

12/9/2020

Colorado Division of Reclamation and Mining Safety  
Mr. Eric Scott  
1313 Sherman Street, Room 215  
Denver, CO 80203

**RE: Technical Revision 07- Holton Mine (Permit M-2008-082) Adequacy Review Response**

Dear Mr. Scott:

This letter is in response to the Technical Revision 07 (TR07) – Adequacy Review letter from the Division dated December 2, 2020. I have copied your requests below and have responded to each in red. I have also included a spreadsheet with the requested reclamation costs broken out per pond to help with your review(Attachment A). The costs are based on a competitive bid process completed in the Fall of 2020.

**Responses to Adequacy Review**

- 1) Please submit as-built specifications and total installation costs for the slurry walls installed for lined reservoirs identified in the revision as Ponds 1, 2 and 3. Please also provide any documentation provided to the operator by State Engineer's Office (SEO) to verify if any of the installed slurry walls have been provisionally approved by the SEO. DRMS will adjust the bond for the site to include 20% of the total installation cost for slurry walls that have been provisionally approved by SEO, and 100% of the installation cost for any slurry walls that have not been provisionally approved by SEO, around areas where groundwater has been exposed. **As-Built plans have been provided in Attachment B. The slurry walls for Pond 1 and Pond 2 have been provisionally approved by SEO and the approval letters have been attached in Attachment C. The total costs of slurry wall construction are included in Attachment A and listed below:**
  - Pond 1 = \$1,250,196.19
  - Pond 2 = \$2,188,320.61
  - Pond 3 = \$1,943,824.00
- 2) Please provide costs and backup documentation to modify or install spillway structures as identified and specified in TR07 for Ponds 1, 2, and 3. **The cost for installing a 100' wide spillway is approximately \$54,618 and a 50' wide spillway is approximately \$27,309 which based upon the bid documents provided by Claystone Construction, Inc which is provided in Attachment D. The cost to install the spillway structures are included in Attachment A and listed below:**
  - Pond 1 (3 @ 100 wide spillways) : \$163,854
  - Pond 2 (2 @ 100' wide spillways, 1 @ 50' wide spillway): \$136,545
  - Pond 3 (1 @ 100' wide spillway,. 2 @ 50' wide spillways): \$109,236
- 3) Please provide costs and backup documentation to install the compacted clay slope reinforcement in Pond 1 and reduce the interior slope from 3:1 to 4:1. This cost should include the cost per cubic yard for installation of compacted clay material and required QA/QC testing to make sure it meets the specifications designated in the TR. **The costs per cubic yard are included in Attachment A and based on the bid documents from Claystone Construction, Inc. included in attachment D. The total cost to install the Pond 1 reclamation slope is \$911,600.**

- 4) Please provide costs and backup documentation to install compacted clay liner and/or reduce interior sloping as needed in Ponds 2, and 3 as previously stated. **The 4:1 clay liner will only be installed at the spillway locations for Ponds 2 and 3 and the Demising Berm in Pond 3. The costs per pond are listed in Attachment A along with the cubic yards of material needed for each pond.**
- 5) Please modify the provided maps to make sure that all areas to be reinforced with compacted clay and/or modified from 3:1 interior slopes to 4:1 interior slopes for Ponds 1-3 are clearly and accurately depicted. **The Mining Plan Map and the Reclamation Plan Map have been updated to call out locations where compacted clay and 4:1 slopes are located.**
- 6) Please provide the amount of material (in CY) needed to backfill the north portion of Pond 3 as shown in TR07 to the new configuration. Additional information such as push distance will also be useful in DRMS calculation of the bond needed to place this material. **The amount of material needed to backfill the north portion of Pond 3 is approximately 250,800 cy and is also included in Attachment A.**
- 7) Please correct the permit boundary in the NW corner of the permit on the maps provided to match the approved permit boundary as approved in AM01. **The permit boundary has been updated as requested.**
- 8) Based on a phone conversation with Mr. Lamanna on December 1, 2020, the spillway structures and slurry walls for Ponds 4A and 4B, as well as the additional slurry wall and subsequent final mining of the west side of Pond 2 will be addressed in a subsequent technical revision. Therefore, please remove these items as appropriate from the provided text and figures for this revision. **The spillway structures and reference to the final mining of the west side of Pond 2 has been removed from the plans.**

I hope that this adequately addresses your requests and please do not hesitate to contact us with any questions or concerns.

