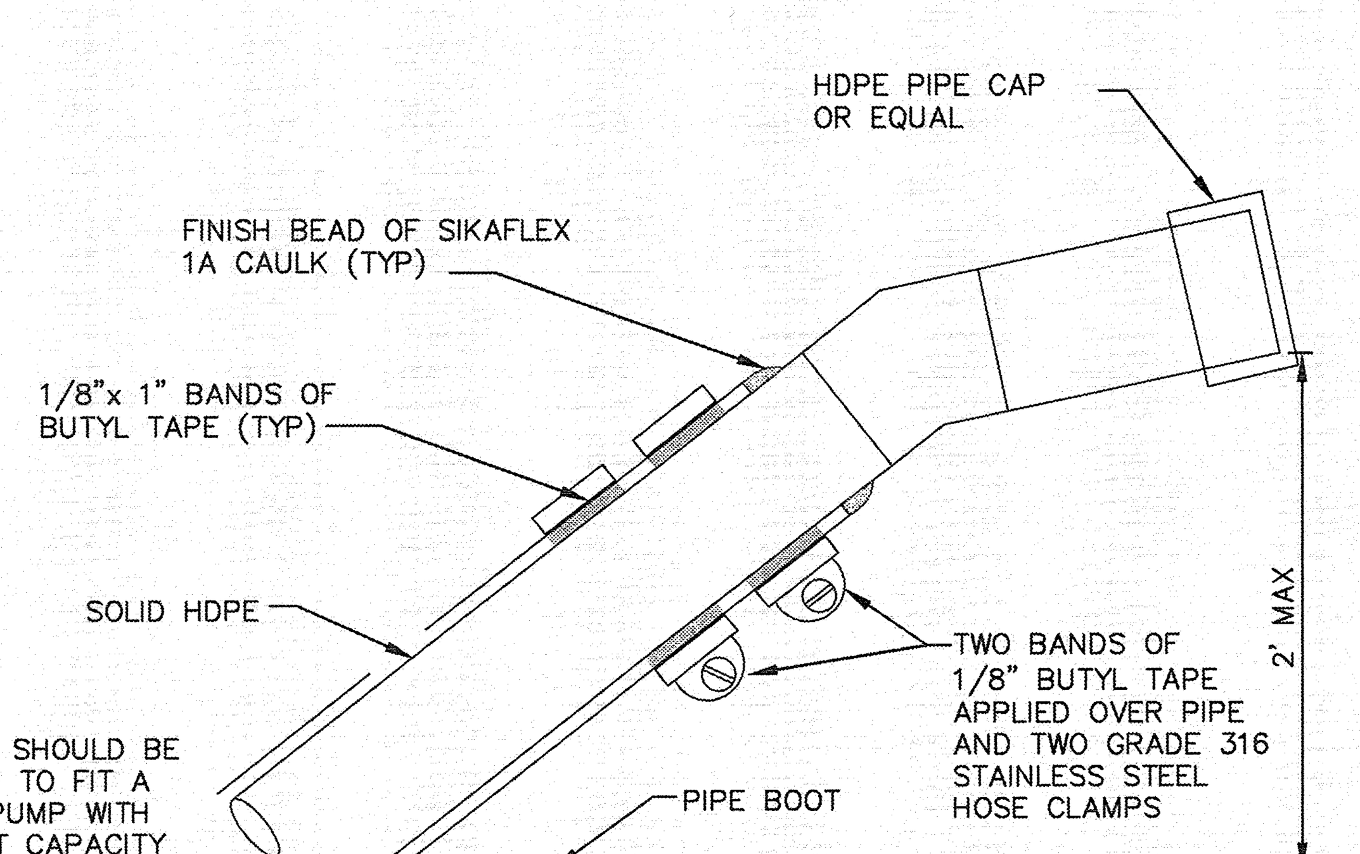
NOTE: PIT BOTTOM TO BE SLOPED TOWARDS SUMP PIT. SEE GRADING PLAN FOR ELEVATIONS.



3 – AIR/GAS VENT LOCATION DETAIL
N.T.S.

