Rosebud Power Plant
Annual Engineer's Inspection Report

Prepared for Rosebud Operating Services, Inc.
by Allied Engineering Services, Inc.

January 19, 2017

ALLIED ENGINEERING SERVICES, INC.
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INTRODUCTION

This annual engineer's report presents Allied Engineering's inspection of the CCR landfill and assessment of the landfill operations for the Rosebud Power Plant *in Rosebud County, Montana* in order to fulfill the requirements of the CCR rule as published in the Federal Register on April 17, 2015 and July 2, 2015 and its effective date of October 19, 2015. The applicable rule section is 40 CFR Parts 257 and 261. The landfill in this report holds hydrated fly ash, which is solid and nearly impermeable to water, similar to concrete. This report follows the same format as the previous Engineer's Annual Inspection Report published on January 19, 2016.

The project site is located approximately seven miles north of the town of Colstrip, Montana in the southwest quarter of Section 29 and the northwest quarter of Section 32 Township 3 North, Range 41 East (Latitude 45.978859°, Longitude -106.663772° (WGS 84)). Vicinity maps are included on Sheet C0-3 & CO-4 in Appendix A. The landfill serves an on-site Power Plant owned by Rosebud Energy Corporation, the general partner of Colstrip Energy Limited Partnership (CELP). The Power Plant and the landfill are operated by Rosebud Operating Services, Inc.

The landfill area covered by this report is an active landfill located on the subject property. There is also a closed landfill, last used in October, 2005, that has since been reclaimed in general accordance with permits and regulations at the time. This closed landfill is not subject to regulation by the above referenced rules and is not the subject of this report. The active landfill includes Phase I and Phase II of a contiguous landfill permitted in 1997 and placed in service in October, 2005. This active landfill is subject to regulation by the above referenced CCR rules.

The information contained herein is based on an investigation and analysis of the property's topographical and subsurface conditions, a review of existing permits, regulatory requirements, maps and literature for the project area as related to the landfilling operations of combusted coal residuals (CCR), more familiarly referred to as fly ash. The purpose of this report is to assess existing conditions, fulfill the Engineer's Annual Inspection requirements of the CCR rule, and provide recommendations for the ongoing landfilling operations.

BACKGROUND

Rosebud Power Plant is a waste coal burning facility using a fluidized bed reactor. During the burning process of the coal, fly ash or combusted coal residuals (CCR) are produced. The CCR are either sold for commercial/industrial purposes or landfilled on-site near the power plant. The active landfill, consisting of the two phases, is located northwest of the power plant. Construction of Phase 1 has been completed and this section has been receiving ash since the closure of the retired landfill. Construction of Phase 2 was initiated in the first week of September, 2015, completed in December, 2015, and has been receiving Ash since the spring of 2016. Ash has continued to be deposited in both phases, but is currently placed primarily in Phase 2. Once the ash surface in Phase 2 has reached the elevation of Phase 1, the two phases will be operated as one continuous surface.

In 1996, Chandler Geotechnical, Inc. (a predecessor to Allied Engineering Services, Inc.) was hired as a sub-consultant to JSM, Inc. to provide engineering analysis and design of the current active landfill (Phases 1 and 2). During the initial construction of Phase 1, the planned landfill footprint/area was reduced. Over the course of operations at the plant, fly ash was sold during some years; thus the

amount of fly ash placed in the Phase 1 area was less than anticipated with the original design and has not yet reached its maximum storage capacity. These changes resulted in the need for minor modifications of the original design of the landfill area. Phase 2 modifications began in September of 2015 and were completed in December of 2015. Construction was completed for Phase 2 of the active landfill in general conformance with the original 1996 design with modifications undertaken during construction under the direction of Allied Engineering Services, Inc. The active landfill modifications were designed to store the rest of the expected volume of 635,897 CY (at the time of the redesign, late 2015/early 2016) for the remainder of the anticipated lifetime of the power plant. This volume assumed that no fly ash will be sold and was considered a conservative value. This volume is also less than the originally designed and permitted ash quantity. The original design had a final storage volume of approximately 2,200,000 CY and the revised design will have a total storage volume of approximately 1,300,000 CY, which includes approximately 440,000 CY in Phase 1 plus 850,000 CY in Phase 2.

REGULATORY SETTING

As of April 17, 2015, new rules for coal combustion residuals (CCR) were published in the Federal Register Volume 80, Number 74, dated Friday April 17, 2015. The applicable sections include 40 CFR Parts 257 and 261. These rules spell out the conditions for existing operating CCR landfills such as the active landfill at the Rosebud Power Plant. The rules provide location restrictions, structural stability assessment requirements, groundwater monitoring requirements, surface water protection, design and operating criteria, along with inspection requirements.

The power plant is currently operating under several permits that include protection criteria for air, surface water, and groundwater quality. Permits include:

- Montana Ground Water Pollution Control System (MGWPCS) Permit No. MTX000052
- Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activity. Permit No. MTR000058
- Air Quality Permit No. #2035-06

The applicable requirements of the current CCR rule cover active CCR landfills and exclude closed landfills.

EXISTING CONDITIONS

This second annual inspection report details the operation efforts of ash placement into the constructed Phase 2 area, extended drainage piping system, and additional groundwater monitoring efforts. Over the course of 2016, three CCR documents were produced to satisfy the following regulations:

1. 40 CFR § 257.102(b) CCR Landfill Closure Plan
2. 40 CFR § 257.104(d) CCR Post Closure Care Plan
3. 40 CFR § 257.81(c) Run-On and Run-Off Control System Plans

In anticipation of completing the Groundwater Monitoring and Corrective Action Plan due October 19, 2017 (40 CFR § 257.102), borehole drilling and well construction was undertaken in the vicinity of the active landfill. A Preliminary Hydrogeology Report was created to address the geology, hydrology and groundwater of the site. Attached to that report was a Borehole/Monitoring Well Completion Memo (dated July 13, 2016) that details the completion of one new monitoring well and two exploratory

boreholes. For the anticipated groundwater report sampling analysis, a draft groundwater sampling plan was created for the Rosebud Power Plant to standardize testing procedures and insure accuracy.

EXISTING CONDITIONS AND ANNUAL ENGINEERS INSPECTION REPORT & RECOMMENDATIONS

The following section quotes the requirements of the EPA CCR rule with the findings from the Engineer's Annual Inspection responding to each. The EPA CCR rule excerpts are listed in *italics.* Responses are provided in **bold.**

§257.64 Unstable Areas

a) An existing or new CCR landfill, existing or new CCR surface impoundment, or any lateral expansion of a CCR unit must not be located in an unstable area unless the owner or operator demonstrates by the dates specified in paragraph (d) of this section that recognized and generally accepted good engineering practices have been incorporated into the design of the CCR unit to ensure that the integrity of the structural components of the CCR unit will not be disrupted.

As demonstrated in the previous annual inspection report, this CCR landfill is not located in an unstable area.

b) The owner or operator must consider all of the following factors, at a minimum, when determining whether an area is unstable.

1) On-site or local soil conditions that may result in significant differential settling;

Differential settlement within the landfill was not observed. The design and construction included the removal of topsoil and 5-feet of subsoil prior to placement of fly ash. The construction sequencing with haul truck traffic provided a compaction effort of the subsoil. The base of the Phase 2 area of the active landfill was compacted by a vibratory roller before ash placement. Pozzolanic characteristics of hydrated fly ash provide a relatively strong mass of material that distributes the load evenly across the landfill footprint. Point load tests of hydrated ash core samples were completed by Ray Womack in 1992 on the retired CCR landfill. The results of the testing indicated compressive strength values comparable to a weak rock or concrete. The shear stresses exerted at depth by the weight of the ash landfill are proportional to the steepness and the height of the finished slope, and to the unit weight of the landfill materials. Due to the gentle overall finished side slopes of 3H:1V (considering the 10' wide benches) and the low density of the ash (about 85 pounds per cubic foot), the ash landfill will exert considerably less stress on the foundation materials than many of the natural slopes in the immediate vicinity of the landfill.

2) On-site or local geologic or geomorphologic features

The landfill is located in the mapped Lebo member of the Fort Union Formation. As mentioned previously, the relative low density characteristics of the fly ash distributed over a large area should not exert significant force to the underlying geology. There are no observed or mapped faults in the immediate vicinity of the active landfill. In addition there is no indication of settlement in the closed landfill located approximately 1,300 feet southeast of the active landfill.

The landfill is characterized as a cross valley fill across two ephemeral swales. The design includes water conveyance under the landfill by way of piping systems with bypass spillways designed to divert water around the perimeter in order to limit oversaturation of vicinity soil. To assure long term drainage stability, the final configuration for closure includes perimeter conveyance of water and abandonment of the piping system under the landfill. Perimeter conveyance has been designed for the landfill (see attached plan-set).

3) *On-site or local human-made features or events (both surface and subsurface).*

The design of the landfill accounted for appropriate side-slopes to limit the likelihood of instabilities. The original design as well as the 2015 design update utilized 3H:1V side slopes for the man-made berms surrounding the landfill area. This side slope is a common and conservative reclamation slope throughout the country, and specifically in the local Colstrip area which includes extensive coal mines.

The active landfill is located across two ephemeral drainages. The original design called for three pipes that convey the natural drainage of the active landfill site. The main drainage area drains an area of 103 acres with a secondary drainage covering an area of 16 acres. The original design utilized a HDPE Dual wall Corrugated pipe. The reason for the selection of this pipe was for its flexibility which would cause bridging of the soil in a deep bury situation. The 2015 design update continued the use of an HDPE pipe, but selected a steel-reinforced HDPE pipe for added stability. The stormwater conveyance pipes themselves are likely the most vulnerable element in the landfill system in terms of long term stability (in the event of a pipe failure); thus the long-term design (See Plan Set Sheets C1-6 through C1-12) includes the construction of bypass channels that will divert the drainages around both the active landfill and the previously closed landfill although that landfill is not the subject of this report. These bypass channels eliminate the risk of a pipe failure, as such a failure would have no negative impact on the overall drainage of the landfill area.

c) *The owner or operator of the CCR unit must obtain a certification from a qualified professional engineer stating that the demonstration meets the requirements of paragraph (a) of this section.*

The landfill area was designed by a professional engineer. Additionally, this report serves as Allied Engineering Services, Inc.'s certification that the landfill is not situated in an unstable area.

d) *The owner or operator of the CCR unit must complete the demonstration required by paragraph (a) of this section by the date specified in either paragraph (d)(1) or (2) of this section.*

1) *For an existing CCR landfill or existing CCR surface impoundment, the owner or operator must complete the demonstration no later than October 17, 2018.*

This requirement was met prior to the first annual Engineer's Inspection Report (dated January 19, 2016) which was before the deadline, and was provided to the facility for placement in their operating record.

2) *For a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit, the owner or operator must complete the*

demonstration no later than the date of initial receipt of CCR in the CCR unit.

Not applicable, the active CCR landfill area has been in use prior to the regulatory timeframe of October 19, 2015.

3) *The owner or operator has completed the demonstration required by paragraph (a) of this section when the demonstration is placed in the facility's operating record as required by § 257.105(e)*

Reporting requirements as outlined in § 257.105(e) will be followed. CELP maintains operational requirements on their webpage (http://www.celpccr.com)

4) *An owner or operator of an existing CCR surface impoundment or existing CCR landfill who fails to demonstrate compliance with the requirements of paragraph (a) of this section by the date specified in paragraph (d)(1) of this section is subject to the requirements of § 257.101(b)(1) or (d)(1), respectively.*

Acknowledged.

5) *An owner or operator of a new CCR landfill, new CCR surface impoundment, or any lateral expansion of a CCR unit who fails to make the demonstration showing compliance with the requirements of paragraph (a) of this section is prohibited from placing CCR in the CCR unit.*

Not applicable to existing landfills and the requirements of paragraph (a) were met with the first annual Engineer's Inspection Report (dated January 19, 2016).

e) *The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(e), the notification requirements specified in § 257.106(e), and the Internet requirements specified in § 257.107(e)*

Acknowledged.

§257.84 Inspection requirements for CCR Landfills

b) *Annual inspections by a qualified professional engineer.*

1) *Existing and new CCR landfills and any lateral expansion of a CCR landfill must be inspected on a periodic basis by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards. The inspection must, at a minimum, include:*

i. *A review of available information regarding the status and condition of the CCR unit, including, but not limited to, files available in the operating record (e.g., the results of inspections by a qualified person, and results of previous annual inspections); and*

Weekly inspections have been undertaken by facility personnel during the calendar year of 2016. A review of the weekly inspection reports reveals no significant issues with the existing CCR landfill. The ash was recorded to have surface cracks and heaves after drying. It is believed these issues are caused by contraction and expansion associated with the nature of the ash and its hydration process. These areas were remixed by re-grading of the problem areas back to a flat surface. By addressing these heaving and cracking areas when they arise on the surface (during normal operation) it will better mix the ash and help even out hydration of the ash layer. Copies of the weekly inspection reports are provided in Appendix C. The landfill continues to be operated in general conformance with the original design. New earthen berms have been constructed around the perimeter of Phase 1 for containment and will continue to be constructed above the ash surface elevation as ash placement continues. Phase 1 has not experienced much ash placement activity since Phase 2 began receiving ash. The Phase 2 area is now accepting the majority of the ash and will not need containment berms until the ash reaches an elevation of about 3150 FT. At this elevation, containment berms will be constructed on the perimeter of the ash as the landfill elevation continues upward.

ii. A visual inspection of the CCR unit to identify signs of distress or malfunction of the CCR unit.

Personnel from Allied Engineering Services, Inc. have visited the site on multiple occasions. Recent site visit dates are as follows:

- **June 14-15, 2016**
- **November 9, 2016***

The date indicated with the * was the primary inspection of the landfill area and existing piping and was most applicable to the 'Annual Engineers Inspection'. The other site visits included some inspection in support of the Engineers Report but also focused on groundwater monitoring requirements.

2) Inspection report. The qualified professional engineer must prepare a report following each inspection that addresses the following:

i. Any changes in geometry of the structure since the previous annual inspection;

ii. The approximate volume of CCR contained in the unit at the time of the inspection;

iii. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit; and

iv. Any other change(s) which may have affected the stability or operation of the CCR unit since the previous annual inspection.

The geometry of the landfill is actively changing as CCR is placed in lifts and hydrated. As-built survey sheets are attached that depicts the topography of the ash surface as of November 9, 2016. The elevation of the ash placed in Phases 1 and 2 has changed an average of 3.60 ft and 3.27 ft respectively since the last as-built survey on January 27, 2016. The general shape of Phase 2 is convex which captures precipitation within the ash footprint. The average elevation of Phase 1 and 2 is now

3160.1 and 3126.8 respectively. A total of 34,800 CY of ash was placed in both Phases 1 & 2 during the time between as-built surveys.

Routine cleaning and maintenance in the installed piping under the landfill has been observed. All piping installed in 2015 along with the previously existing piping is functioning as designed with in-place trash racks and rock riprap. A small erosion feature approximately 2-feet deep by 1-foot wide and 10-feet long was noted on the east face of the Phase 1 landfill and appears to be caused by a concentration of run-off water along a small bench.

Landfill Volumes Table

Description	Volume
Ash Placed in Phase 1	325,408 CY
Ash Stored in Phase 2	15,942 CY
Closed Landfill Ash Storage	836,000 CY
Stockpile 1 – Top Soil	6,000 CY
Stockpile 2 – Sub Soil	82,460 CY
Stockpile 3 – Sub Soil	5,090 CY
Stockpile 4 – Sub Soil	27,433 CY
***Soil volumes are approximate and estimated from topographic data taken on 11/9/2016. Stockpiles may have been changed since this survey date.**	

CONCLUSION

The landfill inspection at the Rosebud Power Plant revealed that there is currently no active settlement or significant stability issues related to landfilling of CCR. As mentioned previously there is a small erosional feature on the east face of the Phase 1 Landfill. All existing piping is functioning as designed, and all disturbed areas have been hydro seeded.

RECOMMENDATIONS

It is recommended that eroded areas on the face of Phase 1 landfill be re-graded to remove any rills or gully formed by run-off. The re-grading using a small excavator or skid-steer of an area approximately 30-feet by 15-feet should be sufficient to repair the area and promote the dispersal of run-off water. The area should be re-seeded and monitored. These areas were pointed out to facility personnel during the Engineer's Inspection on November 9, 2016.

Other recommendations for the active landfill include:

- Reshaping and revegetation of slopes in the active landfill in order to provide 3H:1V slopes (see Slope Figure included in Appendix B).
- Complete design and construction of the closed CCR landfill bypass drainage channel in order to limit the infiltration of surface water in the area.
- Prior to final closure, complete design and construction of bypass channels and outlet stilling basin for the active CCR landfill.

- Complete assessment of existing monitoring well network in addressing varying ground water elevations and develop a new sampling and analysis plan and detection monitoring program for groundwater at the site.

3) Timeframes for conducting the initial inspection -

i. Existing CCR landfills. The owner or operator of the CCR unit must complete the initial inspection required by paragraphs (b)(1) and (2) of this section no later than January 18, 2016.

A first Annual Inspection report was completed prior to the stated deadline and has therefore addressed this requirement.

ii. New CCR landfills and any lateral expansion of a CCR landfill. The owner or operator of the CCR unit must complete the initial annual inspection required by paragraphs (b)(1) and (2) of this section no later than 14 months following the date of initial receipt of CCR in the CCR unit.

Not applicable to the existing landfill.

4) Frequency of inspections. The owner or operator of the CCR unit must conduct the inspection required by paragraphs (b)(1) and (2) of this section on an annual basis. The date of completing the initial inspection report is the basis for establishing the deadline to complete the first subsequent inspection. Any required inspection may be conducted prior to the required deadline provided the owner or operator places the completed inspection report into the facility's operating record within a reasonable amount of time. In all cases, the deadline for completing subsequent inspection reports is based on the date of completing the previous inspection report. For purposes of this section, the owner or operator has completed an inspection when the inspection report has been placed in the facility's operating record as required by § 257.105(g)(9).

The Engineers Inspection Report will be completed annually with the potential to complete them more frequently if a deficiency or release is identified in the facility weekly inspections.

5) If a deficiency or release is identified during an inspection, the owner or operator must remedy the deficiency or release as soon as feasible and prepare documentation detailing the corrective measures taken.

Acknowledged.

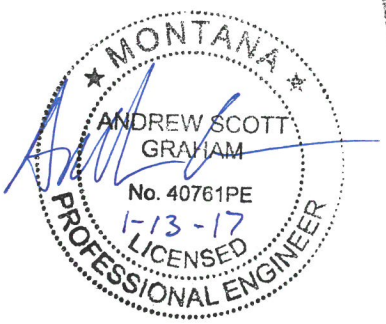
CERTIFICATION

This report was prepared by Allied Engineering Services, Inc., under the direction of Douglas S. Chandler, PhD, PE, with assistance from Andrew Graham, PE, and Ronald Orton, Environmental Scientist, and QC review by Brock Athman, PE.

ALLIED ENGINEERING SERVICES, INC

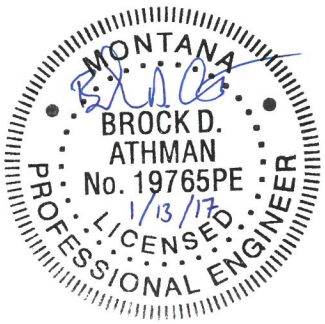
Douglas S. Chandler, PhD, PE

Andrew S. Graham, PE



Ron Orton

QC Approval: Brock D. Athman, PE



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3. Montana Bureau of Mines and Geology, 2007. Geologic Map of the Lame Deer 30' x 60' quadrangle, eastern Montana. Vuke, S.M., Heffern, E.L., Bergantino, R.N., and Colton, R.B. Accessed via the USGS National Geologic Map Database Map View. Accessed 12/23/15 http://ngmdb.usgs.gov/maps/mapview/
4. Montana Bureau of Mines and Geology, Groundwater Information Center, Well log data website, http://mbmggwic.mtech.edu/sqlserver/v11/menus/menuData.asp. Accessed 1/6/15
5. Natural Resource Conservation Service, Web Soil Survey. http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm Accessed 12/23/15.
6. Rosebud Power Plant Ash Disposal Site Engineering Design and Construction Specifications by Chandler Geotechnical. Chandler, D.S. dated July 16, 1996.

Appendix A: Plan Set – Fly Ash Landfill Post-Closure Design - Dated September 15, 2016

ROSEBUD POWER PLANT

FLY ASH LANDFILL POST-CLOSURE DESIGN

PROJECT LOCATION: 6.5 MILES NORTH OF COLSTRIP, MT ON HIGHWAY 39

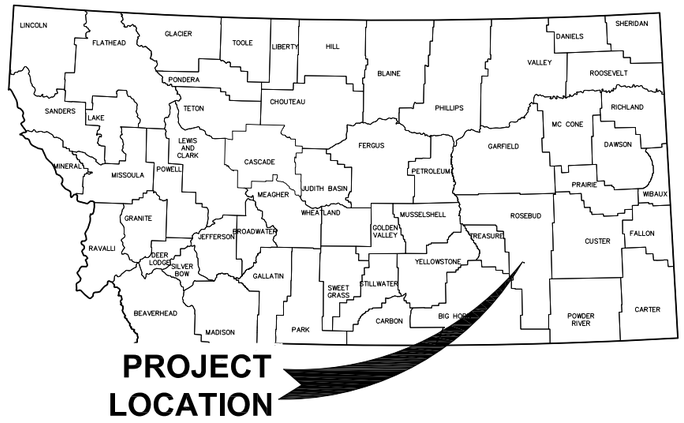
LEGAL DESCRIPTION: NW $\frac{1}{4}$, SECTION 32, TOWNSHIP 3N, RANGE 41E, P.M.M., ROSEBUD COUNTY, MT

OWNER: COLSTRIP ENERGY LIMITED PARTNERSHIP (CELP)
1087 W. RIVER STREET, SUITE 200
BOISE, ID 83702

CLIENT: ROSEBUD OPERATING SERVICES, INC.
1087 W. RIVER STREET, SUITE 200
BOISE, ID 83702

SEPTEMBER 15, 2016

SET NO. _____



PRINCIPAL-IN-CHARGE: DOUG CHANDLER, PE, Ph.D

PROJECT ENGINEER: ANDREW S. GRAHAM, PE

QC REVIEW: BROCK D. ATHMAN, PE

PROJECT SURVEYOR: KYLE THOMPSON, PLS
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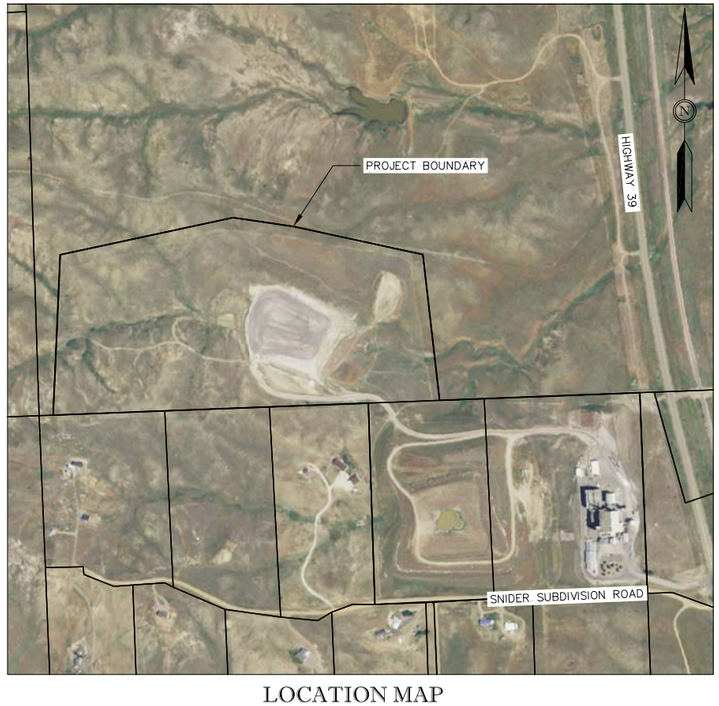

LOCATION MAP
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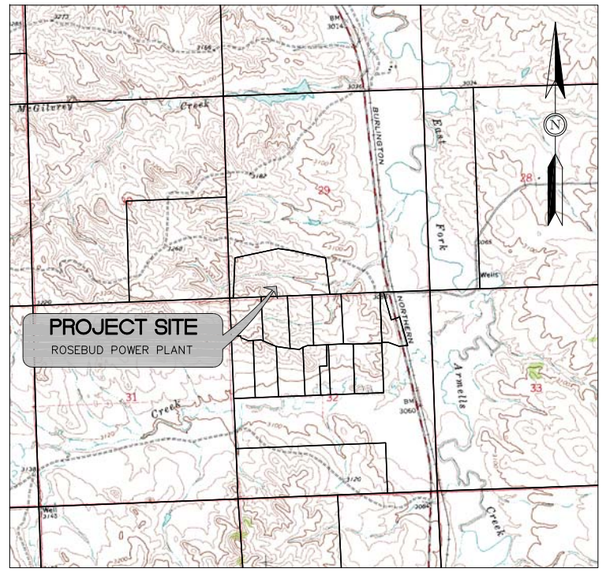

VICINITY MAP
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SCALE (FEET)

ROSEBUD POWER PLANT
ROSEBUD COUNTY, MONTANA

NO.	REVISIONS	DATE

P:\2015\15-125 Rosebud Power Plant Ash Disposal Site\09 CAD Data\SHEET SET\POST-CLOSURE PLAN SET\POST-CLOSURE COVER & NOTES.dwg

ROSEBUD POWER PLANT
CO-1 COVER SHEET

SHEET INDEX

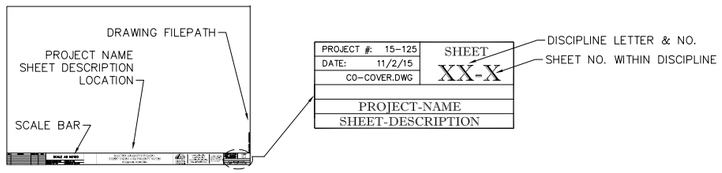
GENERAL NOTES:

1. THESE PLANS PRESENT FIELD AND DESIGN CHANGES TO THE ORIGINAL PLAN SET, ROSEBUD FLYASH DISPOSAL - DATED MAY, 1996. THESE ORIGINAL PLANS WERE CREATED BY CHANDLER GEOTECHNICAL, INC. FOR THE DESIGN OF PHASE 1 AND PHASE 2 OF THE FLYASH LANDFILL. ASH PLACEMENT IN PHASE 1 BEGAN IN 2005 AND CONSTRUCTION OF PHASE 2 BEGAN IN AUGUST, 2015. THESE PLANS ARE A CONTINUATION TO THE ROSEBUD POWER PLANT, FLY ASH LANDFILL DESIGN MODIFICATIONS - DATED JANUARY 7, 2016.
2. THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALLIED ENGINEERING'S PLAN SET; ALONG WITH THE MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS (MPWSS), SIXTH EDITION.
3. ALL DuroMaxx PIPE IS TO BE INSTALLED PER ALLIED ENGINEERING'S PLANS AND SPECIFICATIONS; ALONG WITH CONTECH'S DuroMaxx STEEL REINFORCED PE TECHNOLOGY INSTALLATION GUIDE.

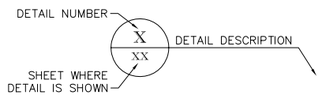
CIVIL ABBREVIATIONS:

AESI	ALLIED ENGINEERING SERVICES, INC.
AC	ACRE
AVE	AVENUE
BLDG	BUILDING
BM	BENCHMARK
BOG	BACK OF GRATE (GUTTER)
CI	CAST IRON
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
COB	CITY OF BOZEMAN
CONC	CONCRETE
CY	CUBIC YARD
DI	DUCTILE IRON
DIA	DIAMETER
DWG	DRAWING
E	EAST
EA	EACH
EG	EXISTING GRADE
ELEV	ELEVATION
EOG	EDGE OF GRAVEL
EOP	EDGE OF PAVEMENT
EX	EXISTING
FETS	FLARED END TERMINAL SECTION
FG	FINISHED GRADE
FHYD	FIRE HYDRANT
FL	FLANGE
FL	FLOWLINE
FM	SEWER FORCE MAIN
FT	FEET
GPM	GALLONS PER MINUTE
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE
HORZ	HORIZONTAL
HP	HIGH POINT
HWY	HIGHWAY
IE	INVERT ELEVATION
IN	INCH
INV	INVERT
LF	LINEAR FEET
LP	LOW POINT
LT	LEFT
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
MP	MID POINT
MPWSS	MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS
MSU	MONTANA STATE UNIVERSITY
N	NORTH
PC	POINT OF CURVATURE
PE	PLAIN END
PE	POLYETHYLENE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
R	RADIUS
RP	RADIUS POINT
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT-OF-WAY
RT	RIGHT
S	SOUTH
SCH	SCHEDULE
SD	STORM DRAIN
SECT	SECTION
SG	SUBGRADE
S	SANITARY SEWER MAIN
SS	SANITARY SEWER SERVICE
ST	STREET
STA	STATION
STD	STANDARD
SY	SQUARE YARD
TBM	TEMPORARY BENCH MARK
TBC	TOP BACK OF CURB
TDH	TOTAL DYNAMIC HEAD
TYP	TYPICAL
UG	UNDERGROUND
VC	VITRIFIED CLAY
VERT	VERTICAL
W	WATER MAIN
W	WEST
W/	WITH
W/O	WITHOUT
WS	WATER SERVICE

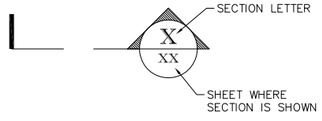
AESI STANDARD BORDER FORMAT



PLAN SHEET DETAIL CALLOUTS



PLAN SHEET SECTION CALLOUTS



LEGEND

- 4770 — MAJOR CONTOUR - FG
- 4771 — MINOR CONTOUR - FG
- 4770 — MAJOR CONTOUR - EG
- 4771 — MINOR CONTOUR - EG
- FOUND MONUMENT AS NOTED
- SET MONUMENT
- CONTROL POINT
- X — X — FENCE - EXISTING
- OHP — OVERHEAD POWER - EXISTING
- G — G — UTILITY GAS - EXISTING
- TEL — UTILITY PHONE - EXISTING
- E — E — UTILITY ELECTRIC - EXISTING
- UTILITY POWER POLE - EXISTING
- LIGHT POLE - EXISTING
- E — ELECTRICAL PEDESTAL - EXISTING
- EM — ELECTRICAL METER - EXISTING
- TEL — TELEPHONE PEDESTAL - EXISTING
- GM — GAS METER - EXISTING
- GAS VALVE - EXISTING
- GUY ANCHOR - EXISTING
- EASEMENT LINE
- BOUNDARY/ LOT LINE
- ROAD CENTERLINE
- ROAD - CURB
- CONCRETE SIDEWALK
- STREET SIGN
- S — SEWER MAIN
- S — SEWER MAIN - EXISTING
- SEWER SERVICE
- (S) — SANITARY SEWER MANHOLE
- (CO) — SEWER CLEANOUT
- W — WATER MAIN
- W — WATER MAIN - EXISTING
- WATER SERVICE
- FIRE HYDRANT
- (BO) — BLOW-OFF HYDRANT
- WV — WATER VALVE
- (W) — WELL
- (MW) — MONITORING WELL
- SD — STORM MAIN
- CULVERT - EXISTING
- DITCH-CENTERLINE - EXISTING
- (D) — STORM MAIN JOINT,BEND, OR STRUCTURE

NO.	REVISIONS	DRAWN BY	DATE

PROJECT ENGINEER: DSC	DRAWN BY: ASG
DESIGNED BY: ASG, BDA	REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
SHEET INDEX, LEGEND, & GENERAL NOTES
ROSEBUD COUNTY, MT

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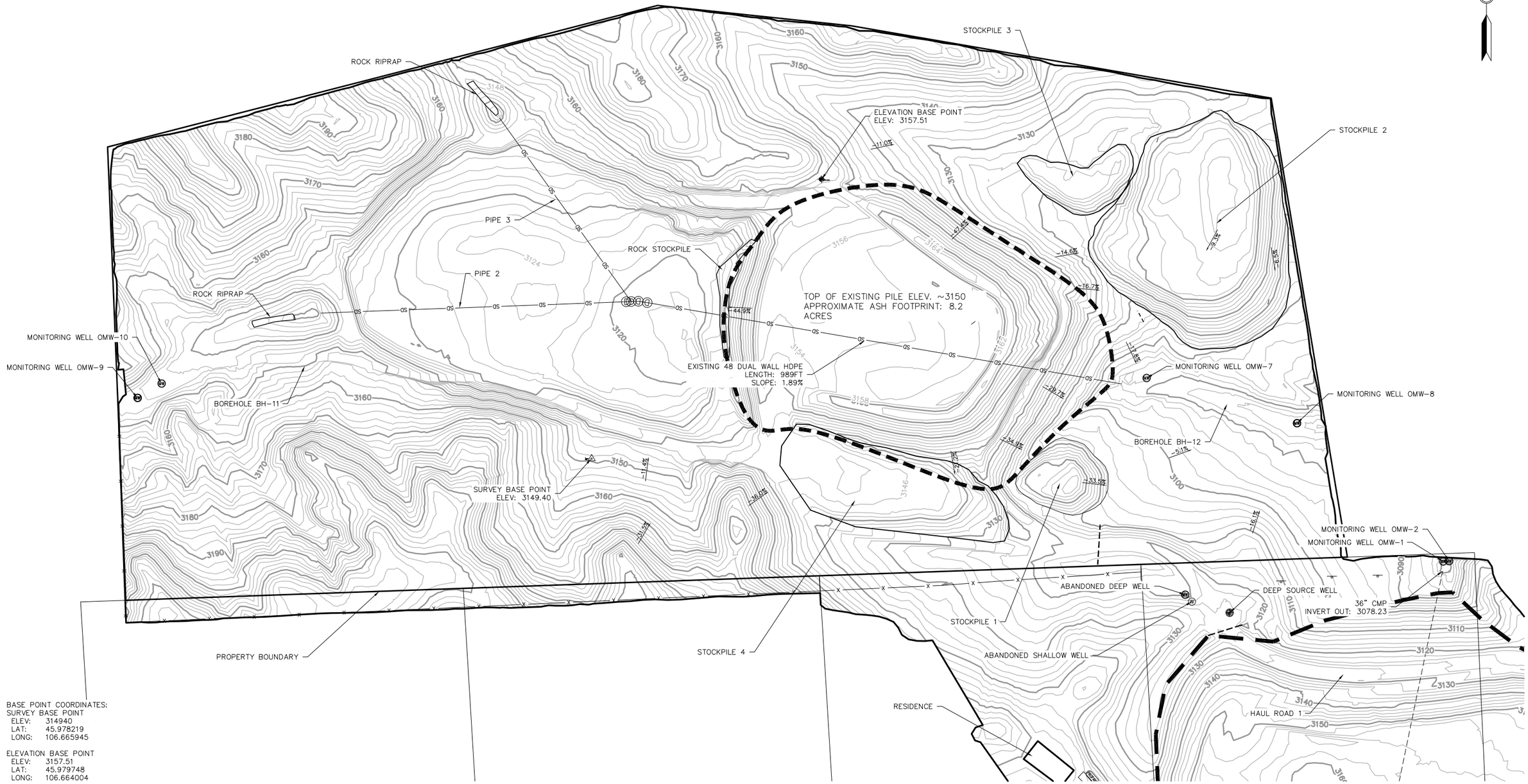
PROJECT #: 15-125	SHEET
DATE: 9/15/2016	C0-2
	INDEX, LEGEND, & NOTES

P:\2015\15-125 Rosebud Power Plant Ash Disposal Site\09 CAD Data\SHEET SET\POST-CLOSURE PLAN SET\POST-CLOSURE COVER & NOTES.dwg

SURVEY OF PHASE 1 LANDFILL AND SURROUNDING AREA
BASED ON TOPOGRAPHIC SURVEYS COMPLETED ON:
9/14/15 BY GREG FINCK OF AESI
1/27/16 BY GREG FINCK AND KYLE THOMPSON OF AESI



BASE POINT COORDINATES:
SURVEY BASE POINT
ELEV: 314940
LAT: 45.978219
LONG: 106.665945

ELEVATION BASE POINT
ELEV: 3157.51
LAT: 45.979748
LONG: 106.664004

NO.	REVISIONS	DRAWN BY	DATE

0 100 200 300
SCALE (FEET)

PROJECT ENGINEER: DSC	DRAWN BY: ASG
DESIGNED BY: ASG	REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
EXISTING CONDITIONS (AS-BUILT)
ROSEBUD COUNTY, MT

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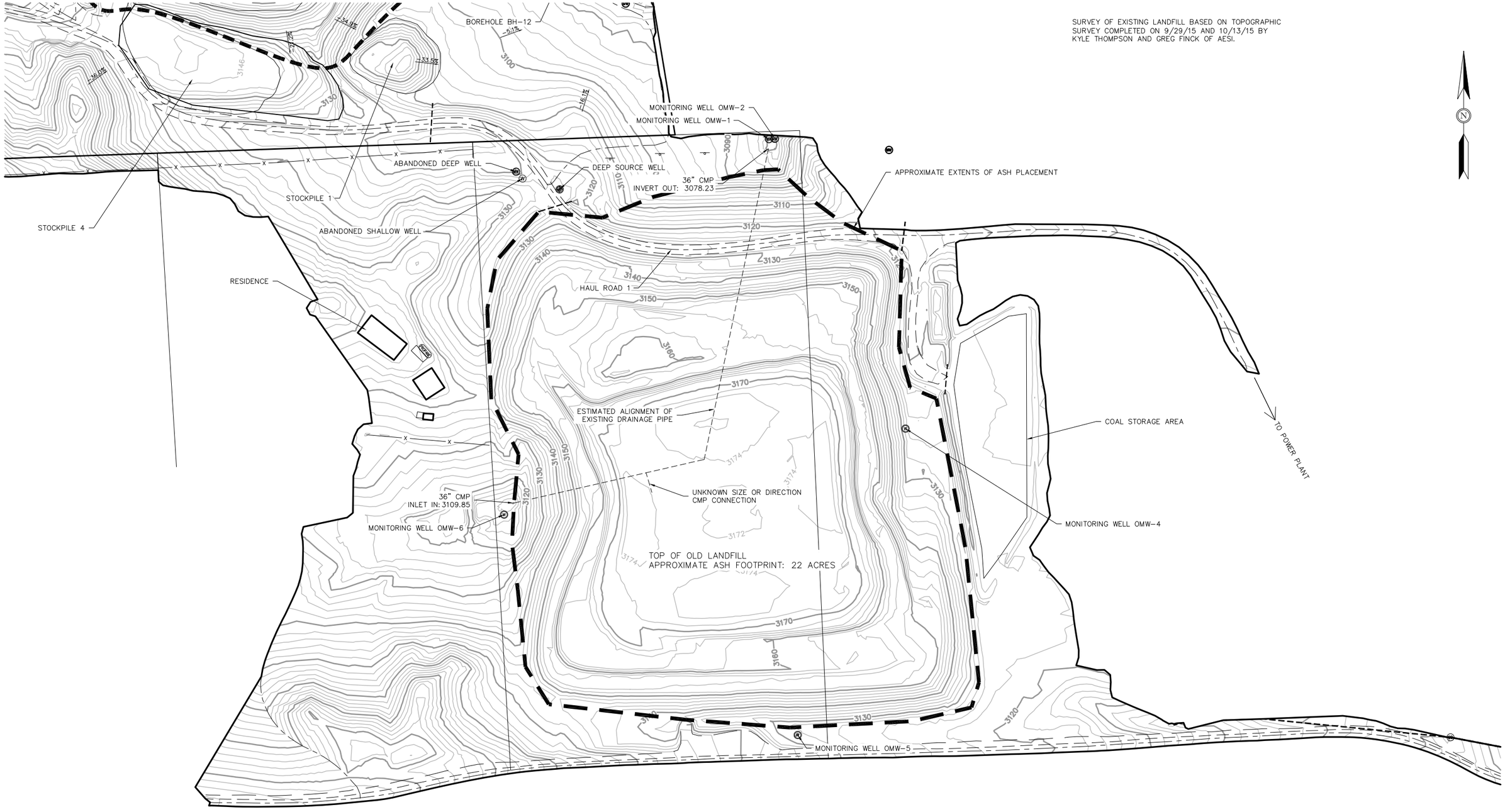
PROJECT #: 15-125	SHEET
DATE: 9/15/2016	C0-3

EXISTING CONDITIONS

C:\Users\...a\Desktop\2015\15-125 Rosebud Power Plant Ash Disposal Site\2A CAD-Production\Grading\EXISTING CONDITIONS.dwg

SURVEY OF EXISTING LANDFILL BASED ON TOPOGRAPHIC SURVEY COMPLETED ON 9/29/15 AND 10/13/15 BY KYLE THOMPSON AND GREG FINCK OF AESI.



