REPORT

Annual Inspection

Stanton Station - Bottom Ash CCR Surface Impoundment

Submitted to:

Great River Energy
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Submitted by:

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APPENDICES

1.0 INTRODUCTION

As part of 40 CFR Part 257 of the Subtitle D solid waste provisions under the Resource Conservation and Recovery Act (RCRA), utilities are required to complete annual inspections for surface impoundments and landfills containing Coal Combustion Residuals (CCR). This report has been prepared by Golder Associates Inc. (Golder) for Great River Energy (GRE) to satisfy the annual inspection requirements for CCR surface impoundments under 40 CFR Part 257.83.

Stanton Station was a coal-fired electric generation facility located in Section 16 and 21, Township 144N and Range 84W of Mercer County, approximately three miles southeast of Stanton, North Dakota. There are two facilities located at Stanton Station that fall under the CCR rule requirements (Figure 1). These facilities include the Bottom Ash CCR Landfill (Bottom Ash Landfill) and the Bottom Ash CCR Surface Impoundment (Bottom Ash Impoundment). Stanton Station ceased operation in February 2017. Deconstruction and demolition of plant facilities was completed in 2019 and site restoration were completed in 2020. Ongoing maintenance of the site will be performed in accordance with the Closure and Post-Closure Plan (Golder 2019).

Both the Bottom Ash Landfill and the Bottom Ash Impoundment were closed in 2020 as part of the site closure and restoration activities. This report presents a review of available facility information and findings of the inspection of the Bottom Ash Impoundment performed on July 21, 2020 (after closure was complete).

2.0 REVIEW OF EXISTING INFORMATION

2.1 Geological Conditions

Stanton Station is located in the Missouri Slope district of the glaciated Missouri Plateau of the Great Plains physiographic province (NDDH 2017). The Bottom Ash Impoundment is constructed in Missouri River alluvial deposits. The alluvial deposits have two distinct subunits: upper and lower. The upper subunit consists of a silty sand and clay and the lower subunit is an outwash sand and gravel (Barr 2010).

2.2 Site History and Liner Systems

The Bottom Ash Impoundment was divided into three cells, named the north, center, and south cells (see Figure 1 and Figure 2). The north and south cells were active cells used for dewatering bottom ash and the center cell functioned as a retention cell. Bottom ash was placed into one of the active cells until the cell reached capacity. Once capacity was reached bottom ash deposition was directed to the other active cell and the filled cell was dewatered. Bottom ash remaining in the dewatered active cell was excavated and hauled to the adjacent Bottom Ash Landfill for containment. Each active cell was sized to hold at least two years of plant bottom ash production (Stone & Webster 1994c).

Stanton Station originally burned North Dakota lignite before being converted in November 2004 to use fuel from the Powder River Basin in Wyoming. All ash was originally wet sluiced into a series of ash ponds (Ponds A, B, and C) (Stone & Webster 1994b). In the mid-1990s, Stanton Station converted to a dry fly ash handling system, and the historic CCR management units were removed and new facilities constructed.

CCRs from the 1970s ash disposal area and Pond A were excavated and hauled to Ponds B and C for disposal. Ponds B and C were further consolidated and closed. Pond A was reconstructed to include a composite-lined surface impoundment with three cells on the east side and the Bottom Ash Landfill on the west side. The Bottom Ash Impoundment cells were constructed with composite liners consisting of a 60-mil high density polyethylene (HDPE) geomembrane and two feet of compacted clay fill (top to bottom). The liner along the side slopes

consisted of a 60-mil HDPE geomembrane and approximately 3.2 feet of compacted clay (10 feet horizontal width). Select construction drawings are included in Appendix A.

2.3 Site Closure and Restoration

Between 2017 and 2019, the remaining bottom ash and economizer ash from the plant and Bottom Ash Impoundment (north and center cells) was placed in the south cell of the Bottom Ash Impoundment. Construction and demolition (C&D) material from plant demolition activities as well as coal and coal yard soil, and clayey soils underlying the geomembrane of the north and center cells excavated during site restoration were placed in the Bottom Ash Landfill or the south cell of the Bottom Ash Impoundment (as approved through the North Dakota Department of Environmental Quality (NDDEQ) state permit program). Site restoration activities began in the summer of 2019 and were completed in the summer of 2020. These activities primarily included consolidating waste materials into the Bottom Ash Impoundment south cell and Bottom Ash Landfill, re-grading the site to promote drainage and vegetative growth, and closing remaining portions of the active surface impoundment and landfill.

2.4 Original Site Geometry

The historic berm surrounding the Bottom Ash Impoundment had a top elevation of 1720 feet above mean sea level (amsl). The bottom elevation of the cells varied between 1700 feet amsl and 1704 feet amsl according to original construction drawings. The perimeter berm along the north, east, and south sides of the impoundment complex consists of a historic embankment to elevation 1715 feet amsl with a berm extension to 1720 feet amsl. The west perimeter berm and two interior berms were completely new construction. The berm extension and new berms were constructed in 1994 and 1995. The berm upstream and downstream slopes were three horizontal units to one vertical unit (3:1).

2.5 Changes in Geometry

The north cell and center cell of the Bottom Ash Impoundment were closed by removal of CCRs and the liner system as part of the site restoration. The facility's Closure and Post-Closure Plan (Golder 2019) discusses the closure of the north and center cells in detail, but in general, the remaining bottom ash and clayey soil associated with the protective cover on the floor and the geomembrane liner (including the uppermost approximately 6 inches of saturated and/or visually affected clay liner) was excavated and disposed of in the south cell of the Bottom Ash Impoundment or within the Bottom Ash Landfill. Remaining structures and piping associated with the cells were demolished and placed in the Bottom Ash Landfill C&D area. The berm between the north and center cells as well as the berm on the east side of both the north and center cells was removed during closure and the closure by removal grades were tied into site restoration grades east of the Bottom Ash Impoundment. Embankment slopes within the north and center cell footprints were re-graded to have maximum slopes of approximately 5:1 and the floors of these cells were graded to drain east. Remaining embankment crest areas around the Bottom Ash Impoundment are gravel surfaced roadways to support light passenger vehicles.

Surveyed final waste grades and top of final cover grades are included in Appendix A. The south cell was closed with permitted wastes remaining in-place and in accordance with the final cover design outlined in the Closure and Post-Closure Plan (Golder 2019).

2.6 Storage Capacity and Volumes

The capacity of the south cell of the Bottom Ash Impoundment to elevation 1720 feet amsl is 75,600 cubic yards (CY). Above elevation 1720 feet amsl, the grades were crowned at an approximate 7 percent grade to

accommodate remaining waste from site restoration activities. Including the 7 percent crown, the total waste capacity of the facility at the time of closure was approximately 88,000 CY. Since the north and center cells of the Bottom Ash Impoundment were closed by removal of CCR and liner systems, storage capacities and volumes associated with these cells are not presented.

2.7 Impounded Water

Since the north and center cells were closed by removal and final cover had been constructed over the south cell, no impounded water was noted at the time of inspection. The south cell has been closed with waste-in-place. To drain water from the CCR and other waste within the south cell, water will be regularly pumped from the sump within the south cell and removed from site.

2.8 Permits

The Bottom Ash Impoundment is currently permitted with the NDDEQ under Permit Number 0043.

2.9 Summary of 2020 Weekly Inspections

Routine weekly inspections of the Bottom Ash Impoundment were completed by GRE throughout 2020. Based on a review of the available inspection forms, the following items were noted:

- Generally good site maintenance.
- No signs of significant seepage, settlement, or cracking of the berm downstream slopes.

2.10 Summary of Previous Inspections

The previous annual professional engineer inspection of the Bottom Ash Impoundment was performed by Golder in September of 2019 (Golder 2020) and a summary of the observations of that inspection are as follows:

- The north cell and center cell of the Bottom Ash Impoundment were being closed by removal of CCR and liner systems at the time of inspection.
- Generally good vegetation and site maintenance of berm downstream slopes, with no signs of significant seepage, settlement, or cracking.
- Animal burrows were noted on berm downstream slopes. Generally good condition of embankment crests, including the access roads.

3.0 2020 ANNUAL INSPECTION

On July 21, 2020, Craig Schuettpelz of Golder performed an inspection of the Bottom Ash Impoundment per USEPA Regulation 40 CFR Part 257.83(b) requirements. The inspection consisted of visual observations while walking around the facility traversing up and down the perimeter berm. An annual inspection checklist used during the inspection is presented in Appendix B. Photographs were taken and are presented in Appendix C. The following presents a summary of the observations made during the 2020 annual inspection.

3.1 Final Cover

As noted previously, the south cell of the Bottom Ash Impoundment was crowned with approximately 7 percent grades. Construction of the final cover system was completed in 2020 and the area was seeded and mulched prior to performing the annual inspection. At the time of the inspection, vegetation had not yet started growing on

recently seeded areas. The final cover will be monitored for vegetative success during future inspections in accordance with the Closure and Post-Closure Plan (Golder 2019).

3.2 Hydraulic Structures

3.2.1 North and Center Cells

No hydraulic structures were visible in the north and center cells following site restoration activities. Hydraulic structures associated with these cells were either abandoned below grade or removed and disposed of within permitted onsite facilities or taken off site.

3.2.2 South Cell

Original inflow and outflow piping to/from the south cell was either abandoned below grade or removed and disposed of within permitted onsite facilities or taken off site and was not visible during the inspection.

The historic outflow structure was incorporated into the design of the sump to remove pore water during the post-closure period of the south cell of the Bottom Ash Impoundment. The sump riser piping was visible during the inspection and was in good condition with no signs of settlement, erosion, or cracking.

3.3 Berm Upstream Slopes

Due to site closure and restoration activities, the berm upstream slopes of the Bottom Ash Impoundment were not visible during the inspection.

3.4 Berm Crest

The remaining berm crests around the Bottom Ash Impoundment are surfaced with soil and/or gravel at a constant elevation of 1720 feet amsl. The crest roadway is primarily used for light vehicle traffic but was exposed to heavy construction equipment when the north and south cells were cleaned out and during site restoration activities. Some surficial gravel has been removed as a part of site restoration activities. The berm crest appears to be in good condition with minimal weedy vegetation, no animal burrows, and no settlement.

3.5 Berm Downstream Slope

3.5.1 North and Center Cells

Since the north and center cells were closed by removal, there are no longer applicable berm downstream slopes associated with these cells.

3.5.2 South Cell

The berm downstream slopes on the north, east, and south sides are approximately 20 feet high and the berm downstream slope on the west side is approximately 5 feet high. The east and south-facing slopes are graded at approximately 3:1 and are well vegetated with grass, with a few small areas of bare ground along the east and south sides of the impoundment that are susceptible to erosion. The north-facing slope of the south cell is graded at approximately 5 and was recently seeded and mulched as a part of closure and site restoration construction activities. The north-facing slope was recently seeded with vegetation still to be established. Additional observations from October 2020 identified growth of new vegetation and some erosion rills along this north-facing slope. Note that the north-facing slope of the south cell of the Bottom Ash Impoundment was constructed over the historic upstream slope of the center cell. Berm downstream slopes are generally in good condition.

3.6 Toe

3.6.1 North and Center Cells

Since the north and center cells were closed by removal, there are no longer applicable toe of slopes associated with these cells.

3.6.2 South Cell

The toe of the west berm downstream slope is in the Bottom Ash Landfill deposition area and has no observed seepage, standing water, animal burrows, settlement, or excessive vegetation. The toe of the north and east berm downstream slopes has no observed seepage, standing water, animal burrows, settlement, or excessive vegetation and has been affected by re-grading that was a part of site restoration activities. Large portions of the north and east slopes and toe areas were recently seeded and mulched at the time of inspection. The toe of the south berm downstream slope is in a surface water drainage ditch that has some marshy vegetation and standing water. The toe of the berm downstream slopes around the south cell is in good condition.

3.7 Instrumentation

Instrumentation associated with the Bottom Ash Impoundment was removed during closure and restoration activities (Golder 2020).

3.8 Signs of Structural Weakness or Other Observations that Could Affect Stability

No signs of structural weakness or other observations that could affect the stability of the Bottom Ash Impoundment were observed during the site inspection in July 2020.

4.0 SUMMARY AND CONCLUSIONS

An annual inspection was performed for the Bottom Ash Impoundment at Stanton Station on July 21, 2020. The inspection met the requirements for CCR surface impoundments under 40 CFR Part 257.83.

The north cell and center cell of the Bottom Ash Impoundment were closed by removal of CCR and liner systems in 2019. The south cell of the Bottom Ash Impoundment was closed with permitted wastes remaining in-place and in accordance with the final cover design outlined in the Closure and Post-Closure Plan (Golder 2019).

As applicable for areas not affected by site restoration and/or closure activities, Golder observed good vegetation and site maintenance and did not identify significant deficiencies such as seepage, excessive erosion or settlement, or cracking during visual observations. Significant portions of the facility were recently seeded and mulched prior to the annual inspection and will be monitored for erosion and vegetative success moving forward.

In addition to annual inspections of applicable portions of the south cell of the Bottom Ash Impoundment by a Professional Engineer, trained and qualified site personnel will perform semi-annual facility inspections, typically in the spring and fall, for the first five years of the post-closure period. These inspections will focus on erosion of soil on the perimeter berms and the final cover as well as vegetative success. The north and center cells will not be evaluated as a part of these inspections since they were closed by removal of CCR.

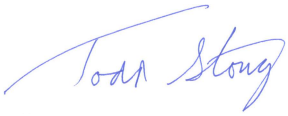
Minor maintenance items that may need to be continually addressed include repairing larger animal burrows as they appear, repairing erosion caused by stormwater, monitoring vegetative success of berm downstream slopes

and slopes that have received final cover, and removal of any woody vegetation growing on the berm downstream slopes or final cover areas.

Golder Associates Inc.