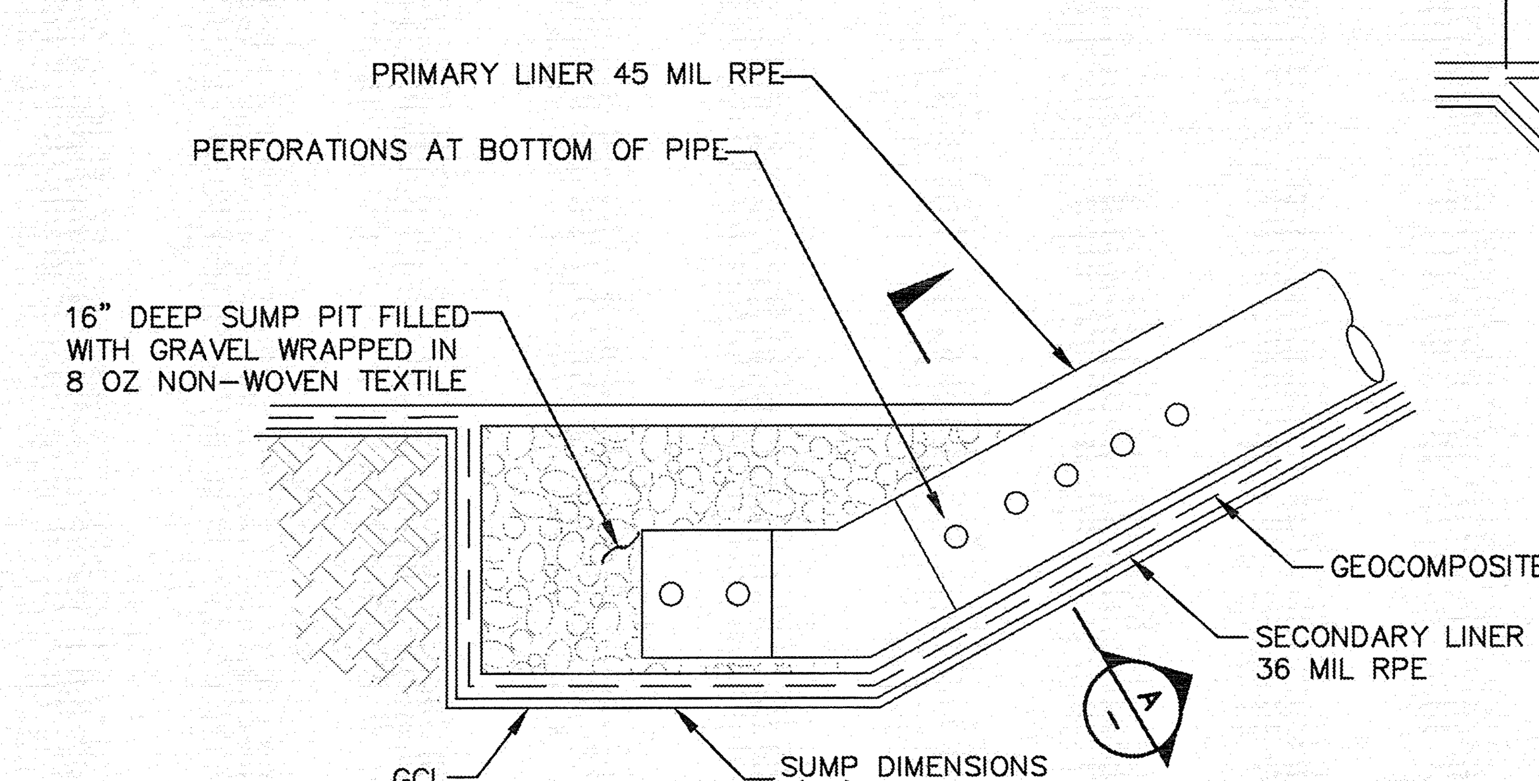


9 – STAFF GAGE DETAIL
N.T.S. (TYPICAL)