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NO.	REVISIONS	DRAWN BY	DATE

0 100 200 300
SCALE (FEET)

PROJECT ENGINEER: DSC	DRAWN BY: ASG
DESIGNED BY: ASG	REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
EXISTING CONDITIONS
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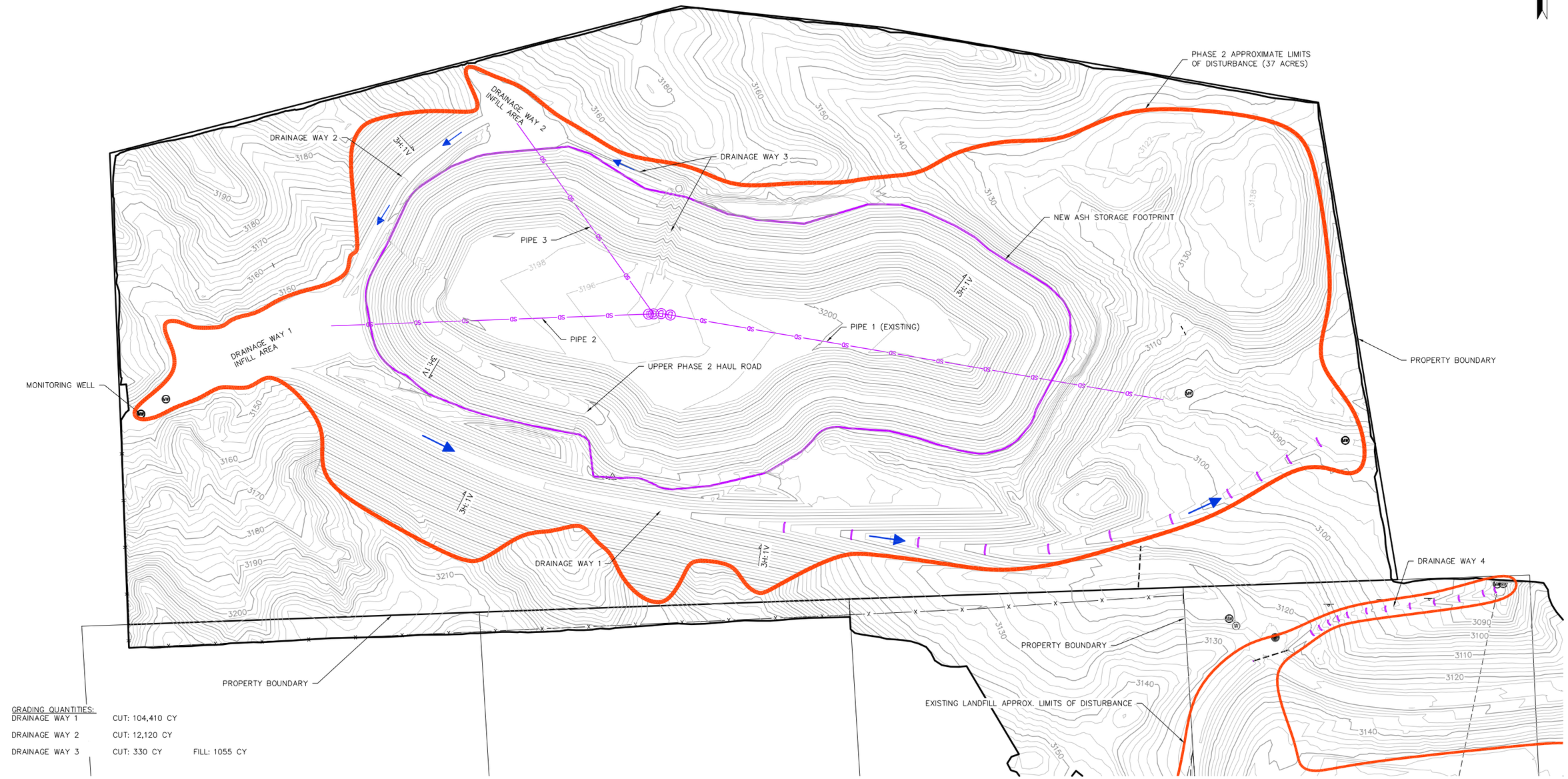
PROJECT #: 15-125	SHEET
DATE: 9/15/2016	C0-4

EXISTING CONDITIONS

LEGEND

- EG MAJOR CONTOUR
- EG MINOR CONTOUR
- FG MAJOR CONTOUR
- FG MINOR CONTOUR
- EDGE OF ROAD
- ROAD CENTERLINE
- STORM DRAINAGE PIPE
- LIMITS OF DISTURBANCE
- EXTENTS OF NEW LANDFILL EXPANSION ELEV: 3150
- FLOW ARROW
- ROCK GRADE CONTROL



GRADING QUANTITIES:

DRAINAGE WAY 1	CUT: 104,410 CY	
DRAINAGE WAY 2	CUT: 12,120 CY	
DRAINAGE WAY 3	CUT: 330 CY	FILL: 1055 CY

NO.	REVISIONS	DRAWN BY	DATE

0 100 200 300
SCALE (FEET)

PROJECT ENGINEER: DSC	DRAWN BY: ASG
DESIGNED BY: ASG	REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
DESIGN PLAN - DRAINAGE WAY 1 & 2
ROSEBUD COUNTY, MT

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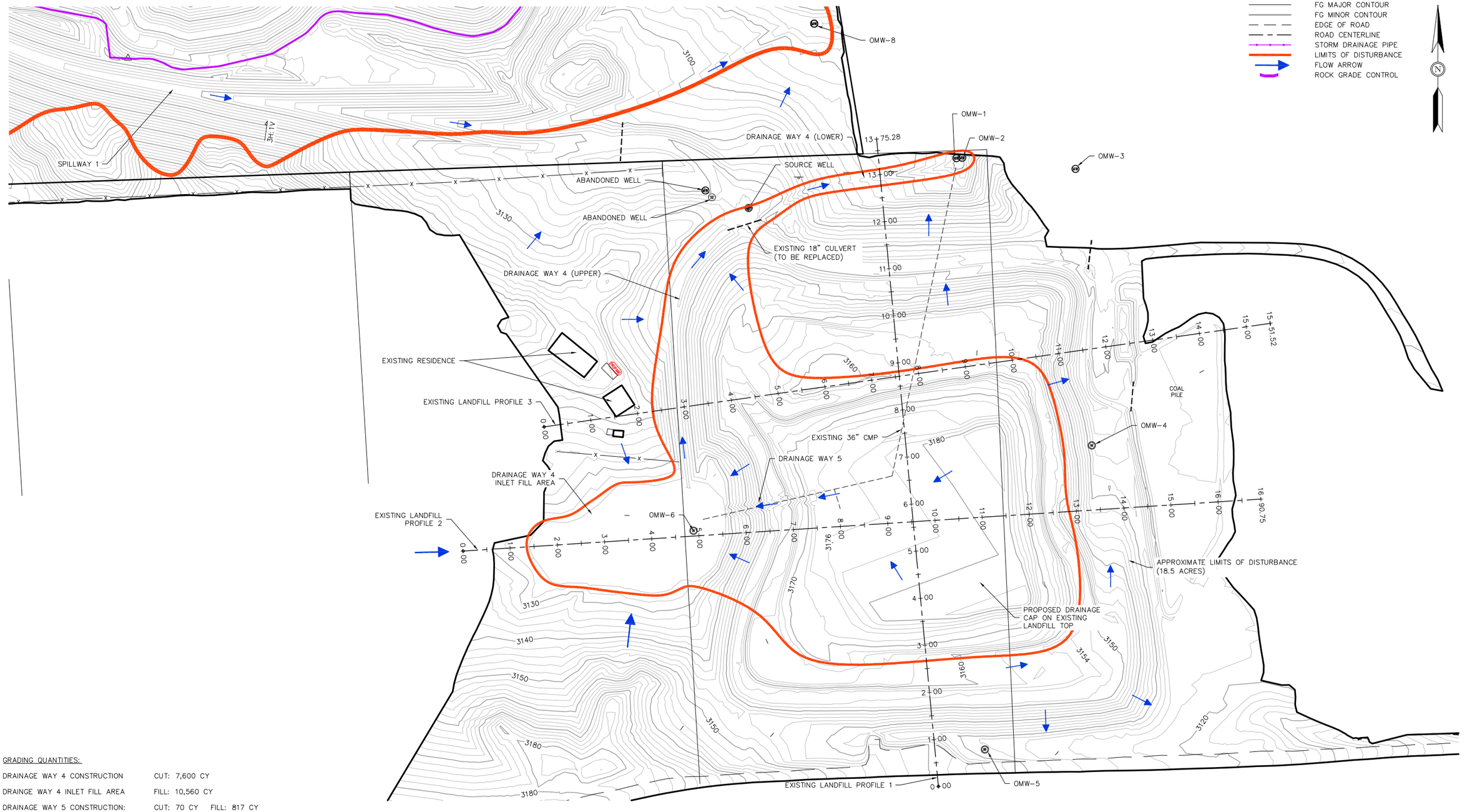
PROJECT #: 15-125	SHEET
DATE: 9/15/2016	C1-1
	DESIGN PLAN -DRAINAGE

P:\2015\15-125 Rosebud Power Plant Ash Disposal Site\08 CAD Data\SHEET SET\POST-CLOSURE PLAN SET\DESIGN PLAN - ACTIVE LANDFILL.dwg



GRADING QUANTITIES:

DRAINAGE WAY 4 CONSTRUCTION	CUT: 7,600 CY
DRAINGE WAY 4 INLET FILL AREA	FILL: 10,560 CY
DRAINAGE WAY 5 CONSTRUCTION:	CUT: 70 CY FILL: 817 CY
EXISTING LANDFILL TOP FILL	FILL: 25,480 CY

NO.	REVISIONS	DRAWN BY	DATE

0 100 200 300
SCALE (FEET)

PROJECT ENGINEER: DSC	DRAWN BY: ASG
DESIGNED BY: ASG	REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
DESIGN PLAN - EXISTING LANDFILL
ROSEBUD COUNTY, MT

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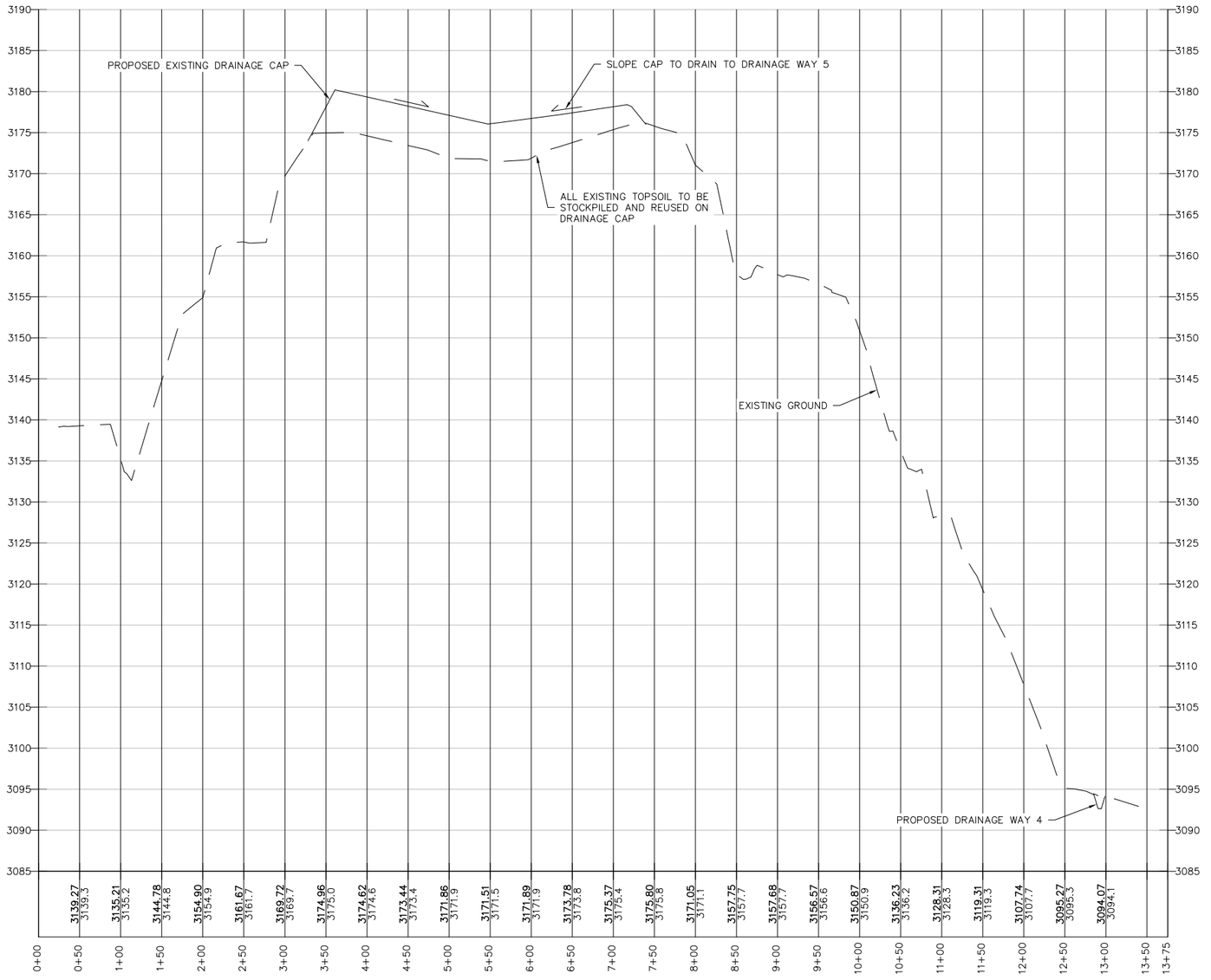
PROJECT #: 15-125	SHEET C1-2
DATE: 9/15/2016	
	DESIGN PLAN - EXISTING

P:\2015\15-125 Rosebud Power Plant Ash Disposal Site\09 CAD Data\SHEET SET\POST-CLOSURE PLAN SET\DESIGN PLAN- EXISTING LANDFILL.dwg



PROFILE VIEW - EXISTING LANDFILL PROFILE 1

NO.	REVISIONS	DRAWN BY	DATE

HORIZONTAL SCALE FEET 0 80 160
VERTICAL SCALE FEET 0 8 16

PROJECT ENGINEER: DSC | DRAWN BY: ASG
DESIGNED BY: ASG | REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
PROFILE VIEW - EXISTING LANDFILL PROFILE 1
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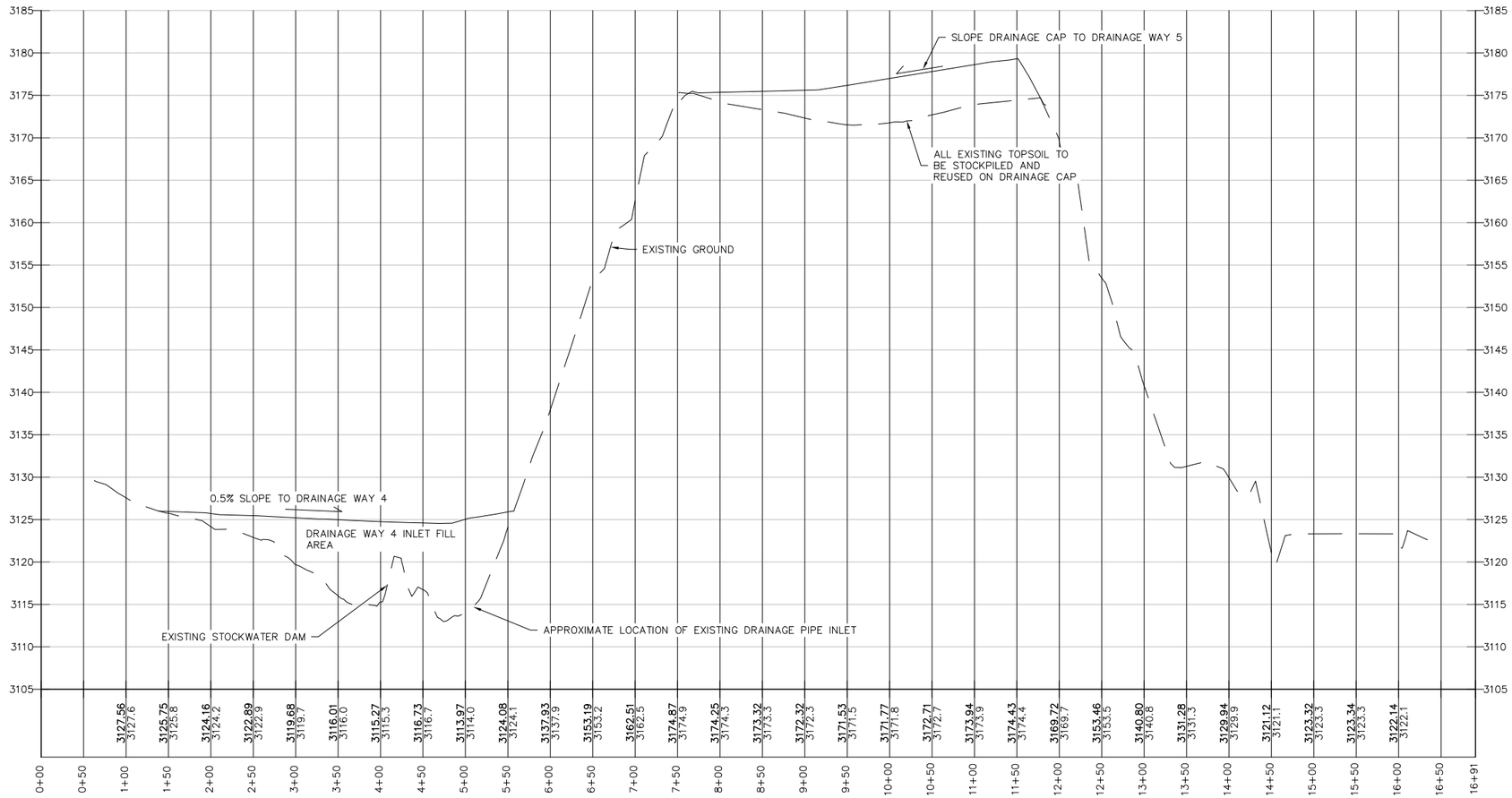
PROJECT #: 15-125
DATE: 9/15/2016
SHEET C1-3

DESIGN PLAN - EXISTING

P:\2015\15-125 Rosebud Power Plant Ash Disposal Site\09 CAD Data\SHEET SET\POST-CLOSURE PLAN SET\DESIGN PLAN- EXISTING LANDFILL.dwg



PROFILE VIEW - PROFILE 2

NO.	REVISIONS	DRAWN BY	DATE

HORIZONTAL SCALE FEET 0 80 160
VERTICAL SCALE FEET 0 8 16

PROJECT ENGINEER: DSC	DRAWN BY: ASG
DESIGNED BY: ASG	REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
PROFILE VIEW - EXISTING LANDFILL PROFILE 2
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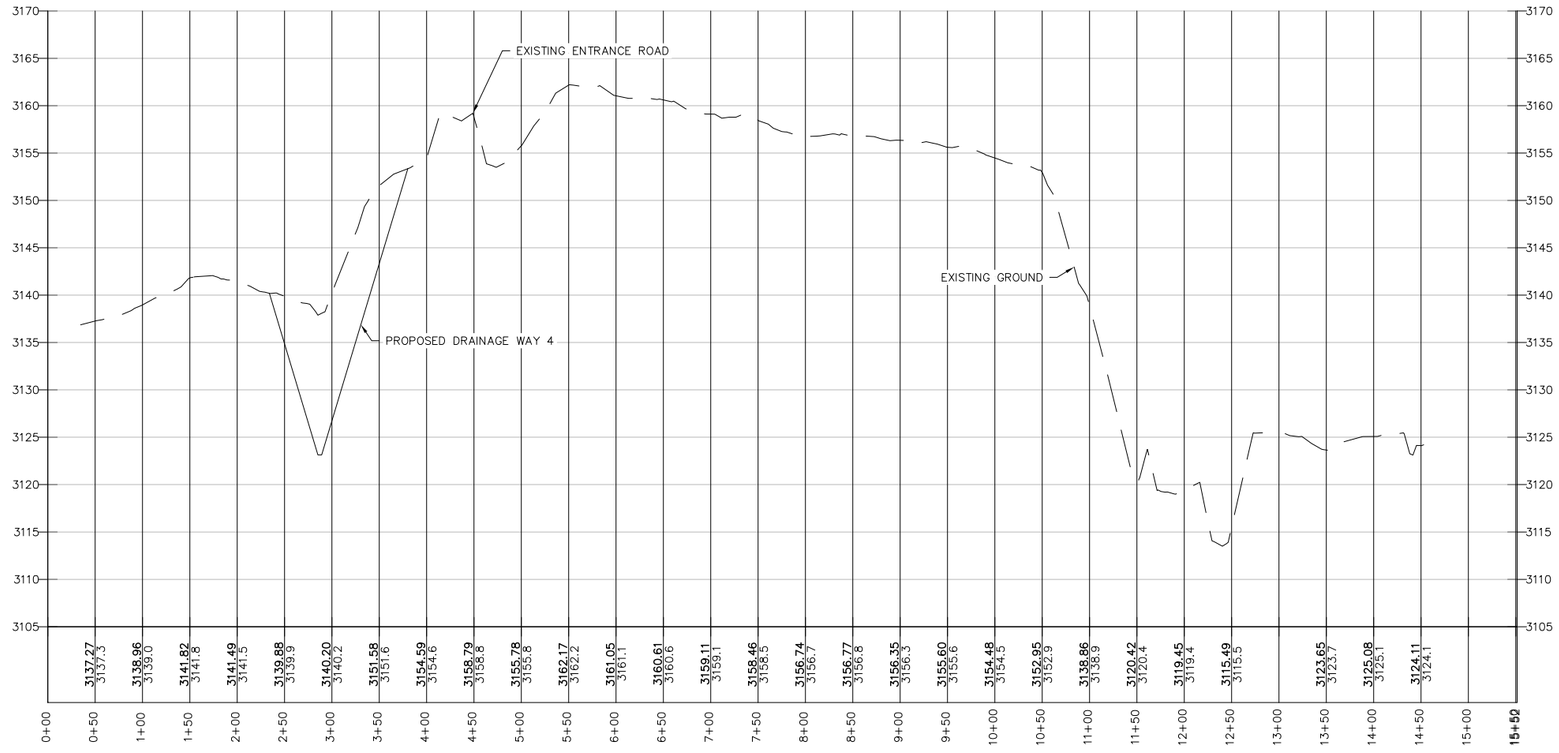
PROJECT #: 15-125	SHEET
DATE: 9/15/2016	C1-4

DESIGN PLAN - EXISTING

P:\2015\15-125 Rosebud Power Plant Ash Disposal Site\09 CAD Data\SHEET SET\POST-CLOSURE PLAN SET\DESIGN PLAN- EXISTING LANDFILL.dwg



PROFILE VIEW - PROFILE 3

NO.	REVISIONS	DRAWN BY	DATE

HORIZONTAL SCALE FEET 0 80 160

VERTICAL SCALE FEET 0 8 16

PROJECT ENGINEER: DSC | DRAWN BY: ASG

DESIGNED BY: ASG | REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
PROFILE VIEW - EXISTING LANDFILL PROFILE 3
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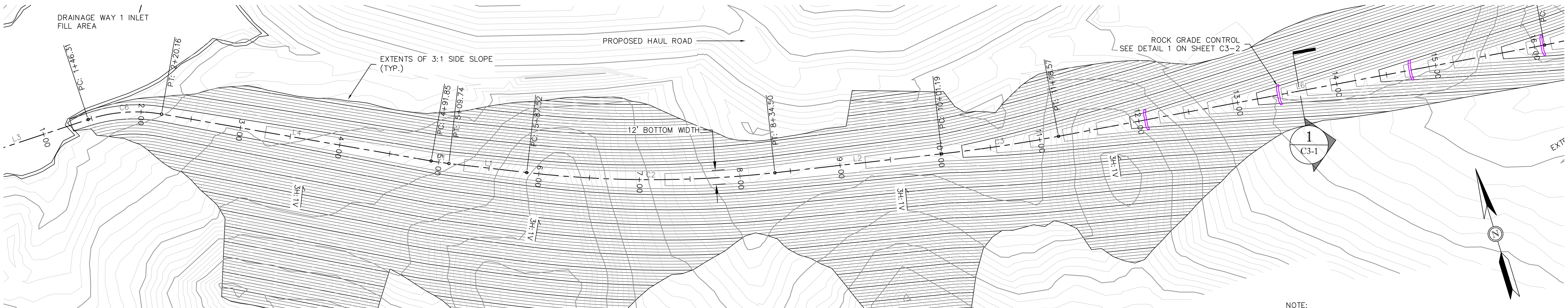
PROJECT #: 15-125
DATE: 9/15/2016

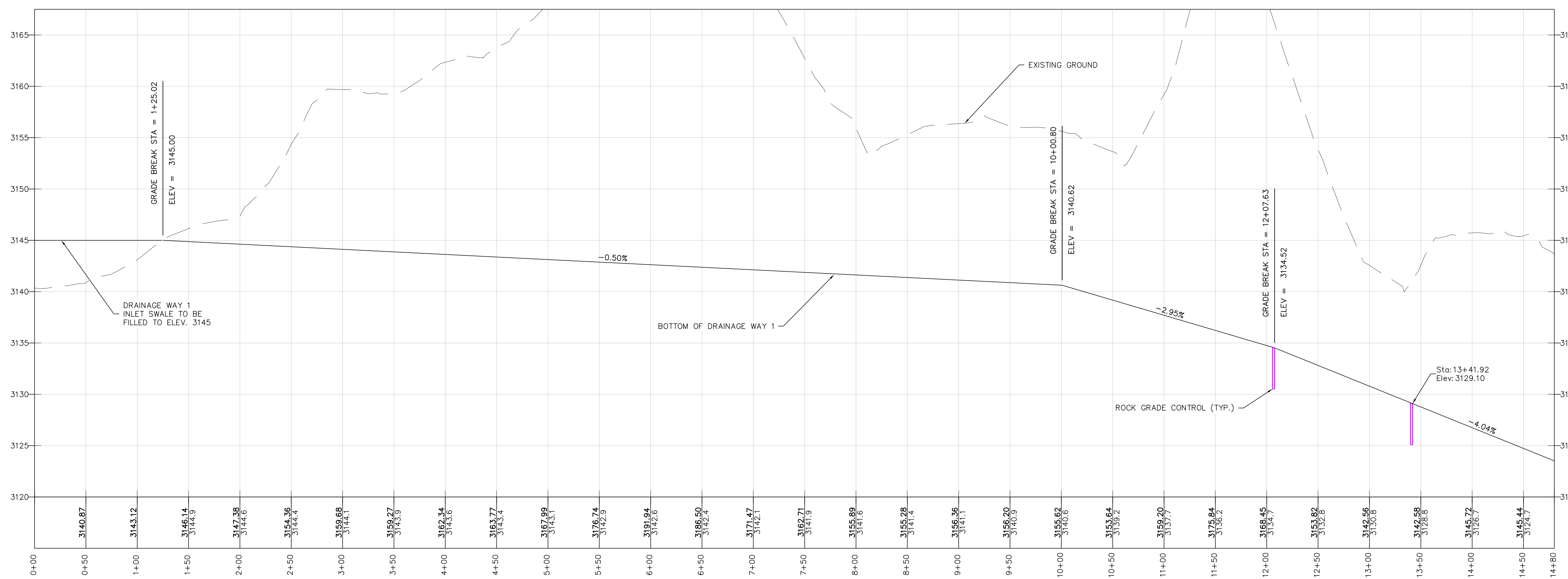
SHEET
C1-5

DESIGN PLAN - EXISTING

P:\2015\15-125 Rosebud Power Plant Ash Disposal Site\09 CAD Data\SHEET SET\POST-CLOSURE PLAN SET\DESIGN PLAN- EXISTING LANDFILL.dwg



PLAN VIEW - DRAINAGE WAY 1 (STA 0+00 - STA 14+80)



PROFILE VIEW - DRAINAGE WAY 1 (STA 0+00 - STA 14+80)

NO.	REVISIONS	DRAWN BY	DATE

HORIZONTAL SCALE FEET 0 50 100

VERTICAL SCALE FEET 0 5 10

PROJECT ENGINEER: DSC — DRAWN BY: ASG

DESIGNED BY: ASG — REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
PLAN & PROFILE - DRAINAGE WAY 1
ROSEBUD COUNTY, MT

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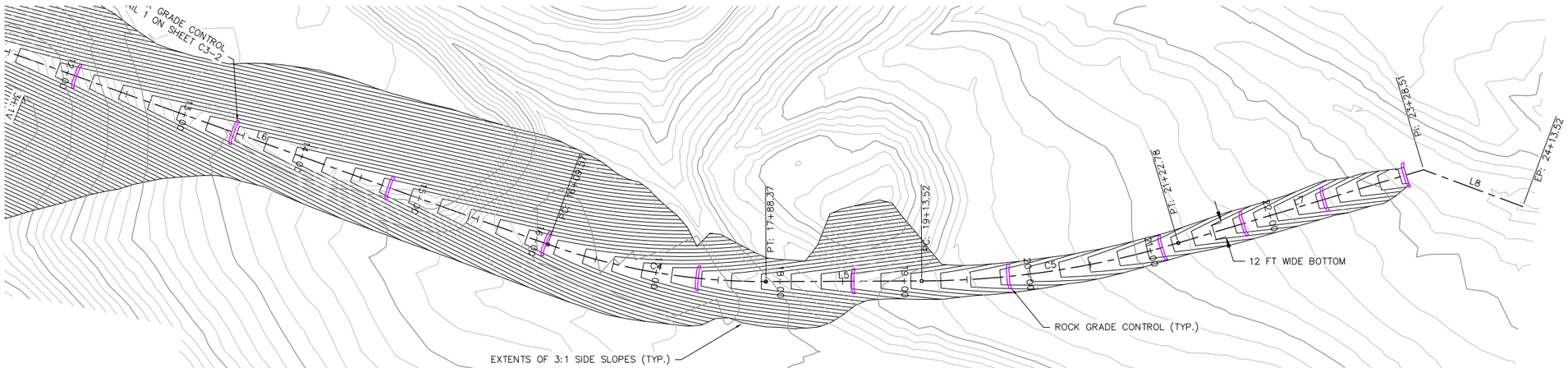
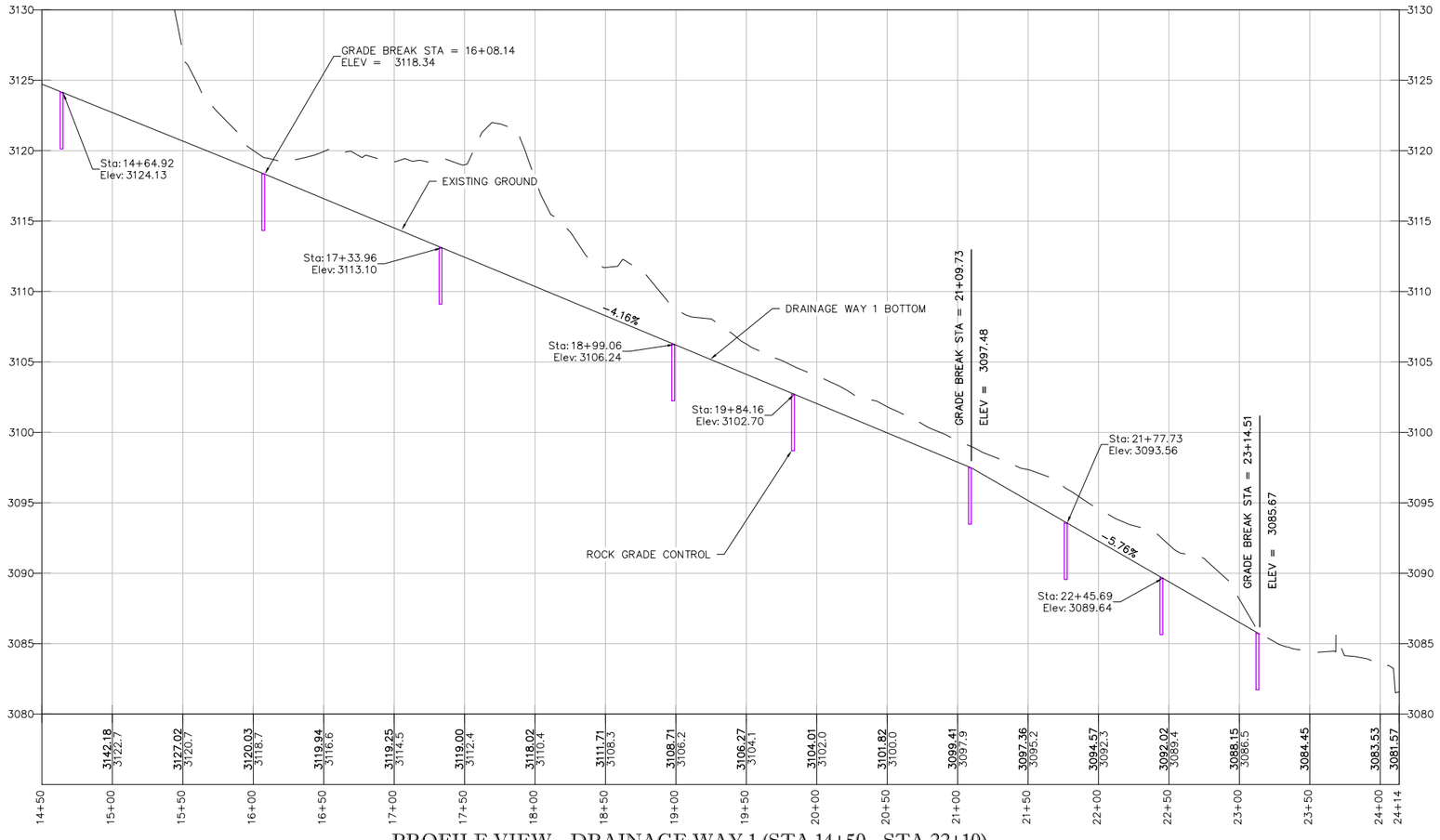
PROJECT #: 15-125
DATE: 9/15/2016

SHEET C1-6

P & P - DRAINAGE WAY 1



PLAN VIEW - DRAINAGE WAY 1 (STA 14+50 - STA 22+10)



PROFILE VIEW - DRAINAGE WAY 1 (STA 14+50 - STA 22+10)

NOTE:
SEE SHEET C3-3 FOR ALIGNMENT TABLE.