Sincerely,  
CIVIL RESOURCES, LLC.



Kyle Regan  
Project Geologist

Cc: Mr. Joe Lamanna, RMCC

*Attachments:*

*Figure 1 (Mine Plan and Reclamation Plan)*

*Attachment A – Morton Lakes Supplemental Reclamation Cost Information*

*Attachment B – Slurry Wall As-Built Plans*

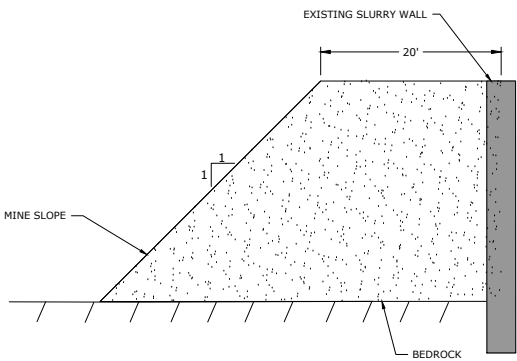
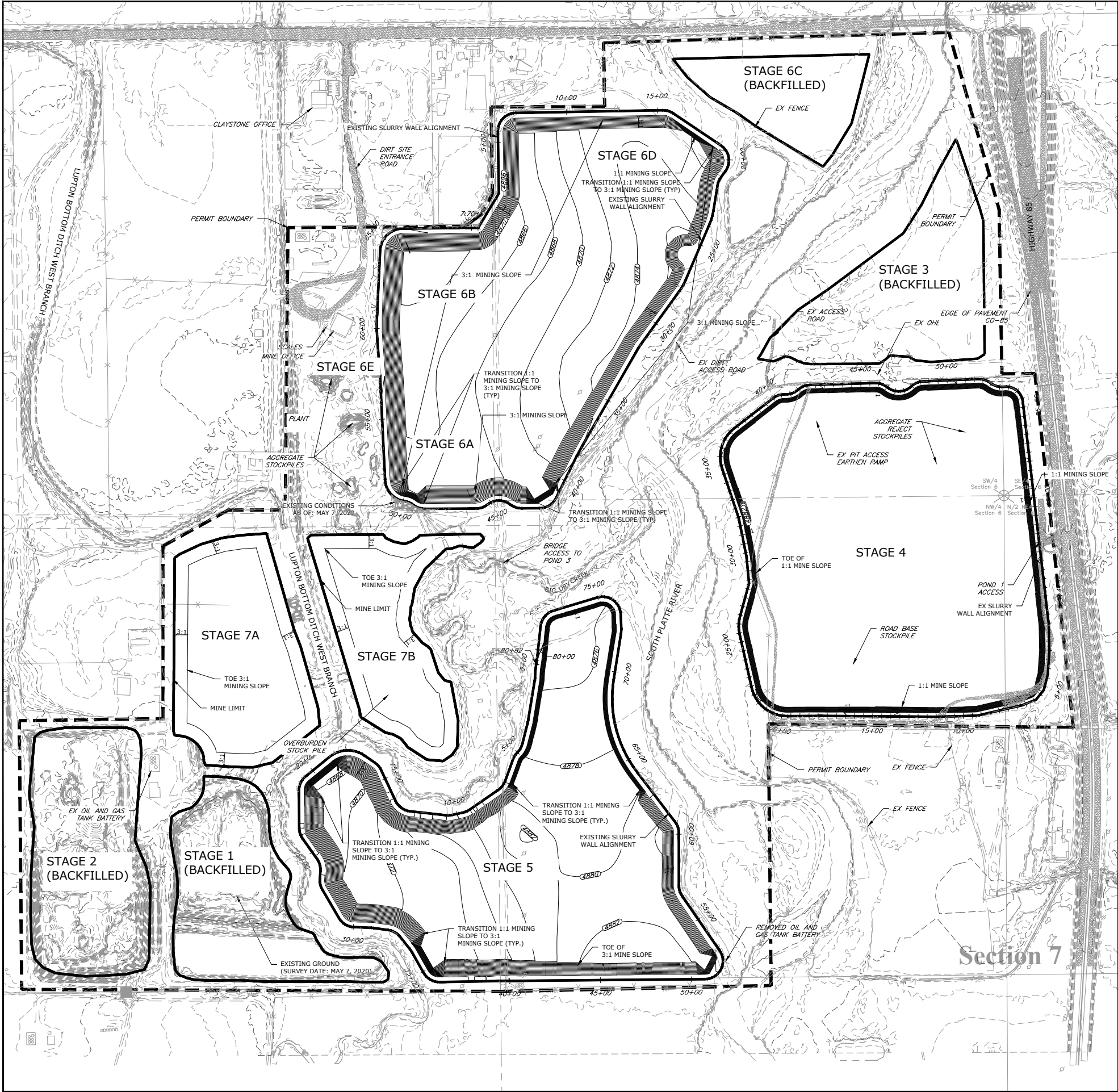
*Attachment C – SEO Provisional Approval Letters*