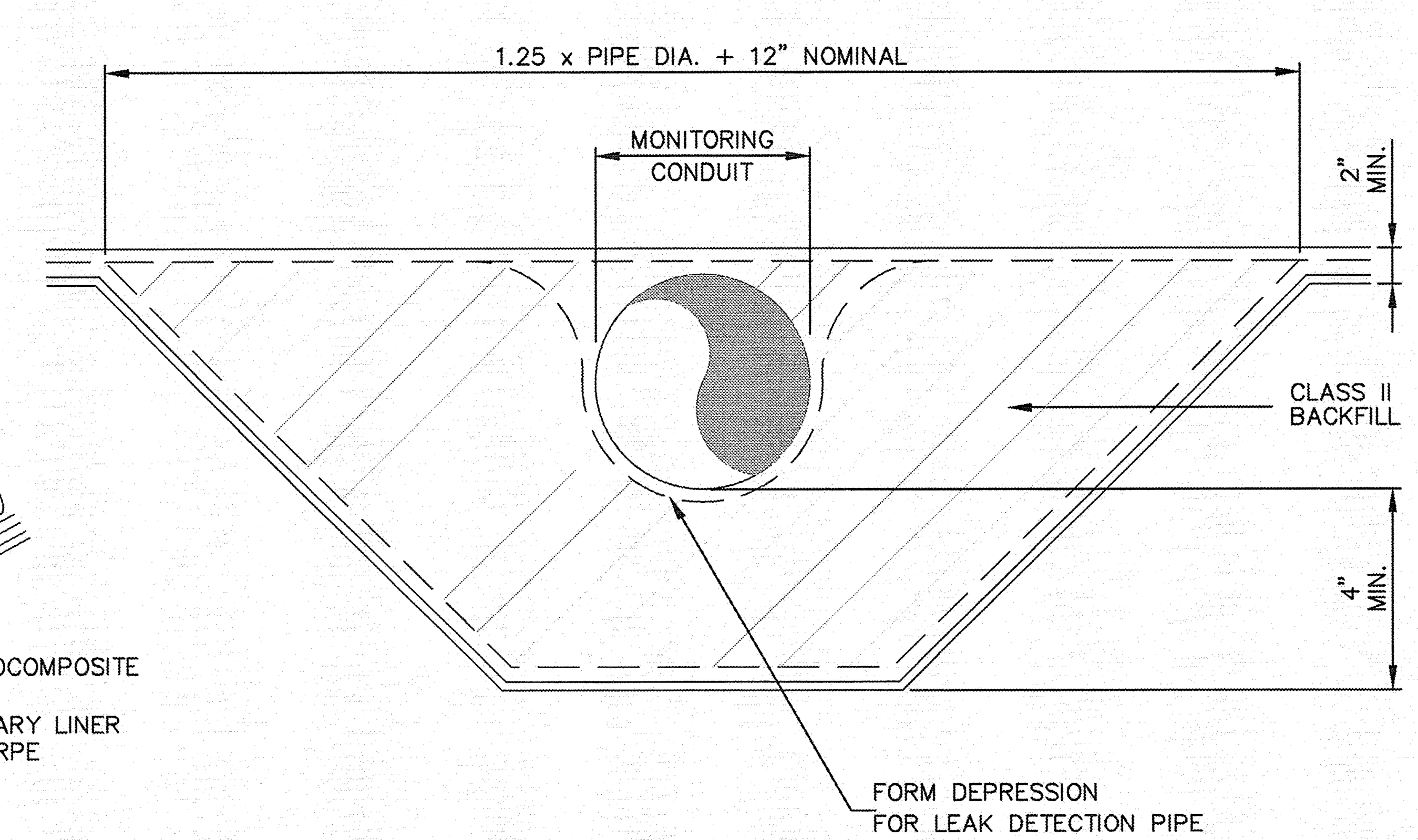


NOTE:
PIPE DIAMETER SHOULD BE LARGE ENOUGH TO FIT A SUBMERSIBLE PUMP WITH SUFFICIENT LIFT CAPACITY TO REMOVE FLUID THROUGH THE LEAK DETECTION SYSTEM. 8" DIAMETER IS RECOMMENDED.

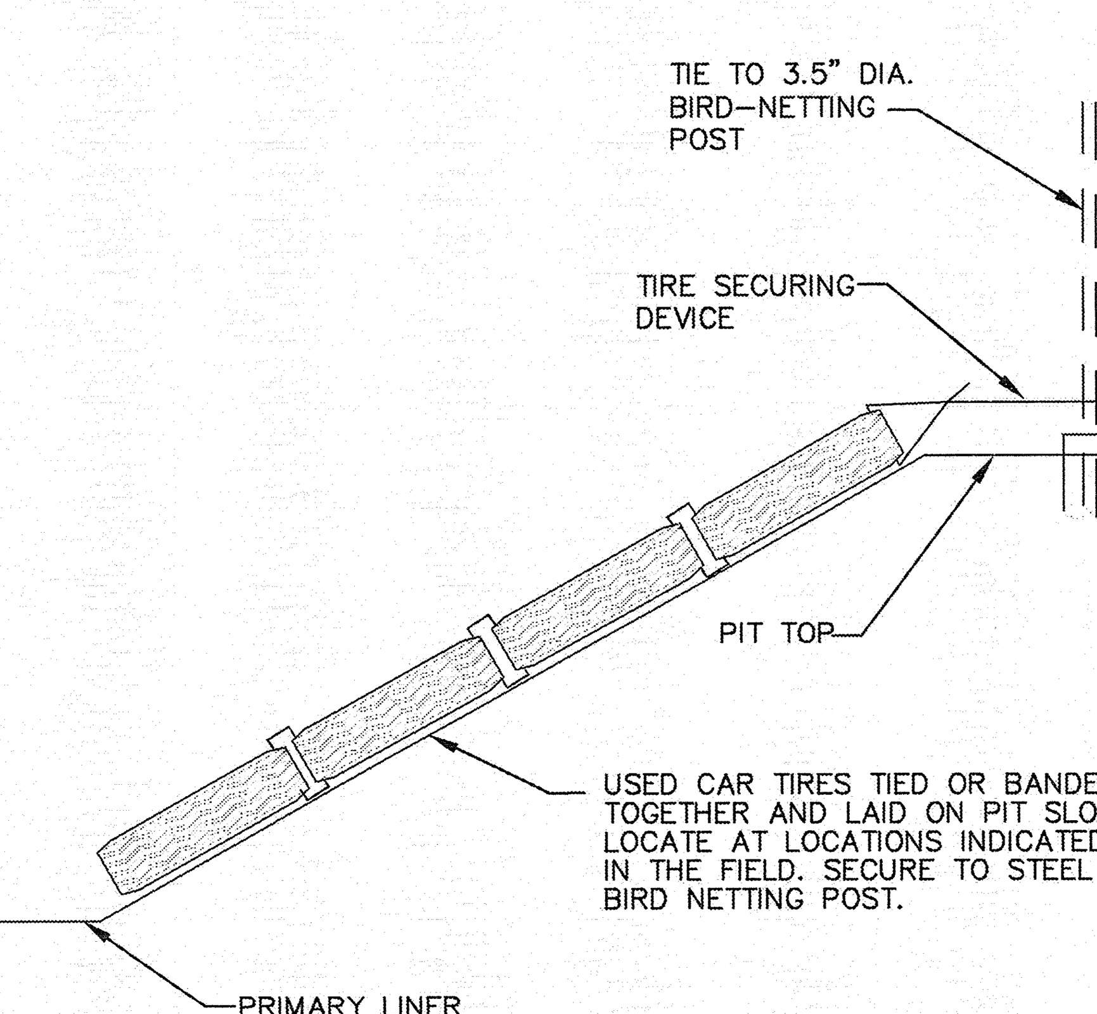
6 – PIPE BOOT SEALING DETAIL
N.T.S.