Brendan Purcell
Staff Engineer

Craig Schuettpelz, PE
Senior Engineer



Todd Stong, PE
Associate and Senior Consultant

BJP/CCS/TS/mp

https://golderassociates.sharepoint.com/sites/23291g/deliverables/reports/ss_2020_annual_ba_ccr_si_fnl_26jan21/1894194_ss_annual_bai_ccrinspreport_fnl_26jan21.docx

5.0 REFERENCES

Barr. 2010. 2010 Annual Groundwater Monitoring Report, Stanton Station Ash Disposal Facility, NDDH Solid Waste Permit # SP043. Prepared for Great River Energy, February 2011.

Golder Associates Inc. (Golder). 2019. Closure and Post-Closure Plan, Revision 1 – Bottom Ash CCR Surface Impoundment – Stanton Station. September 2019.

Golder. 2020. 2019 Annual Inspection Report – Great River Energy – Stanton Station – Bottom Ash CCR Surface Impoundment. January 2020.

Great River Energy – Coal Creek Station. GRE 2015. Permit Renewal Document, Permit No. SP-043. Original Permit Renewal dated February 2, 2015.

Kleinfelder. 2012. Coal Ash Impoundment Site Assessment Final Report, dated October 26, 2012.

North Dakota Department of Health. 2017. Permit for a Solid Waste Management Facility, North Dakota Department of Health – Division of Waste Management Permit No. 0043. November 29, 2017.

Stone & Webster. 1994a. Design Report Stanton Station Ash Pond Modifications. Prepared for United Power Association, Project No. 4177. April 25, 1994.

Stone & Webster. 1994b. Stanton Station Ash Pond Modifications, Project No. 4177 Design Drawings Rev. 2. Prepared for United Power Association, June 1994.

Stone & Webster. 1994c. Plan of Operations Stanton Station Bottom Ash Surface Impoundment and Bottom Ash Landfill. Prepared for United Power Association, Project No. 4177. June 1994.

Figures

REFERENCE(S)

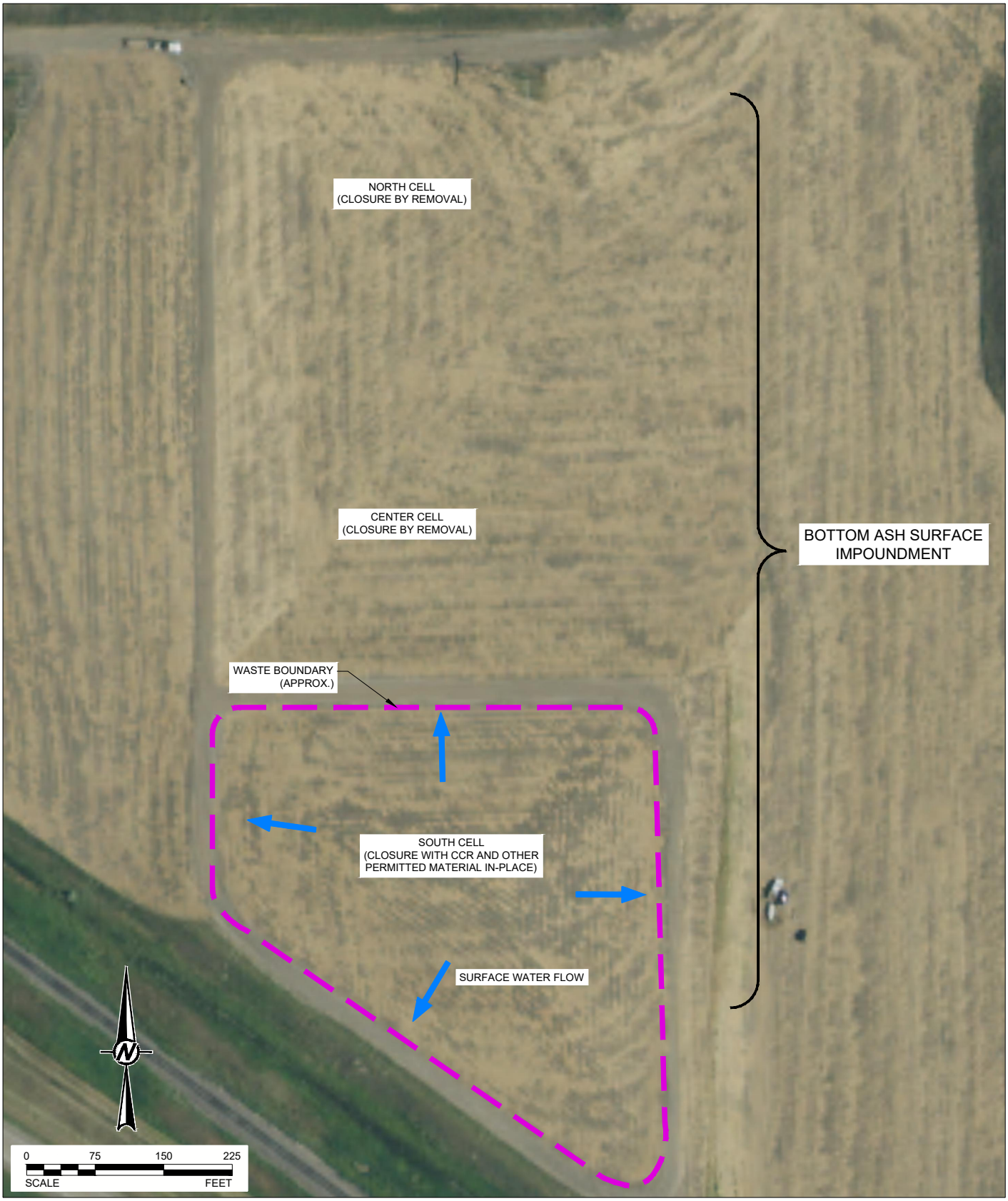
1. AERIAL IMAGE FROM UNITED STATES DEPARTMENT OF AGRICULTURE NATIONAL AGRICULTURE IMAGERY PROGRAM, 2020.

GOLDER

GREAT RIVER ENERGY - STANTON STATION
2020 ANNUAL CCR FACILITY INSPECTION REPORT
STANTON STATION SITE OVERVIEW

FIGURE 1

Path: \\Denver.golder.gds\acad\GREAT RIVER ENERGY\STANTON\99_PROJECTS\1894194\Annual Inspections\ | File Name: 2020 Annual Insp_Fig1.dwg



REFERENCE(S)

1. AERIAL IMAGE FROM UNITED STATES DEPARTMENT OF AGRICULTURE NATIONAL AGRICULTURE IMAGERY PROGRAM, 2020.

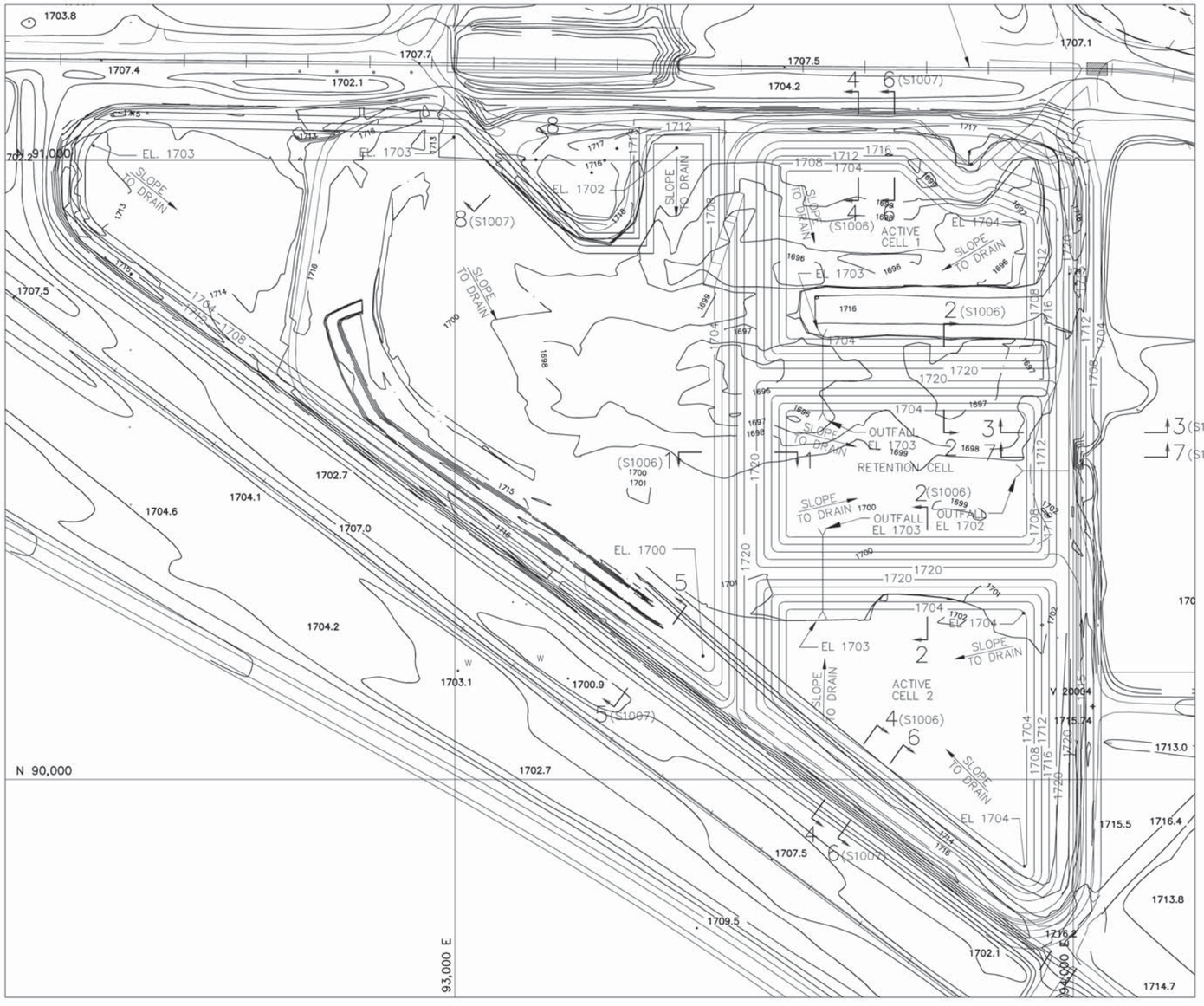
GOLDER

GREAT RIVER ENERGY - STANTON STATION
2020 ANNUAL CCR FACILITY INSPECTION REPORT
BOTTOM ASH IMPOUNDMENT SITE OVERVIEW

FIGURE 2

APPENDIX A

Selected Permit Drawings, Construction Drawings, and As-Built Drawings



N

SCALE 1" = 100'

100 50 0 100 200 300

LEGEND:

——— EXISTING GROUND ELEVATION CONTOUR

——— NEW GROUND ELEVATION CONTOUR

NOTES:

1. SEE GENERAL NOTES, DRAWING S1002.
2. ELEVATIONS SHOWN AT THE BOTTOM OF IMPOUNDMENT CELLS ARE OF THE TOP OF THE CLAY FILL.

REFERENCE DRAWINGS:

S1002	FACILITIES SITE PLAN
S1006	POND A SECTIONS & DETAILS – SH. 1
S1007	POND A SECTIONS & DETAILS – SH. 2
S1008	POND A SECTIONS & DETAILS – SH. 3
S1009	OUTFALL STRUCTURES OUTLINE – PLAN & SECTIONS
S1010	OUTFALL STRUCTURES – REINFORCEMENT SH. 1
S1011	OUTFALL STRUCTURES – REINFORCEMENT SH. 2

ISSUE

HALF-SIZE APP. CARD

CAD FILE UPAS1005.DWG

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UPA PROJECT 4177	UNITED POWER ASSOCIATION STANTON STATION ASH POND MODIFICATIONS	DRAWING NO. S1005
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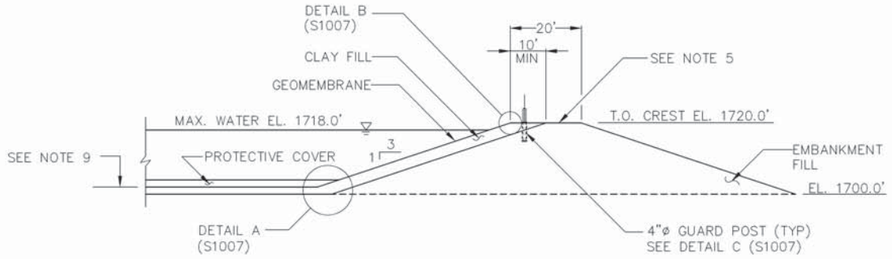
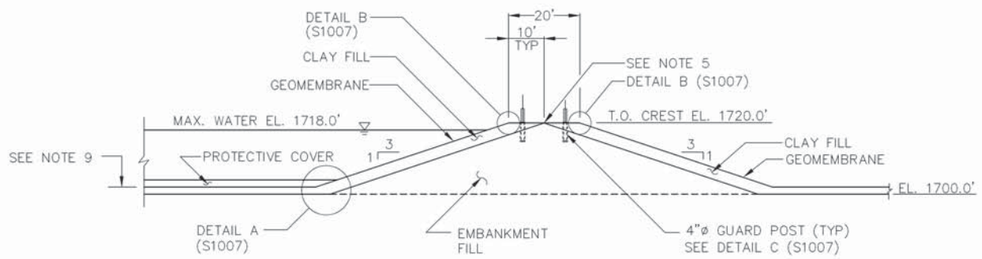
	STONE & WEBSTER ENGINEERING CORPORATION DENVER, CO.	