*Attachment D – Pond 1 Claystone Reclamation Slope Bid Documents*

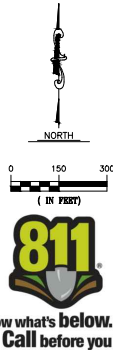
# Figure 1

Updated Mine and Reclamation Plan





- NOTES:
1. MINING IS ONGOING IN PONDS 1, 2 AND 3.
  2. MINING IN POND 1 IS EXPECTED TO BE COMPLETED LATE 2020 WITH RECLAMATION BEGINNING SHORTLY THEREAFTER.



  
CIVIL RESOURCES  
323 5th STREET  
P.O. Box 680  
FREDERICK, CO 80530  
303.833.1416  
WWW.CIVILRESOURCES.COM

BRANNAN SAND & GRAVEL  
2500 EAST BRANNAN WAY  
DENVER, CO 80229  
303.534.1231 (p)

BRANNAN - MORTON LAKES  
MINING PLAN  
WELD COUNTY, COLORADO

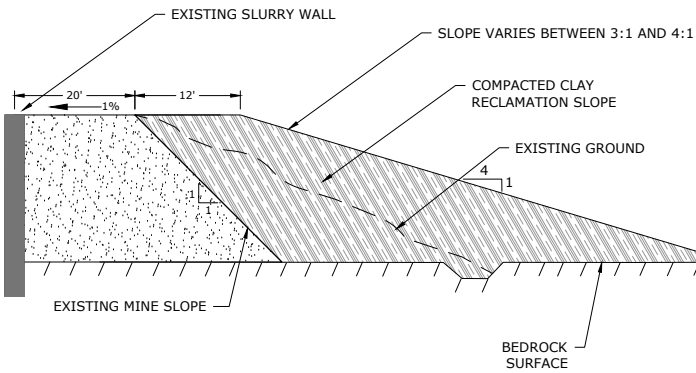
REVISIONS		
NO.	DESCRIPTION	DATE

DESIGNED BY: CAS DATE: 8/4/2020  
DRAWN BY: JPM SCALES NOTED  
CHECKED BY: BLH AS NOTED  
JOB NO.: 296.001.01  
DWG NAME: HOLTON-DRMS-MINE.dwg

MINING  
PLAN  
MAP

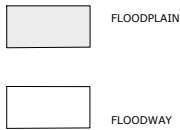
SHEET:





TYPICAL SECTION - RECLAMATION SLOPE  
NOT TO SCALE

LEGEND



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P.O. Box 680  
FREDERICK, CO 80530  
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2500 EAST BRANNAN WAY  
DENVER, CO 80229  
303.534.1231

BRANNAN - MORTON LAKES  
HOLTEN PONDS RECLAMATION PLAN  
WELD COUNTY, COLORADO

REVISIONS		
NO.	DESCRIPTION	DATE

DESIGNED BY: CAS DATE: 8/4/2020  
DRAWN BY: JPM SCALE: AS NOTED  
CHECKED BY: BLH AS NOTED  
JOB NO.: #####  
DWG NAME: Overlaid.dwg

RECLAMATION  
PLAN

SHEET:

# Attachment A

## Pond Reclamation Costs

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### Morton Lakes Supplemental Reclamation Cost Information