7 – SUMP PIT FILLED WITH GRAVEL
N.T.S.



A – SECTION
N.T.S.



10 – TIRE LADDER
N.T.S. (TYPICAL)

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DETAILS
WATER IMPOUNDMENT

AXIA TAYLOR COMPRESSOR STATION
MESA COUNTY, COLORADO

COLLBRAN, COLORADO

drawn by:	MDB/LRW
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approved by:	WEP
QA/QC by:	LP
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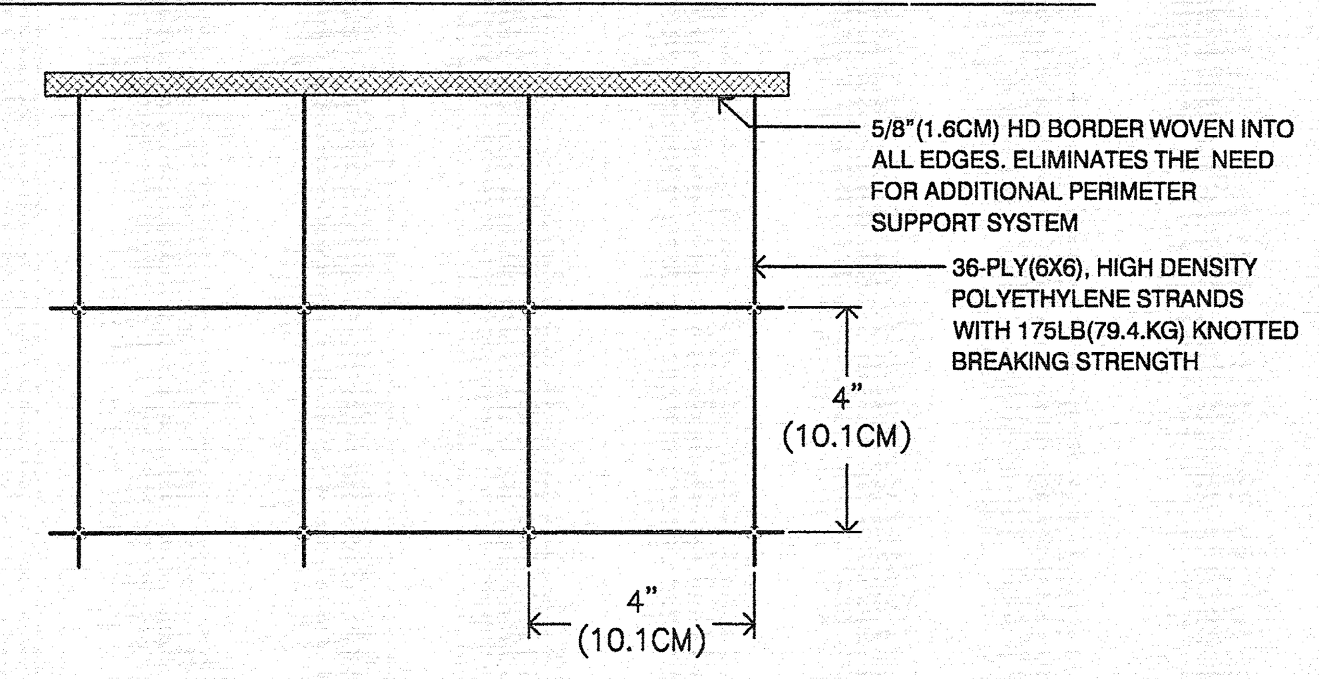
SHEET
C5.1