1–1
(S1005)



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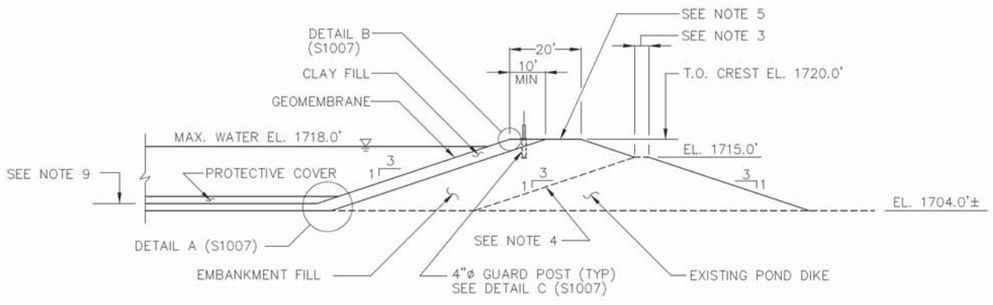
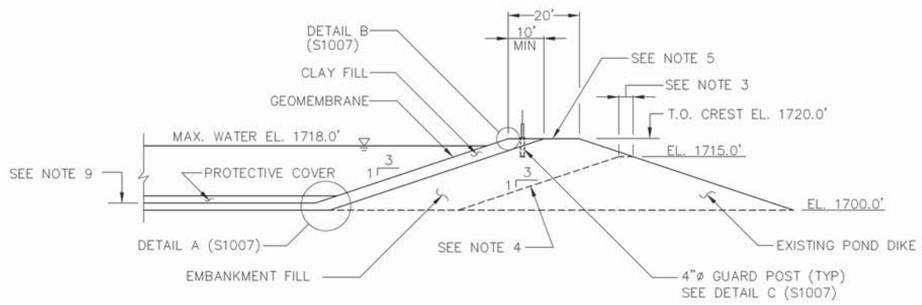


3–3
(S1005)



4–4
(S1005)

NOTES:

1. SCALE: 1" = 20' UNLESS NOTED.
2. SEE GENERAL NOTES, DRAWING S1002.
3. THE EXISTING POND DIKES WERE REPORTEDLY CONSTRUCTED TO HAVE 4 FOOT WIDE CRESTS AT ELEVATION 1715 FEET, AND 3:1 (HORIZONTAL VERTICAL) SIDE SLOPES. ACTUAL POND DIKE WIDTHS, ELEVATIONS AND SLOPES MAY VARY.
4. ASH, PVC LININGS AND OTHER NON–SOIL MATERIALS FOUND ALONG THE INSIDE OF EXISTING POND A DIKES SHALL BE REMOVED TO EXPOSE THE EXISTING DIKE SOIL FILL. EMBANKMENT FILL SHALL BE PLACED, AS NEEDED, TO FILL AREAS WHERE EXCAVATIONS TO REMOVE THE ASH, LININGS AND OTHER NON–SOIL MATERIALS EXTEND BEYOND THE LINE SHOWN.
5. THE TOP OF THE EMBANKMENT FILL OF THE SURFACE IMPOUNDMENT EMBANKMENTS SHALL BE GRADED TO BE AT ELEVATION 1720'–3" AT THE CENTERLINE AND TO SLOPE TO ELEVATION 1720'–0" AT 6 FEET EITHER SIDE OF THE CENTERLINE, AND SHALL BE COVERED WITH 6 INCHES OF COMPACTED BASE COURSE.
6. AN ANCHOR GUARD POST FOR THE SAFETY CABLE SHALL BE LOCATED AT EACH CORNER OF EACH IMPOUNDMENT CELL. LINE GUARD POSTS SHALL BE SPACED AT INTERVALS NO WIDER THAN 50 FEET BETWEEN THE CORNER ANCHOR POSTS. ANCHOR GUARD POSTS SHALL ALSO BE PLACED TO PROVIDE A 20 FOOT WIDE OPENING ALONG THE EAST SIDE OF ACTIVE CELLS 1 AND 2, AND A 10 FOOT WIDE OPENING AT EACH OUTFALL LOCATION, AS DIRECTED BY THE OWNER. THE WIRE ROPE SHALL BE INSTALLED TO BE A MINIMUM OF 3 FEET ABOVE THE GROUND SURFACE.
7. A ONE INCH DIAMETER, POLYPROPYLENE, TWISTED ROPE SHALL BE FASTENED TO THE BOTTOM OF EACH GUARD POST. THE ROPE SHALL BE FASTENED TO THE POSTS USING CABLE CLAMPS OR AN EQUIVALENT FITTING APPROVED BY THE OWNER. THE BOTTOM OF THE ROPE SHALL BE SECURELY ATTACHED TO A HEAVY DUTY POLYPROPYLENE BAG FILLED WITH A MINIMUM OF 50 LBS. OF CLEAN SAND, AND SHALL EXTEND TO WITHIN 3 FEET OF THE BOTTOM OF THE ADJACENT IMPOUNDMENT CELL.
8. IF ASH EXTENDS TO WITHIN 10 FEET OF EXISTING POWER POLES, THE POLES SHALL BE TEMPORARILY SUPPORTED WHILE THE ASH IS REMOVED AND THE EXCAVATION IS REFILLED WITH EMBANKMENT FILL.
9. SEE DRAWING S1005 FOR COMPLETED GRADE ELEVATIONS.

REFERENCE DRAWINGS:

S1002	FACILITIES SITE PLAN
S1005	POND A CONVERSION PLAN
S1007	POND A SECTIONS & DETAILS – SH.2
S1008	POND A SECTIONS & DETAILS – SH.3

ISSUE	DESCRIPTION	CHKD	CORRECT	APPR.–DATE
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2				
1	FOR CONSTRUCTION			
0	ORIGINAL ISSUE / FOR UPA REVIEW	WLZ	SGG — KWC 4–13–94	

UPA PROJECT 4177	UNITED POWER ASSOCIATION STANTON STATION ASH POND MODIFICATIONS	DRAWING NO. S1006	REV 1
	POND A SECTIONS & DETAILS – SH. 1		
	STONE & WEBSTER ENGINEERING CORPORATION DENVER, CO.		

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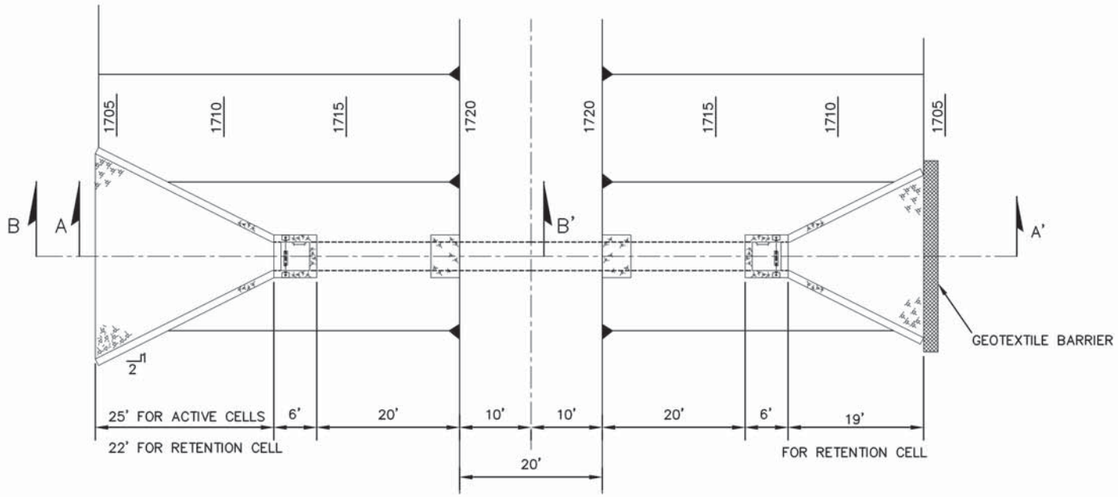
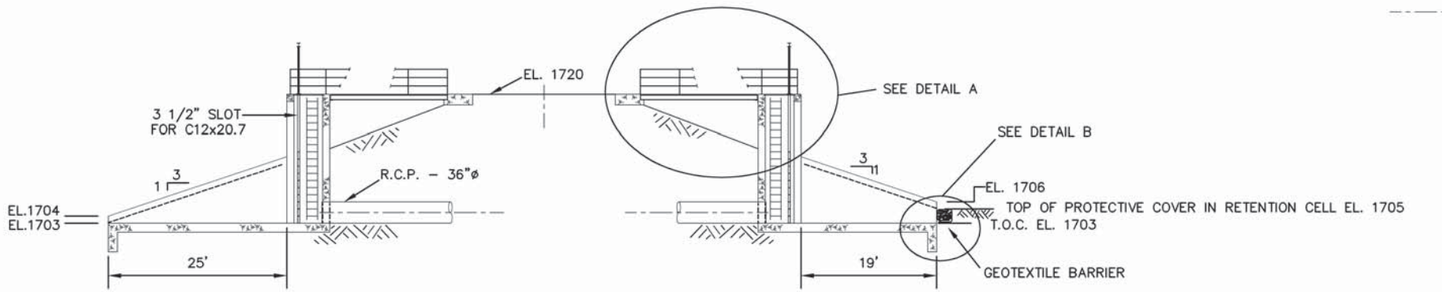
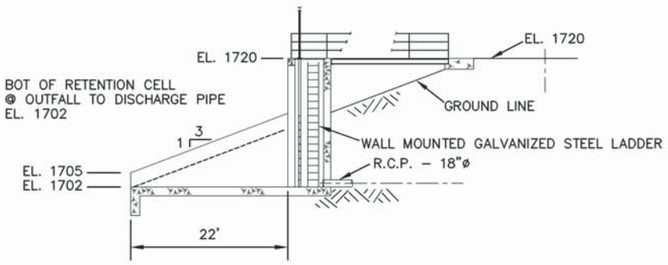


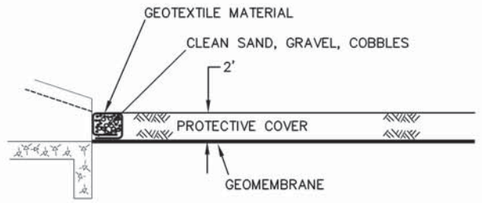
GENERAL PLAN
1"=10'



ELEVATION A–A'
ACTIVE CELL & RETENTION CELL
1"=10'



ELEVATION B–B'
OUTFALL OF RETENTION CELL
1"=10'



NOTE: THE GEOTEXTILE BARRIER SHALL EXTEND 2 FEET BEYOND THE RETENTION CELL OUTFALL WINGWALLS.

PARTIAL ELEV.
DETAIL B
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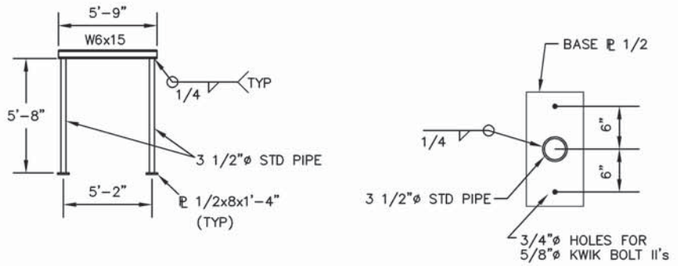

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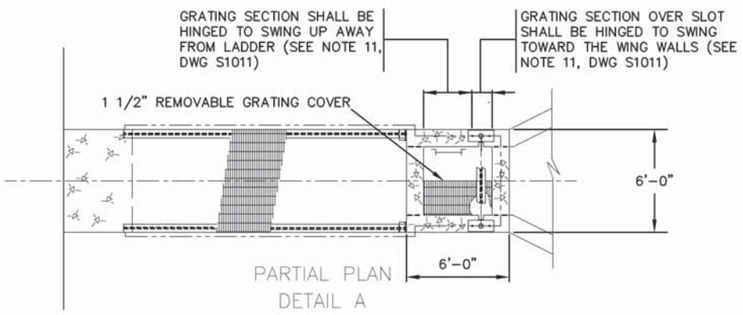
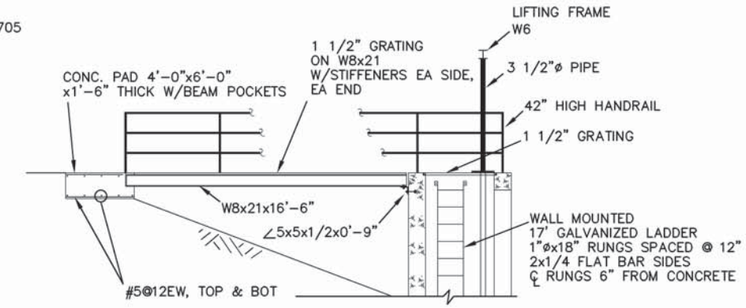


PARTIAL PLAN
DETAIL A
N.T.S.



PARTIAL ELEV.
DETAIL A
N.T.S.

NOTES:

1. SCALE: AS NOTED
2. FOR ADDITIONAL NOTES, SEE DRAWING S1011

REFERENCE DRAWINGS:

S1011 OUTFALL STRUCTURES REINFORCEMENT, SHEET 2

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UPA PROJECT		DRAWING NO.	REV
4177	UNITED POWER ASSOCIATION STANTON STATION ASH POND MODIFICATIONS OUTFALL STRUCTURES OUTLINE PLAN AND SECTIONS	S1009	2

STONE & WEBSTER ENGINEERING CORPORATION
DENVER, CO.