Activity	Quantity	Units	Unit Costs	Cost
<b>A. Pond 1</b>				
1 Foundation Excavation and Preparation	66,000	CY	\$ 1.45	\$ 95,700.00
2 Reclamation Slope Fill and QA/QC	398,000.00	CY	\$ 2.05	\$ 815,900.00
<b>Combined Cost of Reclamation Slope and Foundation Prep</b>				<b>\$ 911,600.00</b>
3 100' Spillways	3.00	EA	\$ 54,618.00	\$ 163,854.00
Subtotal				\$ 1,075,454.00
<b>B. Pond 2</b>				
1 Foundation Excavation and Preparation	3,013	CY	\$ 1.45	\$ 4,368.85
2 Reclamation Slope Fill and QA/QC	28,633	CY	\$ 2.05	\$ 58,697.65
<b>Combined Cost of Reclamation Slope and Foundation Prep</b>				<b>\$ 63,066.50</b>
3 100' Spillways	2.00	EA	\$ 54,618.00	\$ 109,236.00
4 50' Spillways	1.00	EA	\$ 27,309.00	\$ 27,309.00
Subtotal				\$ 199,611.50
<b>C. Pond 3</b>				
1 Foundation Excavation and Preparation	7,019	CY	\$ 1.45	\$ 10,177.55
2 Reclamation Slope Fill and QA/QC	35,043	CY	\$ 2.05	\$ 71,838.15
3 Demising Berm Fill and QA/QC	74,000.0	CY	\$ 2.05	\$ 151,700.00
4 Backfill Needed For Northern Portion	250,800	CY	\$ 2.05	\$ 514,140.00
<b>Combined Cost of Reclamation Slope and Foundation Prep</b>				<b>\$ 665,840.00</b>
5 100' Spillways	1.00	EA	\$ 54,618.00	\$ 54,618.00
6 50' Spillways	2.00	EA	\$ 27,309.00	\$ 54,618.00
Subtotal				\$ 857,091.70
<b>E. Total Slurry Wall Cost Per Pond</b>				
1 Pond 1 (SEO Provisionally Approved)	20.00%	EA	\$ 1,250,196.19	\$ 250,039.24
1 Pond 2 (SEO Provisionally Approved)	20.00%	EA	\$ 2,188,320.61	\$ 437,664.12
1 Pond 3	1	EA	\$ 1,943,824.00	\$ 1,943,824.00
Subtotal				\$ 1,943,824.00