DWG: F:\Projects\010-1659_LDVP\Final_Plans\101659_DETL.dwg USER: mbickford
DATE: Apr 13, 2011 9:16am XREFS: 101659_BRDR

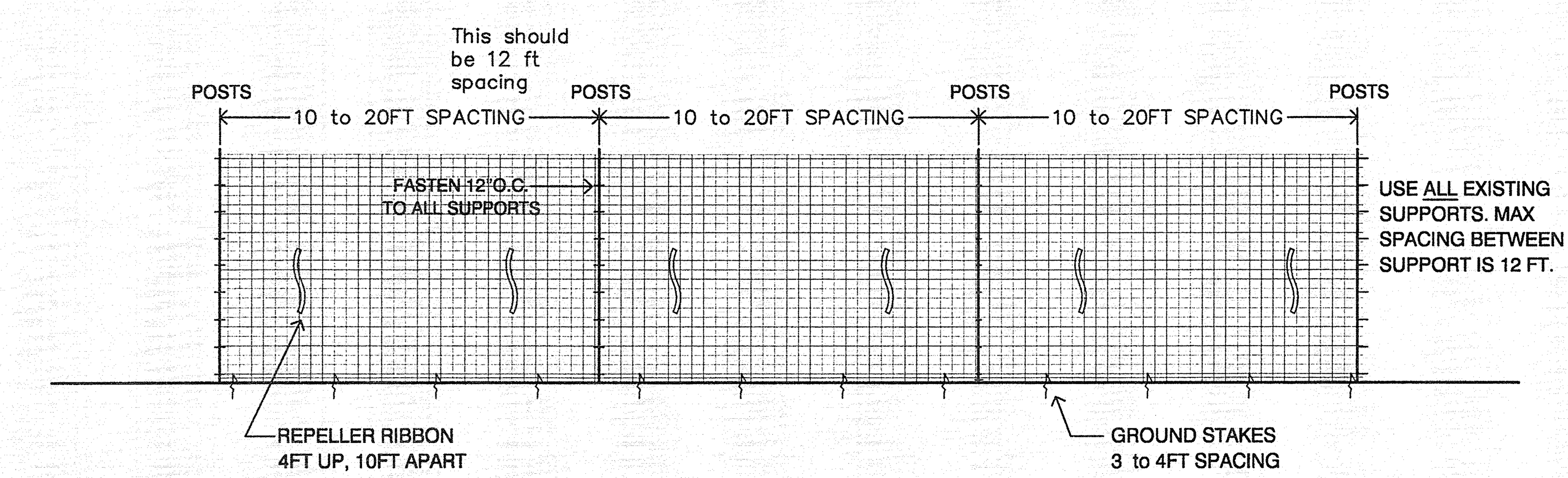
NIXALITE® DEER BLOCKER DEER FENCING



NIXALITE® DEER BLOCKER DEER FENCING
PARTIAL VIEW - SCALE: 3" = 1'0"