NO.	REVISIONS	DRAWN BY	DATE

HORIZONTAL SCALE FEET: 0 50 100
VERTICAL SCALE FEET: 0 5 10

PROJECT ENGINEER: DSC	DRAWN BY: ASG
DESIGNED BY: ASG	REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
PLAN & PROFILE - DRAINAGE WAY 1
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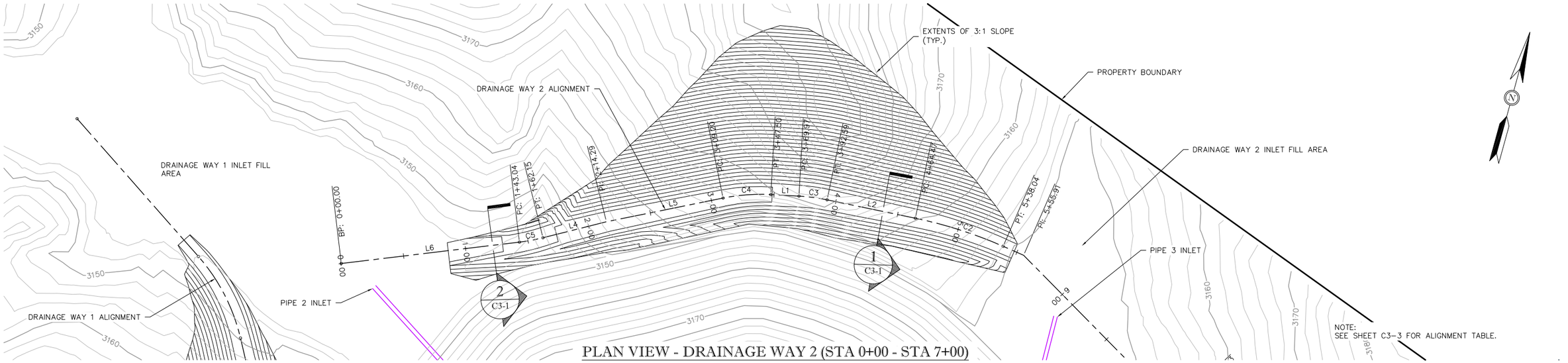
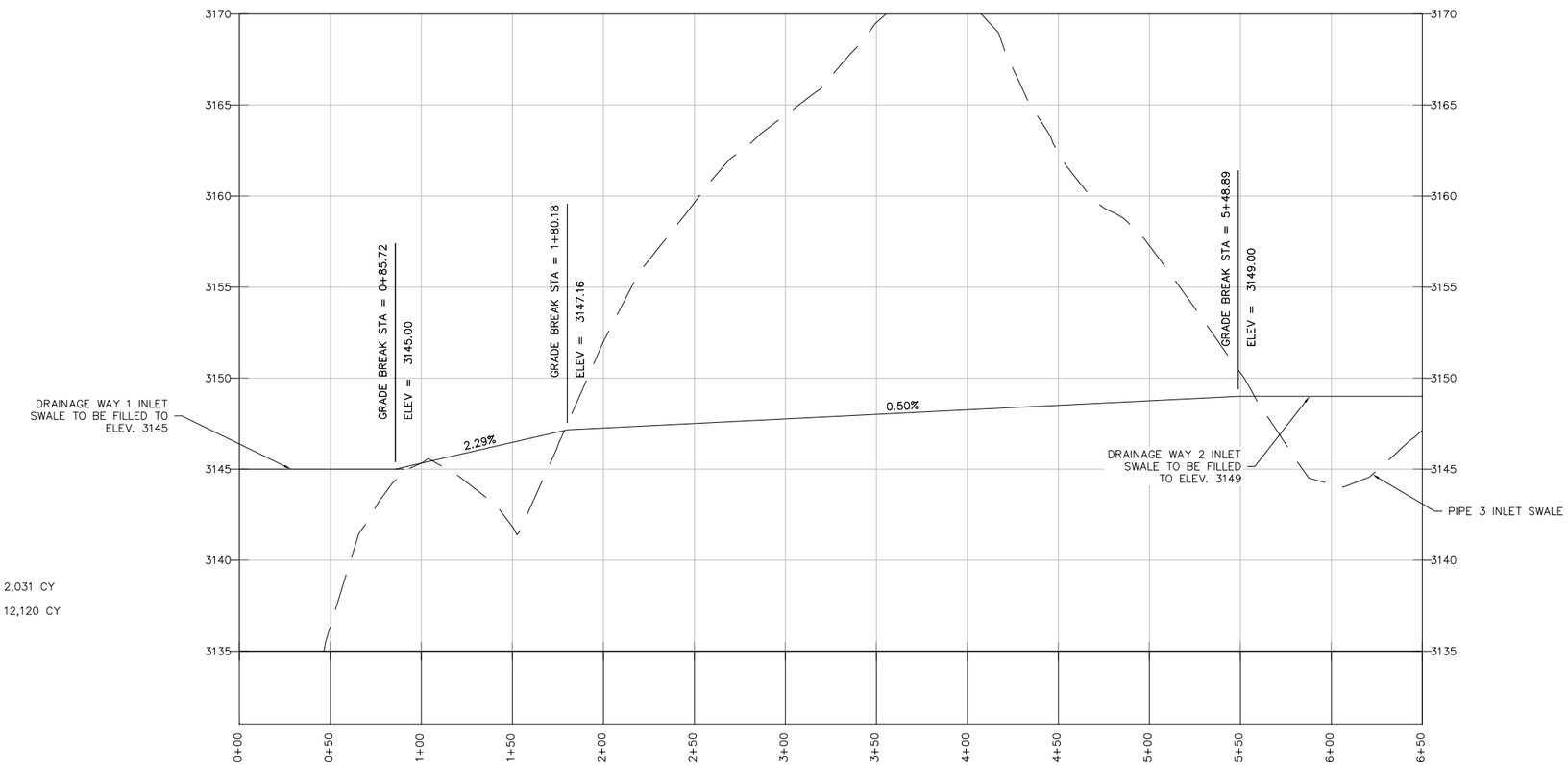
PROJECT #: 15-125	SHEET
DATE: 9/15/2016	C1-7

P & P - SPILLLWAY 1

P:\2015\15-125 Rosebud Power Plant Ash Disposal Site\09 CAD Data\SHEET SET\POST-CLOSURE PLAN SET\DRAINAGE WAY 1.dwg



PLAN VIEW - DRAINAGE WAY 2 (STA 0+00 - STA 7+00)



PROFILE VIEW - DRAINAGE WAY 2 (STA 0+00 - STA 7+00)

GRADING QUANTITIES:

DRAINAGE WAY 2 INLET FILL VOLUME: 2,031 CY

DRAINAGE WAY 2 CUT VOLUME: 12,120 CY

P:\2015\15-125 Rosebud Power Plant Ash Disposal Site\09 CAD Data\SHEET SET\POST-CLOSURE PLAN SET\DRAINAGE WAY 2.dwg

NO.	REVISIONS	DRAWN BY	DATE

HORIZONTAL SCALE FEET 0 40 80

VERTICAL SCALE FEET 0 4 8

PROJECT ENGINEER: DSC	DRAWN BY: ASG
DESIGNED BY: ASG	REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
PLAN & PROFILE - DRAINAGE WAY 2
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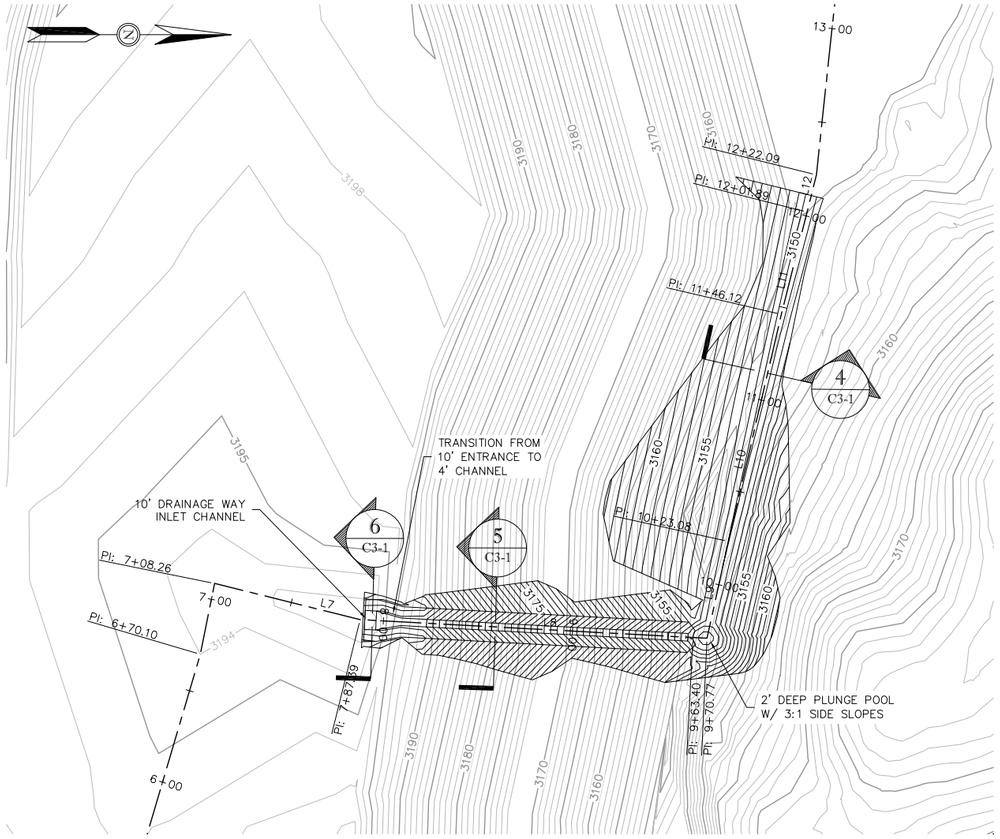
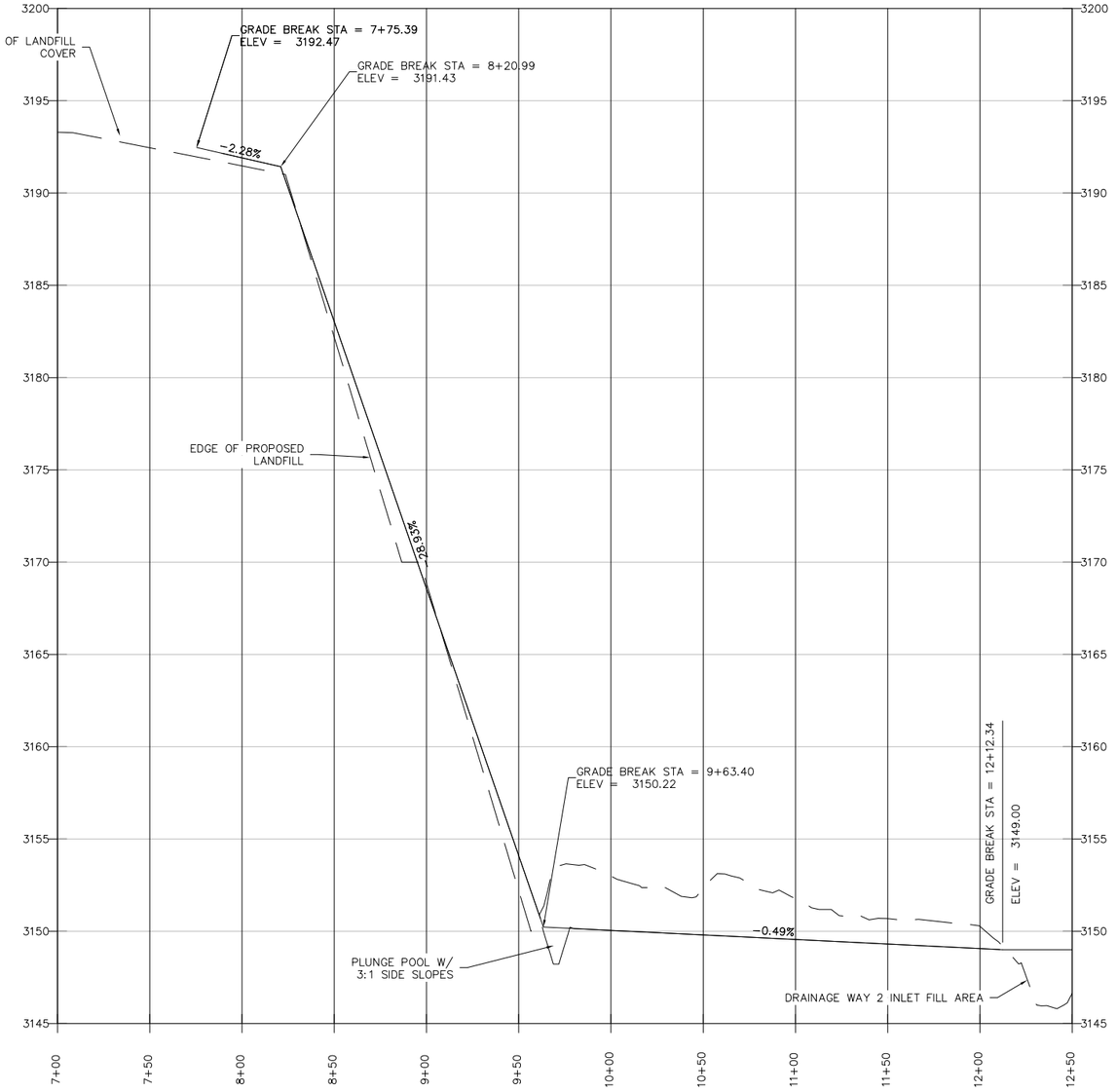
PROJECT #: 15-125
DATE: 9/15/2016

SHEET
C1-8

P & P - DRAINAGE WAY 2



PLAN VIEW - DRAINAGE WAY 3 (STA 7+00 - STA 10+00)



PROFILE VIEW - DRAINAGE WAY 3 (STA 7+00 - STA 10+00)

CONSTRUCTION NOTES:
ALIGNMENT TABLE: SEE SHEET C3-3

EROSION CONTROL: SEE SHEET C4-1

FOR CHANNEL TYPICAL CROSS-SECTIONS OF DRAINAGE WAY 3 ON SHEET C3-1.

P:\2015\15-125 Rosebud Power Plant Ash Disposal Site\09 CAD Data\SHEET SET\POST-CLOSURE PLAN SET\DRAINAGE WAY 3.dwg

NO.	REVISIONS	DRAWN BY	DATE

HORIZONTAL SCALE FEET 0 40 80
VERTICAL SCALE FEET 0 4 8

PROJECT ENGINEER: DSC | DRAWN BY: ASG
DESIGNED BY: ASG | REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
PLAN & PROFILE - DRAINAGE WAY 3
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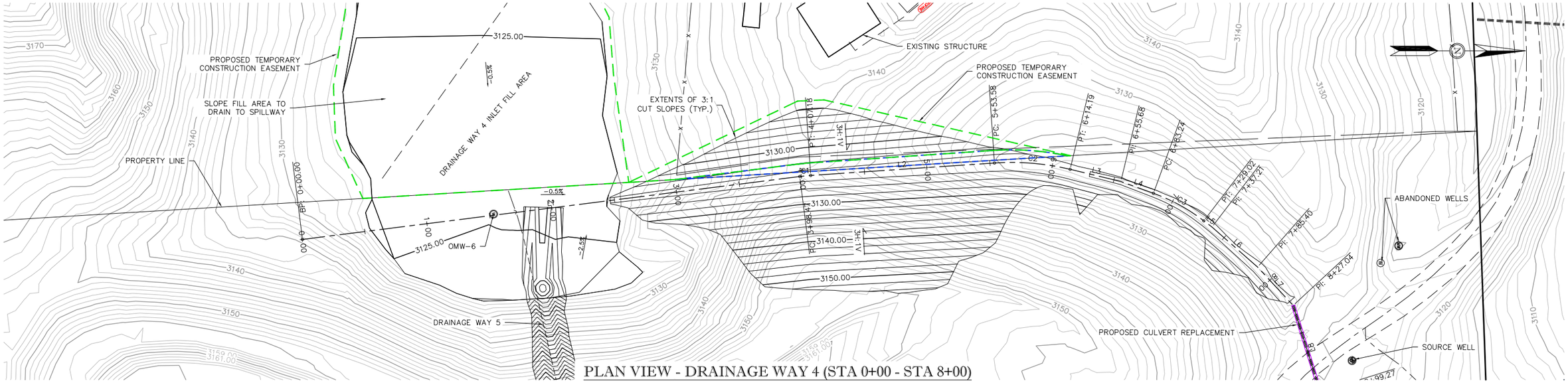
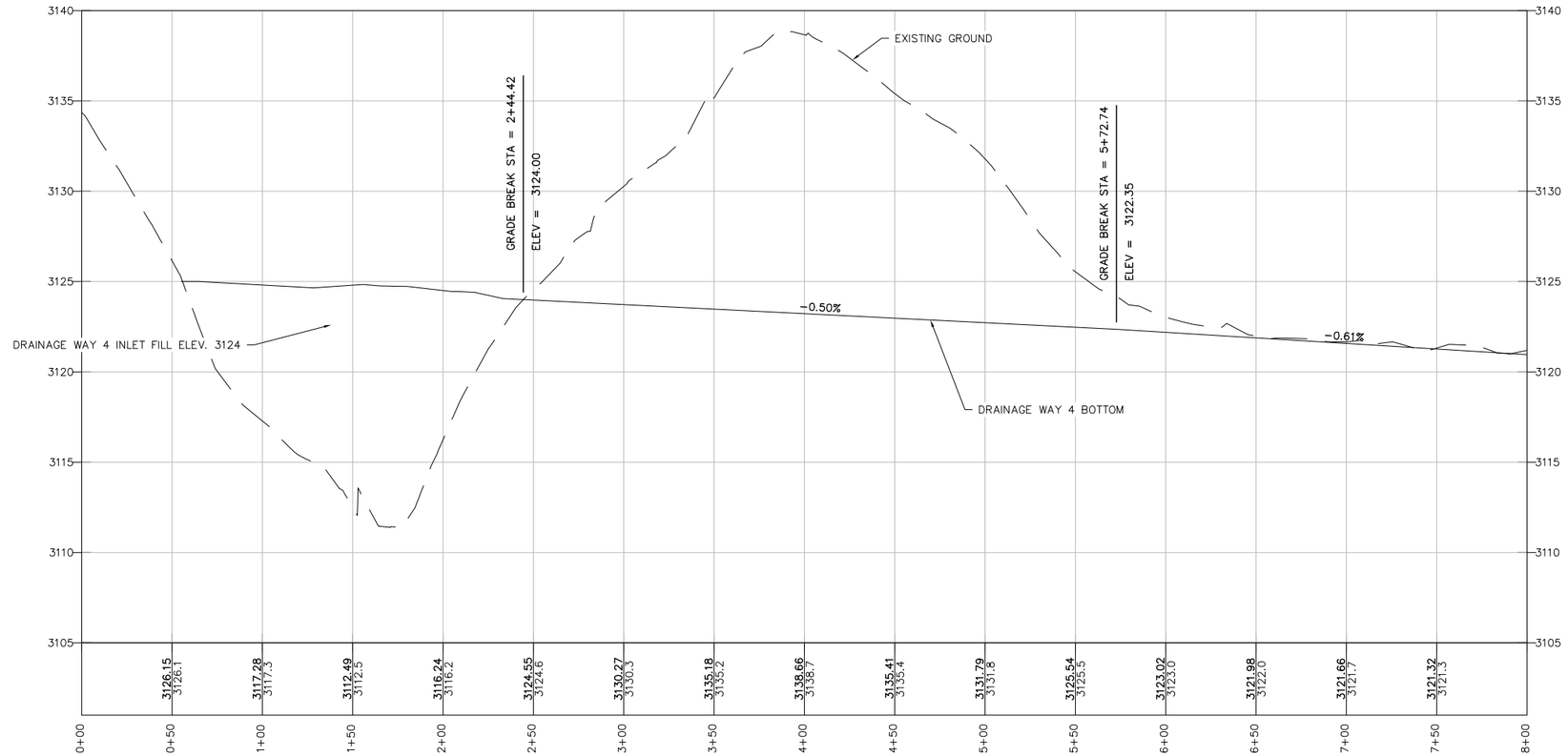
PROJECT #: 15-125
DATE: 9/15/2016

SHEET
C1-9

P & P - DRAINAGE WAY 3



PLAN VIEW - DRAINAGE WAY 4 (STA 0+00 - STA 8+00)



PROFILE VIEW - DRAINAGE WAY 4 (STA 0+00 - STA 8+00)

NOTE:
SEE SHEET C4-9 FOR ALIGNMENT TABLE.
SEE SHEET C1-8 FOR EASEMENT TABLE.

NO.	REVISIONS	DRAWN BY	DATE

HORIZONTAL SCALE FEET: 0 40 80
VERTICAL SCALE FEET: 0 4 8

PROJECT ENGINEER: DSC	DRAWN BY: ASG
DESIGNED BY: ASG	REVIEWED BY: DSC, BDA

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PLAN & PROFILE - DRAINAGE WAY 4
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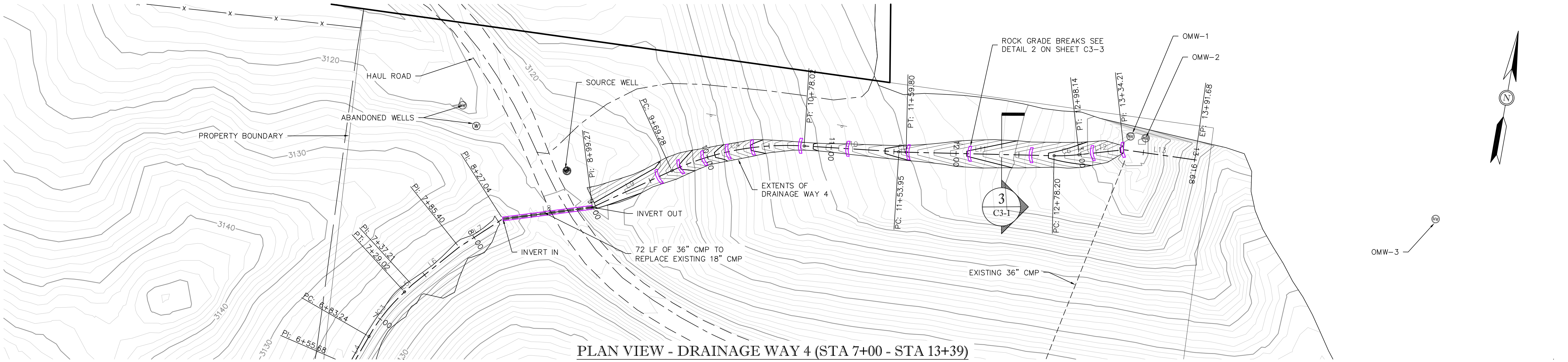
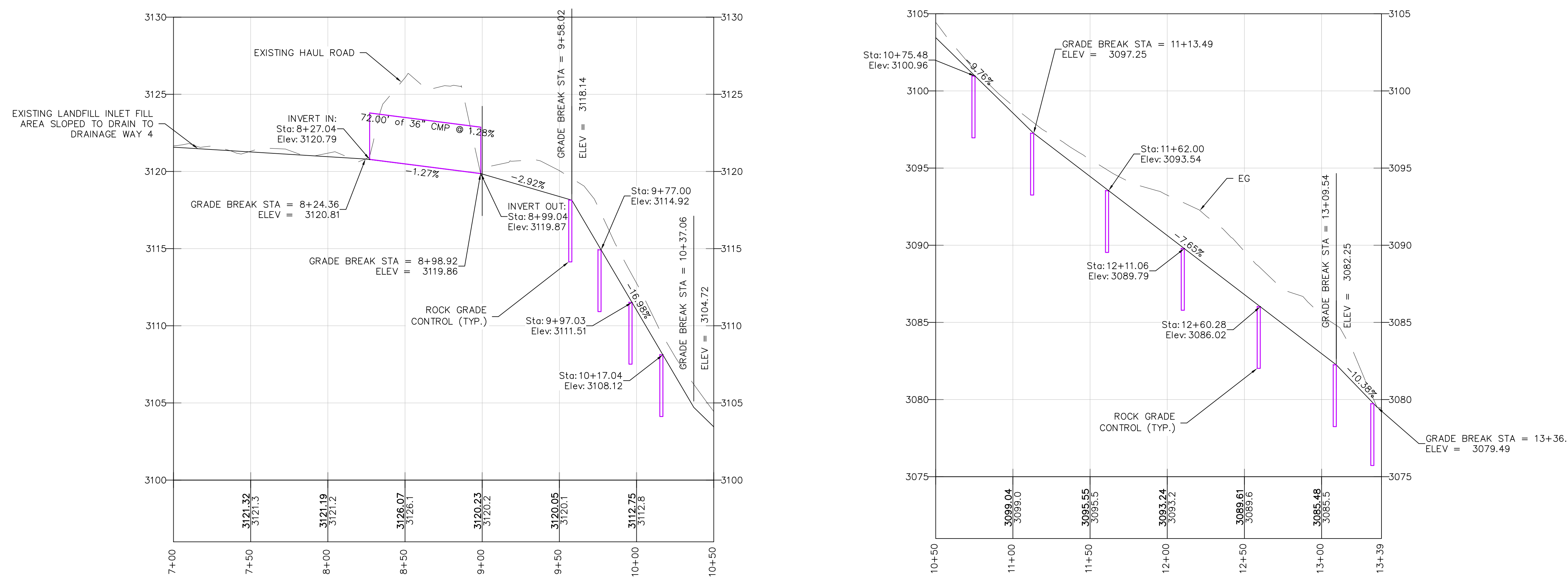
PROJECT #: 15-125	SHEET
DATE: 9/15/2016	C1-10

P & P - DRAINAGE WAY 4

P:\2015\15-125 Rosebud Power Plant Ash Disposal Site\09 CAD Data\SHEET SET\POST-CLOSURE PLAN SET\DRAINAGE WAY 4.dwg



PLAN VIEW - DRAINAGE WAY 4 (STA 7+00 - STA 13+39)



PROFILE VIEW - DRAINAGE WAY 4 (STA 7+00 - STA 13+39)

NO.	REVISIONS	DRAWN BY	DATE

HORIZONTAL SCALE FEET 0 40 80
VERTICAL SCALE FEET 0 4 8

PROJECT ENGINEER: DSC
DRAWN BY: ASG
DESIGNED BY: ASG
REVIEWED BY: DSC, BDA

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PLAN & PROFILE - DRAINAGE WAY 4
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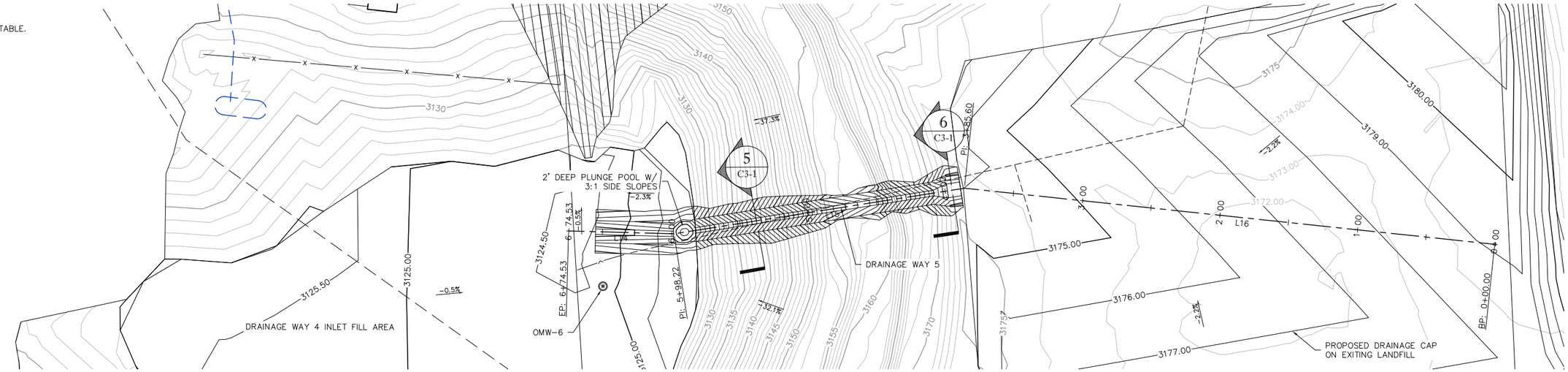
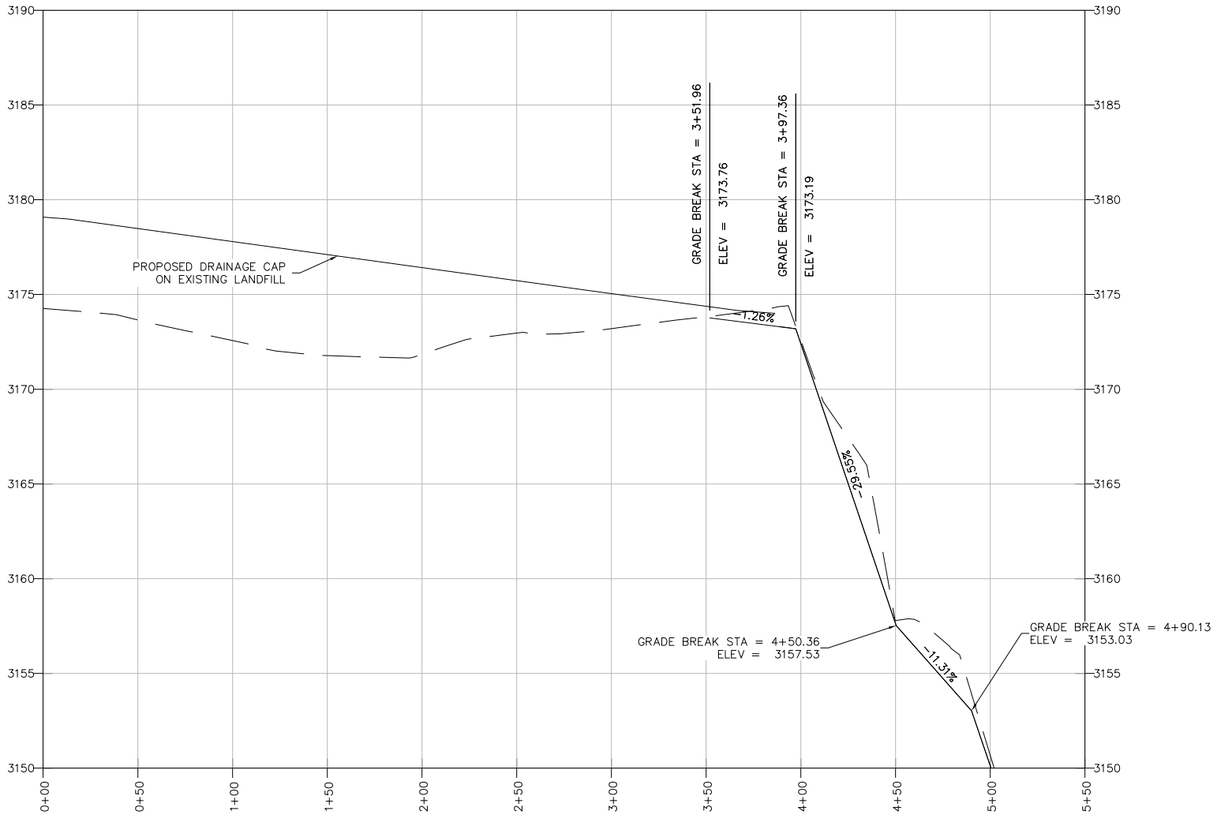
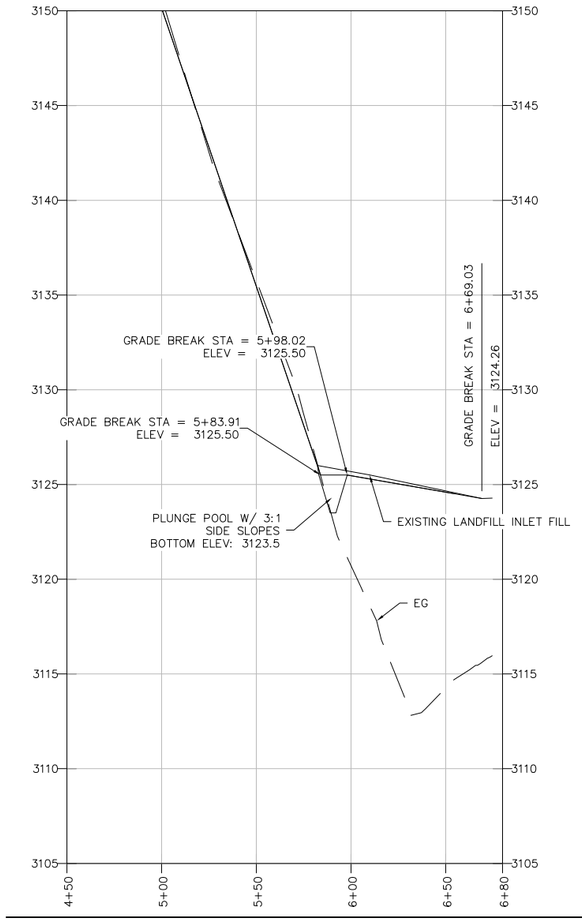
PROJECT #: 15-125
DATE: 9/15/2016
SHEET C1-11
P & P - DRAINAGE WAY 4

NOTE:
SEE SHEET C3-3 FOR ALIGNMENT TABLE.



PLAN VIEW - DRAINAGE WAY 5 (STA 0+00 - STA 6+75)





PROFILE VIEW - DRAINAGE WAY 5 (STA 0+00 - STA 6+75)

NO.	REVISIONS	DRAWN BY	DATE

HORIZONTAL SCALE FEET 0 40 80
VERTICAL SCALE FEET 0 4 8

PROJECT ENGINEER: DSC	DRAWN BY: ASG
DESIGNED BY: ASG	REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
PLAN & PROFILE - DRAINAGE WAY 5
ROSEBUD COUNTY, MT

32 DISCOVERY DRIVE
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PROJECT #: 15-125
DATE: 9/15/2016

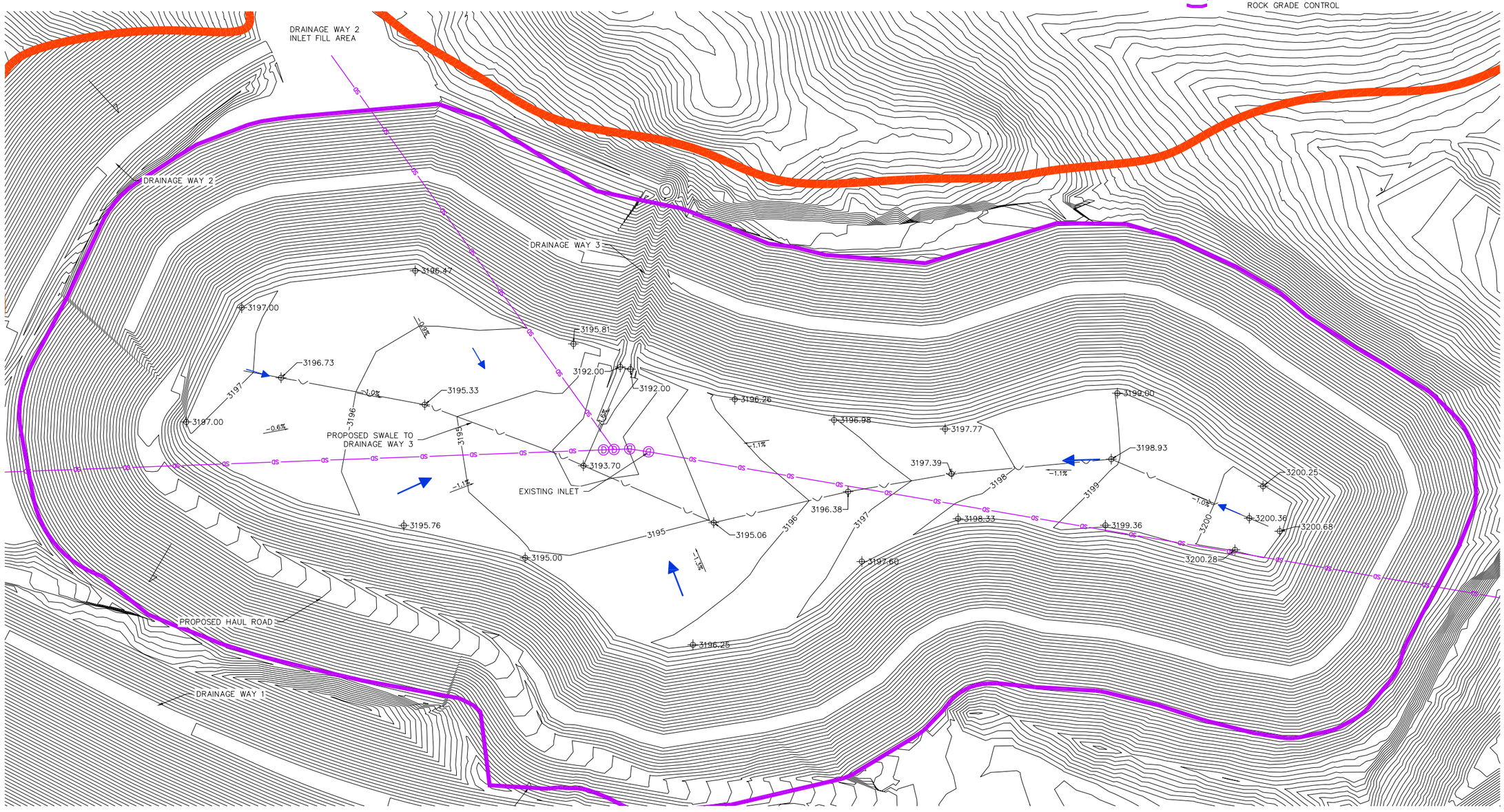
SHEET
C1-12

P & P - DRAINAGE WAY 4

P:\2015\15-125 Rosebud Power Plant Ash Disposal Site\09 CAD Data\SHEET SET\POST-CLOSURE PLAN SET\DRAINAGE WAY 5.dwg

LEGEND

- FG MAJOR CONTOUR
- FG MINOR CONTOUR
- EDGE OF ROAD
- ROAD CENTERLINE
- STORM DRAINAGE PIPE
- LIMITS OF DISTURBANCE
- EXTENTS OF NEW LANDFILL EXPANSION ELEV: 3150
- FLOW ARROW
- ROCK GRADE CONTROL



CONSTRUCTION NOTES:
ALL ELEVATIONS SHOWN ARE FOR SUB-SOIL. ON TOP OF THIS SUB-SOIL WILL BE PLACED A MINIMUM OF 6 INCHES OF TOP SOIL.