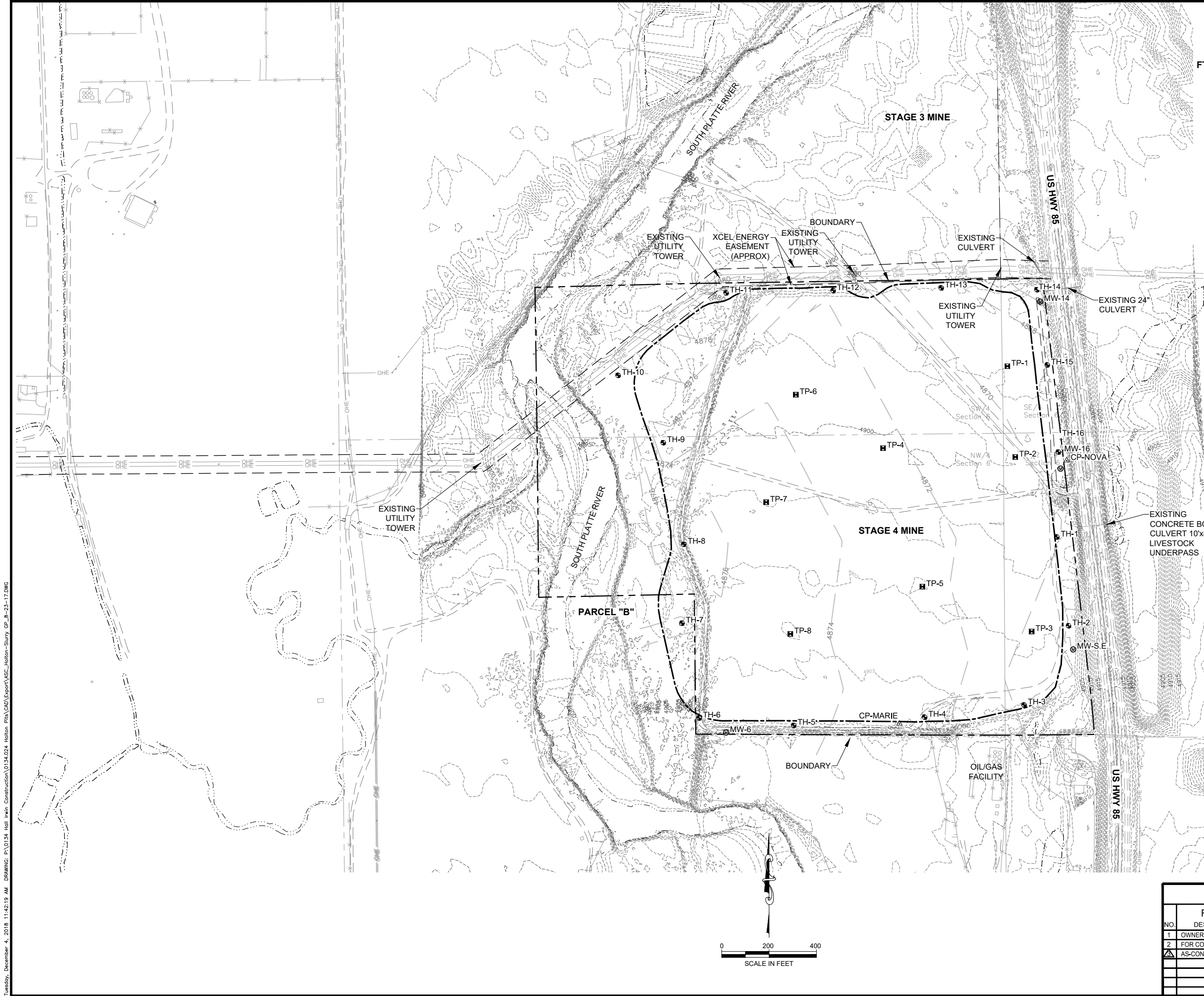
# Attachment B

As-Built Plans





Tuesday, December 4, 2018 11:42:19 AM DRAWING: F:\0134\_Holton Construction\0134.024\_Holton\_Pkg\CAD\Export\ASC\_Holton-Slurry\_WP\_8-23-17.DWG



FT. LUPTON

LEGEND:

- 18+00 20+00
- PROPOSED SLURRY WALL ALIGNMENT
- EXISTING CONTOUR (2' INTERVALS)
- PROPOSED CONTOUR (2' INTERVALS)
- ESTIMATED BEDROCK SURFACE CONTOURS
- FLOODPLAIN
- EXISTING ROAD
- EXISTING FENCE
- EXISTING GRAVEL ROAD
- EXISTING OVERHEAD ELECTRIC
- EXISTING UTILITY
- PROPERTY BOUNDARY
- SECTION LINE
- SILT FENCE
- TH-1 BORING LOCATION (OW)
- TP-1 INDICATES OBSERVATION WELL
- MW-6 TEST PITS
- MONITORING WELL
- SURVEY CONTROL MONUMENT

CONTROL POINT TABLE

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
200	1270374.20	3191450.50	4900.08	CP-NOVA
202	1269262.56	3190744.45	4903.18	CP-MARIE

NOTES:

- THIS DRAWING IS ON MODIFIED STATE PLANE. TO REDUCE TO STATE PLANE SCALE AT 0.9997293657 (1.000270708) ABOUT POINT 0,0.
- BASEMAP FROM FIELD SURVEY AND LIDAR PROVIDED BY KING SURVEYORS OCTOBER 2016 - JANUARY 2017.