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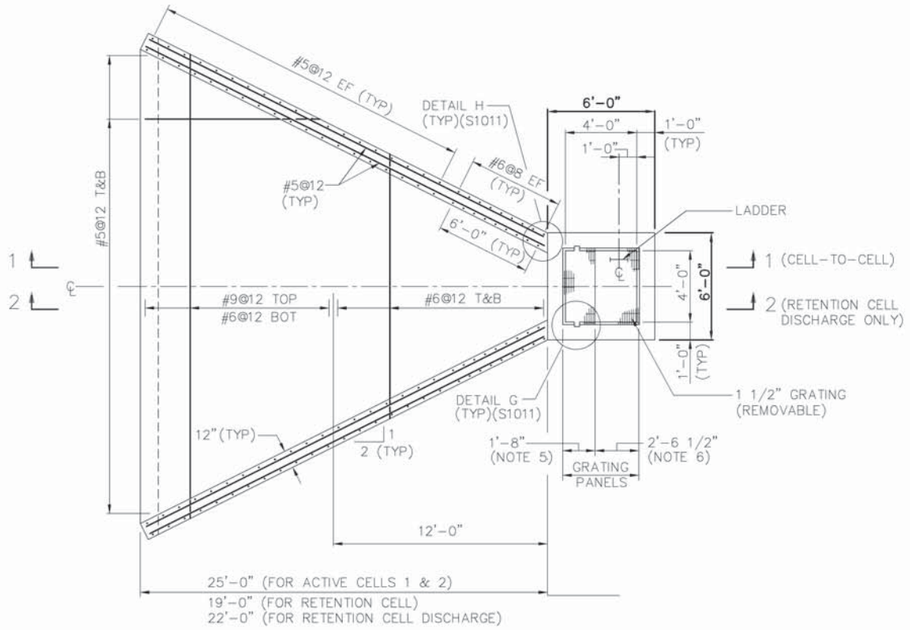
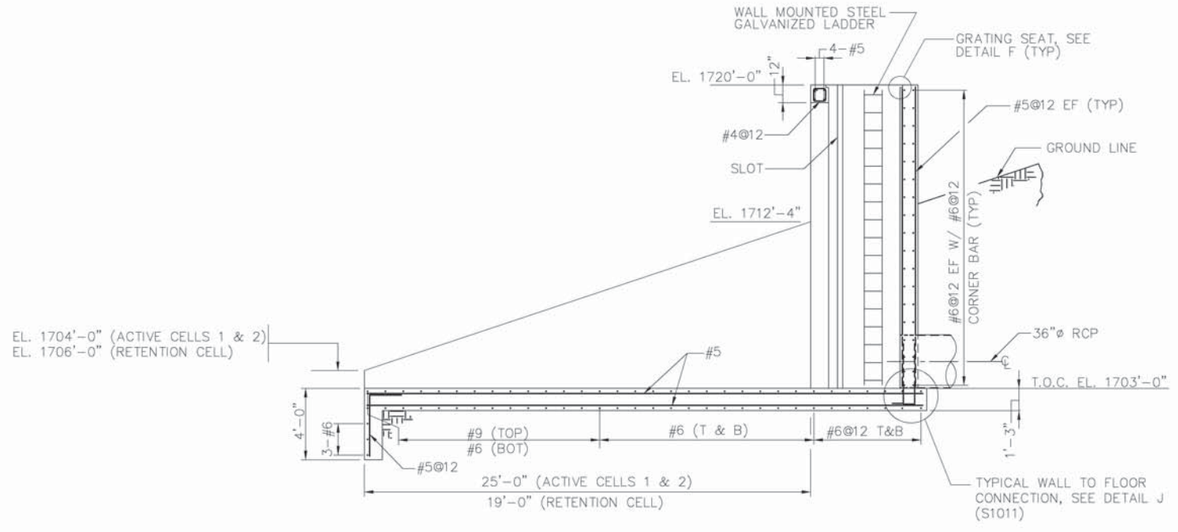
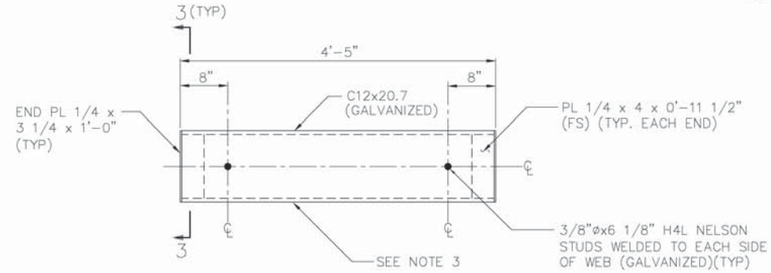


OUTFALL STRUCTURES – PLAN
SCALE: 1/4" = 1'-0"



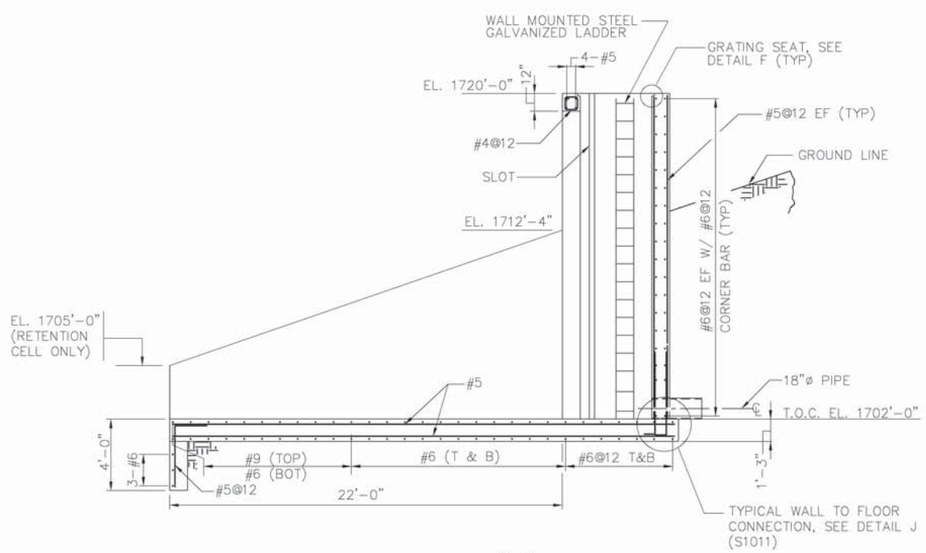
1-1
SCALE: 1/4" = 1'-0"



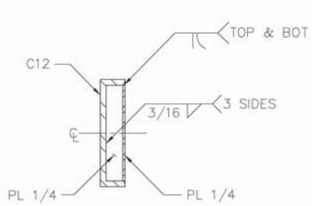
TYPICAL STOP LOG DETAIL
(76 REQUIRED)
SCALE: 1 " = 1'-0"

NOTES:

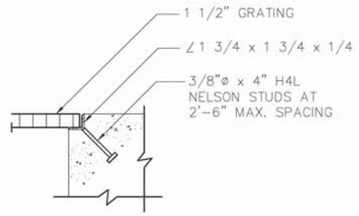
1. SCALE: AS NOTED
2. FOR ADDITIONAL NOTES, SEE DRAWING S1011.
3. PLACE 40 MIL x 2 1/2" STRIP PVC ON TOP AND BOTTOM OF C12 WITH WATER RESISTANT ADHESIVE.
4. THE FABRICATOR SHALL VERIFY AND CONNECT, AS REQUIRED, THE SWEEP OF THE CHANNEL STOP LOGS TO WITHIN 3/16", AND THE CAMBER TO WITHIN 1/16". THE VARIATION OF OUT OF SQUARE OF THE FLANGES SHALL BE VERIFIED TO BE LESS THAN THE 1/32" THAT IS PERMISSIBLE BY STANDARD MILL PRACTICE.
5. THE GRATING SECTION OVER THE SLOT SHALL BE HINGED TO SWING TOWARD THE WING WALLS.
6. THE GRATING SECTION SHALL BE HINGED TO SWING UP AWAY FROM THE LADDER.



2-2
SCALE: 1/4" = 1'-0"



3-3
SCALE: 1 1/2" = 1'-0"



DETAIL F
SCALE: 1 1/2" = 1'-0"

REFERENCE DRAWINGS:

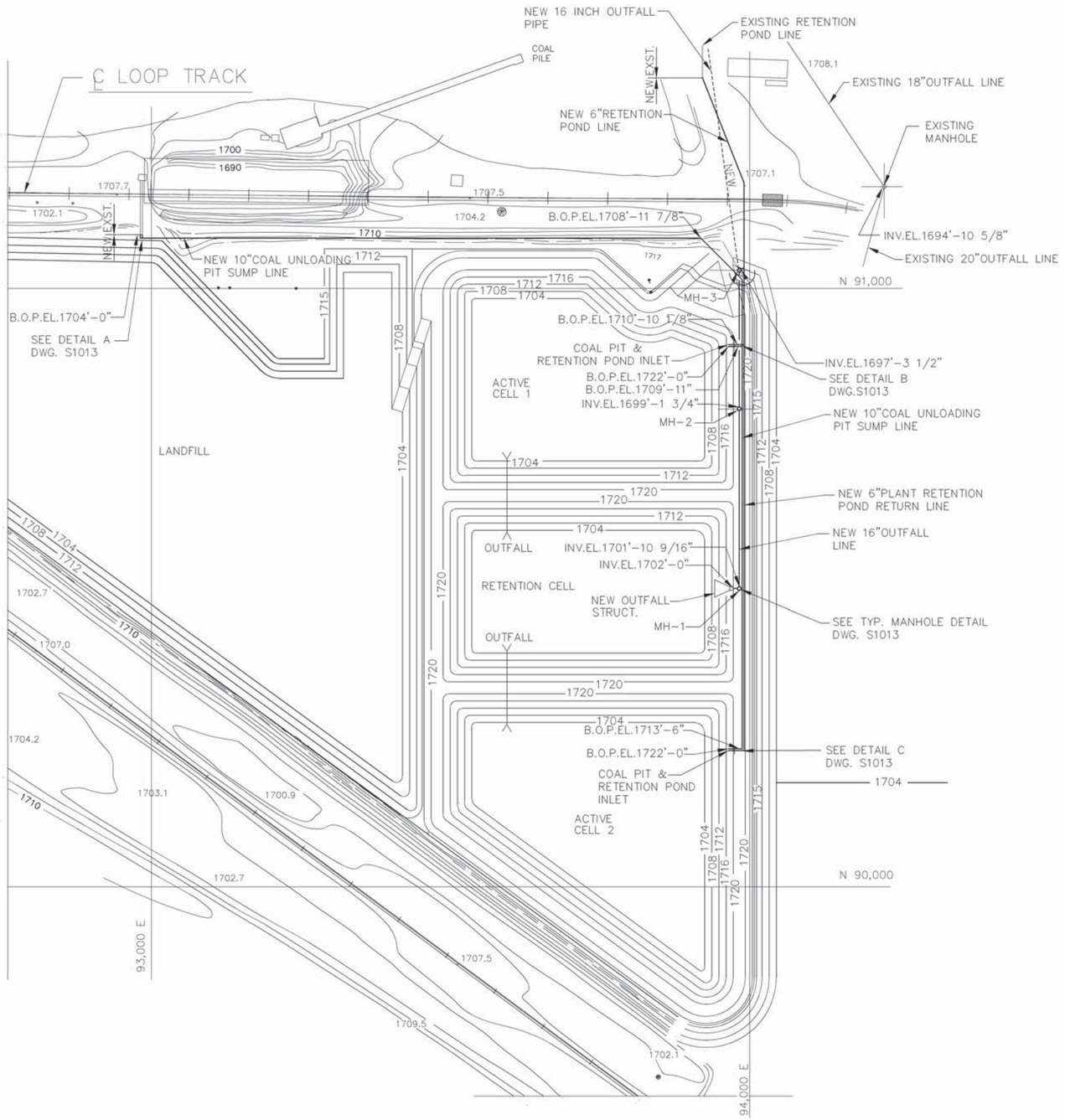
S1009	OUTFALL STRUCTURES OUTLINE PLANS AND SECTIONS
S1011	OUTFALL STRUCTURES REINFORCEMENT, SHEET 2

ISSUE	DESCRIPTION	CHKD	CORRECT	APPR — DATE
3				
2	FOR CONSTRUCTION REVISED PER ADDENDUM 1			
1	FOR CONSTRUCTION	WLZ	SGG 6-8-94	KWC/WLZ 6-8-94
0	ORIGINAL ISSUE FOR UPA REVIEW	RLP	SGG 4-19-94	KWC 4-19-94

UPA PROJECT	UNITED POWER ASSOCIATION STANTON STATION ASH POND MODIFICATIONS	DRAWING NO.	REV
4177	OUTFALL STRUCTURES REINFORCEMENT – SH. 1	S1010	2

STONE & WEBSTER ENGINEERING CORPORATION
DENVER, CO.

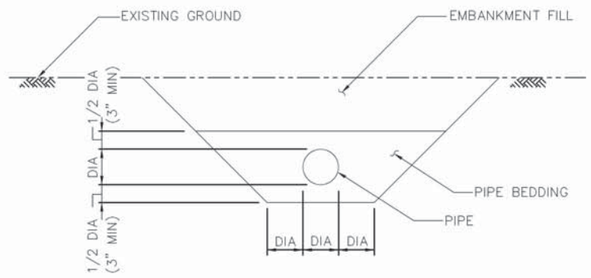
ISSUE
HALF-SIZE
APP. CARD
CAD FILE UPAS1010.DWG



SCALE 1" = 100'

100 50 0 100 200 300

N



PIPE AND CULVERT TRENCH DETAIL
NTS

NOTE: PIPES AND/OR CULVERTS IN A SINGLE TRENCH SHALL HAVE A MINIMUM SPACING OF 12 INCHES (WALL-TO-WALL) BETWEEN ADJACENT PIPES.

NOTES:
1.FOR GENERAL NOTES, SEE DRAWING S1002.