THE FIRST 18 INCHES OF SUB-SOIL IS TO BE COMPACTED TO 95% OF PROCTOR DENSITY. REMAINING SUB-SOIL AND TOP SOIL IS ONLY TO BE COMPACTED TO 80% PROCTOR DENSITY TO PROMOTE PLANT GROWTH.

NO.	REVISIONS	DRAWN BY	DATE

0 100 200 300
SCALE (FEET)

PROJECT ENGINEER: DSC	DRAWN BY: ASG
DESIGNED BY: ASG	REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
DESIGN PLAN - PHASE 1 & 2 DRAINAGE CAP
ROSEBUD COUNTY, MT

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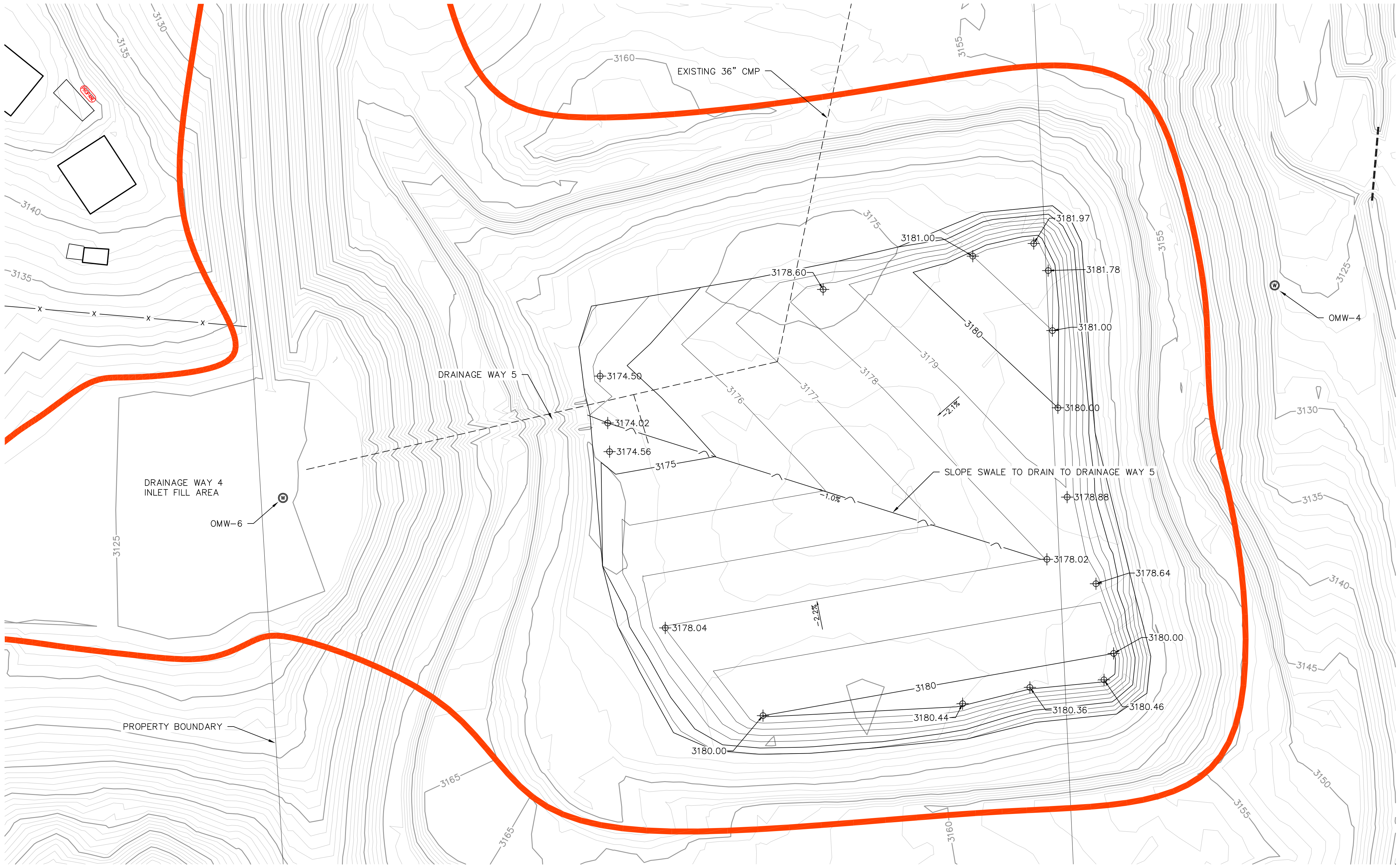
PROJECT #: 15-125	SHEET
DATE: 9/15/2016	C1-13

DESIGN PLAN -DRAINAGE

P:\2015\15-125 Rosebud Power Plant Ash Disposal Site\06 CAD Data\SHEET SET\POST-CLOSURE PLAN SET\DESIGN PLAN - ACTIVE LANDFILL.dwg

LEGEND

- EG MAJOR CONTOUR
- EG MINOR CONTOUR
- FG MAJOR CONTOUR
- FG MINOR CONTOUR
- EDGE OF ROAD
- ROAD CENTERLINE
- STORM DRAINAGE PIPE
- LIMITS OF DISTURBANCE
- FLOW ARROW
- ROCK GRADE CONTROL



CONSTRUCTION NOTES:
ALL AREAS TO BE FILLED ARE TO BE STRIPPED OF ALL TOP SOIL.

ALL ELEVATIONS SHOWN ARE FOR SUB-SOIL. ON TOP OF THIS SUB-SOIL WILL BE PLACED A MINIMUM OF 6 INCHES OF TOP SOIL.

THE FIRST 18 INCHES OF SUB-SOIL IS TO BE COMPACTED TO 95% OF PROCTOR DENSITY. REMAINING SUB-SOIL AND TOP SOIL IS ONLY TO BE COMPACTED TO 80% PROCTOR DENSITY TO PROMOTE PLANT GROWTH.

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NO.	REVISIONS	DRAWN BY	DATE

SCALE (FEET): 0, 100, 200, 300

PROJECT ENGINEER: DSC	DRAWN BY: ASG
DESIGNED BY: ASG	REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
DESIGN PLAN - EXISTING LANDFILL DRAINAGE CAP
ROSEBUD COUNTY, MT

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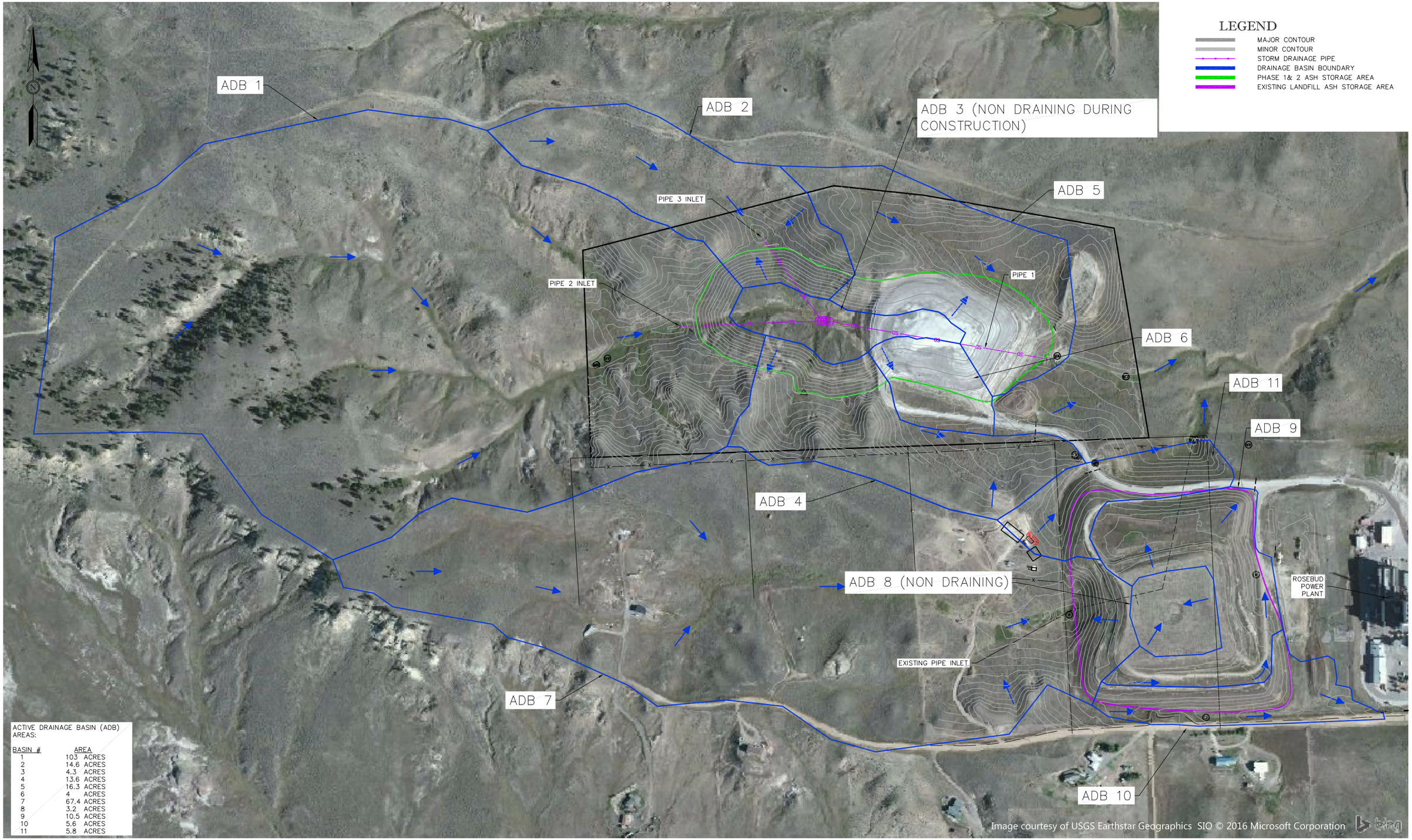
PROJECT #: 15-125
DATE: 9/15/2016

SHEET
C1-14

DESIGN PLAN - EXISTING



ACTIVE DRAINAGE BASIN (ADB) AREAS:

BASIN #	AREA
1	103 ACRES
2	14.6 ACRES
3	4.3 ACRES
4	13.6 ACRES
5	16.3 ACRES
6	4 ACRES
7	67.4 ACRES
8	3.2 ACRES
9	10.5 ACRES
10	5.6 ACRES
11	5.8 ACRES

NO.	REVISIONS	DRAWN BY	DATE

0 200 400 600
SCALE (FEET)

PROJECT ENGINEER: DSC	DRAWN BY: ASG
DESIGNED BY: ASG	REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
ACTIVE LANDFILL DRAINAGE BASINS
ROSEBUD COUNTY, MT

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PROJECT #: 15-125	SHEET
DATE: 9/15/2016	C2-1

ACTIVE DRAINAGE BASINS

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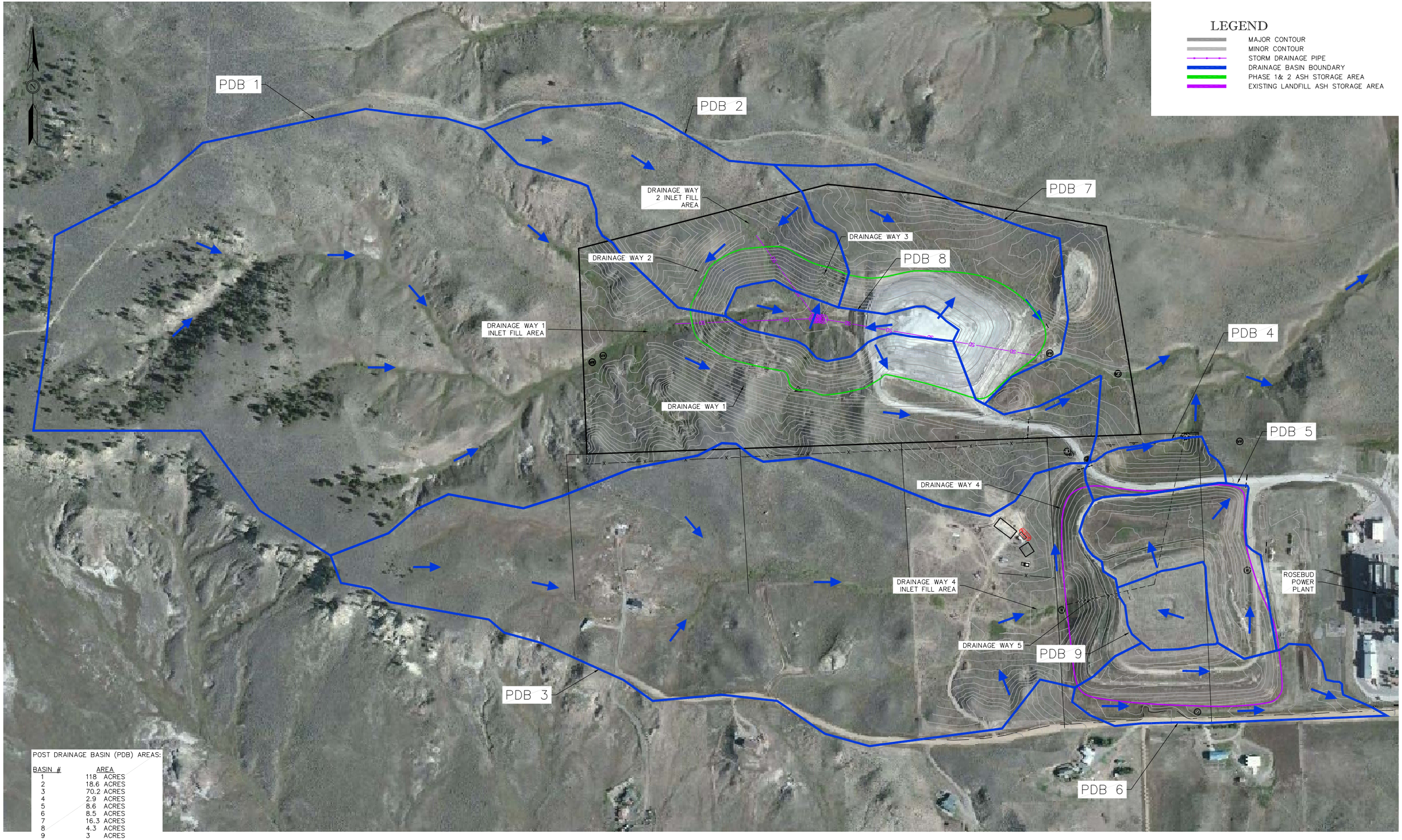

POST DRAINAGE BASIN (PDB) AREAS:

BASIN #	AREA
1	118 ACRES
2	18.6 ACRES
3	70.2 ACRES
4	2.9 ACRES
5	8.6 ACRES
6	8.5 ACRES
7	16.3 ACRES
8	4.3 ACRES
9	3 ACRES

NO.	REVISIONS	DRAWN BY	DATE

0 200 400 600
SCALE (FEET)

PROJECT ENGINEER: DSC	DRAWN BY: ASG
DESIGNED BY: ASG	REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
POST-CLOSURE DRAINAGE BASINS
ROSEBUD COUNTY, MT

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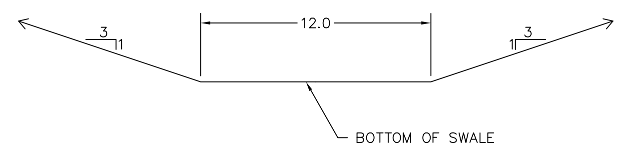
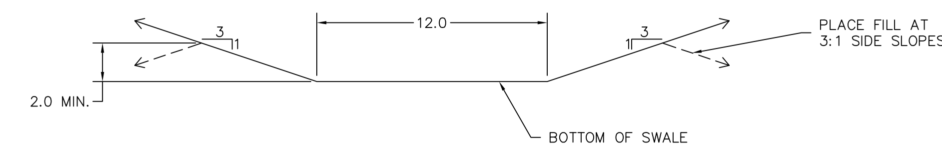
PROJECT #: 15-125
DATE: 9/15/2016
SHEET C2-2

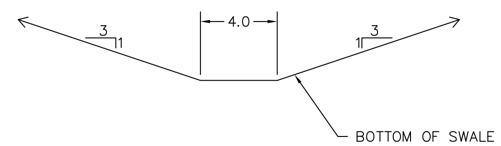
POST DRAINAGE BASINS



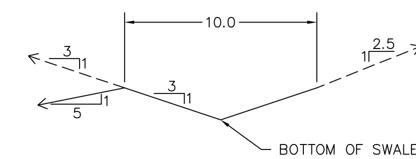
1 SECTION
C1-3 12' DRAINAGE SWALE
1" = 5'



2 SECTION
C1-5 12' DRAINAGE SWALE W/ RIGHT BERM
1" = 5'



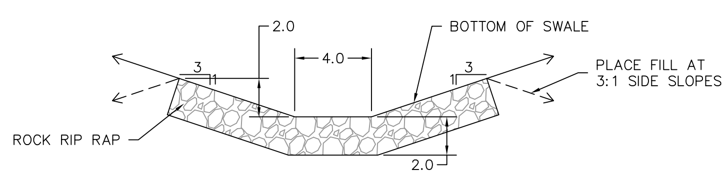
3 SECTION
C1-7 4' DRAINAGE SWALE
1" = 5'



NOTES:
1. PLACE LEFT SIDE DAYLIGHT FILL AT 5:1 SLOPES FILLING ANY DEPRESSIONS, AND DIRECTING DRAINAGE INTO SWALE.

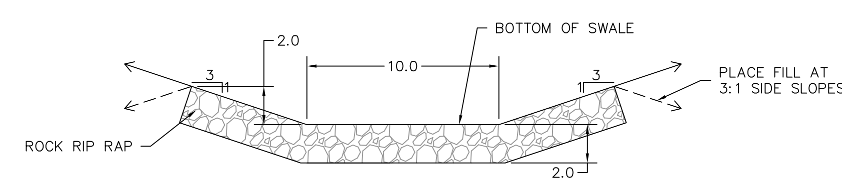
2. CUT RIGHT SIDE DAYLIGHT TO A 2.5:1 OR GREATER DEPENDING ON SOIL CONDITIONS ENCOUNTERED.

4 SECTION
C1-9 SPILLWAY 4
1" = 5'



NOTES:
1. ROCK RIPRAP IS TO BE ANGULAR ROCK WITH A D50 OF 12 INCHES.

5 SECTION
C1-6 4' DRAINAGE SWALE
1" = 5'



NOTES:
1. ROCK RIPRAP IS TO BE ANGULAR ROCK WITH A D50 OF 12 INCHES.

6 SECTION
C1-6 10' DRAINAGE SWALE
1" = 5'

P:\2015\15-125 Rosebud Power Plant Ash Disposal Site\09 CAD Data\SHEET SET\POST-CLOSURE PLAN SET\DETAILS POST.dwg

NO.	REVISIONS	DRAWN BY	DATE

PROJECT ENGINEER: DSC
DRAWN BY: ASG
DESIGNED BY: ASG
REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
DETAILS - SWALE SECTIONS
ROSEBUD COUNTY, MT

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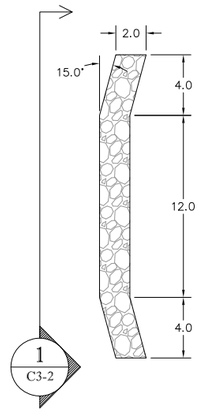
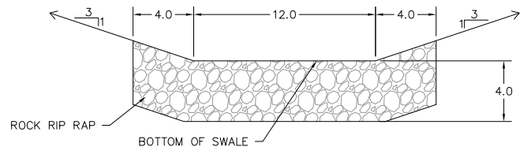
PROJECT #: 15-125
DATE: 9/15/2016

SHEET
C3-1

DETAILS - SWALE SECTIONS

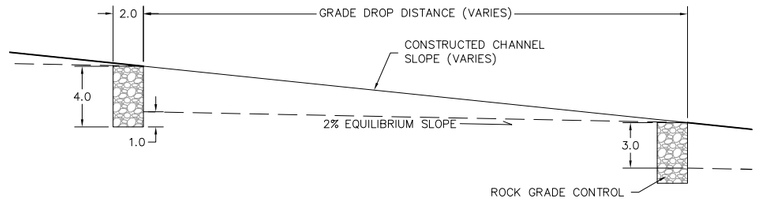


1 C3-2 DETAIL
SPILLWAY 1 GRADE CONTROL - PLAN VIEW
1 " = 5'



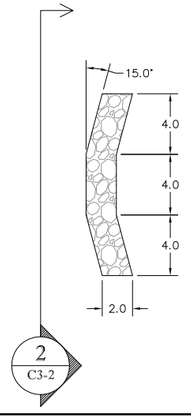
NOTES:
1. ROCK RIPRAP IS TO BE ANGULAR ROCK WITH A D50 OF 8 INCHES.

1 C3-2 SECTION
SPILLWAY 1 GRADE CONTROL
1" = 5'

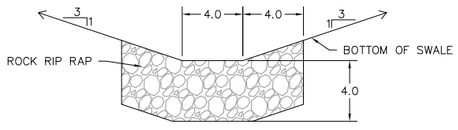


NOTES:
1. ROCK RIPRAP IS TO BE ANGULAR ROCK WITH A D50 OF 8 INCHES.
2. DISTANCE BETWEEN GRADE DROPS IS SHOWN ON PLANS. IT VARIES WITH CHANNEL SLOPE.
3. EQUILIBRIUM SLOPE WAS DETERMINED BY COMPARISON OF EXISTING SLOPES.

3 C3-2 DETAIL
TYPICAL GRADE CONTROL PROFILE
1 " = 5'



2 S3-3 DETAIL
SPILLWAY 3 GRADE CONTROL - PLAN VIEW
1 " = 5'



NOTES:
1. ROCK RIPRAP IS TO BE ANGULAR ROCK WITH A D50 OF 8 INCHES.

2 C3-2 SECTION
SPILLWAY 3 GRADE CONTROL
1" = 5'

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NO.	REVISIONS	DRAWN BY	DATE

PROJECT ENGINEER: DSC | DRAWN BY: ASG
DESIGNED BY: ASG | REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
DETAILS - ROCK GRADE CONTROLS
ROSEBUD COUNTY, MT

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PROJECT #: 15-125
DATE: 9/15/2016
SHEET C3-2

DETAILS - ROCK CONTROL

DRAINAGE WAY 1 ALIGNMENT

Number	Radius	Length	Line/Chord Direction	Start Station	End Station	Start Northing, Easting
L3		146.31	N88° 36' 59.04"E	0+00.00	1+46.31	643344.5741, 2687756.5228
C6	150.00	73.86	S77° 16' 41.83"E	1+46.31	2+20.16	643348.1068, 2687902.7880
L4		271.68	S63° 10' 22.69"E	2+20.16	4+91.85	643332.0065, 2687974.1047
C1	312.15	17.89	S64° 48' 54.31"E	4+91.85	5+09.74	643209.3966, 2688216.5469
L1		77.78	S66° 27' 25.94"E	5+09.74	5+87.52	643201.7835, 2688232.7365
C2	1084.22	246.98	S72° 58' 58.71"E	5+87.52	8+34.50	643170.7161, 2688304.0411
L2		166.70	S79° 30' 31.48"E	8+34.50	10+01.19	643098.5926, 2688539.6957
C3	1614.37	117.37	S81° 35' 29.84"E	10+01.19	11+18.57	643068.2396, 2688703.6054
L6		491.00	S83° 40' 28.20"E	11+18.57	16+09.57	643051.0800, 2688819.6928
C4	516.43	178.80	N86° 24' 25.40"E	16+09.57	17+88.37	642996.9829, 2689307.7071
L5		125.15	N76° 29' 19.00"E	17+88.37	19+13.52	643008.1319, 2689485.2646
C5	732.50	209.26	N68° 18' 16.74"E	19+13.52	21+22.78	643037.3726, 2689606.9542
L7		205.73	N60° 07' 14.48"E	21+22.78	23+28.51	643114.4664, 2689800.7281
L8		85.01	S82° 55' 28.98"E	23+28.51	24+13.52	643216.9581, 2689979.1158

DRAINAGE WAY 2 ALIGNMENT

Number	Radius	Length	Line/Chord Direction	Start Station	End Station	Start Northing, Easting
L6		143.04	N33° 10' 00.74"E	0+00.00	1+43.04	643431.7828, 2687980.2610
C5	150.00	19.11	N29° 31' 01.66"E	1+43.04	1+62.15	643551.5167, 2688058.5138
L4		52.14	N25° 52' 02.59"E	1+62.15	2+14.29	643568.1351, 2688067.9226
L5		94.91	N28° 30' 48.36"E	2+14.29	3+09.20	643615.0533, 2688090.6719
C4	150.00	38.30	N35° 49' 38.90"E	3+09.20	3+47.50	643698.4554, 2688135.9809
L1		22.47	N43° 08' 29.44"E	3+47.50	3+69.97	643729.4211, 2688158.3366
C3	150.00	22.62	N47° 27' 42.66"E	3+69.97	3+92.59	643745.8146, 2688173.6997
L2		71.88	N51° 46' 55.89"E	3+92.59	4+64.47	643761.0939, 2688190.3518
C2	355.54	73.57	N57° 42' 36.31"E	4+64.47	5+38.04	643805.5653, 2688246.8288

DRAINAGE WAY 3 ALIGNMENT

Number	Radius	Length	Line/Chord Direction	Start Station	End Station	Start Northing, Easting
L7		79.14	N23° 58' 15.77"E	7+08.26	7+87.39	643460.8902, 2688626.0039
L8		176.01	N13° 05' 01.79"E	7+87.39	9+63.40	643533.2022, 2688658.1555
L9		52.31	N67° 32' 36.83"W	9+70.77	10+23.08	643711.8326, 2688699.6038
L10		123.04	N66° 51' 54.52"W	10+23.08	11+46.12	643731.8139, 2688651.2609
L11		55.76	N65° 51' 12.83"W	11+46.12	12+01.89	643780.1573, 2688538.1121
L12		20.20	N66° 02' 56.78"W	12+01.89	12+22.09	643802.9681, 2688487.2288

DRAINAGE WAY 4 ALIGNMENT

Number	Radius	Length	Line/Chord Direction	Start Station	End Station	Start Northing, Easting
L1		398.47	N7° 12' 41.64"W	0+00.00	3+98.47	641989.0819, 2689783.7761
C1	150.00	8.71	N5° 32' 52.52"W	3+98.47	4+07.18	642384.3984, 2689733.7549
L2		146.40	N3° 53' 03.40"W	4+07.18	5+53.58	642393.0672, 2689732.9129
C2	200.00	60.61	N4° 47' 51.97"E	5+53.58	6+14.19	642539.1338, 2689722.9953
L3		41.48	N13° 28' 47.34"E	6+14.19	6+55.68	642599.3026, 2689728.0455
L4		27.57	N19° 55' 02.83"E	6+55.68	6+83.24	642639.6409, 2689737.7148
C3	150.00	45.78	N28° 39' 40.33"E	6+83.24	7+29.02	642665.5578, 2689747.1055
L5		8.19	N37° 24' 17.83"E	7+29.02	7+37.21	642705.5746, 2689768.9789
L6		48.18	N41° 16' 43.16"E	7+37.21	7+85.40	642712.0804, 2689773.9539
L7		41.65	N47° 12' 05.16"E	7+85.40	8+27.04	642748.2914, 2689805.7420
L8		72.23	N72° 35' 03.58"E	8+27.04	8+99.27	642776.5860, 2689836.2990
L9		70.01	N55° 15' 38.42"E	8+99.27	9+69.28	642798.2050, 2689905.2192
C4	219.87	108.74	N69° 25' 41.66"E	9+69.28	10+78.02	642838.0991, 2689962.7492
L10		75.94	N83° 35' 44.90"E	10+78.02	11+53.95	642875.9183, 2690063.5164
C5	150.00	5.84	N82° 28' 49.16"E	11+53.95	11+59.80	642884.3884, 2690138.9792
L11		118.41	N81° 21' 53.41"E	11+59.80	12+78.20	642885.1527, 2690144.7693
C6	150.00	19.94	N77° 33' 23.89"E	12+78.20	12+98.14	642902.9304, 2690261.8327
L12		36.07	N73° 44' 54.38"E	12+98.14	13+34.21	642907.2237, 2690281.2896
L13		57.47	N88° 02' 50.21"E	13+34.21	13+91.68	642917.3186, 2690315.9202

DRAINAGE WAY 5 ALIGNMENT

Number	Radius	Length	Line/Chord Direction	Start Station	End Station	Start Northing, Easting
L14		76.31	N88° 27' 10.46"W	5+98.22	6+74.53	642178.8475, 2689815.0061
L15		212.62	S81° 05' 30.77"W	3+85.60	5+98.22	642211.7723, 2690025.0646
L16		385.60	N83° 58' 06.39"W	0+00.00	3+85.60	642171.2554, 2690408.5251

P:\2015\15-125 Rosebud Power Plant Ash Disposal Site\09 CAD Data\SHEET SET\POST-CLOSURE PLAN SET\DETAILS POST.dwg

NO.	REVISIONS	DRAWN BY	DATE

PROJECT ENGINEER: DSC | DRAWN BY: ASG
DESIGNED BY: ASG | REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
DETAILS - ALIGNMENT TABLES
ROSEBUD COUNTY, MT

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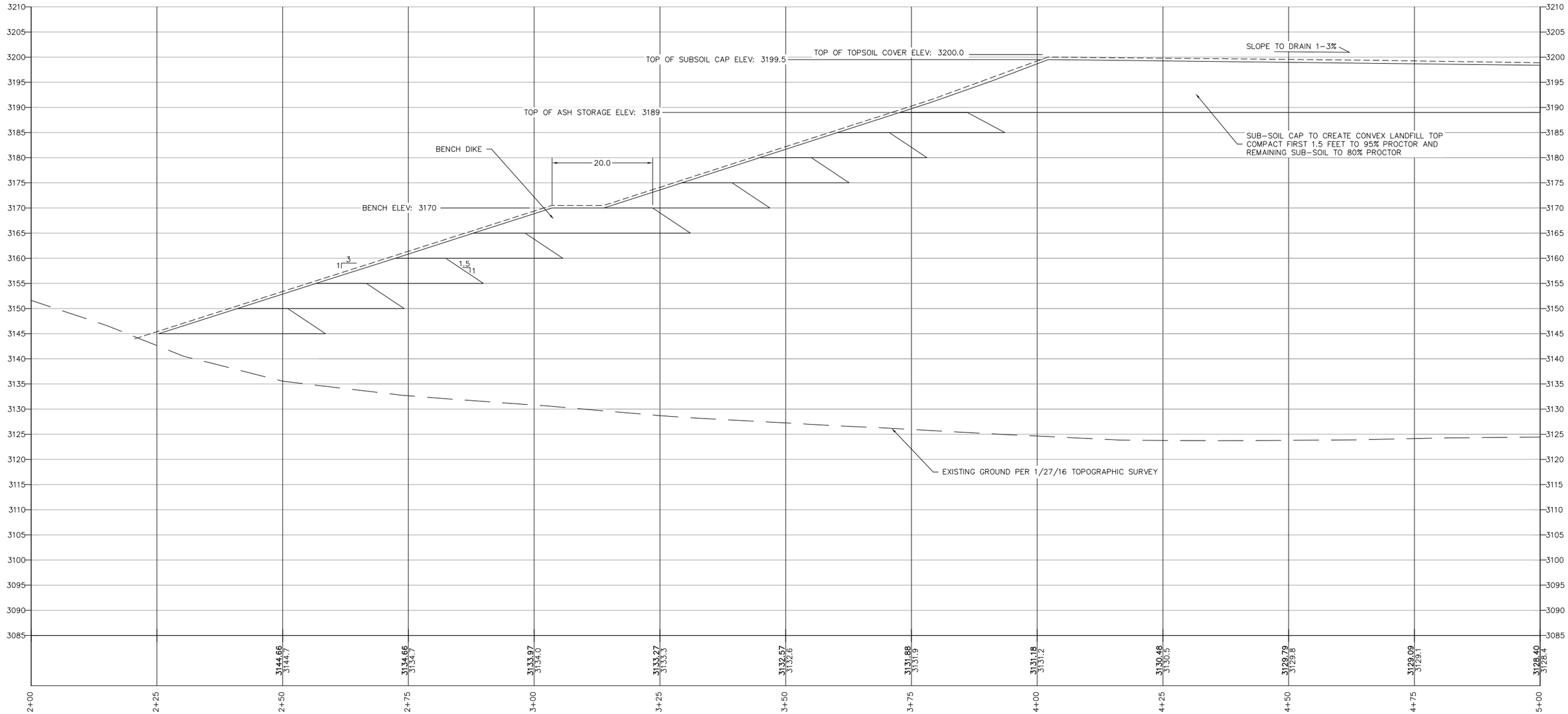
PROJECT #: 15-125
DATE: 9/15/2016

SHEET
C3-3

DETAILS - TABLES



PROFILE VIEW - LANDFILL CONTAINMENT BERMS AND TOP

P:\2015\15-125 Rosebud Power Plant Ash Disposal Site\09 CAD Data\SHEET SET\POST-CLOSURE PLAN SET\DETAILS POST.dwg

NO.	REVISIONS	DRAWN BY	DATE

HORIZONTAL SCALE FEET 0 10 20

VERTICAL SCALE FEET 0 10 20

PROJECT ENGINEER: DSC	DRAWN BY: ASG
DESIGNED BY: ASG	REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
DETAILS - LANDFILL TOP
ROSEBUD COUNTY, MT

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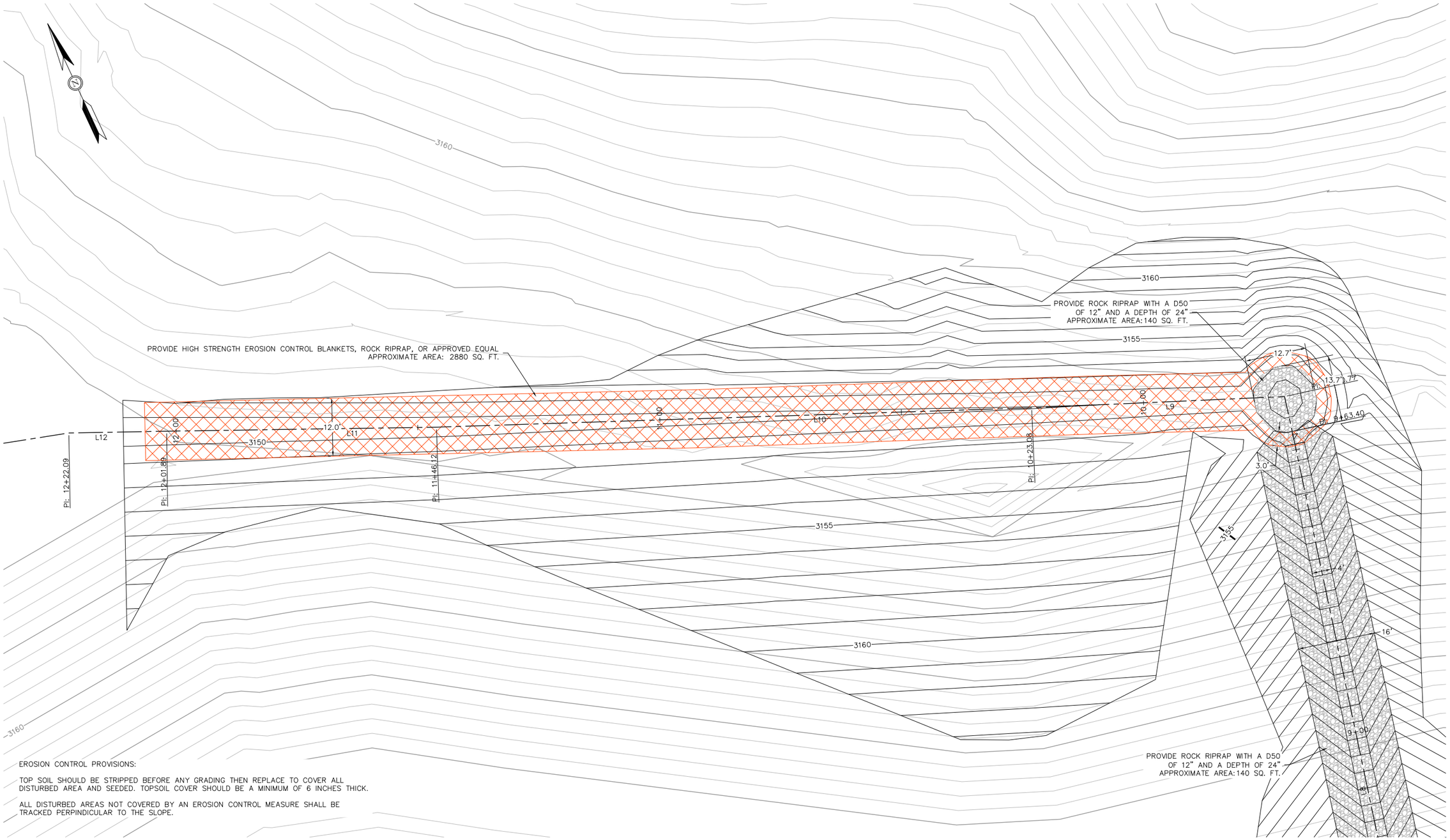
PROJECT #: 15-125	SHEET
DATE: 9/15/2016	C3-4
	DETAILS - LANDFILL TOP



EROSION CONTROL PROVISIONS:

TOP SOIL SHOULD BE STRIPPED BEFORE ANY GRADING THEN REPLACE TO COVER ALL DISTURBED AREA AND SEEDED. TOPSOIL COVER SHOULD BE A MINIMUM OF 6 INCHES THICK.