HOLTON LAKES STAGE 4 SLURRY WALL

Existing Conditions

NO.	REVISIONS DESCRIPTION	DATE	BY
1	OWNER REVIEW	1/6/2017	CJH
2	FOR CONSTRUCTION	2/16/17	CJH
3	AS-CONSTRUCTED	8/3/17	CJH

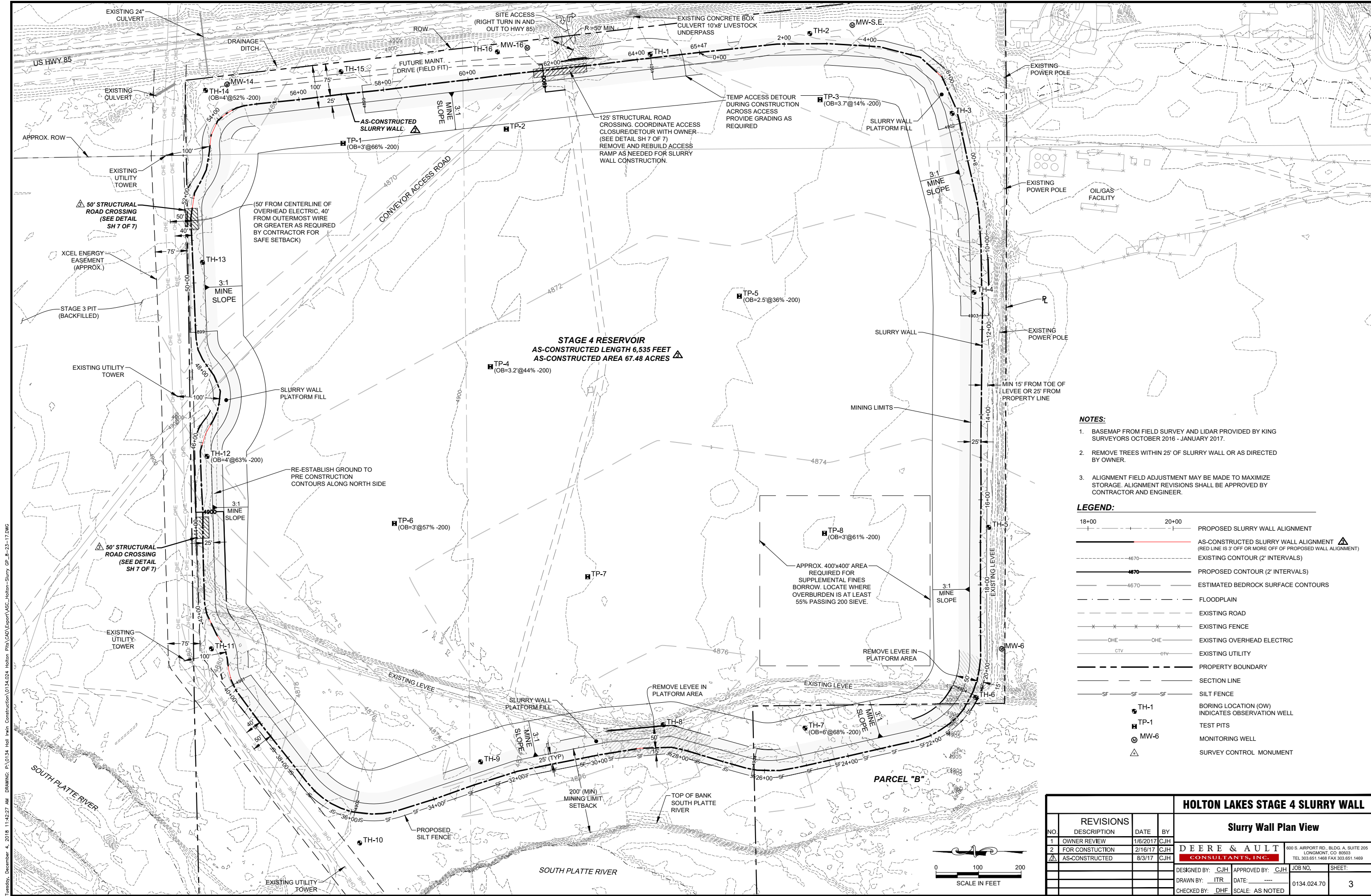
DESIGNED BY: CJH	APPROVED BY: CJH	JOB NO.	SHEET:
DRAWN BY: ITR	DATE: ---	0134.024.70	2
CHECKED BY: DHF	SCALE: AS NOTED		