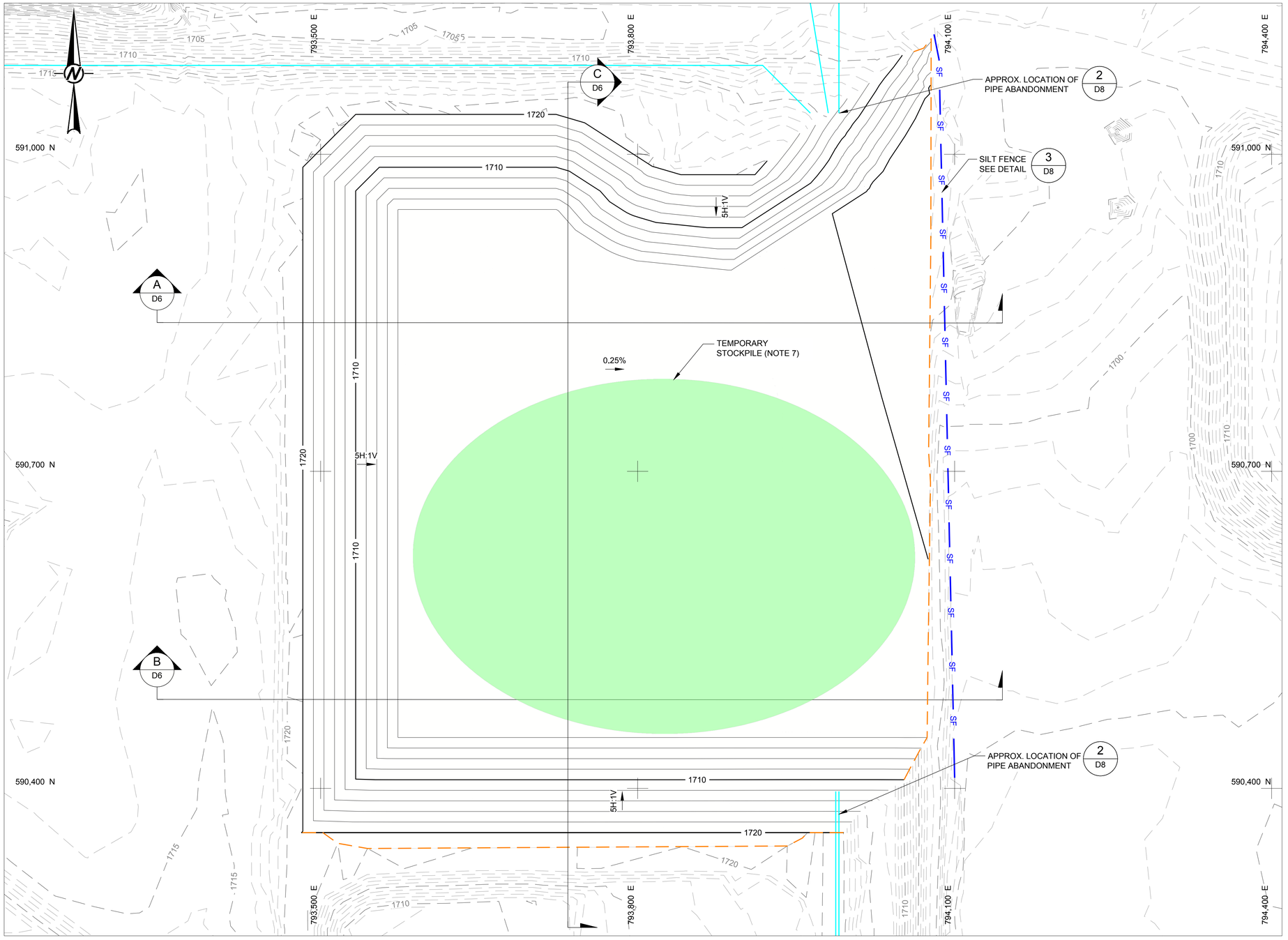
REFERENCE DRAWINGS:
S1002 FACILITIES SITE PLAN
S1013 PIPING DETAILS
S1027 BOTTOM ASH SURFACE IMPOUNDMENT OUTFALL PIPING PLAN

ISSUE	DESCRIPTION	CHKD	CORRECT	APPR. DATE
3				
2	FOR CONSTRUCTION REVISED PER ADDENDUM 1			
1	FOR CONSTRUCTION	WLZ	KWC/WLZ 6-9-94	
0	ORIGINAL ISSUE FOR UPA REVIEW	KWC	KWC 4-19-94	

UPA PROJECT	UNITED POWER ASSOCIATION STANTON STATION ASH POND MODIFICATIONS	DRAWING NO.	REV
4177	POND A PIPING PLAN	SI012	2

STONE & WEBSTER ENGINEERING CORPORATION
DENVER, CO.

ISSUE
HALF-SIZE
APP. CARD
CAD FILE UPAS1012.DWG



LEGEND

- 3600 — EXISTING GROUND TOPOGRAPHY (REFERENCES 2 AND 3)
- 3600 — TOP OF SUBGRADE (NOTE 1 AND REFERENCE 3)
- SF — SILT FENCE (AS REQUIRED) (NOTE 2)
- APPROXIMATE TIE-IN LOCATION TO SCOPE OF WORK E BOTTOM ASH LANDFILL CLOSURE AND SCOPE OF WORK F SITE RESTORATION GRADING AND SCOPE OF WORK G SOUTH CELL CLOSURE (NOTE 6)
- BURIED PIPING
- TEMPORARY STOCKPILE (NOTE 7)

NOTE(S)

1. THE TOP 12-INCHES OF GENERAL FILL, EMBANKMENT FILL, OR CUT AREA SHALL BE SOIL SUITABLE FOR PLANT ROOTING AS APPROVED BY THE OWNER'S REPRESENTATIVE. SOIL FOR THIS PURPOSE IS CLASSIFIED AS HAVING A MINIMUM OF 20 PERCENT FINES (PASSING THE #200 SIEVE) AND NO MORE THAN 15 PERCENT GRAVEL (RETAINED ON THE #4 SIEVE) OR AS APPROVED BY THE OWNER'S REPRESENTATIVE.
2. SUBCUTTING MAY BE REQUIRED IN AREAS OF CUT OR AREAS WITH LESS THAN ONE (1) FOOT OF FILL WHERE SUBGRADE DOES NOT MEET THE SPECIFICATION FOR SOIL SUITABLE FOR PLANT ROOTING AS DETERMINED BY THE OWNER'S REPRESENTATIVE.
3. CONTRACTOR SHALL FOLLOW BEST MANAGEMENT PRACTICES FOR INSTALLATION AND MAINTENANCE OF EROSION CONTROL MEASURES. ALL PERMANENT AND TEMPORARY EROSION CONTROL FEATURES ARE SUBJECT TO REVIEW FOR EFFECTIVENESS AND NECESSARY ADJUSTMENTS WILL BE MADE AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
4. TOPSOIL SHALL BE PLACED OVER SUBGRADE IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS (DESIGN TOPOGRAPHY NOT SHOWN).
5. REMOVAL OF IMPACTED CLAY BENEATH THE GEOMEMBRANE MAY EXCEED THE ASSUMED 6-INCH THICKNESS BASED ON VISUAL OBSERVATION AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
6. NORTH AND CENTER CELL GRADING SHALL TIE INTO THE SCOPE OF WORK E, F AND G ALONG THE APPROXIMATE TIE-IN LINE INDICATED. SCOPE OF WORK E, F AND G GRADING IS NOT SHOWN FOR CLARITY. TEMPORARY SLOPES BETWEEN SUBGRADE GRADES SHOWN AND EXISTING GROUND (PRIOR TO SITE REGRADING) SHALL NOT BE STEEPER THAN 3H:1V.
7. EXCESS EXCAVATED SOIL FROM SCOPE OF WORK D AND OTHER SCOPES OF WORK SHALL BE STOCKPILED ABOVE TOP OF SUBGRADE GRADES FOR USE IN CONSTRUCTION OF OTHER SCOPE OF WORK. PLACEMENT OF FERTILIZER, TOPSOIL , AND SEED AND MULCH IN THIS AREA WILL NOT BE COMPLETED UNTIL THE STOCKPILE IS REMOVED OR FINAL GRADING HAS BEEN COMPLETED.
8. MUCH OF THE SOIL CUT FROM SCOPE OF WORK D WILL GO DIRECTLY TO SCOPE OF WORK E FILL.
9. PRIOR TO PLACEMENT OF TOPSOIL OR GENERAL FILL, REMOVAL OF BOTTOM ASH, PROTECTIVE COVER, GEOMEMBRANE LINER, IMPACTED CLAY SOIL, AND INFRASTRUCTURE MUST BE VERIFIED BY THE OWNER'S ENGINEER.

REFERENCE(S)

1. SITE LOCATION: T144N, R84W, MERCER COUNTY, NORTH DAKOTA.
2. EXISTING GROUND TOPOGRAPHY IS FROM AN AERIAL SURVEY PERFORMED BY KBM, INC. ON APRIL 27, 2001 (SITE WIDE), A GROUND SURVEY PERFORMED BY INTERSTATE ENGINEERING IN 2014 (BOTTOM ASH IMPOUNDMENT AND LANDFILL AREA), A GROUND SURVEY PERFORMED BY INTERSTATE ENGINEERING IN 2017 (COAL PILE AREA), AND A GROUND SURVEY PERFORMED BY INTERSTATE ENGINEERING IN 2018.
3. EXISTING GROUND TOPOGRAPHY AND TOP OF SUBGRADE CONTOUR INTERVAL IS ONE (1) FOOT.

0 50 100
1" = 50' FEET

REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
0	2019-07-19	ISSUED FOR CONSTRUCTION	MRS	MRS	RFS	TJS

SEAL

REGISTERED PROFESSIONAL ENGINEER
TODD J. STONG
PE-6144
Date 7/19/19
NORTH DAKOTA

CLIENT
GREAT RIVER ENERGY
STANTON STATION
STANTON, NORTH DAKOTA

CONSULTANT
GOLDER

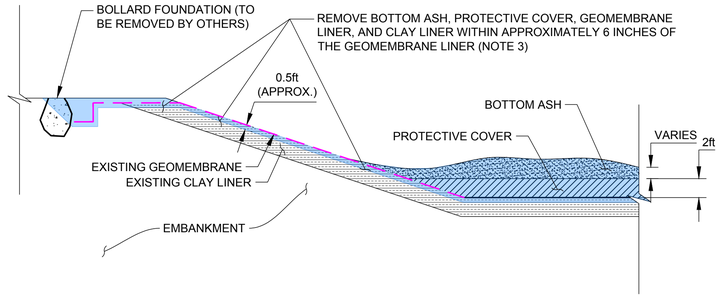
GOLDER ASSOCIATES INC.
7245 W ALASKA DR., SUITE 200
LAKEWOOD, COLORADO
USA
(303) 980-0540
www.golder.com

PROJECT
STANTON SITE RESTORATION
NORTH AND CENTER CELLS CLOSURE

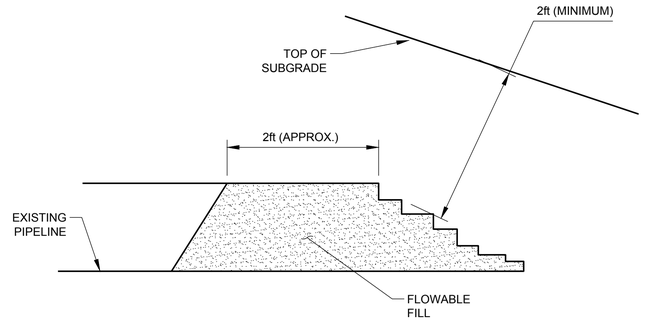
TITLE
TOP OF SUBGRADE PLAN

PROJECT NO. 1775717 | REV. 0 | D5 of D8 | DRAWING D5

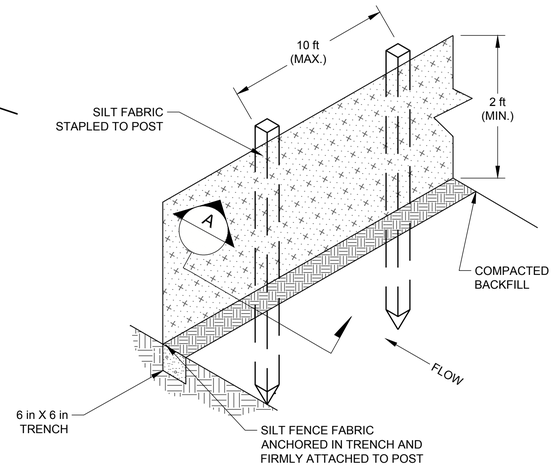
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