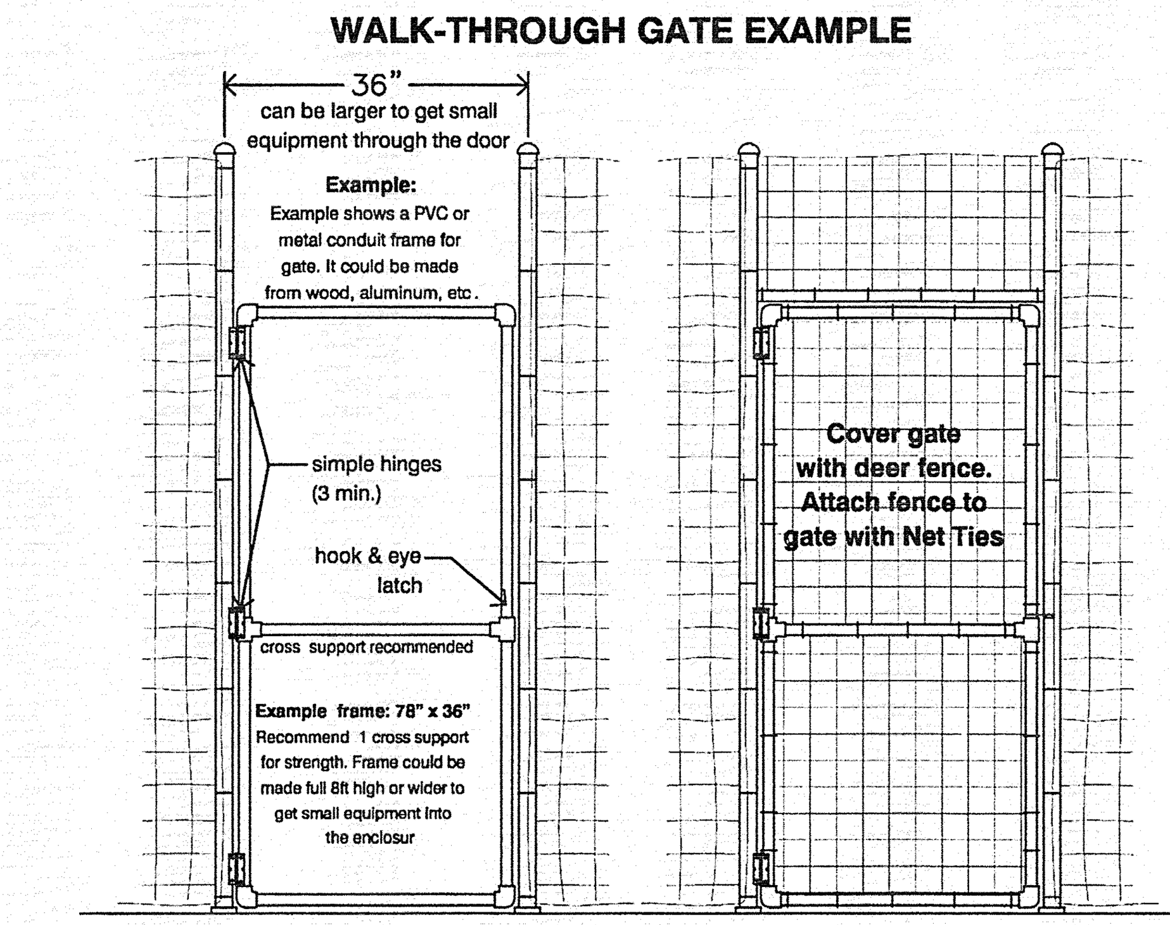
GENERAL NOTES:

1. DEER BLOCKER DEER FENCING TO BE MADE OF 36-PLY, UV STABILIZED, HIGH DENSITY POLYETHYLENE (HDPE). ABRASION AND FLAME RESISTANT.
2. 36-PLY STRANDS HAVE A KNOTTED BREAKING STRENGTH OF 175LBS(79.4KG). 4"(10.1CM) SQUARE MESH IS DISCREET. NEARLY INVISIBLE FROM A SHORT DISTANCE.
3. FASTEN DEER BLOCKER TO THE POSTS.
4. FINISH INSTALLATIONS WITH GROUND STAKES, GROUND ANCHORS, REPELLER RIBBON AND NET TIES. SEE DETAILS.
5. POSTS ARE 5 FEET HIGH AND FENCING IS 8 FEET HIGH. EXCESS FENCING MATERIAL SHOULD BE FOLDED UP ALONG BOTTOM OF POSTS AND TIED TO POSTS SO THAT THER IS OVERLAP OF MATERIAL ALONG THE BOTTOM OF THE FENCING.
6. POSTS ARE 4 X 4 INCH, 8 FOOT LONG WESTERN CEDAR. LONGER POSTS MAY BE USED; HOWEVER, ONLY 3 FEET IS REQUIRED ON BURY DEPTH.