ALL DISTURBED AREAS NOT COVERED BY AN EROSION CONTROL MEASURE SHALL BE TRACKED PERPINDICULAR TO THE SLOPE.

NO.	REVISIONS	DRAWN BY	DATE

0 10 20 30
SCALE (FEET)

PROJECT ENGINEER: DSC	DRAWN BY: ASG
DESIGNED BY: ASG	REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
EROSION CONTROL - DRAINAGE WAY 3
ROSEBUD COUNTY, MT

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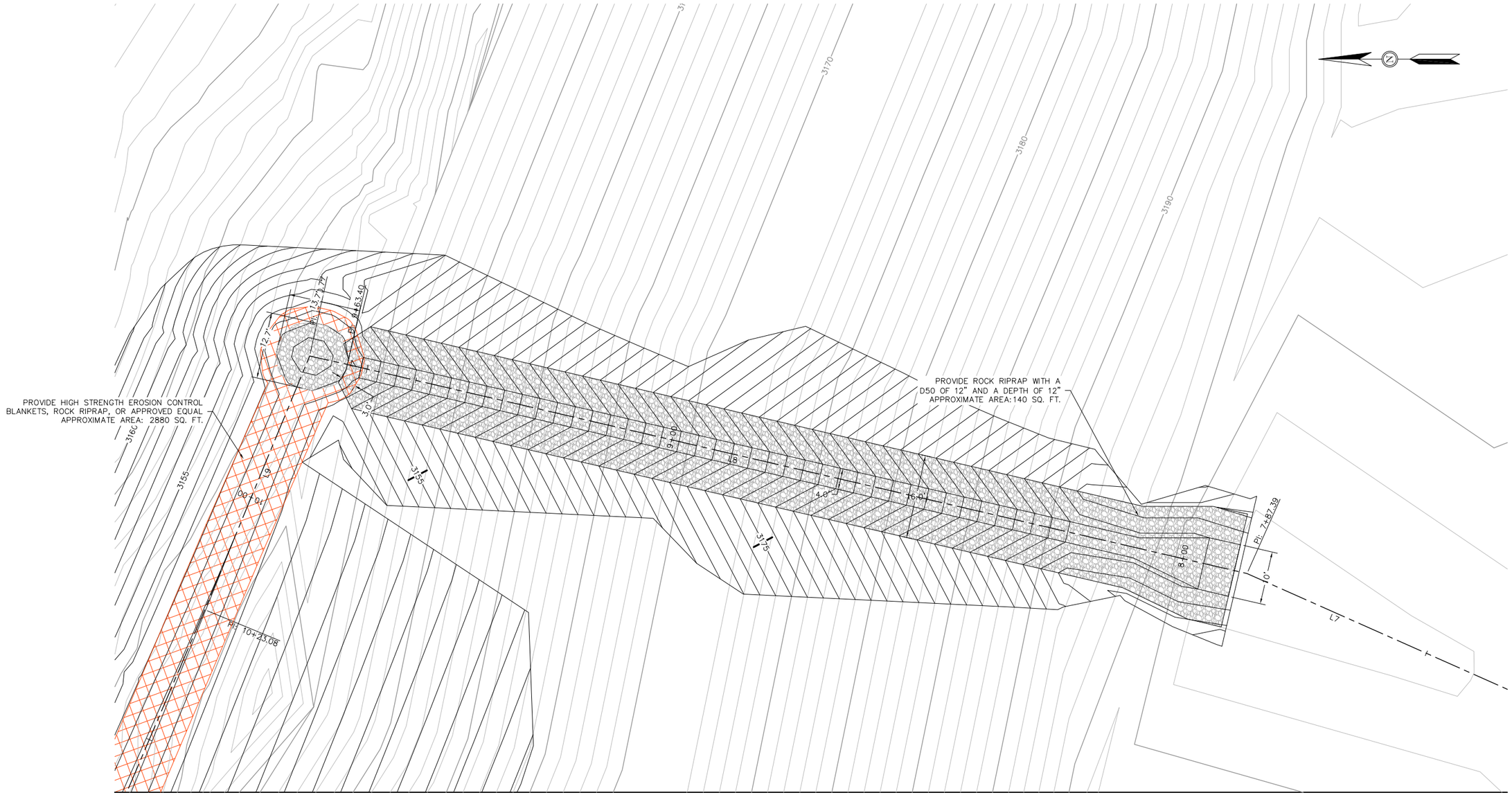
DATE: 9/15/2016	C4-1

EROSION CONTROL

P:\2015\15-125 Rosebud Power Plant Ash Disposal Site\09 CAD Data\SHEET SET\POST-CLOSURE PLAN SET\DRAINAGE WAY 3.dwg



EROSION CONTROL PROVISIONS:

TOP SOIL SHOULD BE STRIPPED BEFORE ANY GRADING THEN REPLACE TO COVER ALL DISTURBED AREA AND SEEDED. TOPSOIL COVER SHOULD BE A MINIMUM OF 6 INCHES THICK.

ALL DISTURBED AREAS NOT COVERED BY AN EROSION CONTROL MEASURE SHALL BE TRACKED PERPENDICULAR TO THE SLOPE.

ALL DISTURBED AREAS ARE TO BE SEEDED.

NO.	REVISIONS	DRAWN BY	DATE

0 10 20 30
SCALE (FEET)

PROJECT ENGINEER: DSC	DRAWN BY: ASG
DESIGNED BY: ASG	REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
EROSION CONTROL - DRAINAGE WAY 3
ROSEBUD COUNTY, MT

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EROSION CONTROL

P:\2015\15-125 Rosebud Power Plant Ash Disposal Site\09 CAD Data\SHEET SET\POST-CLOSURE PLAN SET\DRAINAGE WAY 3.dwg

NOTE:
SEE SHEET C3-3 FOR ALIGNMENT TABLE.

PROVIDE HIGH STRENGTH EROSION CONTROL BLANKETS, ROCK RIPRAP, OR APPROVED EQUAL
APPROXIMATE AREA: 2,314 SQ. FT.

2' DEEP PLUNGE POOL W/
3:1 SIDE SLOPES

PROVIDE ROCK RIPRAP WITH A D50
OF 12" AND A DEPTH OF 12"
APPROXIMATE AREA: 3,423 SQ. FT.

DRAINAGE WAY 5

EP: 6+74.53

L14

L15

16.0'

15.3'

16.4'

10.0'

4:1 OS

6.0'

4.0'

PI: 3+85.60

OMW-6

3130

3135

3140

3160

3170

37.3%

2.3%

32.1%

PLAN VIEW - DRAINAGE WAY 5 (STA 3+60 - STA 6+75)

P:\2015\15-125 Rosebud Power Plant Ash Disposal Site\09 CAD Data\SHEET SET\POST-CLOSURE PLAN SET\DRAINAGE WAY 5.dwg

NO.	REVISIONS	DRAWN BY	DATE

HORIZONTAL SCALE FEET: 0 40 80
VERTICAL SCALE FEET: 0 4 8

PROJECT ENGINEER: DSC	DRAWN BY: ASG
DESIGNED BY: ASG	REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
EROSION CONTROL - DRAINAGE WAY 5
ROSEBUD COUNTY, MT

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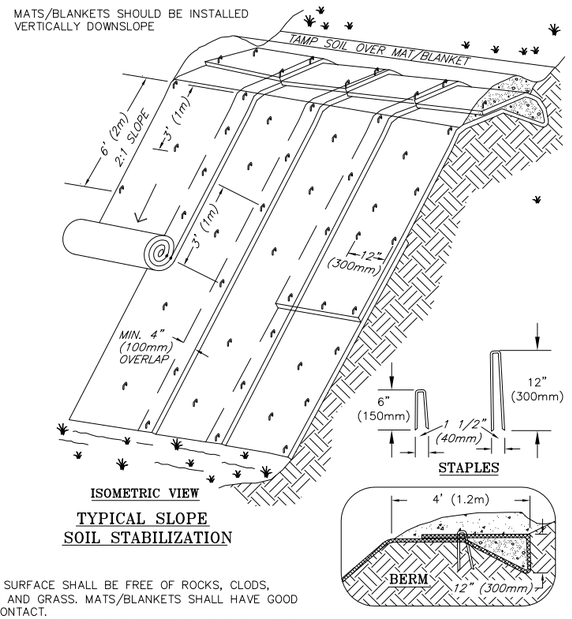
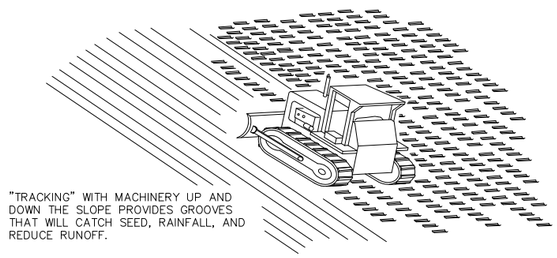
SHEET
C4-3

P & P - DRAINAGE WAY 4



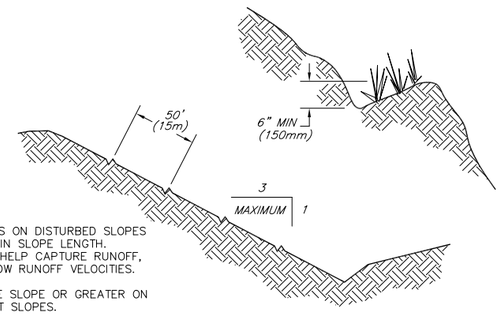
TYPICAL SLOPE SOIL STABILIZATION

NOTES:
1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH.



"TRACKING" WITH MACHINERY UP AND DOWN THE SLOPE PROVIDES GROOVES THAT WILL CATCH SEED, RAINFALL, AND REDUCE RUNOFF.

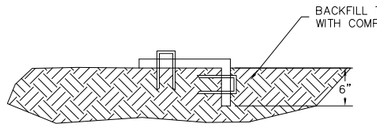
TRACKING



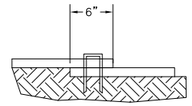
PLACE FURROWS ON DISTURBED SLOPES OVER 50 FEET IN SLOPE LENGTH. FURROWS WILL HELP CAPTURE RUNOFF, SEEDS AND SLOW RUNOFF VELOCITIES.

USE 3H:1V SIDE SLOPE OR GREATER ON ALL PERMANENT SLOPES.

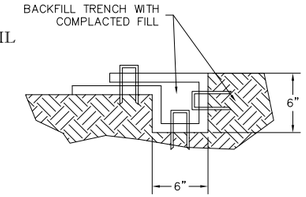
CONTOUR FURROWS



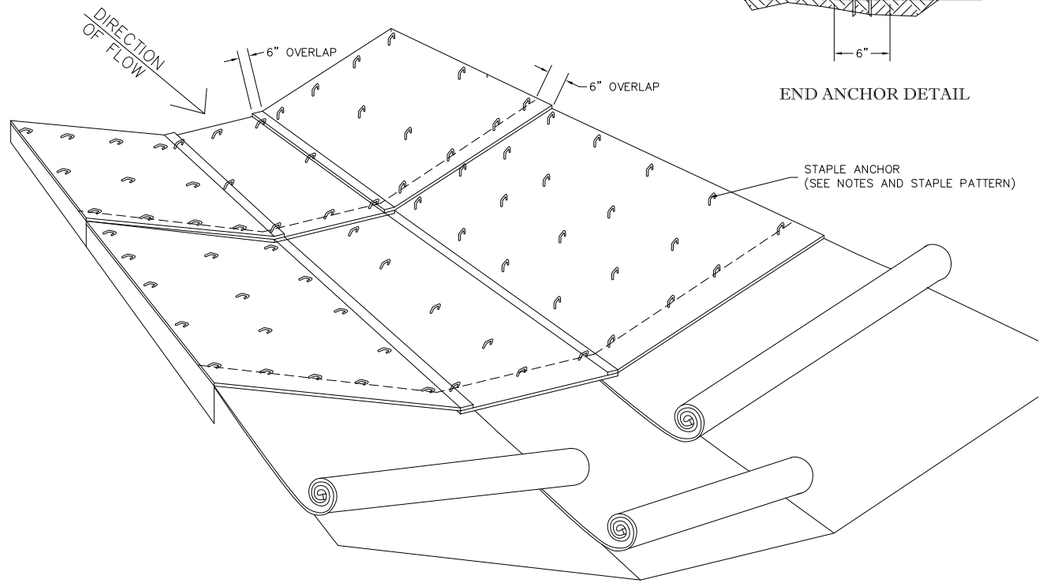
SIDE ANCHOR DETAIL



OVERLAP ANCHOR DETAIL



END ANCHOR DETAIL



ISOMETRIC VIEW

CONSTRUCTION NOTES:

1. PREPARE SOIL SO THAT AREA IS SMOOTH, THEN ADD SEED. AND FERTILIZER AS NEEDED.
2. START BY STAPLING THE BLANKET AT THE TOP OF THE CHANNEL IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT TRENCH SO THAT THE WATER WILL FLOW EVENLY ONTO THE BLANKET.
3. ROLL CENTER BLANKET IN THE BOTTOM OF THE CHANNEL AND PLACE 4 STAPLES EVENLY SPACED PER SQUARE YARD.
4. PLACE ADJOINING ENDS (SHINGLE STYLE) OVERLAPPING 6" SECURING THE OVERLAP WITH A DOUBLE ROW OF STAPLES STAGGERED 4" APART. OVERLAP EDGES OF BLANKET A MINIMUM OF 6" WITH PARALLEL BLANKETS.
5. THE FULL LENGTH OF THE BLANKET AT THE TOP OF THE CHANNEL MUST BE ANCHORED IN A 6"X6" TRENCH THEN BACKFILLED AND COMPACTED AFTER PLACING STAPLES IN THE TRENCH 3 FEET APART. INSURE COMPACTION SO THAT WATER CAN FLOW EVENLY ONTO THE BLANKETS FROM THE SIDES OF THE CHANNEL.
6. PLACE A DOUBLE ROW OF STAGGERED STAPLES 4" APART EVERY 33 FEET.
7. INSURE BLANKET IS PLACED ON SIDE BANKS OF CHANNEL 1 FOOT ABOVE FLOW LINE.
8. AT THE TERMINAL END OF THE CHANNEL, THE BLANKET MUST BE ANCHORED SUCH THAT THE WATER WILL FLOW TO THE DESIRED AREA. IF THE END OF THE CHANNEL IS A CULVERT, THE BLANKET BUST BE PLACED UNDER THE CULVERT AND SECURED WITH STAPLES 4" APART IN A STAGGERED PATTER. IF THE TERMINAL END IS A ROCK OUTFALL, THE BLANKET BUST BE PLACED IN A 6" WIDE X6" DEEP TRENCH STAPLED THE BACKFILLED, COMPACTED THE ROCKS PLACED ON THE TRENCH TO CREATE A SMOOTH TRANSITION.

1 DETAIL
EROSION CONTROL BLANKETS ON A SLOPE
NTS

2 DETAIL
SLOPE TEXTURING
NTS

3 DETAIL
EROSION BLANKETS IN A CHANNEL
NTS

P:\2015\15-125 Rosebud Power Plant Ash Disposal Site\09 CAD Data\SHEET SET\POST-CLOSURE PLAN SET\EROSION CONTROL POST.dwg

NO.	REVISIONS	DRAWN BY	DATE

PROJECT ENGINEER: DSC	DRAWN BY: ASG
DESIGNED BY: ASG	REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
EROSION CONTROL DETAILS
ROSEBUD COUNTY, MT

32 DISCOVERY DRIVE
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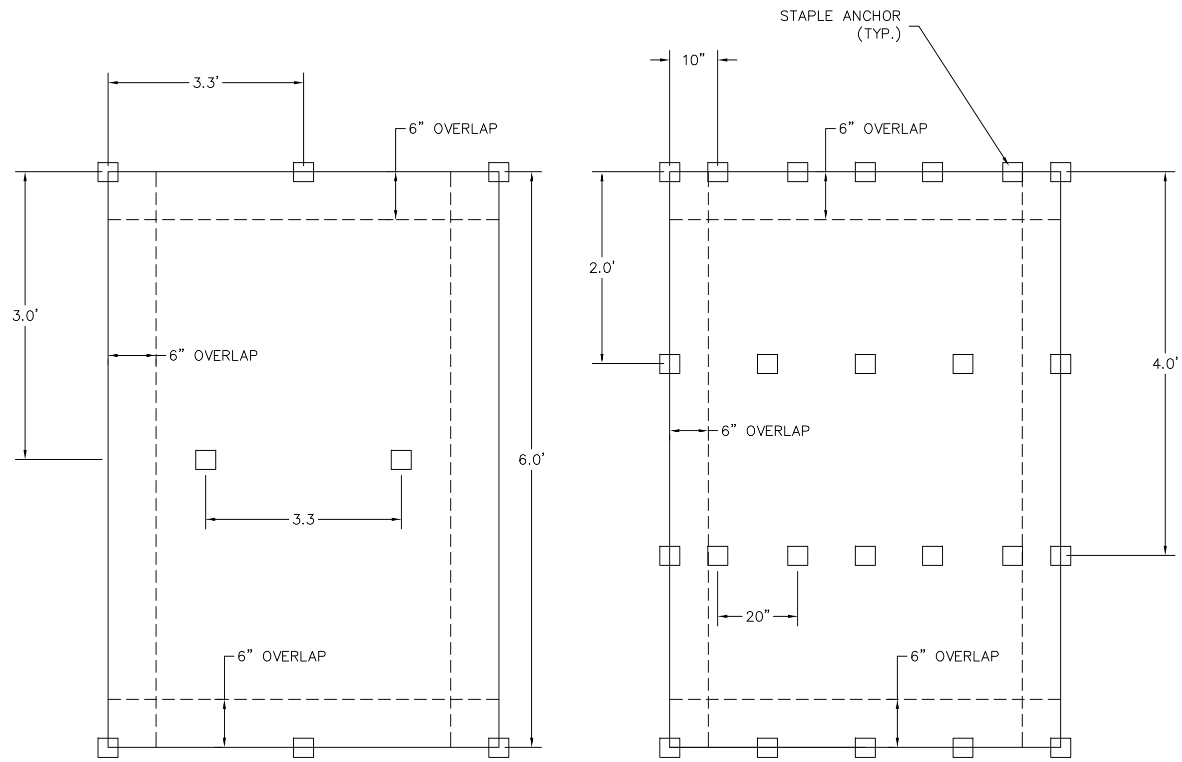
PROJECT #: 15-125	SHEET C4-4
DATE: 9/15/2016	

EROSION CONTROL

EROSION BLANKET ANCHORING PATTERNS



3:1 SIDE SLOPES

CHANNEL BOTTOM/HIGH FLOW AREAS

ANCHORING NOTES:

CHOICE OF STAPLES WILL DEPEND ON SOIL TYPE AND COMPACTION. STAPLES PLACED IN SOIL SHOULD NOT COME OUT EASILY BY HAND. STANDARD 6" STAPLES WILL BE USED IN MOST CONDITIONS. LONGER STAPLES 8"–12" MAY BE NEEDED IN SANDY SOILS. FOR VERY LOOSE SOILS A LONG PIN WITH WASHER MAY BE USED TO ANCHOR BLANKET.

BLANKET SHALL BE OVERLAPPED A MINIMUM OF 6" WITH THE UPSTREAM BLANKET COMING OVER THE DOWNSTREAM BLANKET (SHINGLE STYLE).

1 DETAIL
EROSION BLANKETS ANCHORING PATTERNS
NTS

P:\2015\15-125 Rosebud Power Plant Ash Disposal Site\09 CAD Data\SHEET SET\POST-CLOSURE PLAN SET\EROSION CONTROL POST.dwg

NO.	REVISIONS	DRAWN BY	DATE

PROJECT ENGINEER: DSC	DRAWN BY: ASG
DESIGNED BY: ASG	REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
EROSION CONTROL DETAILS
ROSEBUD COUNTY, MT

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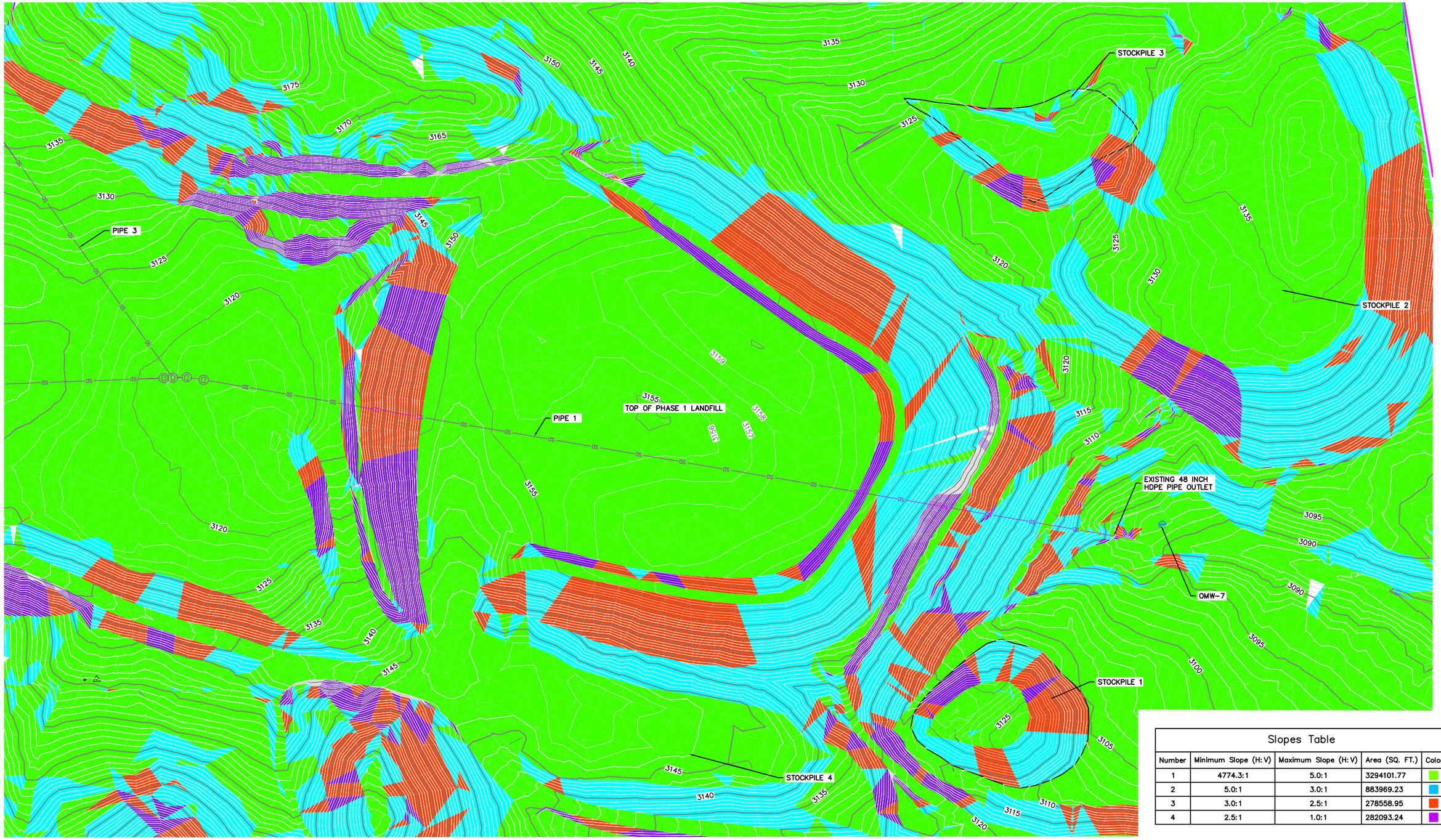
DATE: 9/15/2016

SHEET
C4-5

EROSION CONTROL



Slopes Table				
Number	Minimum Slope (H:V)	Maximum Slope (H:V)	Area (SQ. FT.)	Color
1	4774.3:1	5.0:1	3294101.77	
2	5.0:1	3.0:1	883969.23	
3	3.0:1	2.5:1	278558.95	
4	2.5:1	1.0:1	282093.24	

P:\2015\15-125 Rosebud Power Plant Ash Disposal Site\09 CAD Data\SLOPE FIGURE.dwg

NO.	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER: **DSC**	DRAWN BY: **ASG**
DESIGNED BY: **ASG**	REVIEWED BY: **DSC, BDA**

ROSEBUD POST-CLOSURE DESIGN
PHASE 1 LANDFILL SLOPES
ROSEBUD COUNTY, MT

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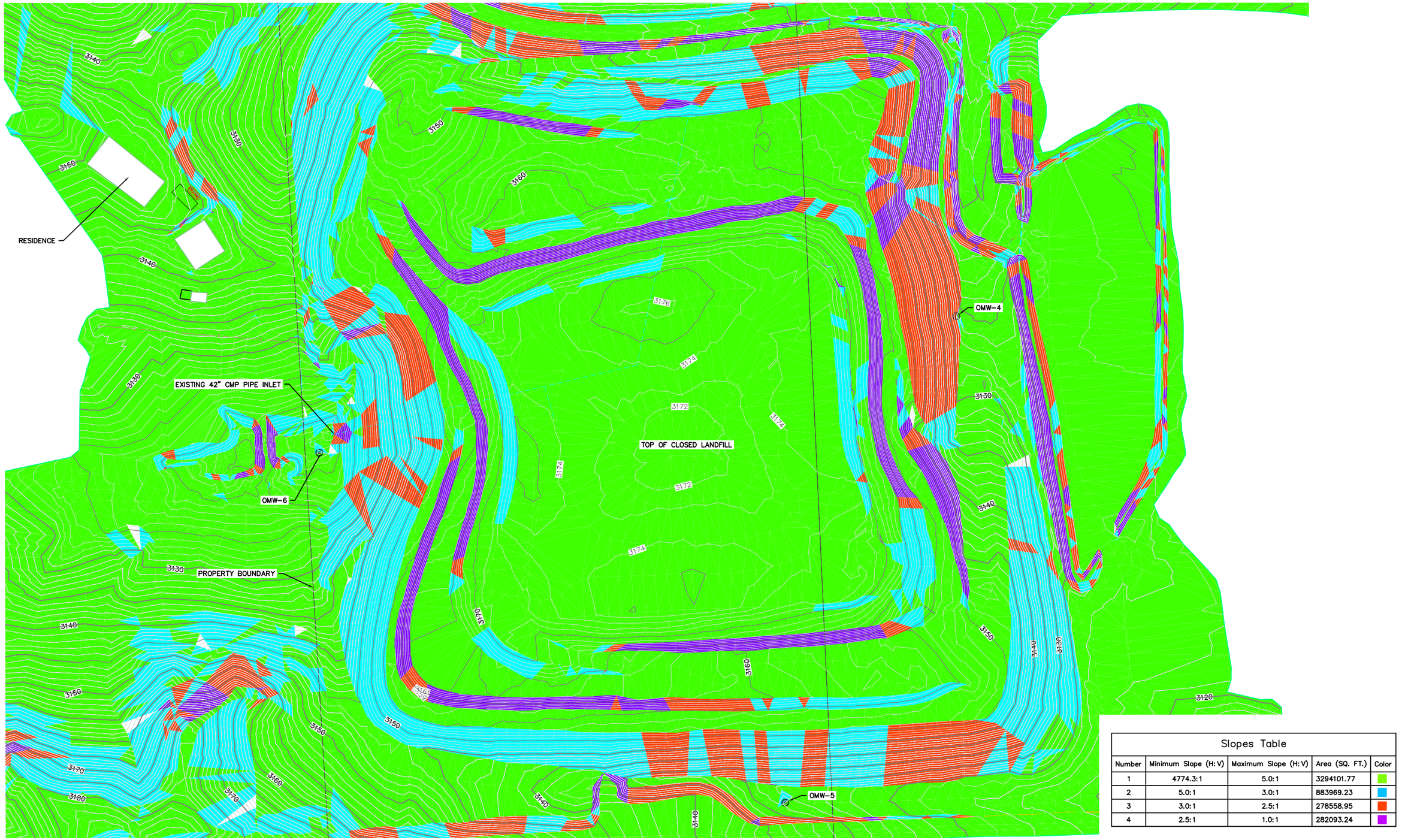
PROJECT #: **15-125**	SHEET
DATE: **09/15/16**	**S-1**



Slopes Table				
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3	3.0:1	2.5:1	278558.95	
4	2.5:1	1.0:1	282093.24	

NO.	REVISIONS	DRAWN BY	DATE

0 60 120 180
SCALE (FEET)

PROJECT ENGINEER: **DSC** | DRAWN BY: **ASG**
DESIGNED BY: **ASG** | REVIEWED BY: **DSC, BDA**

ROSEBUD POST-CLOSURE DESIGN
EXISTING CLOSED LANDFILL SLOPES
ROSEBUD COUNTY, MT

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DATE: **09/15/2016**
SHEET **S-2**

P:\2015\15-125 Rosebud Power Plant Ash Disposal Site\09 CAD Data\SLOPE FIGURE.dwg

Appendix B: Existing Conditions Survey Figure

SURVEY OF PHASE 1 & 2 LANDFILL AND SURROUNDING AREA BASED ON TOPOGRAPHIC SURVEYS COMPLETED ON:
9/14/15 BY GREG FINCK OF AESI
1/27/16 BY GREG FINCK AND KYLE THOMPSON OF AESI
11/9/16 BY ANDREW GRAHAM OF AESI

BASE POINT COORDINATES:
SURVEY BASE POINT
ELEV: 314940
LAT: 45.978219
LONG: 106.665945

ELEVATION BASE POINT
ELEV: 3157.51
LAT: 45.979748
LONG: 106.664004

C:\aesi_w\Designs\2015\15-125 Rosebud Power Plant Ash Disposal Site\29 CAD-Production\Grading\EXISTING CONDITIONS.dwg

NO.	REVISIONS	DRAWN BY	DATE

0 100 200 300
SCALE (FEET)

PROJECT ENGINEER: DSC
DRAWN BY: ASG
DESIGNED BY: ASG
REVIEWED BY: DSC, BDA

ROSEBUD SURVEY FIGURE
EXISTING CONDITIONS (AS-BUILT)
ROSEBUD COUNTY, MT

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PROJECT #: 15-125
DATE: 12/13/16
SHEET 1

EXISTING CONDITIONS

Appendix C: Rosebud Power Plant Inspection Reports – Dated 1/18/16 thru 12/28/16

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: Rosebud Operating Services, Inc.
INSPECTOR: Ken McFarland
DATE & TIME INSPECTED: 335 1/8/16
WEATHER (temperature, wind, precipitation): Clear Cold 20°
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
Just finished Const. this week

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? No **:**
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE
A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)			

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?		✓	
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

New Construction Snow

C. Areas without Vegetation due to erosion (describe location and size of area)

No

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

No

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS

(Use additional pages, if necessary, include pictures as needed)

Showed last night

Built berm North-East pit Phase I.

Phase II Built berm across West end

This inspection was performed by: [signature] 1/8/16 Signature and Date:

NO	REVISIONS	DRAWN BY	DATE

SCALE (FEET): 0 50 100 150

PROJECT ENGINEER:	DRAWN BY:
DESIGNED BY:	REVIEWED BY:

ROSEBUD POWER PLANT
EXITING SITE PLAN
ROSEBUD COUNTY, MT

32 DISCOVERY DRIVE
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PROJECT #: 15-125	SHEET
DATE: 09/23/2015	C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: Rosebud Operating
INSPECTOR: Kenny Dalton
DATE & TIME INSPECTED: 1-15-16
WEATHER (temperature, wind, precipitation): Snowing Cold
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
No Ash in Phase 2 at this Time

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE
A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?			
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?			
(10) Any exposed ash on exterior slope?			
(11) Any visible water pooling or ponding?			
(12) Any visible water/runoff spill points?			
(13) Pipe Condition?			
(14) Water flowing from pipe?			
(15) Any pooling or poding at pipe inlet or outlet?			
(16) Any erosion/undermining of pipe at inlet or outlet?			
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

New Construction Grass

C. Areas without Vegetation due to erosion (describe location and size of area)

NO

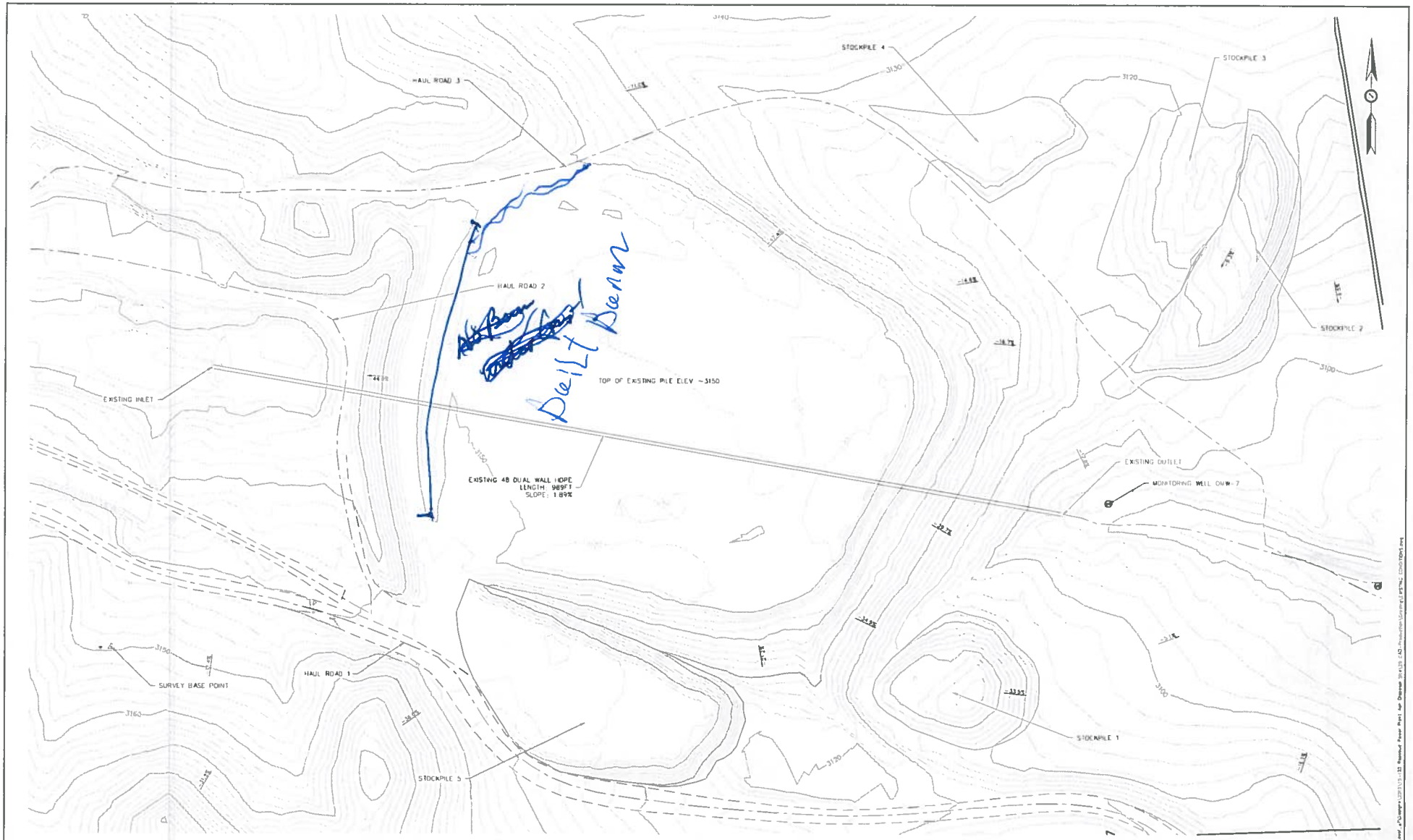
D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

NO

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: _____ Signature and Date:



NO.	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER	DRAWN BY
DESIGNED BY	REVIEWED BY

ROSEBUD POWER PLANT
EXITING SITE PLAN
ROSEBUD COUNTY, MT

32 DISCOVERY DRIVE
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PROJECT #: 15-125
DATE: 09/21/2015

SHEET
C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: Rosebud Operating Services, INC
INSPECTOR: Joel Zimmerman
DATE & TIME INSPECTED: 1/22/16 1202 hrs
WEATHER (temperature, wind, precipitation): 49.6°F - 9 S wind
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):

Ash - 3156.93 Berm - 3163.1 ft

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):

No Ash Yet

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? No:
If so, note here:_____

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE
A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	OK		Working on West berm for Access Road

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?		✓	Same
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Older berms OK – New Berms bare

C. Areas without Vegetation due to erosion (describe location and size of area)

None

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

No

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

No

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: _____ Signature and Date: 1/22/16

NO.	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER:	DRAWN BY:
DESIGNED BY:	REVIEWED BY:

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PROJECT #: 15-125
DATE: 09/23/2015

SHEET
C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: Rosebud Operating Services
INSPECTOR: Larry Fuchs
DATE & TIME INSPECTED: 1/29/16
WEATHER (temperature, wind, precipitation): 45° Calm
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):

Ash - 3156.93 Berm 3163.1

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):

No Ash Hauled

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	ok		Work in Progress on West Berm

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?		✓	Some
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

New Berms Have Been Done To Resist Construction

C. Areas without Vegetation due to erosion (describe location and size of area)

None

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

No

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

NO

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: _____ Signature and Date: 1/29/16

NO.	REVISIONS	DRAWN BY	DATE

SCALE (FEET) 0 50 100 150

PROJECT ENGINEER: DRAWN BY:
DESIGNED BY: REVIEWED BY:

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PROJECT #: 15-125
DATE: 09/21/2015

SHEET
C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: Rosebud Operating Services, Inc.
INSPECTOR: Ken McPartland
DATE & TIME INSPECTED: 2/5/16
WEATHER (temperature, wind, precipitation): Clear 40°
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):

N/A

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? No :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE
A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	Okay		South-West End Close to 4' West end level

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓	✓	
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?			OKay
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

N/A

C. Areas without Vegetation due to erosion (describe location and size of area)

NONE

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

NO

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

NO

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: _____ Signature and Date:

NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER:	DRAWN BY:
DESIGNED BY:	REVIEWED BY:

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PROJECT #: 15-125	SHEET
DATE: 09/23/2015	C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: ~~[illegible]~~ Rosebud operating Services
INSPECTOR: Larry Fulton, Tool Z
DATE & TIME INSPECTED: 3/19/16 13:58
WEATHER (temperature, wind, precipitation): 65
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
No Ash

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO:
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE
A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)			6 FT

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?			Good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

None

C. Areas without Vegetation due to erosion (describe location and size of area)

NO

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

NO

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

NO

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: Jay Foster Signature and Date: 9/19/16

NO.	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER: DRAWN BY:
DESIGNED BY: REVIEWED BY:

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PROJECT #: 15-125
DATE: 09/21/2015

SHEET
C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: ROSE
INSPECTOR: Joel Zimmerman
DATE & TIME INSPECTED: 2/25/16 0936
WEATHER (temperature, wind, precipitation): 35°F - 8 mph NE wind
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):

N/A

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):

N/A

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO :
If so, note here:_____

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)			10' - 12'
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		Varies - working on filling Low areas - all areas are below perimeter berm

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?			Good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?		✓	

B. Amount and Type of Vegetation on the Embankment & Bench Areas

New Construction Berms - No vegetation - scheduled for Hydroseeding

C. Areas without Vegetation due to erosion (describe location and size of area)

None

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

None

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

No

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS

(Use additional pages, if necessary, include pictures as needed)

Scheduling Weave Consulting to complete open Items this spring

This inspection was performed by: Jed Timmons Signature and Date: 3/5/16

NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER:	DRAWN BY:
DESIGNED BY:	REVIEWED BY:

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PROJECT #: 15-125
DATE: 09/23/2015

SHEET
C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: Rosebud Operating Services, Inc.
INSPECTOR: Ken McFarland
DATE & TIME INSPECTED: 3/11/16 2:45 pm
WEATHER (temperature, wind, precipitation): Clear
FLYASH STORAGE SITE INSPECTED: (Phase 1) and (2) of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):

N/A

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):

Started Dumping Ash in Phase 2 pit 3/8/16

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? ND :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓	✓	
(6) Interior Side Slopes (1.5H:1V design)	✓	✓	
(7) Height of Berm above Ash Surface (ft)	✓		4-5ft Phase 1

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?			good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other? Ash pit phase I		pit is Heaving Need Bladed	

B. Amount and Type of Vegetation on the Embankment & Bench Areas

N/A

C. Areas without Vegetation due to erosion (describe location and size of area)

NO

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

NO Not planted yet.