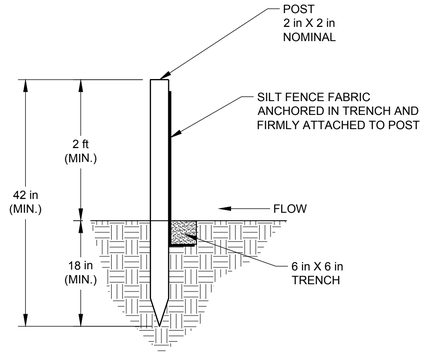


NTS 1 D8 NORTH AND CENTER CELLS CLOSURE BY REMOVAL DETAIL



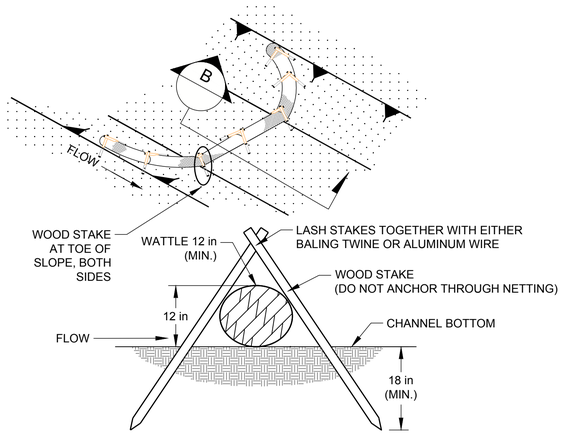
NTS 2 D8 PIPE ABANDONMENT DETAIL





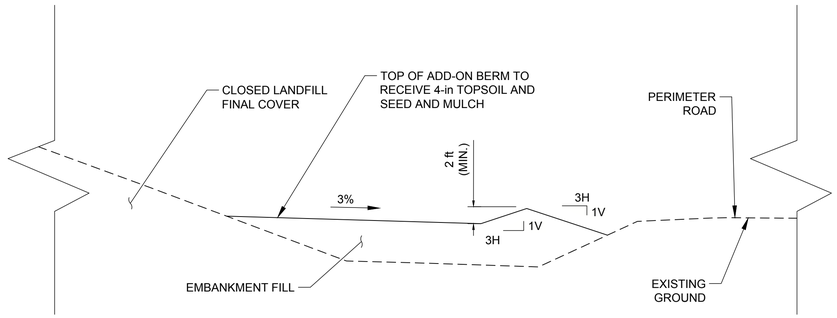
SECTION A

NTS 3 D8 SILT FENCE DETAIL

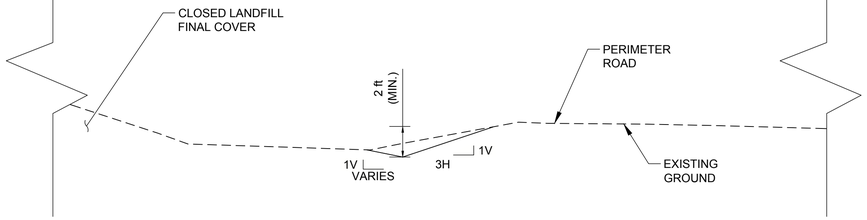


SECTION B

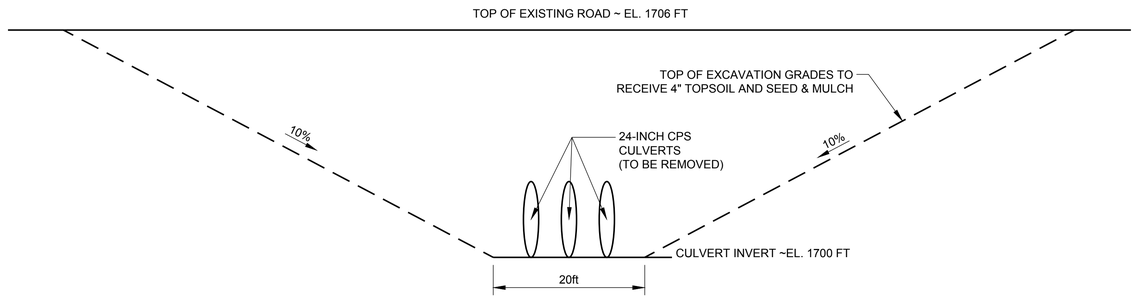
NTS 4 D8 STRAW WATTLE



NTS D D7 SECTION D-D'



NTS E D7 SECTION E-E'



NTS F D8 LOW WATER CROSSING (PLAN)
5X VERTICAL EXAGGERATION

NOTE(S)

1. CONTRACTOR SHALL FOLLOW BEST MANAGEMENT PRACTICES FOR INSTALLATION AND MAINTENANCE OF EROSION CONTROL MEASURES. ALL PERMANENT AND TEMPORARY EROSION CONTROL FEATURES ARE SUBJECT TO REVIEW FOR EFFECTIVENESS AND NECESSARY ADJUSTMENTS WILL BE MADE AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
2. ANY STRUCTURES OR PIPING THAT IS NOT COMPLETELY REMOVED SHALL BE REMOVED TO WITHIN TWO (2) FEET OF FINAL GRADES. REMAINING STRUCTURE AND PIPING SHALL BE INFILLED WITH FLOWABLE FILL OR ALTERNATIVE APPROVED BY THE OWNER'S REPRESENTATIVE AND THEN COVERED WITH APPROVED SOIL.
3. REMOVAL OF IMPACTED CLAY BENEATH THE GEOMEMBRANE MAY EXCEED THE ASSUMED 6-INCH THICKNESS BASED ON VISUAL OBSERVATION AS DIRECTED BY THE OWNERS' REPRESENTATIVE.

REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
0	2019-07-19	ISSUED FOR CONSTRUCTION	MRS	MRS	RFS	TJS

SEAL

CLIENT
GREAT RIVER ENERGY
STANTON STATION
STANTON, NORTH DAKOTA

CONSULTANT
GOLDER ASSOCIATES INC.
7245 W ALASKA DR., SUITE 200
LAKEWOOD, COLORADO
USA
(303) 980-0540
www.golder.com

PROJECT
STANTON SITE RESTORATION
NORTH AND CENTER CELLS CLOSURE

TITLE
DETAILS

PROJECT NO. 1775717 | REV. 0 | D8 of D8 | DRAWING D8

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

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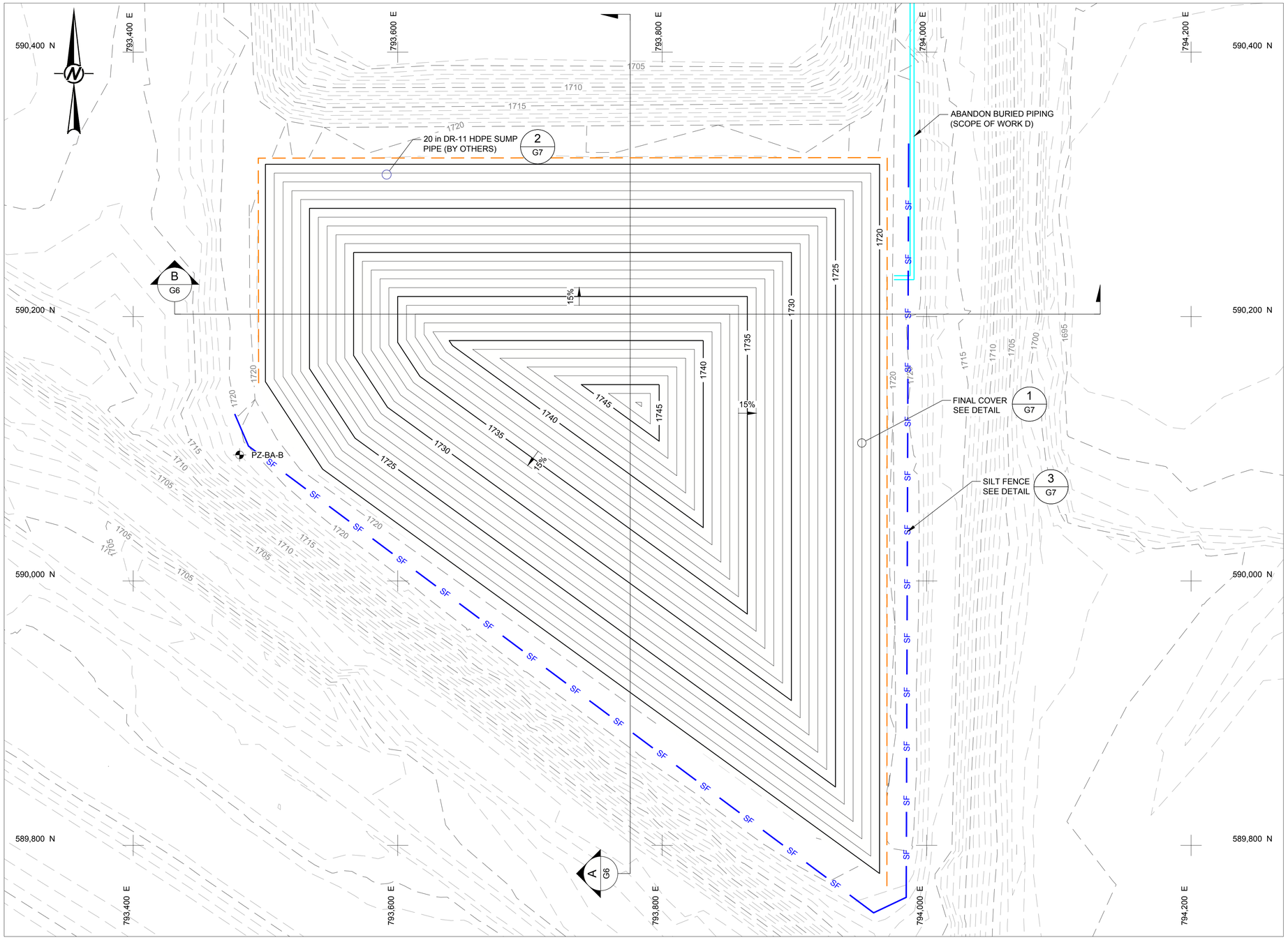


LEGEND

- EXISTING GROUND TOPOGRAPHY (REFERENCES 2 AND 3)
- TOP OF FINAL COVER GRADES (NOTES 1 AND 2) (REFERENCE 3)
- APPROXIMATE TIE-IN LOCATION TO SCOPE OF WORK D NORTH, CENTER CELLS CLOSURE AND SCOPE OF WORK E BOTTOM ASH LANDFILL CLOSURE AND SCOPE OF WORK F SITE RESTORATION GRADING (NOTE 4)
- SF — SILT FENCE (AS REQUIRED) (NOTE 3)
- WATER PIPING (BURIED)
- 20 in DR-11 HDPE SUMP PIPE PENETRATION
- MW-10 — MONITORING WELLS/PIEZOMETERS (NOTE 5)

NOTE(S)

1. THE AREA RECEIVING FINAL COVER IS APPROXIMATE. ALL AREAS OF WASTE PLACEMENT SHALL RECEIVE FINAL COVER.
2. TOP OF FINAL COVER GRADES ARE APPROXIMATE AND THE FINAL SLOPES MAY VARY DEPENDING ON THE AMOUNT OF MATERIAL REQUIRED TO BE CONTAINED AS A PART OF THE STANTON STATION SITE RESTORATION CONSTRUCTION. ALL AREAS OF WASTE PLACEMENT WILL RECEIVE FINAL COVER. TOP OF FINAL COVER GRADES SHALL NOT BE LESS THAN 3% OR GREATER THAN 15% UNLESS OTHERWISE APPROVED BY THE OWNER'S REPRESENTATIVE.
3. CONTRACTOR SHALL FOLLOW BEST MANAGEMENT PRACTICES FOR INSTALLATION AND MAINTENANCE OF EROSION CONTROL MEASURES. ALL PERMANENT AND TEMPORARY EROSION CONTROL FEATURES ARE SUBJECT TO REVIEW FOR EFFECTIVENESS AND NECESSARY ADJUSTMENTS WILL BE MADE AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
4. SOUTH CELL CLOSURE GRADING SHALL TIE INTO THE SCOPE OF WORK D, E AND F ALONG THE APPROXIMATE TIE-IN LINE INDICATED. SCOPE OF WORK D, E AND F GRADING IS NOT SHOWN FOR CLARITY.
5. CARE SHALL BE TAKEN WHEN WORKING NEAR EXISTING MONITORING WELLS/PIEZOMETERS. ANY DAMAGE TO MONITORING WELLS/PIEZOMETERS IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.

REFERENCE(S)

1. SITE LOCATION: T144N, R84W, MERCER COUNTY, NORTH DAKOTA.
2. EXISTING GROUND TOPOGRAPHY IS FROM AN AERIAL SURVEY PERFORMED BY KBM, INC. ON APRIL 27, 2001 (SITE WIDE), A GROUND SURVEY PERFORMED BY INTERSTATE ENGINEERING IN 2014 (BOTTOM ASH IMPOUNDMENT AND LANDFILL AREA), A GROUND SURVEY PERFORMED BY INTERSTATE ENGINEERING IN 2017 (COAL PILE AREA), AND A GROUND SURVEY PERFORMED BY INTERSTATE ENGINEERING IN 2018.
3. EXISTING GROUND TOPOGRAPHY AND TOP OF FINAL COVER CONTOUR INTERVAL IS ONE (1) FOOT.

0 40 80
1" = 40' FEET

REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
0	2019-07-19	ISSUED FOR CONSTRUCTION	MRS	MRS	RFS	TJS

SEAL

REGISTERED PROFESSIONAL ENGINEER
TODD J. STONG
PE-6144
Date 7/9/19
NORTH DAKOTA

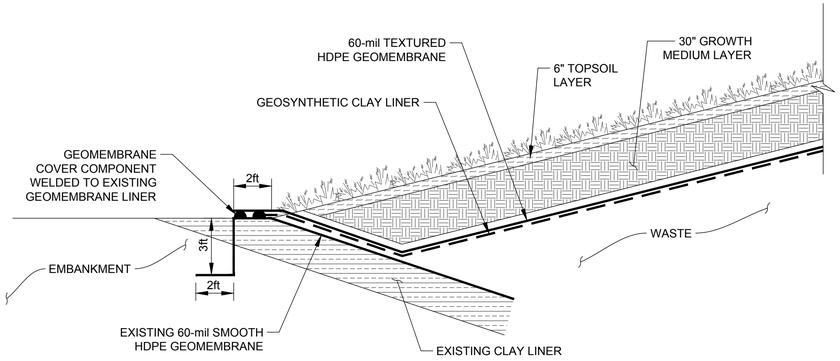
CLIENT
GREAT RIVER ENERGY
STANTON STATION
STANTON, NORTH DAKOTA

CONSULTANT
GOLDER
GOLDER ASSOCIATES INC.
7245 W ALASKA DR., SUITE 200
LAKEWOOD, COLORADO
USA
(303) 980-0540
www.golder.com

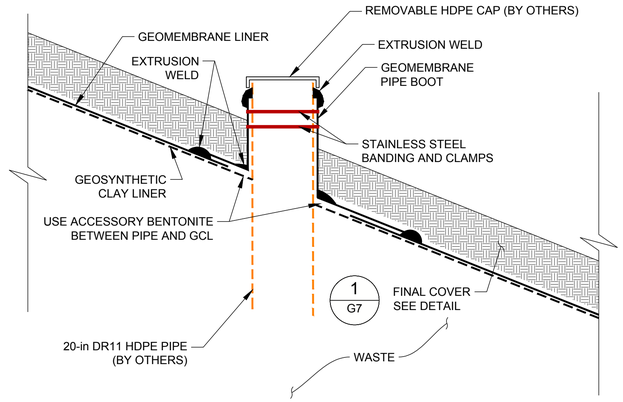
PROJECT
STANTON SITE RESTORATION
SOUTH CELL CLOSURE

TITLE
TOP OF FINAL COVER

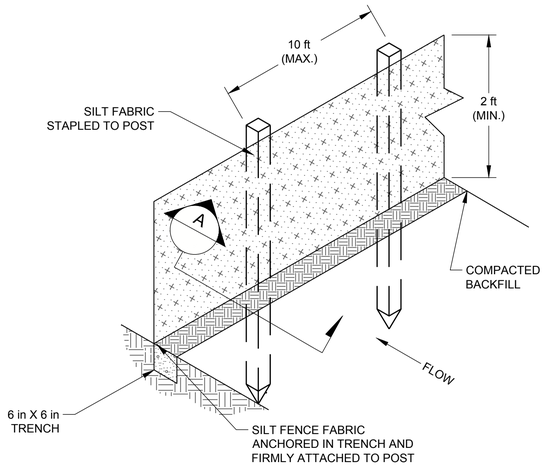
PROJECT NO. 1775717 | REV. 0 | G5 of G7 | DRAWING G5