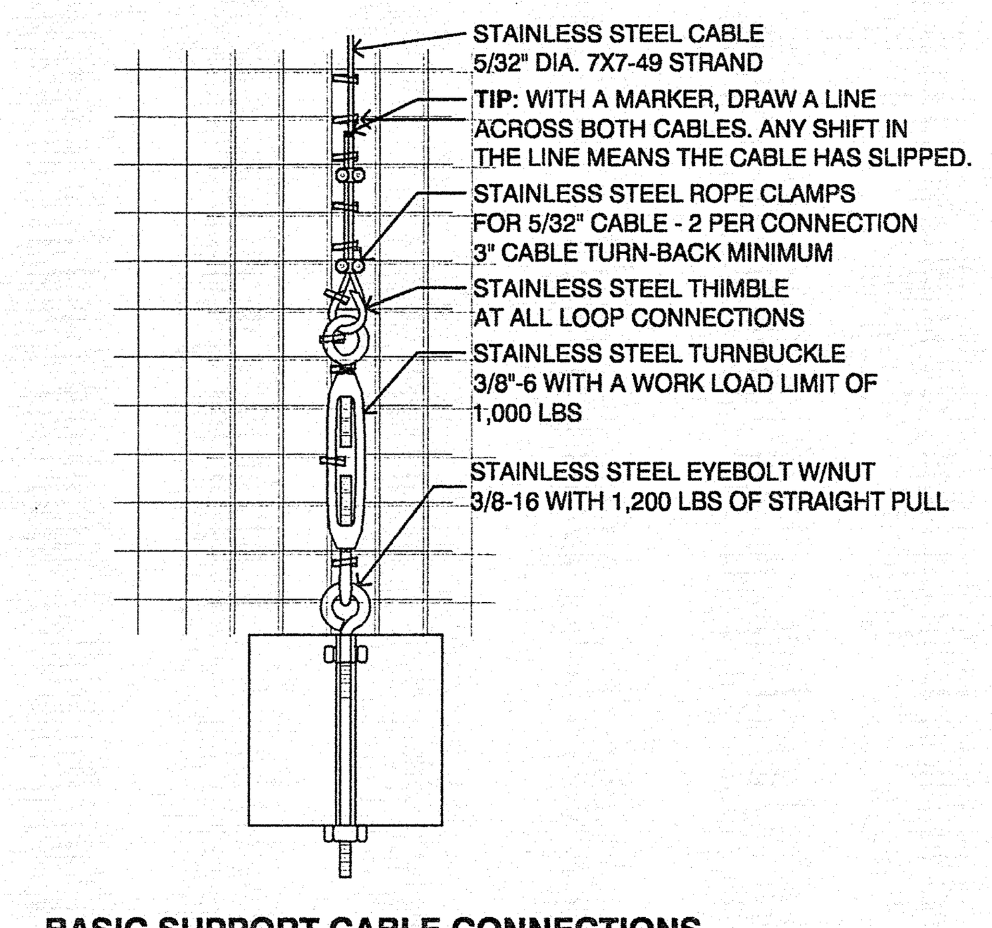
TYPICAL DEER BLOCKER FENCING RUN
ELEVATION - SCALE: NOT TO SCALE

WALK-THROUGH GATE EXAMPLE

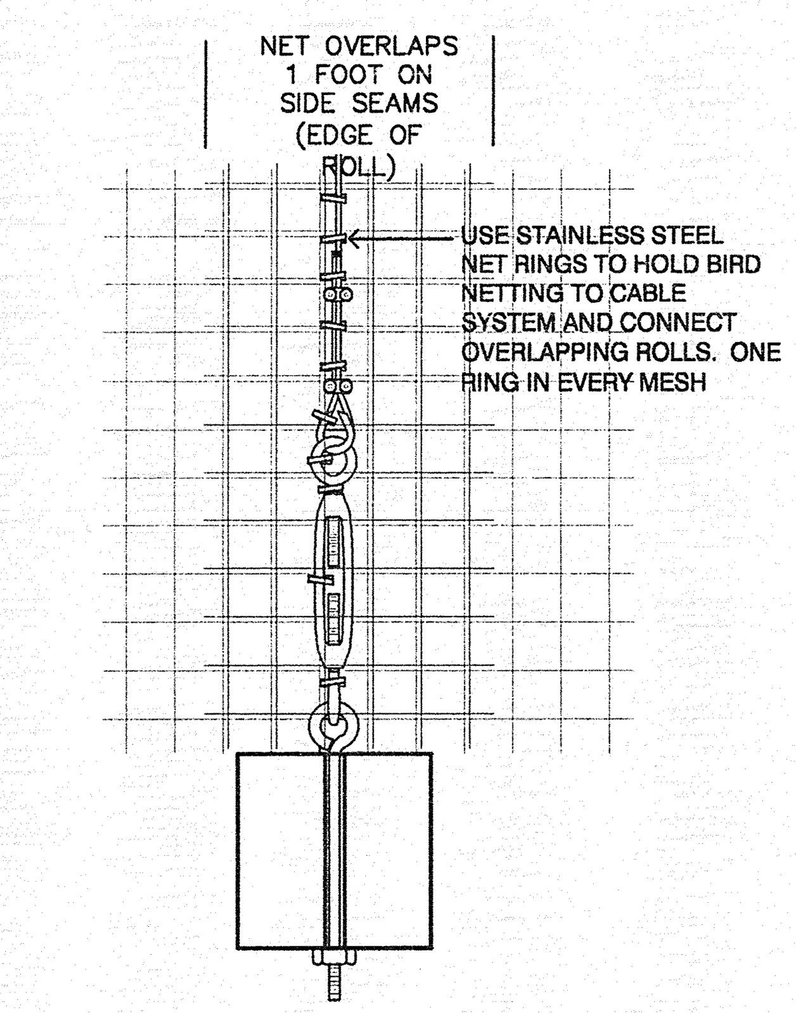


GENERAL NOTES:

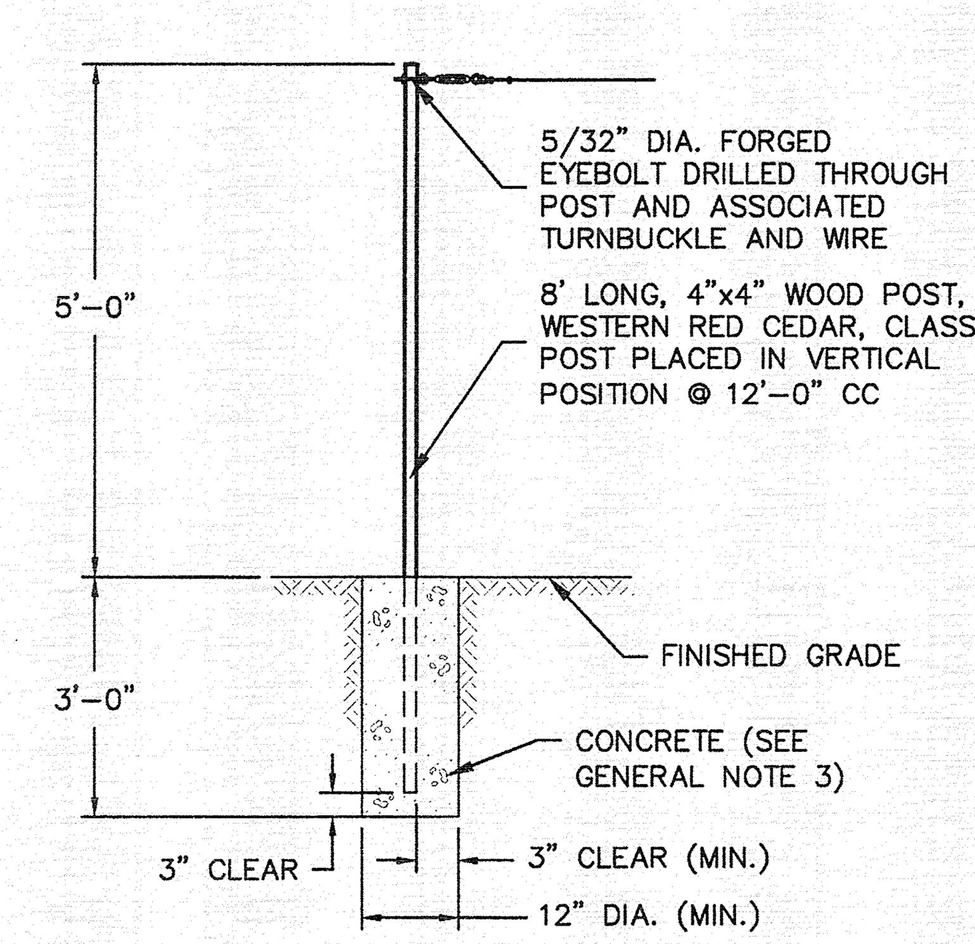
1. BIRD NETTING WILL BE NIXALITE POLLYNET BIRD EXCLUSION NETTING, PREMIUM GRADE OR EQUIVALENT. MATERIAL SHALL BE UV RESISTANT POLYPROPYLENE.
2. NETTING SHALL HAVE AN AVERAGE STRENGTH OF 10 LBS/STRAND AND SHALL BE 1/2" SQUARE MESH.
3. MATERIAL SHALL BE ORDERD IN STANDARD WIDTH OF 14 FT. AND AT THE MAXIMUM LENGHT OF 3,000 FEET TO MINIMIZE END OF ROLL SEAMS.
4. NETTING SHALL BE BLACK AND CARRY A 10 YEAR LIMITED WARRANTY.
5. MANUFACTURED AND TESTED IN COMPLIANCE WITH **ISO 9001 2000 QUALITY MANAGEMENT STANDARDS.**
6. INSTALL NETTING WITH A TENSIONED SUPPORT CABLE SYSTEM PER NIXALITE DETAILS AND GUIDELINES.
7. CONCRETE AROUND FENCE POST SHALL BE CLASS A2 AND SHALL BE 12 INCHES IN DIAMETER.
8. FINISHED INSTALLATION OF BIRD NETTING TO BE TAUT, FREE OF WRINKLES, GAPS, AND OPENINGS



BASIC SUPPORT CABLE CONNECTIONS
PARTIAL VIEW - SCALE: NOT TO SCALE



BASIC NET TO CABLE CONNECTIONS
PARTIAL VIEW - SCALE: NOT TO SCALE



POST SECTION
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DETAILS
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AXIA TAYLOR COMPRESSOR STATION
MESA COUNTY, COLORADO

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SHEET
C5.2