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

Ash pit phase I Ash pit is Heaving Needs Bladed
Phase II looks good.

This inspection was performed by: _____ Signature and Date:

3/11/16

NO.	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER: | DRAWN BY:
DESIGNED BY: | REVIEWED BY:

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PROJECT #: 15-125
DATE: 09/23/2015

SHEET
C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: Rosebud Operating Services Inc
INSPECTOR: Larry Fultz
DATE & TIME INSPECTED: 3/13/16 1500
WEATHER (temperature, wind, precipitation): cloudy 37
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):

NA

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO **:**
If so, note here:_____

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE
A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)			South West ~~40~~

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?			OK
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

None

C. Areas without Vegetation due to erosion (describe location and size of area)

NO

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

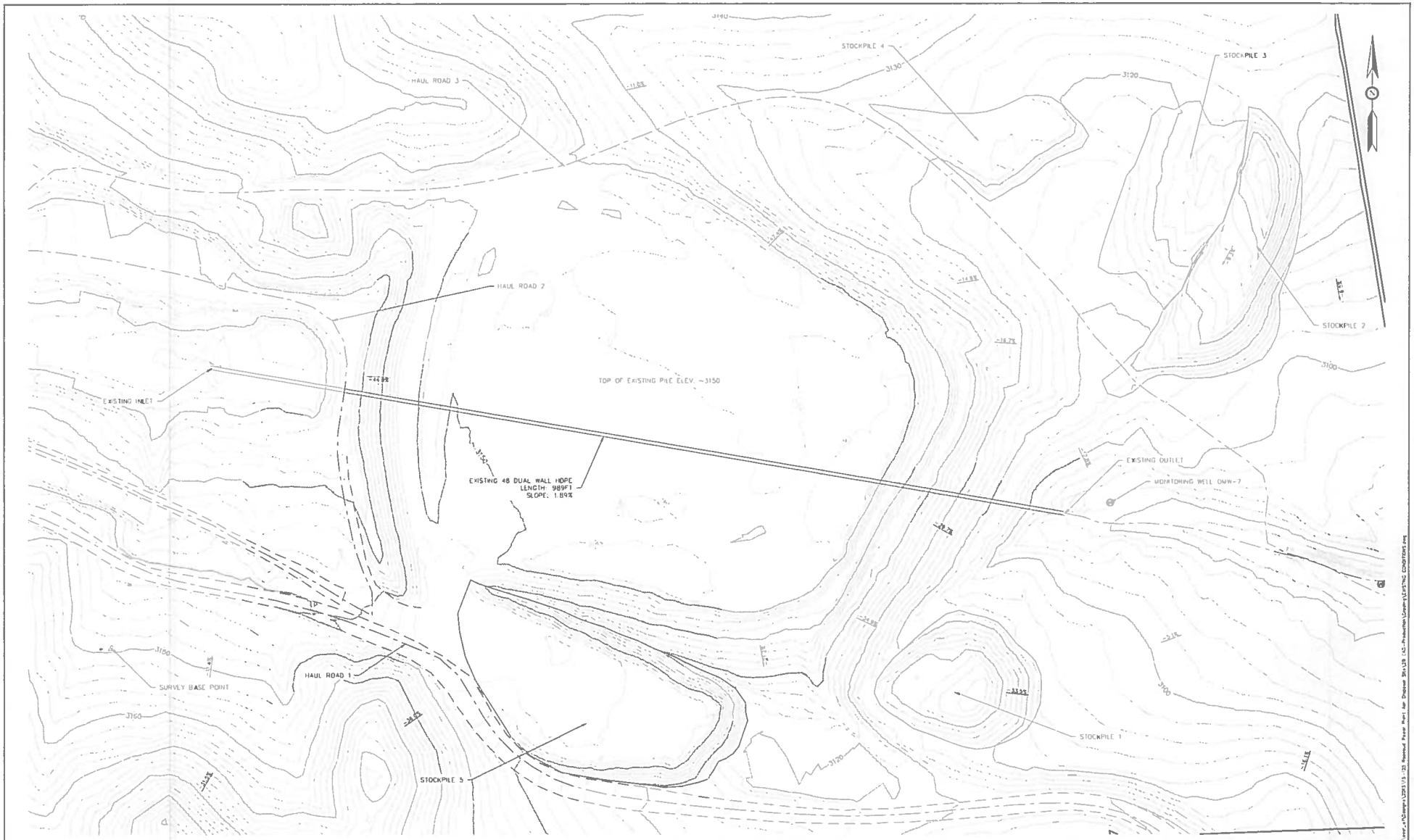
NO

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

NO

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: _____ Signature and Date:



NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER: | DRAWN BY:
DESIGNED BY: | REVIEWED BY:

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PROJECT #: 15-125
DATE: 09/21/2015

SHEET
C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: Rosebud Operating Services
INSPECTOR: Harry Foltz
DATE & TIME INSPECTED: 3/8/16 13:30
WEATHER (temperature, wind, precipitation): Snowing NBD
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement): Started Dumping Ash 3/8 Ash Not Yet Covering Complete Bottom

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO **:**
If so, note here:_____

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE
A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		4.5 FT

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?			Good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			Heavies Leveled

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Not Planted

C. Areas without Vegetation due to erosion (describe location and size of area)

NO

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

NO

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

NO

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS

(Use additional pages, if necessary, include pictures as needed)

Phase 1 Heavies Leveled and Hydrated Backroad Packed

This inspection was performed by: _____ Signature and Date:

NO.	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER: | DRAWN BY:
DESIGNED BY: | REVIEWED BY:

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PROJECT #: 15-125
DATE: 09/21/2015

SHEET
C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: Rosebud Operating Services, INC
INSPECTOR: Joel Zimmerman
DATE & TIME INSPECTED: 3/23/16
WEATHER (temperature, wind, precipitation): 34°F - 8 MPH NW wind
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
Ash dumping in phase II -

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? No:
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		4.5' in Phase I

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?			Good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?	✓	✓	WEAVE Management on site Anstry up EET's & Installing Erosion Matting

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Higher banks not seeded yet

C. Areas without Vegetation due to erosion (describe location and size of area)

None

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

None

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

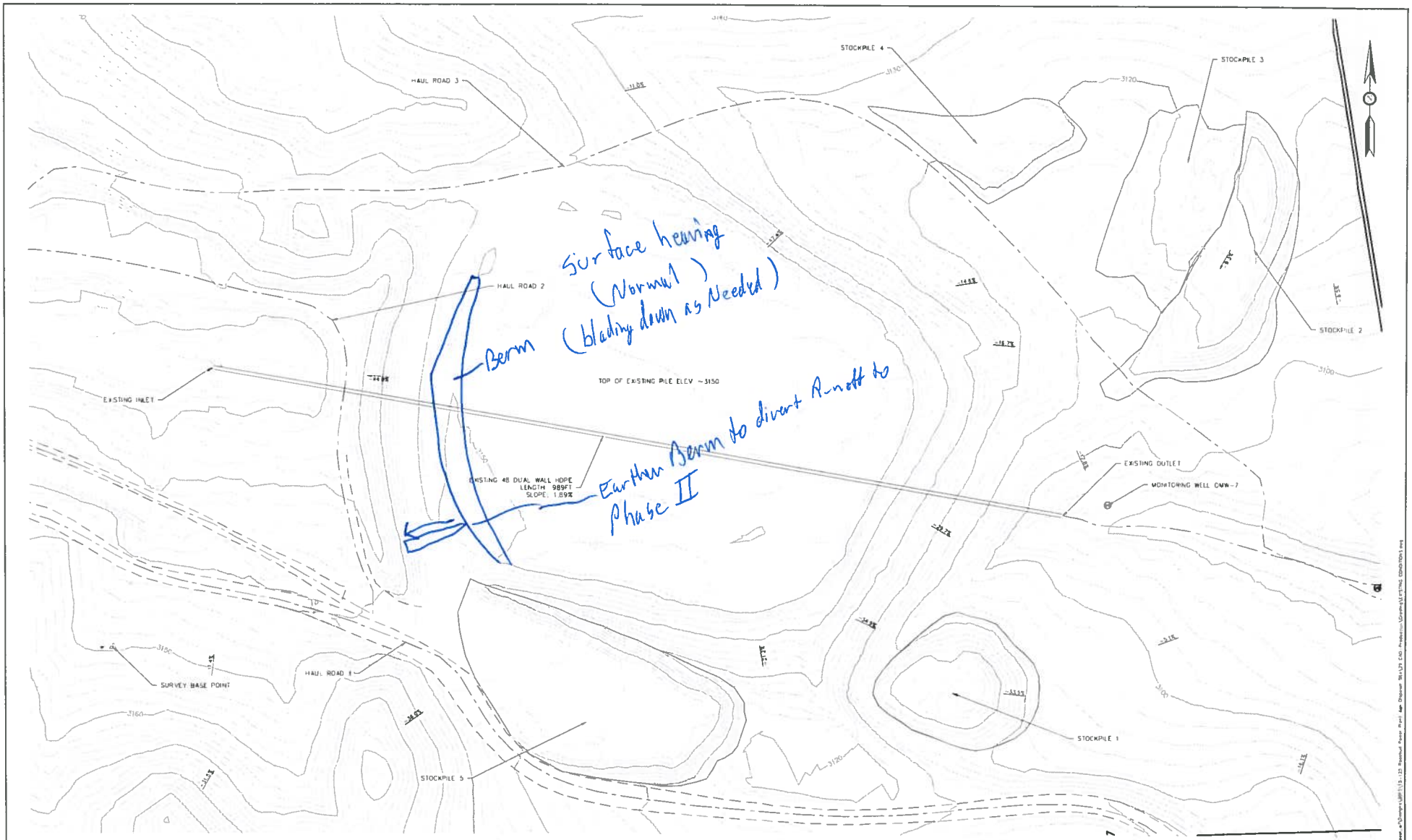
None

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS

(Use additional pages, if necessary, include pictures as needed)

Surface of Phase I continues to heave -

This inspection was performed by: [signature] 3/23/16 Signature and Date:



NO.	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER	DRAWN BY
DESIGNED BY	REVIEWED BY

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PROJECT # 15-125	SHEET
DATE 09/23/2015	C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: Rosebud Operating Services, INC.
INSPECTOR: Ken McFarland
DATE & TIME INSPECTED: 4/01/16
WEATHER (temperature, wind, precipitation): 50° partly Cloudy
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide Insp. Map)

Any Issues From Previous Week/Inspection? NO :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE
A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?		✓	Good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			Ash on berm in Phase I

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Not Seeded yet

C. Areas without Vegetation due to erosion (describe location and size of area)

NONE

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

NONE

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

NONE

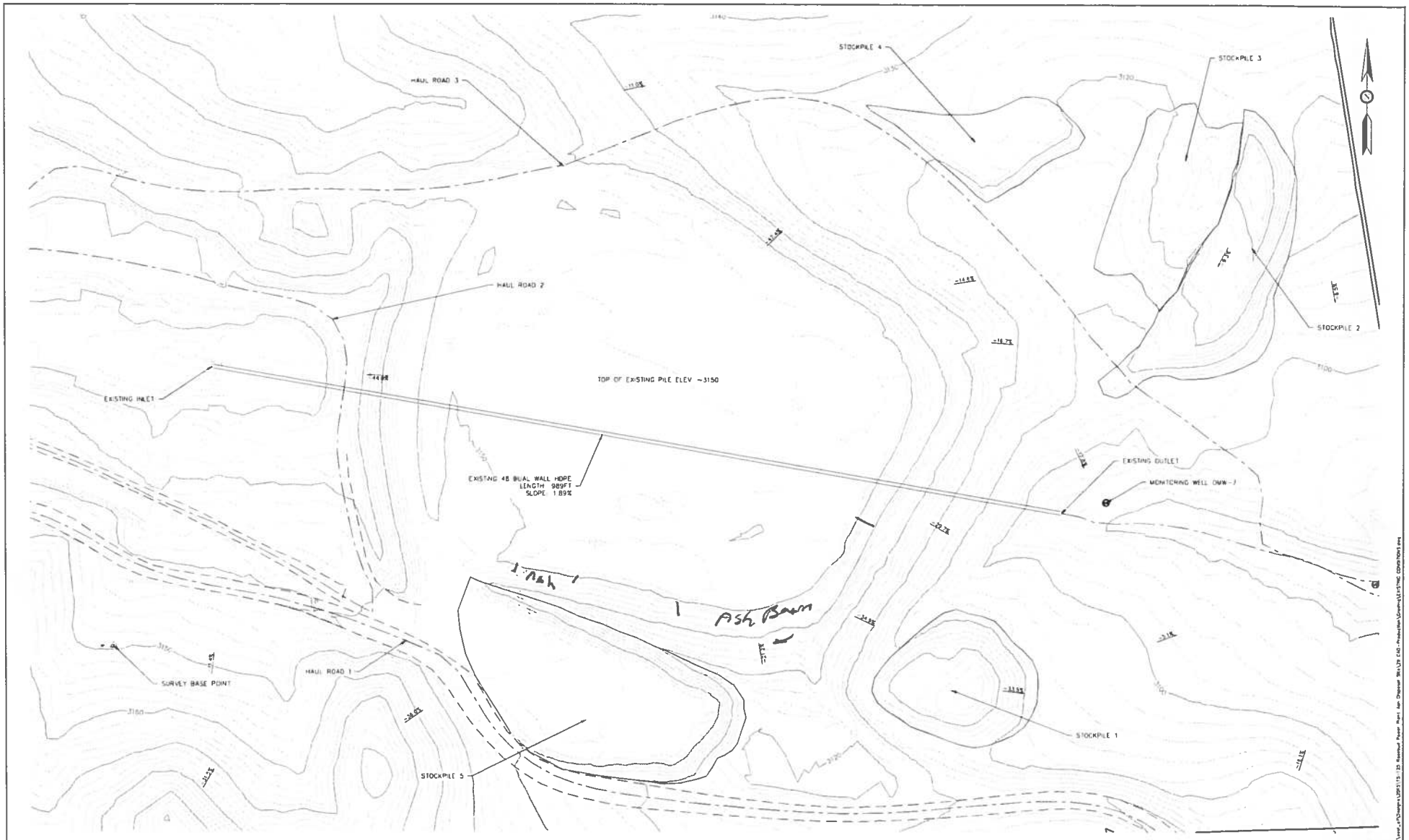
3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS

(Use additional pages, if necessary, include pictures as needed)

Phase I - East + South berm has Ash on top of the berm.

Dragged leaves down on Phase I

This inspection was performed by: _____ Signature and Date: 4/1/16



NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER	DRAWN BY
DESIGNED BY	REVIEWED BY

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PROJECT # 15-125	SHEET
DATE 09/23/2015	C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: ROSI
INSPECTOR: John Behles
DATE & TIME INSPECTED: 4-8-16
WEATHER (temperature, wind, precipitation): 44° Pt Cloudy
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? ~~N/A~~ YES
If so, note here: Ash on Top of Berm was cleaned & scraped off

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?		✓	Good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Not Seeded

C. Areas without Vegetation due to erosion (describe location and size of area)

ND

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

ND

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

ND

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS

(Use additional pages, if necessary, include pictures as needed)

Looks good

This inspection was performed by: _____ Signature and Date:

NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER:
DRAWN BY:
DESIGNED BY:
REVIEWED BY:

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PROJECT #: 15-125
DATE: 09/23/2015
SHEET C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: ROSI
INSPECTOR: Lanny Fielder
DATE & TIME INSPECTED: 4/14/16
WEATHER (temperature, wind, precipitation): _____
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO :
If so, note here: _____

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?		✓	Good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?		✓	

B. Amount and Type of Vegetation on the Embankment & Bench Areas

NOT Seeded

C. Areas without Vegetation due to erosion (describe location and size of area)

No

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

NO

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

No

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: Lucy Fuller Signature and Date:

NO.	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER:	DRAWN BY:
DESIGNED BY:	REVIEWED BY:

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PROJECT #:	15-125
DATE:	09/23/2015
SHEET	C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: NOST
INSPECTOR: Joel Zimmerman
DATE & TIME INSPECTED: 4-22-16 - 1426 hrs
WEATHER (temperature, wind, precipitation): 0 wind - 80°F - No Rain
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? No :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	approx 1" of Rain Received Last Weekend - No issues on Berms
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		I had crew blade top of berm in Phase I area - just to clean up & level & extend on NW Corner
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		4 - 4.5 ft of berm

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?	✓		from Rain Received Last Weekend
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?			Good
(14) Water flowing from pipe?		No	
(15) Any pooling or poding at pipe inlet or outlet?		No	
(16) Any erosion/undermining of pipe at inlet or outlet?		No	
(17) Other?			Hydro seeding started 4-22-16

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Hydroseeding Started on 4-22-16 - Started on West side of Phase II at pipe inlet - working to East

C. Areas without Vegetation due to erosion (describe location and size of area)

None

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

None

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

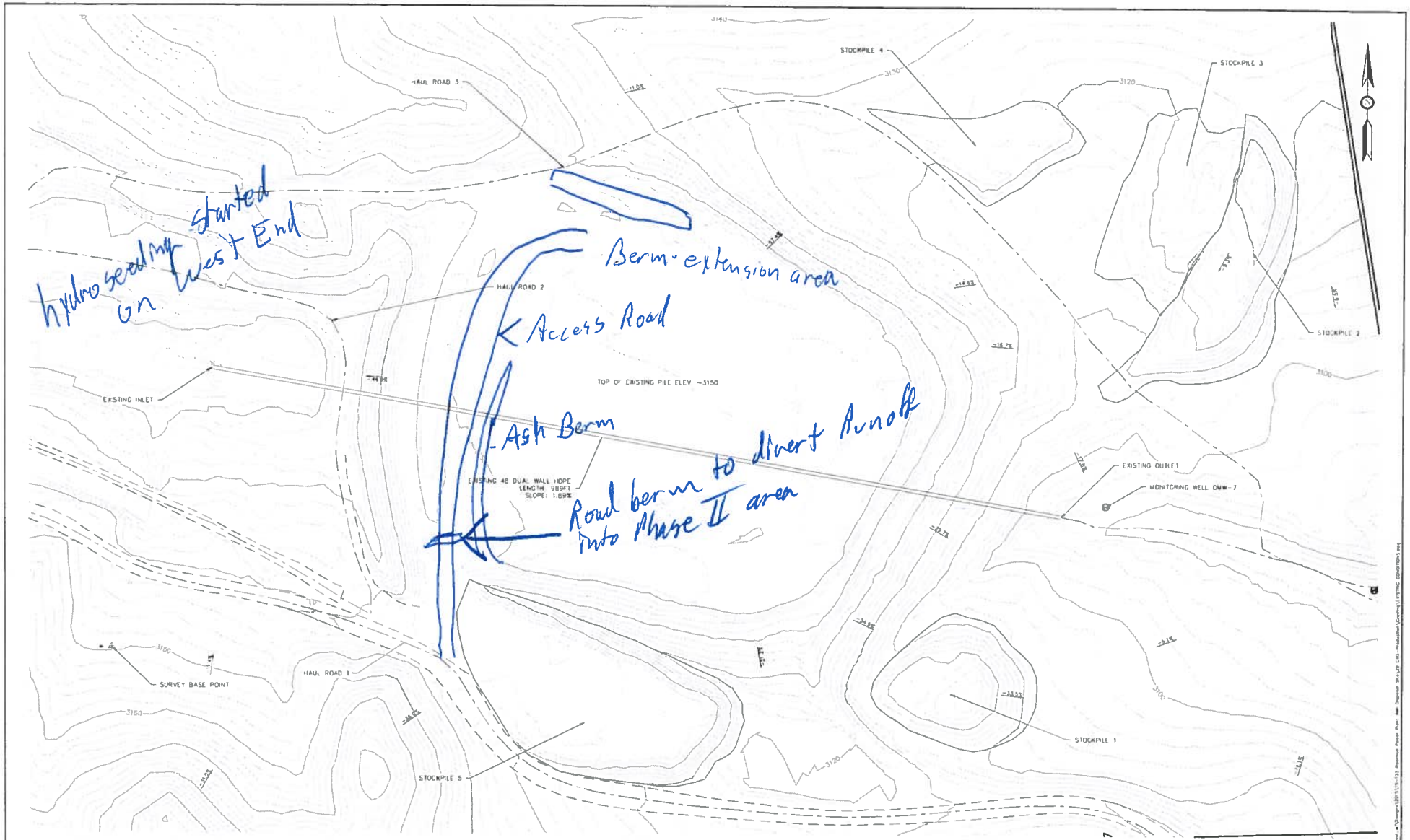
No

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS

(Use additional pages, if necessary, include pictures as needed)

Started hydro seeding today (4-22-16)

This inspection was performed by: Joel Zimmerman Signature and Date: 4-22-16



NO.	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER: | DRAWN BY:
DESIGNED BY: | REVIEWED BY:

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PROJECT #: 15-125
DATE: 09/23/2015

SHEET
C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: ROST
INSPECTOR: Joel Zimmerman
DATE & TIME INSPECTED: 4/29/16 - 1315 hrs
WEATHER (temperature, wind, precipitation): 48°F - 15 East
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):

—

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):

—

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? Yes :
If so, note here: Muddy Conditions due to Rainfall - dumpsters in place)

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	received 2.13" of Rain since Last Friday
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)			approx 4' of berm

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?			Phase I - No Phase II - Yes - in low spots - inside berm
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?			Good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?		✓	Too wet to start hydroseeding again

B. Amount and Type of Vegetation on the Embankment & Bench Areas

C. Areas without Vegetation due to erosion (describe location and size of area)

None

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

None

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

No

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS

(Use additional pages, if necessary, include pictures as needed)

Access road muddy due to rain - using Phase I area - Phase I area in Good shape

This inspection was performed by: Joe Zimmerman Signature and Date: 4-29-16

NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER	DRAWN BY
DESIGNED BY	REVIEWED BY

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PROJECT #: 15-125	SHEET
DATE: 09/23/2015	C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: ROSE
INSPECTOR: John Barbles
DATE & TIME INSPECTED: 5-6-16 8:10
WEATHER (temperature, wind, precipitation): 82° 15-South
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):

—

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):

—

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO:
If so, note here: NA

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓	✓	
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		South edge of Pile getting low

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		X	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	X		
(10) Any exposed ash on exterior slope?		X	
(11) Any visible water pooling or ponding?		X	
(12) Any visible water/runoff spill points?		X	
(13) Pipe Condition?			Good
(14) Water flowing from pipe?		X	/
(15) Any pooling or poding at pipe inlet or outlet?		X	
(16) Any erosion/undermining of pipe at inlet or outlet?		X	
(17) Other?			—

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Hydro seeding Today / Will Finish Monday

C. Areas without Vegetation due to erosion (describe location and size of area)

none

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

NONE

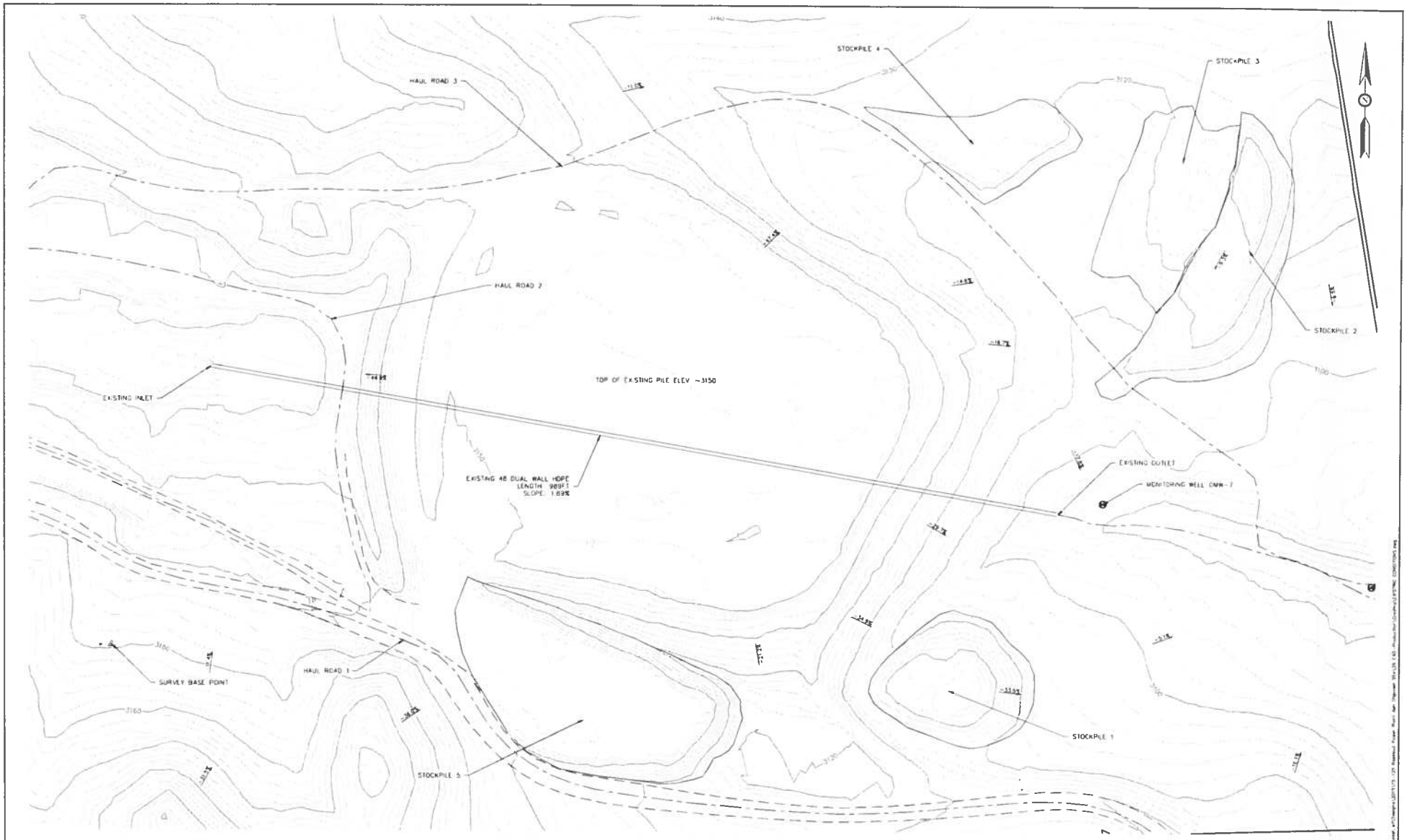
2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

NO

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

NONE

This inspection was performed by: John Bellar 5-6-16 Signature and Date:



NO.	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER	DRAWN BY
DESIGNED BY	REVIEWED BY

ROSEBUD POWER PLANT
EXITING SITE PLAN
ROSEBUD COUNTY, MT

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PROJECT # 15-125	SHEET
DATE 09/23/2015	C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: ROST
INSPECTOR: Hamly Fulton
DATE & TIME INSPECTED: 5/13/16
WEATHER (temperature, wind, precipitation): _____
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):

—

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):

—

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO **:**
If so, note here: Dry Ash

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		South Berm Low

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?			good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Hydro Seeding Complete

C. Areas without Vegetation due to erosion (describe location and size of area)

None

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

None

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

NO

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS

(Use additional pages, if necessary, include pictures as needed)

Phase 1 Mudslide Hauling Ash To Phase 1

This inspection was performed by: _____ Signature and Date:

NO.	REVISIONS	DRAWN BY	DATE

PROJECT ENGINEER:	DRAWN BY:
DESIGNED BY:	REVIEWED BY:

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PROJECT #: 15-125	SHEET
DATE: 09/23/2015	C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: ROSE
INSPECTOR: Joel Zimmerman
DATE & TIME INSPECTED: 5/19/16
WEATHER (temperature, wind, precipitation): 56° 8 MPH SE Wind
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
OK

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
OK -

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? ~~No~~ Yes
If so, note here: South Berm was Low - Added dirt (Subsoil) with Loader

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE
A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		Added subsoil to South Berm area of Phase 1

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?	✓		Ponding in Phase II area
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?	✓		
(14) Water flowing from pipe?			Water Did Flow through - No issues
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Hydro seeding Completed on May 11th.

C. Areas without Vegetation due to erosion (describe location and size of area)

all areas OK

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

N/A

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

No

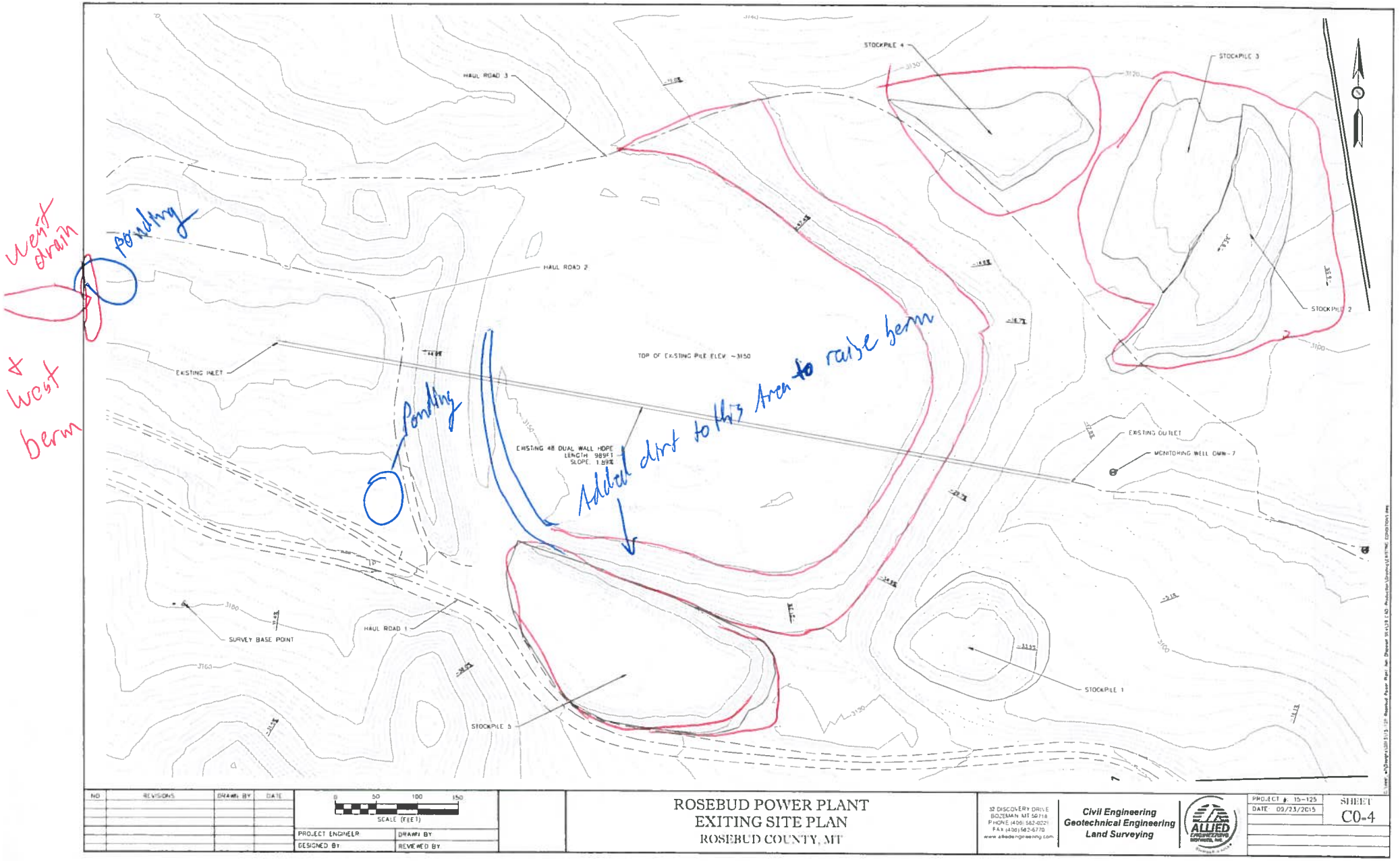
3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS

(Use additional pages, if necessary, include pictures as needed)

Using Phase I area due to heavy precipitation.

This inspection was performed by: _____ Signature and Date: 5/19/16

Areas Circled in Red were Hydro seeded



ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: ROSI
INSPECTOR: Joel Zimmerman
DATE & TIME INSPECTED: 5/27/16 @ 0900
WEATHER (temperature, wind, precipitation): 58°F 7 MPH West Wind
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
OK - 1' to 3' below berm level

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
OK

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? No :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE
A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)			1' to 3' - visual

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?	✓		slight Erosion due to rain
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?	✓		in phase II area SEE Map
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?	✓		OK
(14) Water flowing from pipe?		✓	water flowed through - NO issues
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?		✓	

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Hydroseeding Completed May 11th. Traces of vegetation

C. Areas without Vegetation due to erosion (describe location and size of area)

all areas OK

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

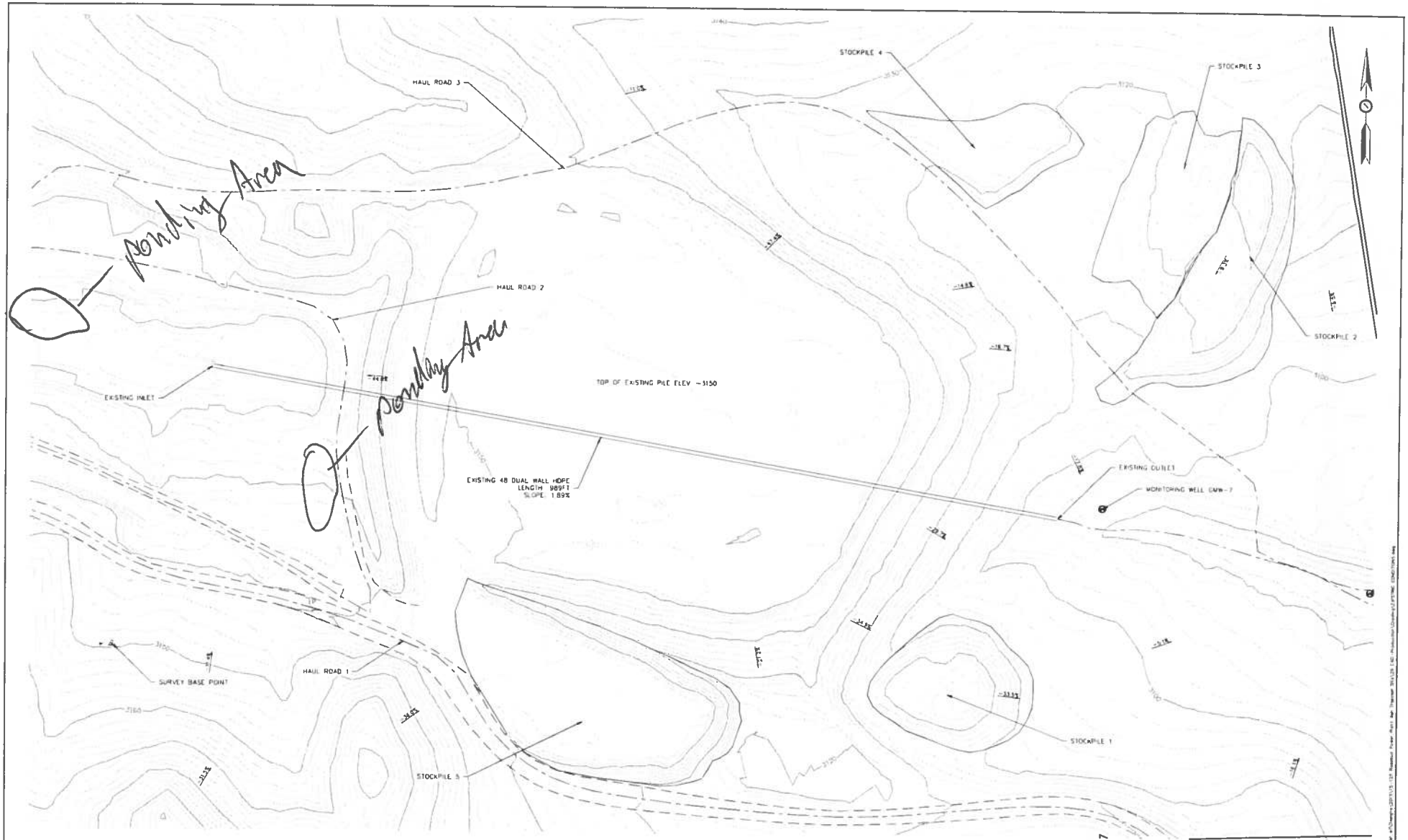
N/A

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

No

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: Joel Simmons Signature and Date: 5/27/16



NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER	DRAWN BY
DESIGNED BY	REVIEWED BY

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PROJECT # 15-175
DATE 09/23/2015

SHEET
C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy ~~Limited~~ Partnership (CELP)
OPERATOR: ROSE
INSPECTOR: Joel Zimmerman
DATE & TIME INSPECTED: 6-3-16 @ 0730
WEATHER (temperature, wind, precipitation): ~~60°~~ 60°- 18 MPH NW wind
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
OK - 1' to 3' below berm level

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
OK - Working on West end of pit to solidify base to handle rainfall.