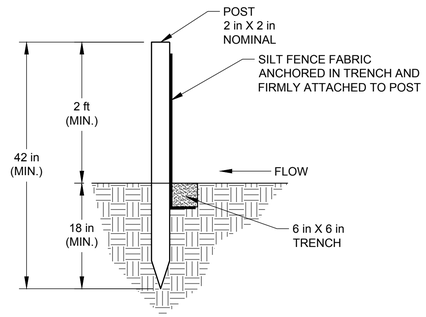


NTS 1 G7 SOUTH CELL COMPOSITE FINAL COVER



NTS 2 G7 SUMP PIPE PENETRATION DETAIL





SECTION A

NTS 3 G7 SILT FENCE DETAIL

REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
0	2019-07-19	ISSUED FOR CONSTRUCTION	MRS	MRS	RFS	TJS

SEAL

REGISTERED PROFESSIONAL ENGINEER
TODD J. STONG
PE-6144
DATE 7/19/19
NORTH DAKOTA

CLIENT
GREAT RIVER ENERGY
STANTON STATION
STANTON, NORTH DAKOTA

CONSULTANT
GOLDER

GOLDER ASSOCIATES INC.
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LAKEWOOD, COLORADO
USA
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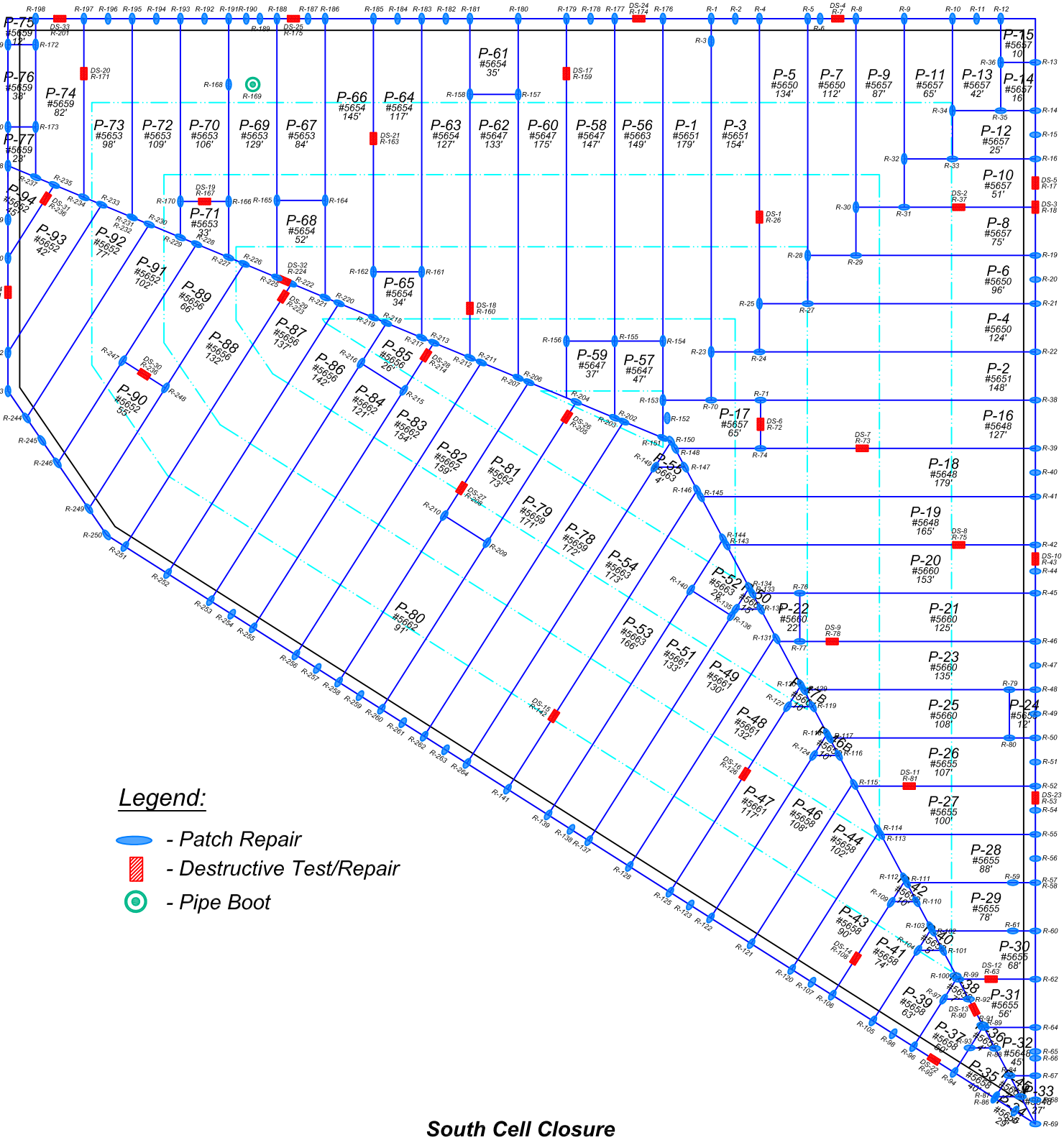
PROJECT
STANTON SITE RESTORATION
SOUTH CELL CLOSURE

TITLE
DETAILS

PROJECT NO. 1775717 | REV. 0 | G7 of G7 | DRAWING G7

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 1 in

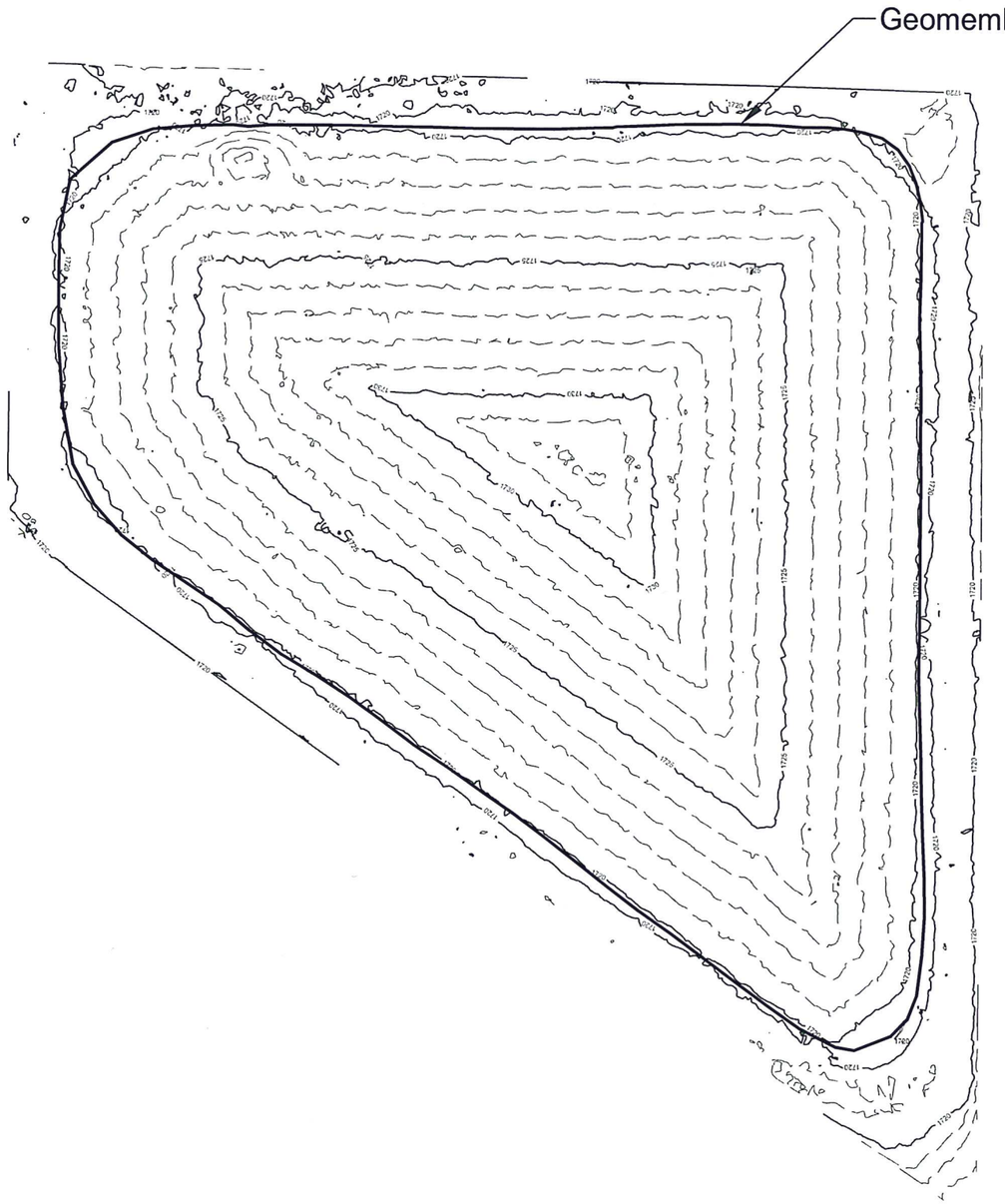


South Cell Closure

As-built 60-mil DS textured HDPE liner panel layout

SHEET NO. 1 of 1	DETAIL	NORTHWEST LININGS & GEOTEXTILE PRODUCTS, Inc. www.northwestlinings.com 21000 77TH AVE. SOUTH KENT, WA. 98032 (253) 872-0244 (253) 872-0245 FAX	

JOB NAME:	Great River Energy Stanton Site		
JOB NO.	N 1 9 0 4 4		
DATE:	12 20 19	CHECKED:	KA
BY:	SG	SCALE:	AS SHOWN



Total cover thickness (growth medium and topsoil) above geomembrane/GCL liner system was verified to be a minimum of 36 inches.

REGISTERED PROFESSIONAL ENGINEER & LAND SURVEYOR
DAREN PETERKA
PE-4358
LS-4358
DATE 09.30.2020
NORTH DAKOTA

N

100' 0 100'

Revision No.	Date	By	Description

Great River Energy - Stanton Station
Stanton Site Restoration
Stanton, North Dakota

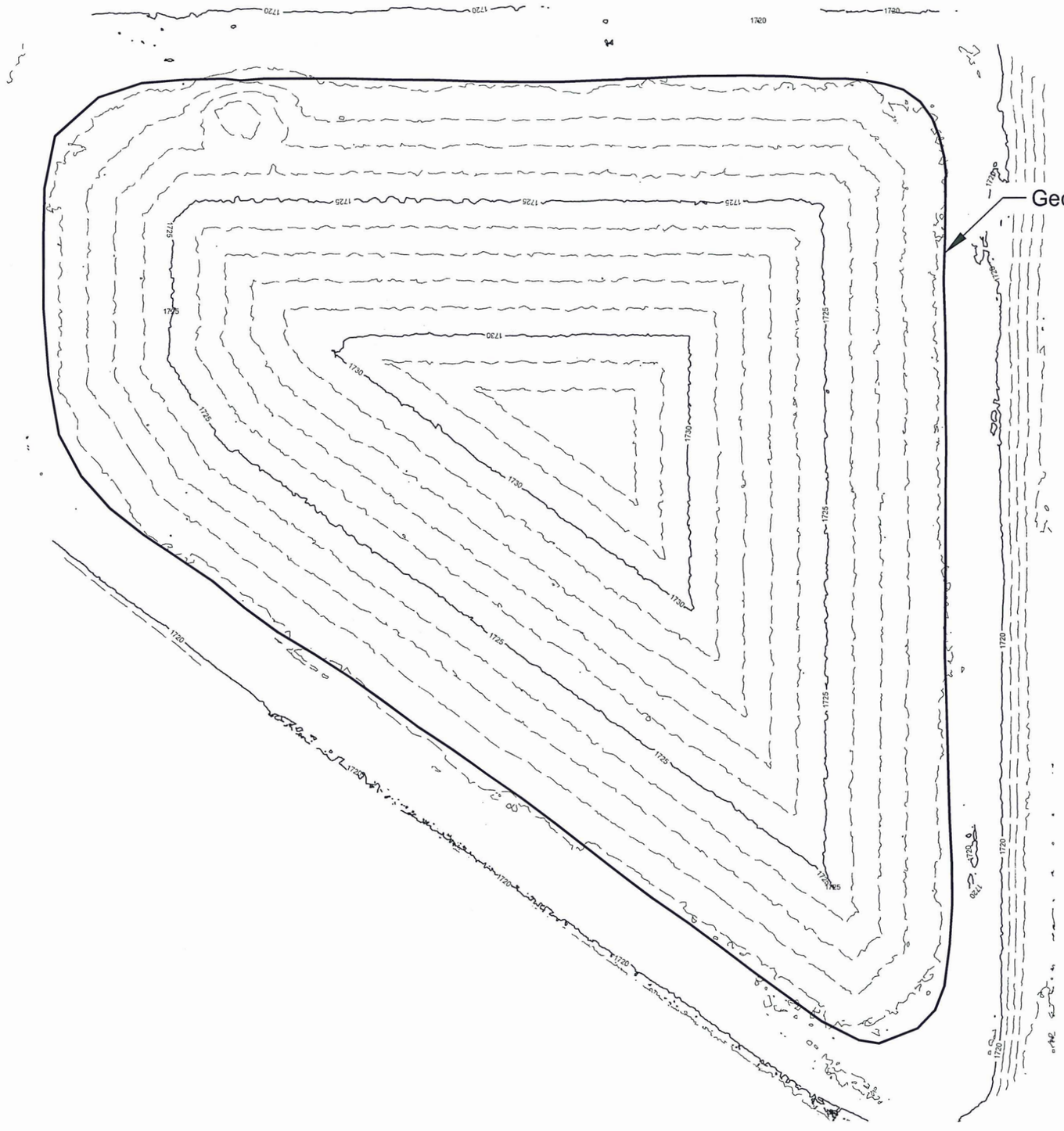
SOW G - Bottom Ash Impoundment South Cell - Growth Medium As-Built

Drawn By: Daren Peterka | Project No.: 19-08-027
Checked By: Daren Peterka | Date: September 28, 2020

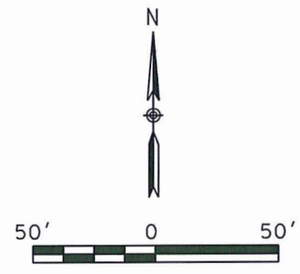
Interstate Engineering, Inc.
P.O. Box 2035
1903 12th Ave. S.W.
Jamestown, N.D., 58402-2035
Ph. (701) 252-0234
Fax (701) 252-0203
www.interstateeng.com
Other offices in Minnesota, Montana and South Dakota

INTERSTATE ENGINEERING
Professionals you need, people you trust

1
SHEET NO.



Total cover thickness (growth medium and topsoil) above geomembrane/GCL liner system was verified to be a minimum of 36 inches.