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	Surface of Ash in Phase I is heaving (Normal)
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		1' to 3'

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?	✓	X	Slight Erosion due to Rain
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?	✓		Yes - South East Corner of Phase II
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?	✓		OK
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Traces of vegetation on Embankment & Benches - Subsoil Pile has good vegetation Started

C. Areas without Vegetation due to erosion (describe location and size of area)

all areas OK

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

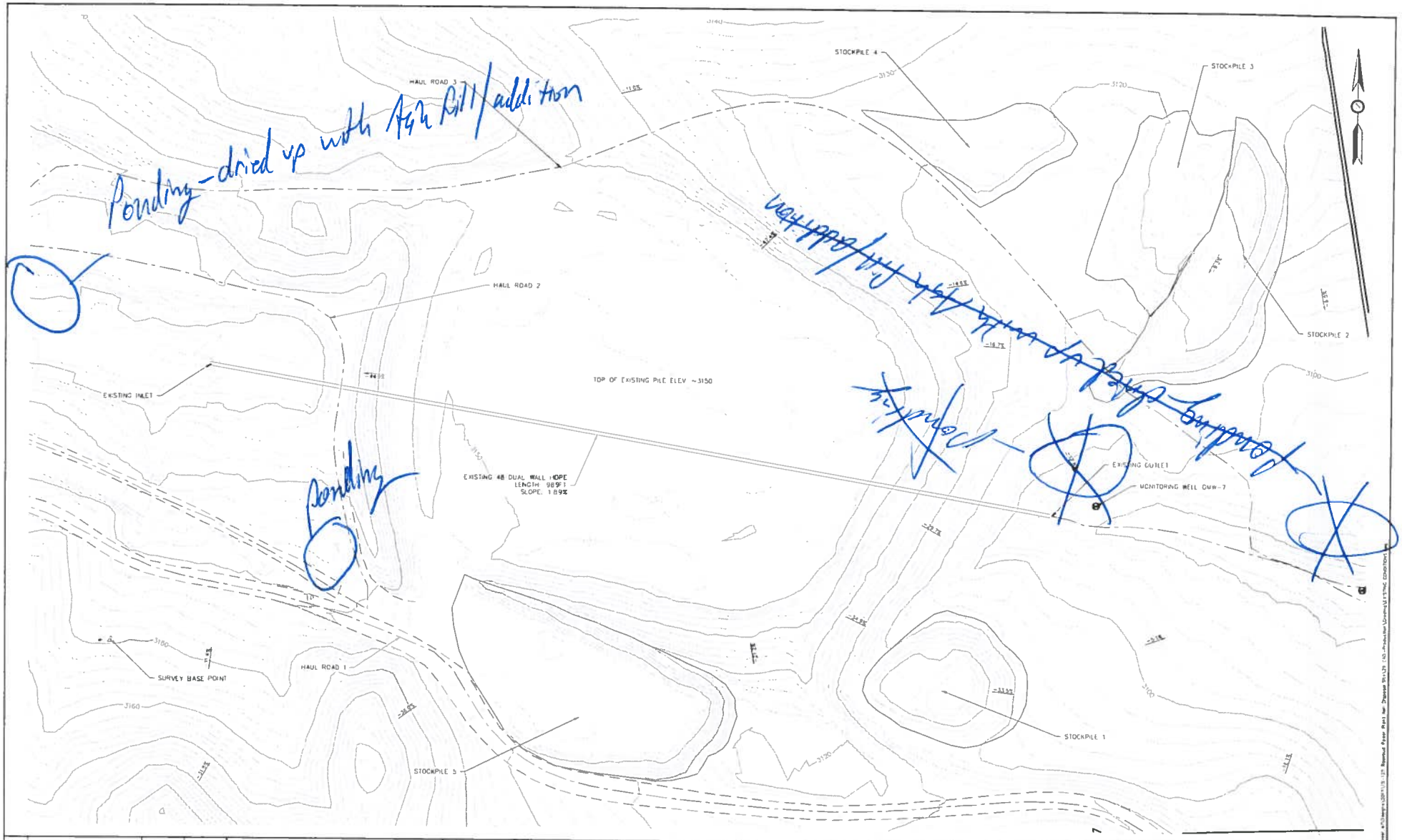
N/A

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

No

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: _____ Signature and Date: 6/3/16



NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER: | DRAWN BY:
DESIGNED BY: | REVIEWED BY:

ROSEBUD POWER PLANT
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PROJECT # 15-125
DATE: 09/23/2015

SHEET
C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: ROSI
INSPECTOR: Ken McFarland
DATE & TIME INSPECTED: 1110 6/24/16
WEATHER (temperature, wind, precipitation): _____
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
1-3' below berm - Ripped + making piles to take to Plant.

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
Worked for the day hydrated + dragged.

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO :
If so, note here: _____

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	Phase I has some Cracking. Normal.
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		1-3'

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?			
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?	✓		
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Traces of vegetation

C. Areas without Vegetation due to erosion (describe location and size of area)

OKAY

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

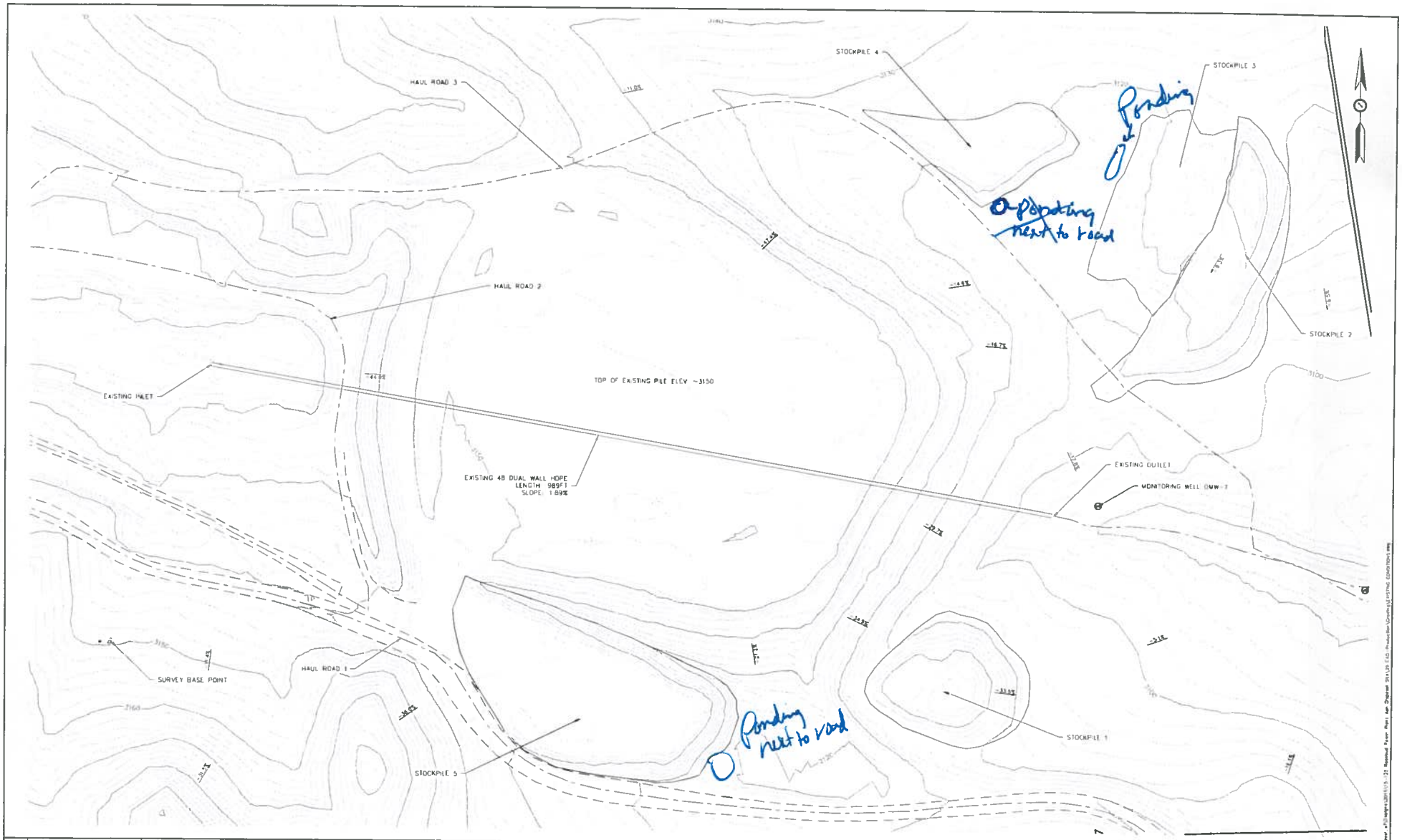
N/A

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

NO

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: [signature] 6/24/16 Signature and Date:



NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER	DRAWN BY
DESIGNED BY	REVIEWED BY

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PROJECT # 15-125	SHEET
DATE 09/23/2015	C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: ROSI
INSPECTOR: John Uchles
DATE & TIME INSPECTED: 7818 6-29-16
WEATHER (temperature, wind, precipitation): 76° 5 N
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
1-3' below berm edge
Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
20' plus feet below berm / visual.

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO:
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE
A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	Surface cracks normal
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		1'-3'

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?	✓		good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?		✓	Looks good

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Spotted Vegetation Starting

C. Areas without Vegetation due to erosion (describe location and size of area)

NO

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

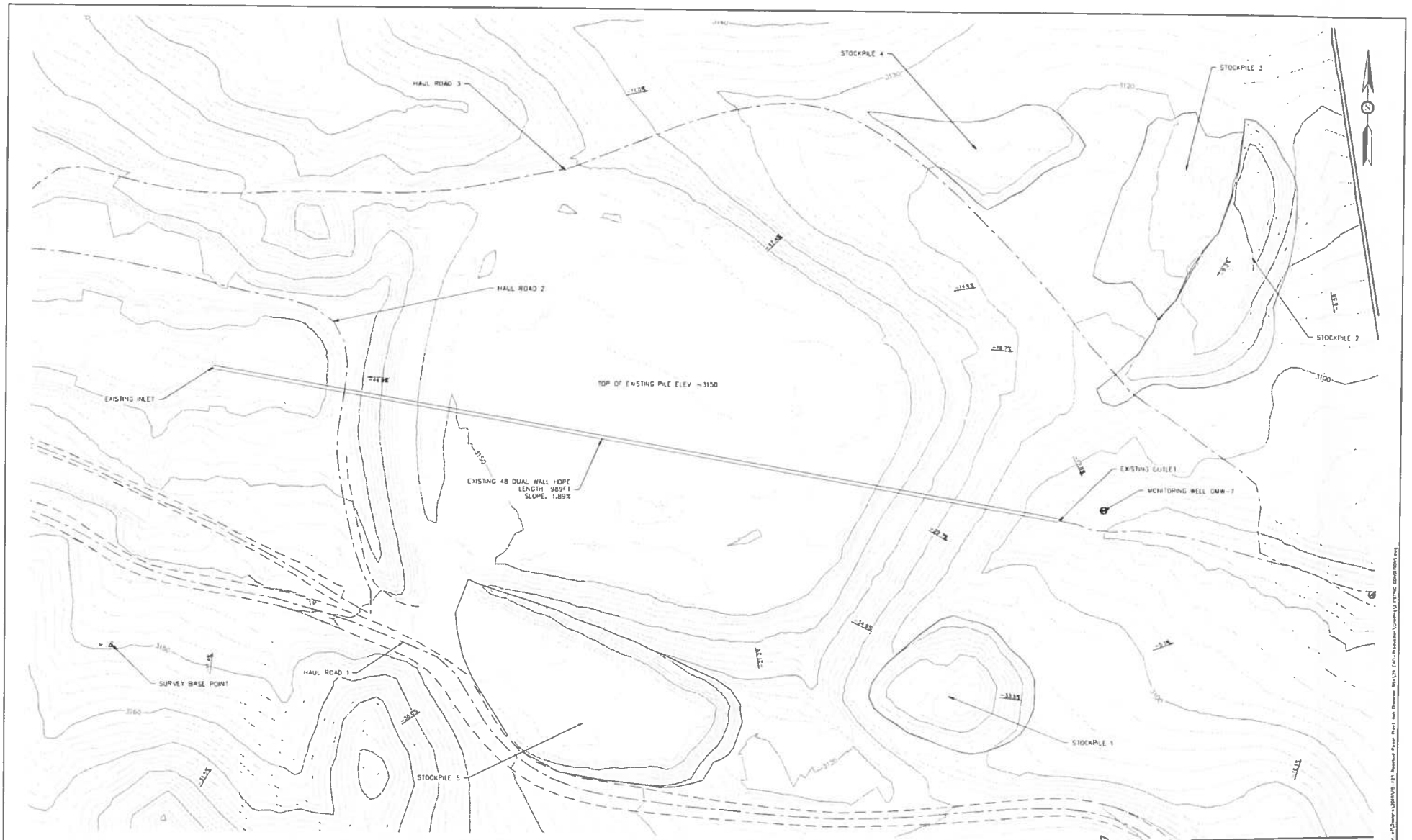
NO

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

NO

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: _____ 6-29-16 Signature and Date:



NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER:	DRAWN BY:
DESIGNED BY:	REVIEWED BY:

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PROJECT #: 15-125	SHEET
DATE: 02/23/2015	C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: ROSE
INSPECTOR: Amy Fulton
DATE & TIME INSPECTED: 7/8/16 1400
WEATHER (temperature, wind, precipitation): clear
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
2' Below Berm

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
10' Below Berm

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE
A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	Some Heaving
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		3 To 4 Feet

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?	✓		Good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Starting To Grow Spotty

C. Areas without Vegetation due to erosion (describe location and size of area)

NO

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

NO

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

NO

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: _____ Signature and Date: 7/8/16

NO	REVISIONS	DRAWN BY	DATE

SCALE (FEET) 0 50 100 150

PROJECT ENGINEER: DRAWN BY:
DESIGNED BY: REVIEWED BY:

ROSEBUD POWER PLANT
EXITING SITE PLAN
ROSEBUD COUNTY, MT

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PROJECT #: 15-125
DATE 03/23/2015

SHEET
C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: ROSI
INSPECTOR: Ken McFarland
DATE & TIME INSPECTED: 850 7/15/16
WEATHER (temperature, wind, precipitation): 74° Calm
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
1-3'

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
20' Plus

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE
A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	Surface Cracks
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		1'-3'

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?			Good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Some Starting

C. Areas without Vegetation due to erosion (describe location and size of area)

NO

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

NO

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

good Removing Ash from upper pit.

This inspection was performed by: Ken McCall Signature and Date: 7/15/16

NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER: DRAWN BY:
DESIGNED BY: REVIEWED BY:

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PROJECT #: 15-125
DATE 03/23/2015
SHEET C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: Rosi
INSPECTOR: Ken McFarland
DATE & TIME INSPECTED: 7/22/16 9:40 Am
WEATHER (temperature, wind, precipitation): Clear - 92°
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):

1'-3'

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):

20' plus

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	Surface Heaves -
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		1'-3'

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?	✓		N/W side - Stockpile + S. Phase I at haul road
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?	✓		good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Some growth

C. Areas without Vegetation due to erosion (describe location and size of area)

None

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

NO

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS

(Use additional pages, if necessary, include pictures as needed)

good - Removing Ash from Phase I

This inspection was performed by: _____ Signature and Date: 7/22/16

NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER	DRAWN BY
DESIGNED BY:	REVIEWED BY

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PROJECT # 15-125
DATE 09/23/2015

SHEET
C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: Rosebud Operating Services Inc.
INSPECTOR: Ken McFarland Larry Fulton.
DATE & TIME INSPECTED: 7/29/16
WEATHER (temperature, wind, precipitation): Clear 86°F
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
1'- 3'

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
20' plus

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE
A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	Surface Cracks.
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		1'- 3'

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?	✓		
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?	✓		good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Some growth

C. Areas without Vegetation due to erosion (describe location and size of area)

None

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

No

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

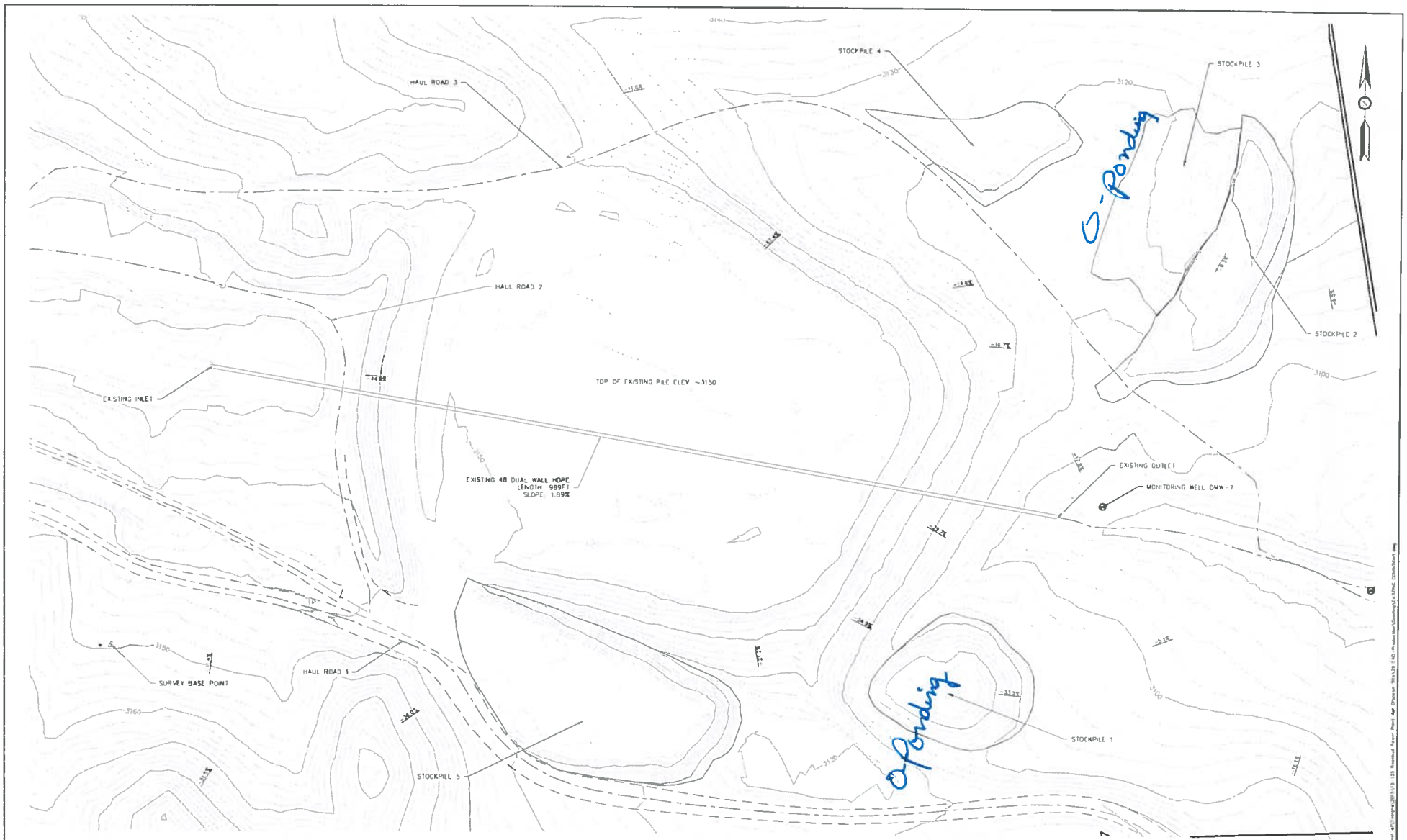
None

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS

(Use additional pages, if necessary, include pictures as needed)

good - Remove Ash From Phase I pit

This inspection was performed by: _____ Signature and Date: 7/29/16



NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER	DRAWN BY
DESIGNED BY	REVIEWED BY

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PROJECT # 15-125
DATE 09/23/2015

SHEET
C0.4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: ROSE
INSPECTOR: Larry Fulton
DATE & TIME INSPECTED: 8-4/16
WEATHER (temperature, wind, precipitation): HOT
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
1-3'

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
40' Plus

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? No **:**
If so, note here:_____

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE
A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	Some Face Cracks
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		1-3'

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?	✓		
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?	✓		good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Some weeds

C. Areas without Vegetation due to erosion (describe location and size of area)

None

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

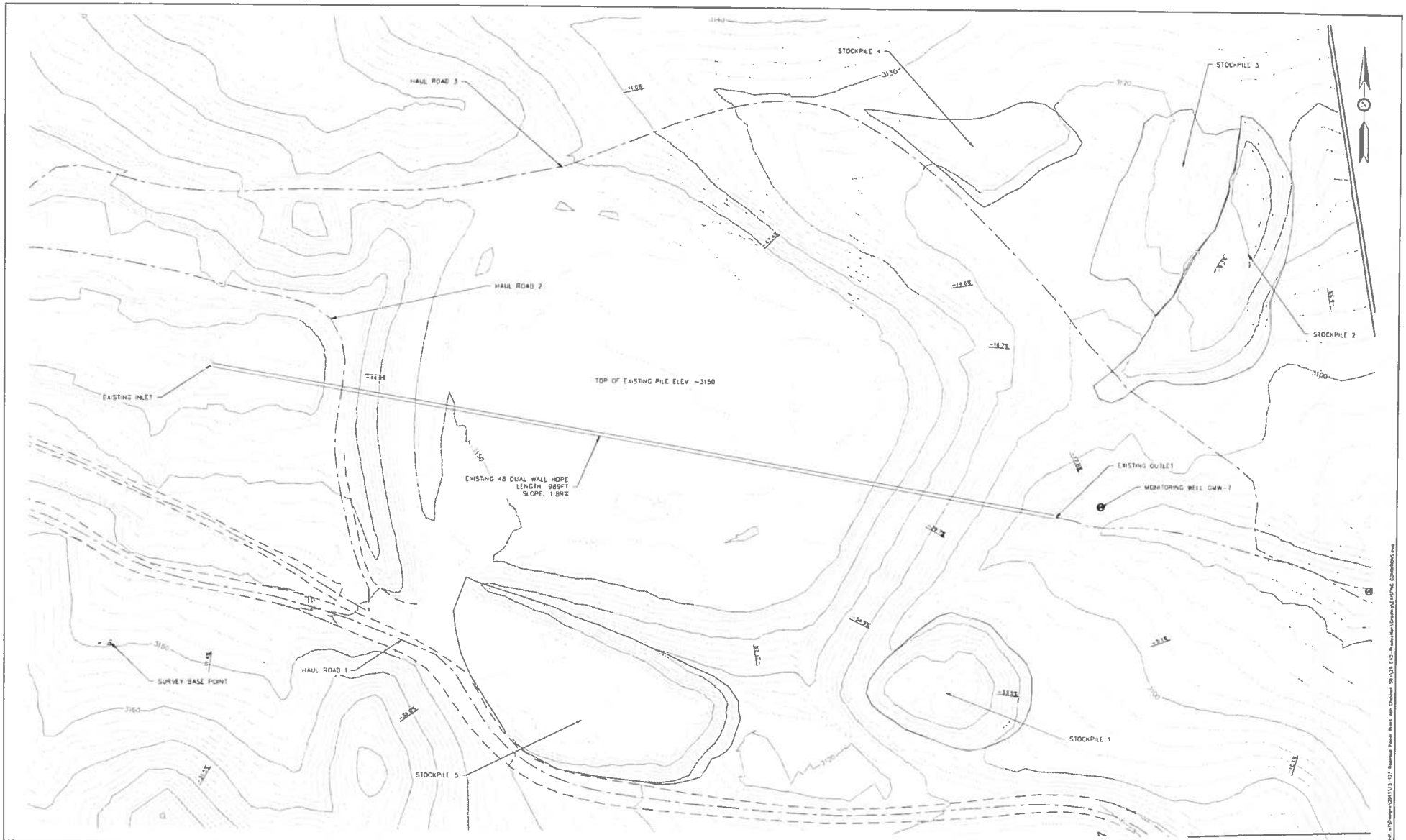
NC

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

None

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: [signature] Signature and Date: 8/4/16



NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER:	DRAWN BY:
DESIGNED BY:	REVIEWED BY:

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PROJECT #: 15-125	SHEET
DATE: 09/23/2015	C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: ROSI
INSPECTOR: Joel Zimmerman
DATE & TIME INSPECTED: 8-11-16
WEATHER (temperature, wind, precipitation): 0 wind - 79°F - 0 precip
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
1' to 3' below berm

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
Approximately 20' of ash in phase II - adding daily

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? ~~No~~ Yes
If so, note here: Phase I heavily - need to blade level

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		1' to 3' above Surface

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?	✓		Non in Ash disposal area see map
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?			OK
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	Placed more rip-rap at Outlet
(17) Other?		✓	

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Embankment and bench areas were hydro-seeded

C. Areas without Vegetation due to erosion (describe location and size of area)

No

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

No

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

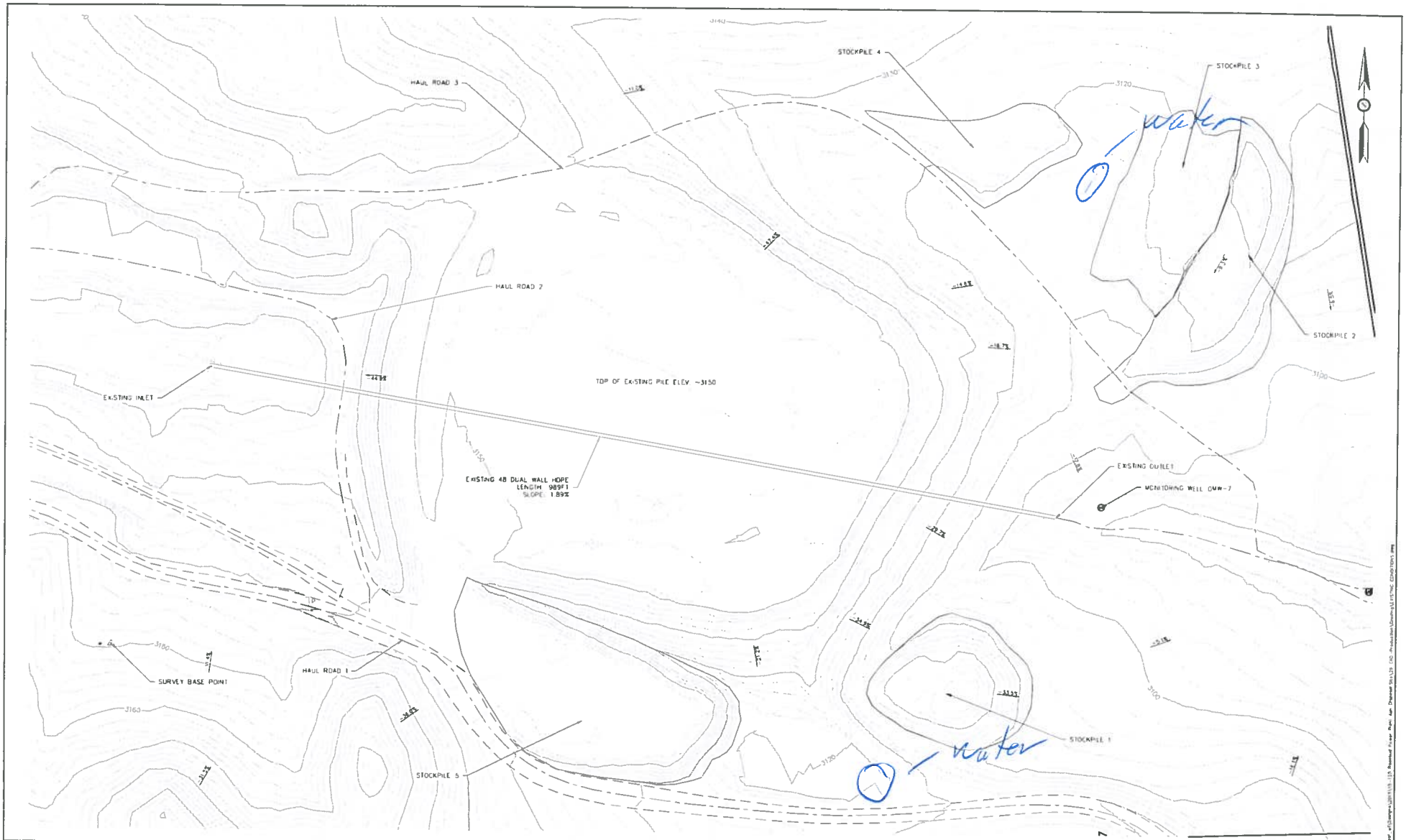
NO

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS

(Use additional pages, if necessary, include pictures as needed)

OK

This inspection was performed by: [signature] Signature and Date:



NO.	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER:	DRAWN BY:
DESIGNED BY:	REVIEWED BY:

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PROJECT #: 15-125	SHEET
DATE: 09/23/2015	C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: Rosebud Operating Services, Inc
INSPECTOR: Ken McFarland
DATE & TIME INSPECTED: 8/19/16 245pm
WEATHER (temperature, wind, precipitation): Slight wind Cloudy
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
1'-3' below berm

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
Approx. 20' Adding Ash daily

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO :
If so, note here: Blade Some of Cracks Removing Ash.

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		1'-3' Above Surface

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?	✓		
(12) Any visible water/runoff spill points?		✓	Rained last night - Dumped Ash in that area.
(13) Pipe Condition?	✓		good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	Damp.
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Tumble weeds, Some grass showing

C. Areas without Vegetation due to erosion (describe location and size of area)

No

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

No

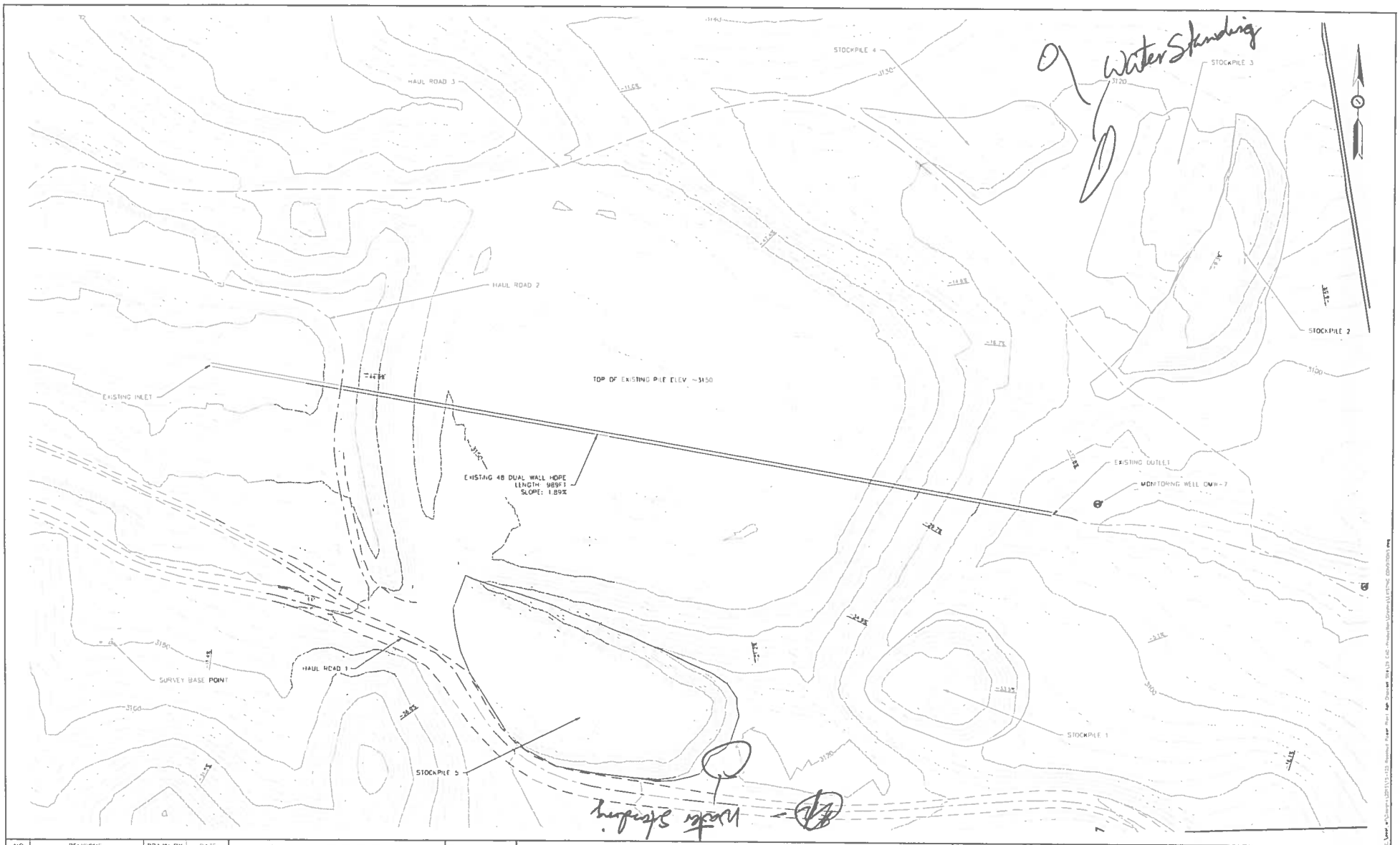
2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

No

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

OK

This inspection was performed by: [signature] 8/19/16 Signature and Date:



NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER	DRAWN BY
DESIGNED BY	REVIEWED BY

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PROJECT # 15-125	SHEET
DATE 09/23/2015	C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: Rosebud Operating
INSPECTOR: Ethan Bohlke
DATE & TIME INSPECTED: 8-26-16
WEATHER (temperature, wind, precipitation): 70 Clear + Sunny
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):

1-3' Below

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):

20'+ Sight 4X Taller than me

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		1-3' above

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?	✓		
(12) Any visible water/runoff spill points?	✓		
(13) Pipe Condition?	✓		Good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Weeds + grass

C. Areas without Vegetation due to erosion (describe location and size of area)

ND

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

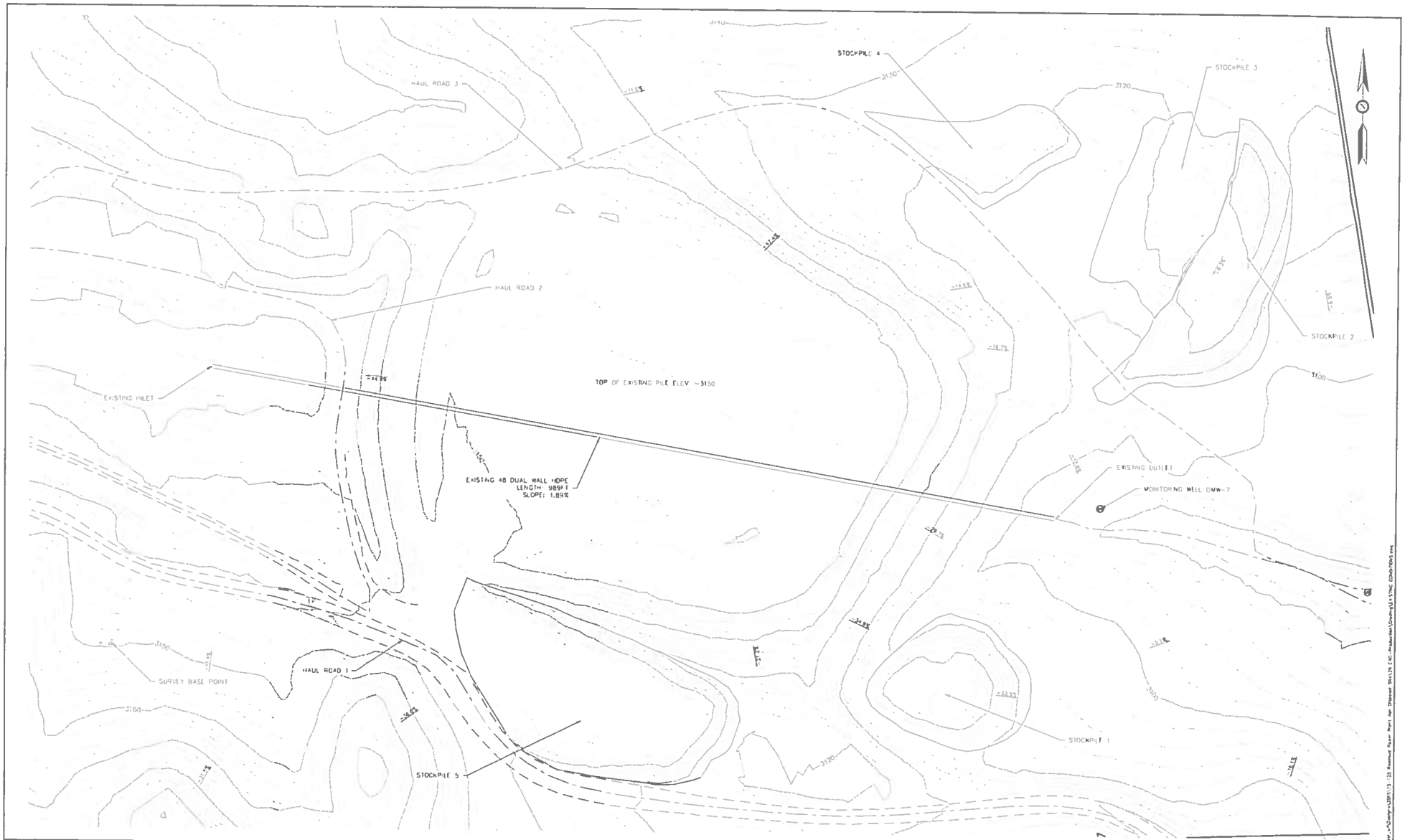
ND

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

ND

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: _____ Signature and Date: 8-26-16



NO.	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER | DRAWN BY:
DESIGNED BY: | REVIEWED BY:

ROSEBUD POWER PLANT
EXITING SITE PLAN
ROSEBUD COUNTY, MT

32 DISCOVERY DRIVE
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ALLIED ENGINEERING SERVICES, INC.

PROJECT #: 15-125
DATE: 03/23/2015

SHEET
C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: Rosebud Operating
INSPECTOR: Larry Fulton
DATE & TIME INSPECTED: 9-2-16
WEATHER (temperature, wind, precipitation): clear
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
1-3' below

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
90'+

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		1-3' above

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?	✓		
(12) Any visible water/runoff spill points?	✓		
(13) Pipe Condition?	✓		good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Weeds Grass

C. Areas without Vegetation due to erosion (describe location and size of area)

NO

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

NO

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

NO

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: _____ Signature and Date: 9-2-16

NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER	DRAWN BY
DESIGNED BY	REVIEWED BY

ROSEBUD POWER PLANT
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PROJECT #: 15-125
DATE: 03/23/2015

SHEET C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: Rosebud Operating Services Inc
INSPECTOR: Joel Zimmerman
DATE & TIME INSPECTED: 9-10-16
WEATHER (temperature, wind, precipitation): 70°F - Brisk wind - clear
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
1' to 3' below berm

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
20' + - adding daily - outage started today

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? No :
If so, note here:_____

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE
A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		1' to 3'

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?	✓		Good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Weeds - sparse

C. Areas without Vegetation due to erosion (describe location and size of area)

No

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

No

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

No

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: _____ Signature and Date: 9-20-16

NO.	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER	DRAWN BY
DESIGNED BY	REVIEWED BY

ROSEBUD POWER PLANT
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PROJECT # 15-125
DATE 09/23/2015

SHEET
C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: Rosebud Operating Services, Inc.
INSPECTOR: Ken McFarland
DATE & TIME INSPECTED: 10:00 am 9/17/16
WEATHER (temperature, wind, precipitation): 72° Clear NO wind
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
1'- 3' below berm

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
20' plus Adding Daily = A Outage at this time

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		1'-3'

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?	✓		okay
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Spotty - Tumble weeds

C. Areas without Vegetation due to erosion (describe location and size of area)

No

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

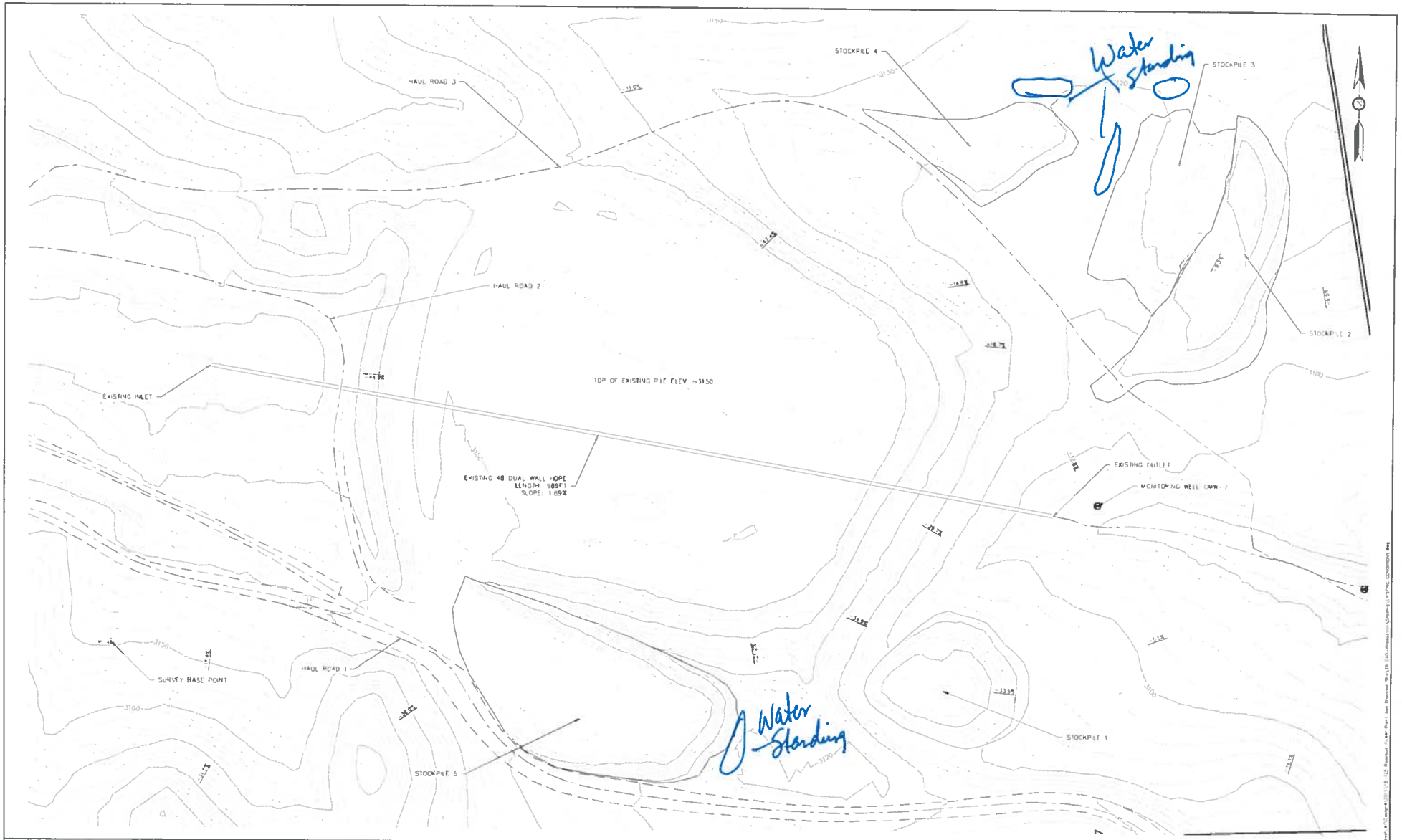
No

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

No

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: [signature] 9/17/16 Signature and Date:



NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER	DRAWN BY
DESIGNED BY	REVIEWED BY

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PROJECT # 15-125
DATE 03/23/2015

SHEET
C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: ROSE
INSPECTOR: Joel Timmerman
DATE & TIME INSPECTED: 9-22-16
WEATHER (temperature, wind, precipitation): 67°F, 11 MPH, - Overcast
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
1'-3' below top of berm

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
approximately 20' - in outage

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		1'-3' on phase 1

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?	✓		Good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?		✓	

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Hydroseeding was completed this Summer – Vegetation growing

C. Areas without Vegetation due to erosion (describe location and size of area)

No

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

No

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

No

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: Jeff Jimmerson 9-22-16 Signature and Date:

NO.	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER	DRAWN BY
DESIGNED BY	REVIEWED BY

ROSEBUD POWER PLANT
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ROSEBUD COUNTY, MT

33 DISCOVERY DRIVE
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PROJECT # 15-125
DATE: 09/23/2015

SHEET
C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: ROST
INSPECTOR: Larry Fulton
DATE & TIME INSPECTED: 10-2-16
WEATHER (temperature, wind, precipitation): 70° west Wind
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
1'-3' Below Top of Berm

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		1'-3'

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?	✓		
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?		✓	

B. Amount and Type of Vegetation on the Embankment & Bench Areas

C. Areas without Vegetation due to erosion (describe location and size of area)

N/O

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

N/O

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

NO

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: _____ Signature and Date: 10-27-16

NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER	DRAWN BY
DESIGNED BY	REVIEWED BY

ROSEBUD POWER PLANT
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PROJECT # 15-125
DATE: 03/23/2015

SHEET
C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: RosI
INSPECTOR: Joel Zimmerman
DATE & TIME INSPECTED: 10/7/16
WEATHER (temperature, wind, precipitation): Clear - 55°F No wind
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
1' to 3' below top of berm

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
visual measurement - varied depths to soak up rain water

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? No:
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	1' to 3'		phase I

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?			Good
(14) Water flowing from pipe?		No	
(15) Any pooling or poding at pipe inlet or outlet?		No	
(16) Any erosion/undermining of pipe at inlet or outlet?		No	
(17) Other?		No	

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Vegetation Stunted

C. Areas without Vegetation due to erosion (describe location and size of area)

No

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

No

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

No

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS

(Use additional pages, if necessary, include pictures as needed)

Road muddy after Rain this week. Able to haul ash.

This inspection was performed by: Joel Zimmerman Signature and Date: 10/7/16

NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER:	DRAWN BY:
DESIGNED BY:	REVIEWED BY:

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PROJECT #: 15-125	SHEET
DATE: 03/23/2015	C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: Ken McFarland
INSPECTOR: Rosebud operating Services Inc.
DATE & TIME INSPECTED: 10/14/16 2:30 pm
WEATHER (temperature, wind, precipitation): 64° Slight Breeze
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
1'-3' below the top berm

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
Adding Ash Daily

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	1'-3'		phase I

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?	✓		Good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Vegatation growing

C. Areas without Vegetation due to erosion (describe location and size of area)

NO

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

No

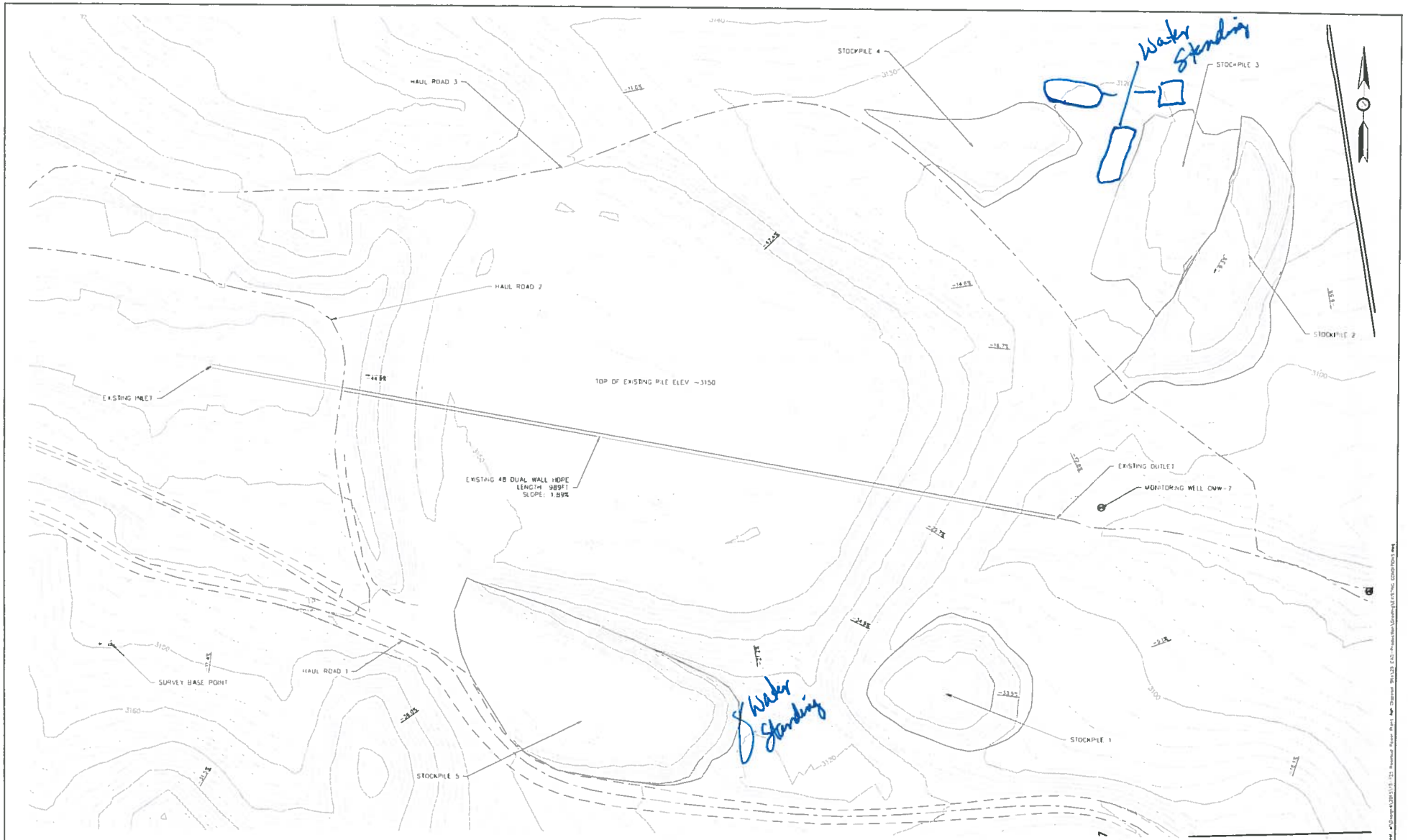
2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

No

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

Okay

This inspection was performed by: [signature] 10/14/16 Signature and Date:



NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER	DRAWN BY
DESIGNED BY	REVIEWED BY

ROSEBUD POWER PLANT
EXITING SITE PLAN
ROSEBUD COUNTY, MT

32 DISCOVERY DRIVE
BOZEMAN, MT 59718
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FAX (406) 582-0270
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ALLIED ENGINEERING SERVICES, INC.

PROJECT #	15-125
DATE	09/23/2015

SHEET C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: ROSI
INSPECTOR: Lonny Fleeter
DATE & TIME INSPECTED: 10-21-16
WEATHER (temperature, wind, precipitation): _____
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
1'63' Below Top of Berm

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
30T

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO :
If so, note here: _____

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	1'63'		

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?	✓		
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?		✓	

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Starting to grow Hydro Seeded in Spring

C. Areas without Vegetation due to erosion (describe location and size of area)

NO

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

NO

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

NO

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: _____ Signature and Date: 10-20-16

NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER	DRAWN BY
DESIGNED BY	REVIEWED BY

ROSEBUD POWER PLANT
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PROJECT #: 15-125
DATE: 03/23/2015

SHEET
C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: Rosebud Operating
INSPECTOR: Joel Zimmerman
DATE & TIME INSPECTED: 10-28-16
WEATHER (temperature, wind, precipitation): 56°F 0 wind
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
1' to 3' below top of berm

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
Ash Added daily

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? ND :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	1' to 3'		phase I, phase II well below top of berms

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?	✓		No issues
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?		✓	

B. Amount and Type of Vegetation on the Embankment & Bench Areas

vegetation growing - hydroseeded last spring

C. Areas without Vegetation due to erosion (describe location and size of area)

No

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

No

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

No

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: _____ Signature and Date: 10/28/16

NO.	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER	DRAWN BY
DESIGNED BY	REVIEWED BY

ROSEBUD POWER PLANT
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ROSEBUD COUNTY, MT

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PROJECT # 15-125	SHEET
DATE: 03/23/2015	C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: ~~Joel Zimmerman~~ Rosebud Operating Services, Inc
INSPECTOR: Joel Zimmerman
DATE & TIME INSPECTED: 11/4/16 13:57 hrs
WEATHER (temperature, wind, precipitation): 69°F - 5 mpH NW wind
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
1 to 3' below top of berm - adding 2' of subsoil to South side

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
Adding Ash daily - adding to East End ~~mostly~~ lately

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? No :
If so, note here:_____

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE
A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		1' to 3' - Adding 2' to South Berm

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?	✓		OK
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?		✓	

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Vegetation growing - hydroseeded last spring -

C. Areas without Vegetation due to erosion (describe location and size of area)

No

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

No

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

None

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

Adding 2' of subsoil to south berm of phase I

This inspection was performed by: Joel Zimmerman Signature and Date: 11-4-16

NO.	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER | DRAWN BY
DESIGNED BY | REVIEWED BY

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PROJECT # 15-125
DATE 09/23/2015

SHEET
C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: Rosebud Operating Services Inc.
INSPECTOR: Ken McFarland
DATE & TIME INSPECTED: 11/11/16
WEATHER (temperature, wind, precipitation): 40°
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
<1-3' below berm adding berm on Southside
Still need some NW Corner
Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
Adding Ash daily

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		1-3' Adding Berm on Southside Still needs more Berm on North west.

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?	✓		O Kay
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?		✓	

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Vegatation growing Phase I East ~~bench~~ berm some erosion - planning for repairs

C. Areas without Vegetation due to erosion (describe location and size of area)

NO

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

NO

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

None

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS

(Use additional pages, if necessary, include pictures as needed)

Plan for Phase I Erosion area East berm.

This inspection was performed by: [signature] 11/11/16 Signature and Date:

NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER	DRAWN BY:
DESIGNED BY:	REVIEWED BY:

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PROJECT #: 15-125
DATE: 09/23/2015

SHEET
C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: Rosebud Operating Services Inc.
INSPECTOR: Ken McFarland
DATE & TIME INSPECTED: 2:00pm 11/19/16
WEATHER (temperature, wind, precipitation): 44° Clear
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
1'- 3' below berm - Building Berm southside
Need some more built on NW end.
Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
Adding Ash Daily

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE
A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		1'-3' Adding berm southside

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?	✓		okay
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?		✓	

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Vegetation Growing Phase I east side - planning for repairs

C. Areas without Vegetation due to erosion (describe location and size of area)

NO

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

NO

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

NONE

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS

(Use additional pages, if necessary, include pictures as needed)

East end Phase I OMW # 8 Set steel post to block off road.

This inspection was performed by ~~[illegible]~~ [signature] 11/19/16 Signature and Date:

NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER	DRAWN BY
DESIGNED BY	REVIEWED BY

ROSEBUD POWER PLANT
EXITING SITE PLAN
ROSEBUD COUNTY, MT

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PROJECT # 15-125
DATE 09/23/2015

SHEET
C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: ROSI
INSPECTOR: Larry Stacy
DATE & TIME INSPECTED: 11/25/16 10:00
WEATHER (temperature, wind, precipitation): _____
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
2' to 4' Below Berm

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO :
If so, note here: _____

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE
A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		NO	
(2) Any misalignments?		NO	
(3) Any cracking?		NO	
(4) Any traffic or animal damage?	✓	NO	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	yes		
(6) Interior Side Slopes (1.5H:1V design)	yes		
(7) Height of Berm above Ash Surface (ft)	yes		2 To 4 Feet

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		NO	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	YES		
(10) Any exposed ash on exterior slope?		NO	
(11) Any visible water pooling or ponding?		NO	
(12) Any visible water/runoff spill points?		NO	
(13) Pipe Condition?			Good
(14) Water flowing from pipe?		NO	
(15) Any pooling or poding at pipe inlet or outlet?		NO	
(16) Any erosion/undermining of pipe at inlet or outlet?		NO	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Some Veg growing

C. Areas without Vegetation due to erosion (describe location and size of area)

NO

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

NO

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

NO

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: _____ Signature and Date: 11/25/16

NO	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER: | DRAWN BY:
DESIGNED BY: | REVIEWED BY:

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ALLIED ENGINEERING SERVICES, INC.

PROJECT # 15-125
DATE 07/23/2015

SHEET
C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: ROST
INSPECTOR: Joel Zimmerman
DATE & TIME INSPECTED: 12-6-16
WEATHER (temperature, wind, precipitation): 11°F - 8MPH NW - No Precip falling - mining / snow on Ground
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
2' to 3' below top of Berm - Added to South and East Berm + North East

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
OK

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? No :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE
A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		2' plus

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?	✓		Good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Some Vegetation -

C. Areas without Vegetation due to erosion (describe location and size of area)

East end - work on After thaw -

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

No

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

No

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: _____ Signature and Date: 12-6-16

NO.	REVISIONS	DRAWN BY	DATE

0 50 100 150
SCALE (FEET)

PROJECT ENGINEER	DRAWN BY
DESIGNED BY	REVIEWED BY

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EXITING SITE PLAN
ROSEBUD COUNTY, MT

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ALLIED ENGINEERING SERVICES, INC.

PROJECT #	15-125
DATE	09/23/2015

SHEET C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: ~~Colstr~~ Rosi
INSPECTOR: Ken McFarland
DATE & TIME INSPECTED: 12/9/16 8° 15mph wind Snowing
WEATHER (temperature, wind, precipitation): _____
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):

2' to 3' below top of berm

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):

OK

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? No **:**
If so, note here: _____

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		2' plus

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?			Okay
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Vegation Some Snow Covered

C. Areas without Vegetation due to erosion (describe location and size of area)

No

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

No

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

No

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: _____ 12/9/16 Signature and Date:

NO	REVISIONS	DRAWN BY	DATE

SCALE (FEET) 0 50 100 150

PROJECT ENGINEER: | DRAWN BY:
DESIGNED BY: | REVIEWED BY:

ROSEBUD POWER PLANT
EXITING SITE PLAN
ROSEBUD COUNTY, MT

32 DISCOVERY DRIVE
BOZEMAN, MT 59718
PHONE (406) 582-0221
FAX (406) 582-5770
www.alliedengineering.com

Civil Engineering
Geotechnical Engineering
Land Surveying

PROJECT #: 15-125
DATE: 09/23/2015
SHEET C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: Rosebud Power Plant
INSPECTOR: Ben McFarland
DATE & TIME INSPECTED: 12/16/16 2:45pm
WEATHER (temperature, wind, precipitation): 0° 10-12 out of North
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
Covered in Snow

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):
Covered in Snow

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? No :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE
A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	Covered in Snow
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)		✓	Covered in Snow
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)			2' plus

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	Covered in Snow
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	Covered in Snow
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	ground is frozen
(13) Pipe Condition?	Okay		
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Covered in Snow

C. Areas without Vegetation due to erosion (describe location and size of area)

Covered in Snow

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

No

2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

6" Snow

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: _____ Signature and Date: 12/16/16

NO	REVISIONS	DRAWN BY	DATE

SCALE (FEET) 0 50 100 150

PROJECT ENGINEER: | DRAWN BY:
DESIGNED BY: | REVIEWED BY:

ROSEBUD POWER PLANT
EXITING SITE PLAN
ROSEBUD COUNTY, MT

32 DISCOVERY DRIVE
BOZEMAN, MT 59718
PHONE (406) 582-0221
FAX (406) 582-5770
www.alliedengineering.com

Civil Engineering
Geotechnical Engineering
Land Surveying

PROJECT #: 15-125
DATE: 03/23/2015
SHEET C0-4

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: ROSE
INSPECTOR: LARRY Fulton
DATE & TIME INSPECTED: 12-22-16
WEATHER (temperature, wind, precipitation): Wind 10 Temp 16
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):
2'To 3' Below Berm

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO **:**
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE
A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		Covered in Snow
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		2 to 3 FT Above Ash

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?	✓		Good
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?			

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Snow Covered

C. Areas without Vegetation due to erosion (describe location and size of area)

NO Snow Covered

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

Snow Coovered

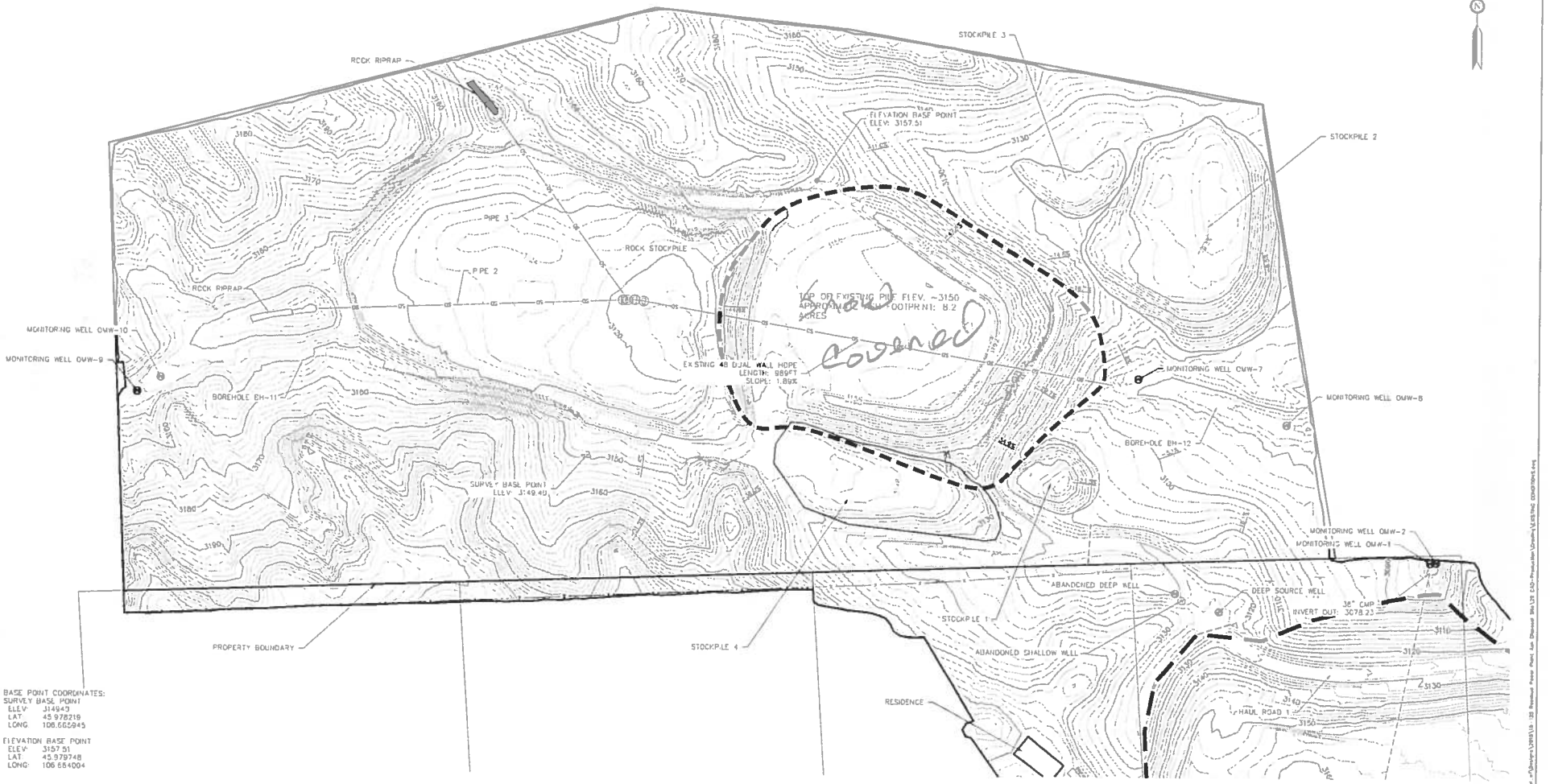
2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

NO

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: _____ 12/22/10 Signature and Date:

SURVEY OF PHASE 1 LANDFILL AND SURROUNDING AREA
BASED ON TOPOGRAPHIC SURVEYS COMPLETED ON:
9/14/15 BY GREG FINCK OF AESI
1/27/16 BY GREG FINCK AND KYLE THOMPSON OF AESI



BASE POINT COORDINATES:
SURVEY BASE POINT
ELEV: 3149.43
LAT: 45.978218
LONG: 106.665945

ELEVATION BASE POINT
ELEV: 3157.51
LAT: 45.979748
LONG: 106.664004

NO.	REVISIONS	DRAWN BY	DATE

0 100 200 300
SCALE (FEET)

PROJECT ENGINEER: DSC | DRAWN BY: ASG
DESIGNED BY: ASG | REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
EXISTING CONDITIONS (AS-BUILT)
ROSEBUD COUNTY, MT

32 DISCOVERY DRIVE
BOZEMAN, MT 59718
PHONE (406) 582-0221
FAX (406) 582-6779
www.alliedengineering.com

Civil Engineering
Geotechnical Engineering
Land Surveying

ALLIED ENGINEERING SERVICES, INC.

PROJECT #: 15-125
DATE: 9/15/2016
SHEET: C0-3

EXISTING CONDITIONS

ROSEBUD POWER PLANT
CCR LANDFILL INSPECTION REPORT

OWNER: Colstrip Energy Limited Partnership (CELP)
OPERATOR: Bos
INSPECTOR: John Bohlen
DATE & TIME INSPECTED: 12-28-16
WEATHER (temperature, wind, precipitation): 32° 22 SE Wind
FLYASH STORAGE SITE INSPECTED: Phase 1 and 2 of Rosebud Power Plant CCR Landfill,
MDEQ Groundwater Permit # MTX000052, MDEQ Stormwater Discharge Permit #MTR000058, SWPPP # PEP-9

Flyash Storage Site Status

Approximate FlyAsh Surface Elevation Phase 1 (feet, describe method of measurement):

2-3 Feet Below Berm / estimation on my hight

Approximate FlyAsh Surface Elevation Phase 2 (feet, describe method of measurement):

10 feet / estimation

This Form Should be Attached to Reference Map, list date of inspection on map along with notations relating to locations of comments/picture indicated below. (Allied Provide insp. Map)

Any Issues From Previous Week/Inspection? NO :
If so, note here:

General Instructions: Inspect for the general criteria below. Indicate locations of findings on an inspection map, take pictures (include date stamp), and indicate location of pictures on the inspection map.

1. EMBANKMENT & PIPE

A. Berm (Exterior, Top, Interior, Benches) & Pipe

ITEM	YES	NO	REMARKS/LOCATION
(1) Any visual settlement, sloughing, slumps, depressions or bulges?		✓	
(2) Any misalignments?		✓	
(3) Any cracking?		✓	
(4) Any traffic or animal damage?		✓	
(5) Top Width (10-ft design) except at prescribed exterior bench locations (see map)	✓		
(6) Interior Side Slopes (1.5H:1V design)	✓		
(7) Height of Berm above Ash Surface (ft)	✓		

ITEM	YES	NO	REMARKS/LOCATION
(8) Any Debris, Erosion, or Cracking?		✓	
(9) Side Slopes meet minimums (3:1 exterior, 1.5:1 interior)?	✓		
(10) Any exposed ash on exterior slope?		✓	
(11) Any visible water pooling or ponding?		✓	
(12) Any visible water/runoff spill points?		✓	
(13) Pipe Condition?		✓	
(14) Water flowing from pipe?		✓	
(15) Any pooling or poding at pipe inlet or outlet?		✓	
(16) Any erosion/undermining of pipe at inlet or outlet?		✓	
(17) Other?		✓	

B. Amount and Type of Vegetation on the Embankment & Bench Areas

Snow covered

C. Areas without Vegetation due to erosion (describe location and size of area)

NONE - Snow Covered

D. Areas without Vegetation due to lack of topsoil cover (describe location and size of area)

NONE SNOW covered

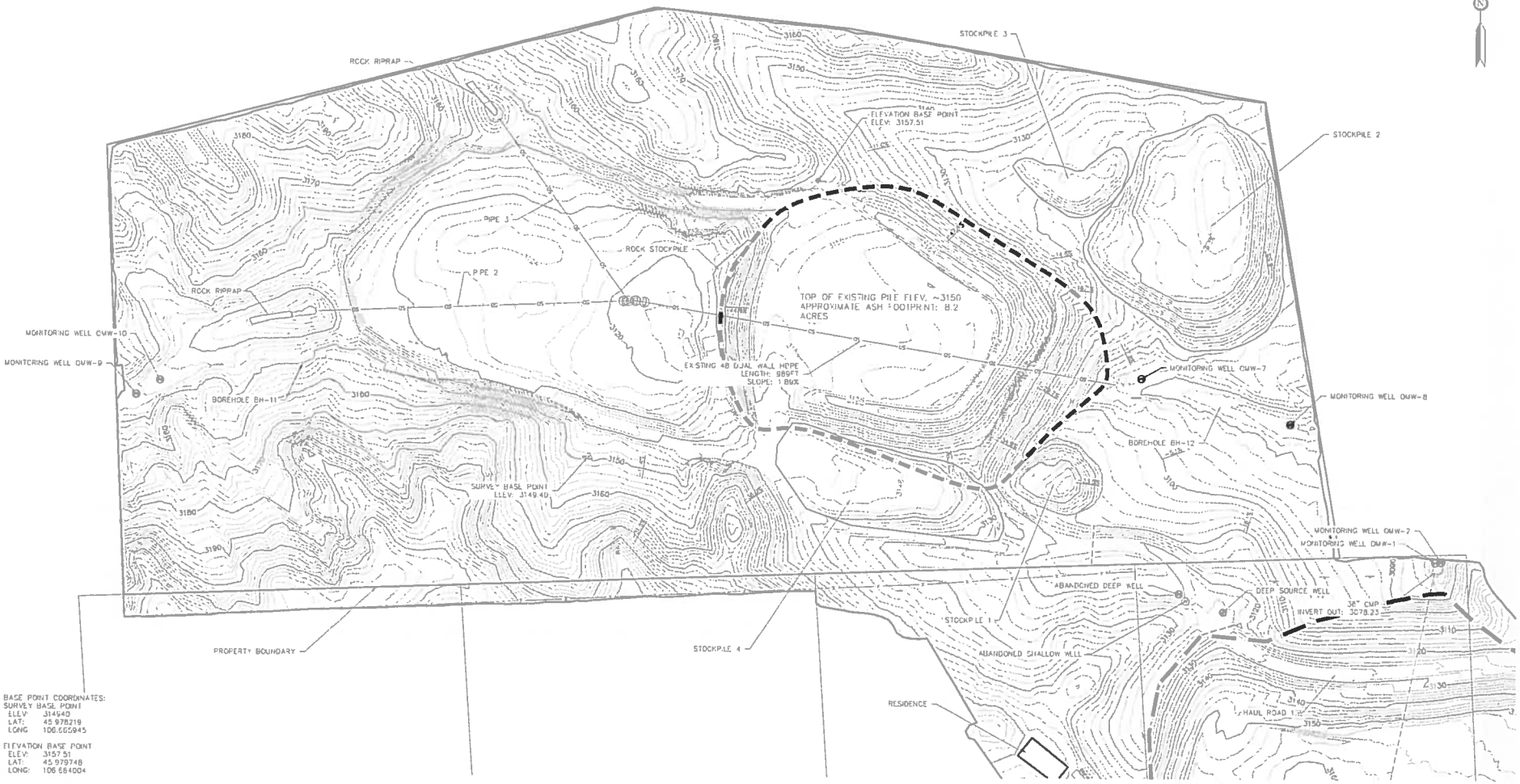
2. Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit?

NO

3. GENERAL INSPECTION COMMENTS / ADDITIONAL COMMENTS AND RECOMMENDATIONS
(Use additional pages, if necessary, include pictures as needed)

This inspection was performed by: _____ Signature and Date: 12-28-16

SURVEY OF PHASE 1 LANDFILL AND SURROUNDING AREA
BASED ON TOPOGRAPHIC SURVEYS COMPLETED ON:
9/14/15 BY GREG FINCK OF AESI
1/27/16 BY GREG FINCK AND KYLE THOMPSON OF AESI



BASE POINT COORDINATES:
SURVEY BASE POINT
ELEV: 3149.40
LAT: 45.978219
LONG: 106.665945

ELEVATION BASE POINT
ELEV: 3157.51
LAT: 45.979748
LONG: 106.664004

NO.	REVISIONS	DRAWN BY	DATE

0 100 200 300
SCALE: (1:1.1)

PROJECT ENGINEER: DSC | DRAWN BY: ASG
DESIGNED BY: ASG | REVIEWED BY: DSC, BDA

ROSEBUD POST-CLOSURE DESIGN
EXISTING CONDITIONS (AS-BUILT)
ROSEBUD COUNTY, MT

32 DISCOVERY DRIVE
BOZEMAN, MT 59718
PHONE (406) 582-0221
FAX (406) 582-0770
www.alliedengineering.com

Civil Engineering
Geotechnical Engineering
Land Surveying

ALLIED ENGINEERING SERVICES, INC.

PROJECT #: 15-125
DATE: 9/15/2016
SHEET C0-3

EXISTING CONDITIONS