REGISTERED PROFESSIONAL ENGINEER & LAND SURVEYOR
DAREN PETERKA
PE-4358
LS-4358
DATE 09.30.2020
NORTH DAKOTA

Revision No.	Date	By	Description

Great River Energy - Stanton Station
Stanton Site Restoration
Stanton, North Dakota

SOW G - Bottom Ash Impoundment South Cell - Topsoil As-Built

Drawn By: Daren Peterka | Project No.: 19-08-027
Checked By: Daren Peterka | Date: September 30, 2020

Interstate Engineering, Inc.
P.O. Box 2035
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Jamestown, N.D., 58402-2035
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www.interstateeng.com
Other offices in Minnesota, Montana and South Dakota

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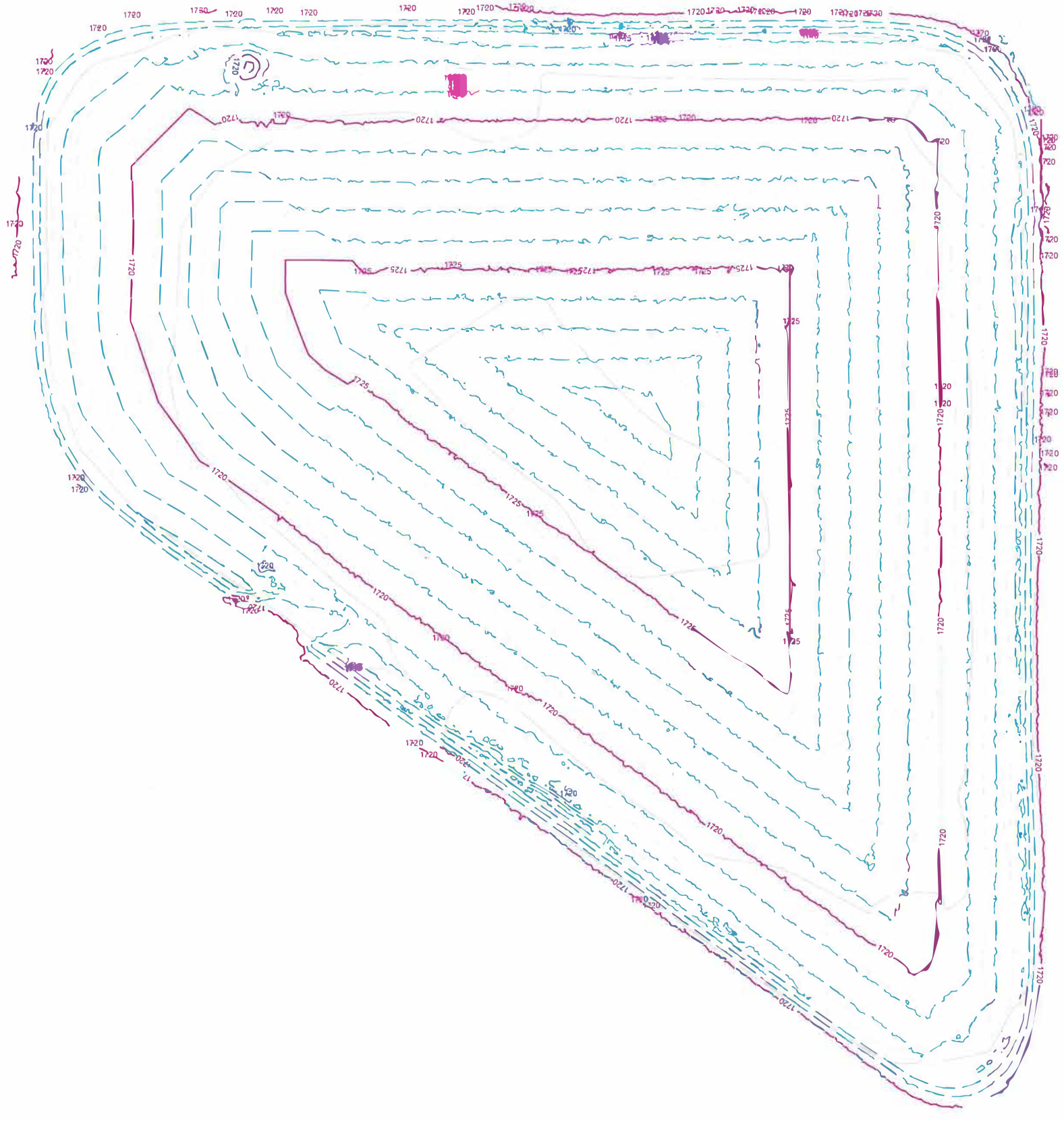
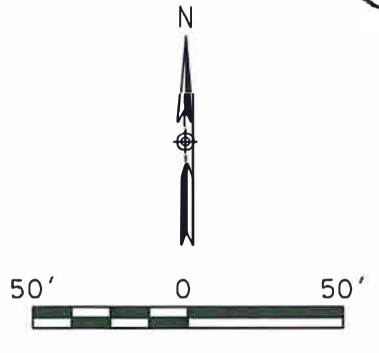
1
SHEET NO.




```
** TIN to TIN Volume Report -- Fri Oct 25 2019
**                                                    **
** From TIN <Q:\All Surveys\08-027\SOW G\\Filled>
to TIN <Q:\All Surveys\08-027\SOW GTop of Waste Final>
**                                                    **
** Prismoidal Volume
**                                                    **
**                                                    **
************************************************************************
**                                                    **
**  Total Cut =        3,594 Cubic Yards
**  Total Fill =       4,378 Cubic Yards
**                                                    **
************************************************************************
```



Revision No.	Date	By	Description

Great River Energy - Stanton Station
Stanton Site Restoration
Stanton, North Dakota

SOW G - Waste Regrading Quantity

Drawn By: Daren Peterka | Project No.: 19-08-027
Checked By: Daren Peterka | Date: November 13, 2019

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APPENDIX B

Visual Observation Checklist

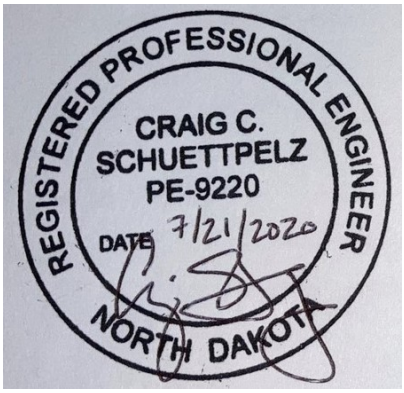
INSPECTION CHECKLIST

Facility Name: Bottom Ash Impoundment
Owner and Address: Great River Energy – Stanton Station
Purpose of Facility: CCR dewatering and process water storage/clarification
Legal: Section 21 **Township:** 144N **Range:** 84W
County: Mercer
Inspected By: Craig Schuettpelz, PE **Inspection Date:** July 21, 2020
Weather: Sunny, 70-80°F, low wind, no precipitation

ITEM	Y	N	N/A	REMARKS
1. Water levels				
a. High water mark			X	EI: N/A
b. Current water level			X	Previously dewatered as part of site restoration
2. Inflow structure (*removed during site closure/restoration)*				
a. Settlement			X	
b. Cracking			X	
c. Corrosion			X	
d. Obstacles in inlet			X	
e. Riprap/erosion control			X	
3. Outflow structure (*historic structures abandoned in place or removed during site closure/restoration, this section refers to the south cell sump riser piping)*				
a. Settlement		X		
b. Cracking		X		
c. Corrosion		X		
d. Obstacles in outlet		X		Protective cap in place during inspection
e. Riprap/erosion control			X	
4. Final Cover Area				
a. Erosion		X		
b. Vegetation		X		Recently seeded and mulched
c. Rodent Burrows		X		
d.				
e. Seepage, sloughs, cracks, settlement		X		
5. Perimeter Berm Crest				
a. Soil condition	X			Gravel and soil road, no significant settlement/cracking
b. Comparable to design width	X			
c. Vegetation		X		
d. Rodent burrows		X		
e. Exposed to heavy traffic	X			During closure
f. Damage from vehicles/machinery		X		
6. Downstream slope				
a. Erosion	X			Minor erosion (particulary on newly seeded north berm)
b. Vegetation	X			Grass, few bare spots, minor woody vegetation
c. Rodent burrows	X			Few 2” to 6” animal burrows
d. Cracks/settlement/scarps		X		
e. Drain conditions			X	
f. Seepage		X		
7. Toe				
a. Vegetation	X			Grass
b. Rodent burrows	X			Few 2” to 6” animal burrows
c. Settlement		X		
d. Drainage conditions	X			Good condition drainage ditch on south side and restoration grading draining away from facility on other sides
e. Seepage		X		

General Remarks: Site was closed as a part of site restoration activities (south cell closed with material in place, north and center cells closed by removal of material); minor ongoing maintenance may include control/repair of burrows, removal of woody vegetation, establishing vegetation; no sign of instability.

Name of Engineer (Engineer Firm):
Craig Schuettpelz, PE (Golder Associates, Inc.)
Date: July 21, 2020
Signature:



APPENDIX C

Photographs

LEGEND

1 PHOTOGRAPH NUMBER AND LOCATION

REFERENCE(S)

1. AERIAL IMAGE FROM UNITED STATES DEPARTMENT OF AGRICULTURE NATIONAL AGRICULTURE IMAGERY PROGRAM, 2020.

GOLDER

GREAT RIVER ENERGY - STANTON STATION
2020 ANNUAL INSPECTION - PHOTOGRAPH LOCATIONS
BOTTOM ASH IMPOUNDMENT

FIGURE 1

CCR Bottom Ash Impoundment

Photograph 1 (NE berm crest of historic north cell)
Interior of north cell and center cell (bottom ash, liner system, and a portion of the underlying clay removed during restoration activities). (IMG_DSCF0954.JPG)

Photograph 2 (NE berm crest of south cell)
East berm access road with no signs of damage and recently seeded and mulched east final cover crown area. (IMG_DSCF0966.JPG)

CCR Bottom Ash Impoundment

Photograph 3 (East side of south cell)
South cell final cover recently seeded and mulched. (IMG_DSCF0967.JPG)

Photograph 4 (South cell east berm downstream slope)
Lower east berm downstream slope with historic well-established grass vegetation mid-slope and recently seeded and mulched areas on the upper slope and near the toe of the slope. (IMG_DSCF0972.JPG)

CCR Bottom Ash Impoundment

Photograph 5 (South cell east berm downstream slope)
Woody vegetation on east downstream slope of south cell. (IMG_DSCF0973.JPG)

Photograph 6 (Southeast corner of south cell)
Drainage ditch at the toe of the south slope of the south cell and recently seeded and mulched lower berm downstream slopes. (IMG_DSCF0974.JPG)

CCR Bottom Ash Impoundment

Photograph 7 (South berm downstream slope)
Grass vegetation on south downstream slope. (IMG_DSCF0977.JPG)

Photograph 8 (South berm downstream slope)
Small animal burrow on south downstream slope. (IMG_DSCF0978.JPG)

CCR Bottom Ash Impoundment

Photograph 9 (South berm crest)
Grass vegetation on south downstream slope, south berm access road in good condition, and recently seeded and mulched south final cover crown area. (IMG_DSCF0983.JPG)

Photograph 10 (South cell south slope)
Grass vegetation on south downstream slope (typical). (IMG_DSCF0992.JPG)

CCR Bottom Ash Impoundment

Photograph 11 (Top of south cell)
Top of final cover recently seeded and mulched and south cell sump riser pipe. (IMG_DSCF0995.JPG)

Photograph 12 (Top of south cell)
South cell sump riser pipe with removable sump cap in place. (IMG_DSCF0997.JPG)

CCR Bottom Ash Impoundment

Photograph 13 (South cell north downstream berm)
Recently seeded and mulched downstream berm of the south cell (this area was historically occupied by the center cell that was closed by removal). (IMG_DSCF1001.JPG)

Photograph 14 (North berm downstream slope)
Erosion rills and new vegetation. (IMG_7386.JPG)

CCR Bottom Ash Impoundment

Photograph 15 (West side of removed center and north cells) New vegetation. (IMG_7387.JPG)

Photograph 16 (South cell north side) New vegetation on final cover. (IMG_7389.JPG)

golder.com