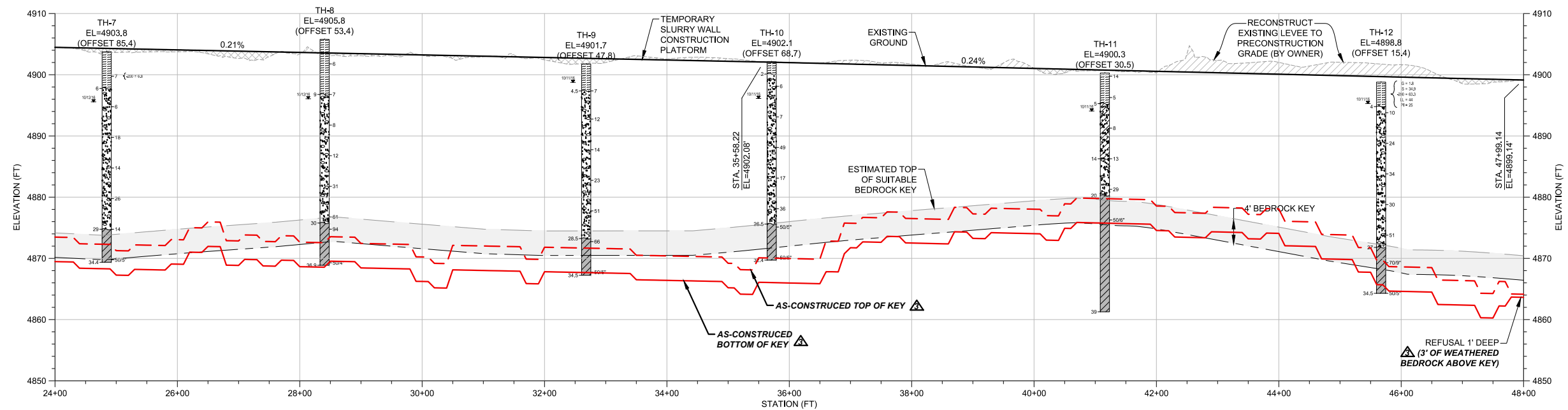
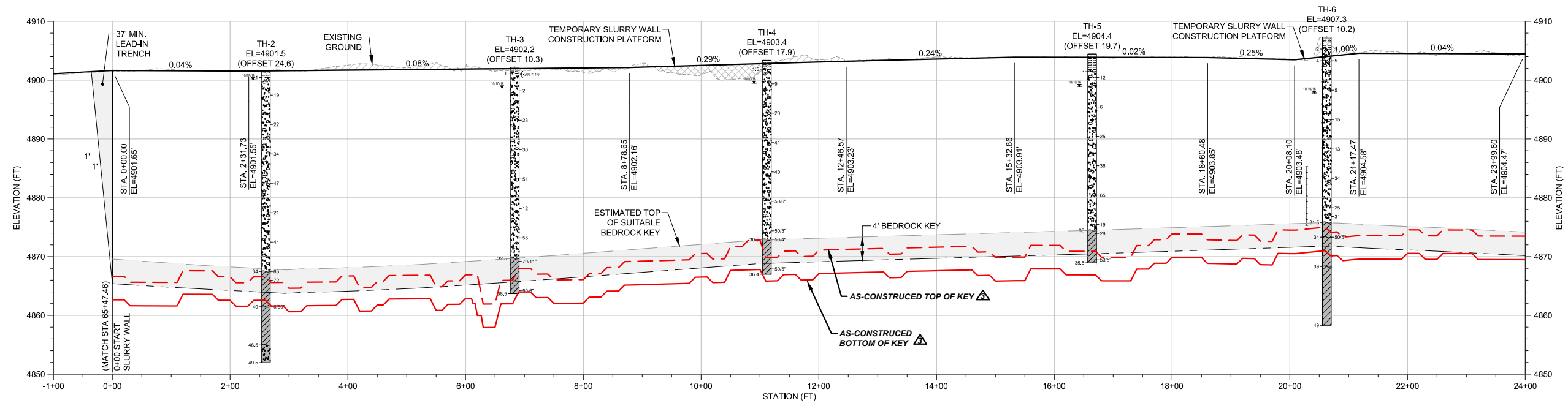
DEERE & AULT  
CONSULTANTS, INC.

800 S. AIRPORT RD., BLDG. A, SUITE 205  
LONGMONT, CO 80503  
TEL 303.651.1468 FAX 303.651.1469



Tuesday, December 4, 2018 11:42:27 AM Drawing: P:\0134 Holm Iron Construction\0134.024 Holm Pkwy\CAD\Export\ASC\Holm-Slurry GP\_B-23-17.DWG










Vertical Scale (FT) 0 10' 20'




Horizontal Scale (FT) 0 100' 200'

**LEGEND:**

	PROPOSED PLATFORM GRADE
	EXISTING GRADE
	ESTIMATED WEATHERED BEDROCK CONTACT
	ESTIMATED TOP OF SUITABLE BEDROCK KEY
	ESTIMATED BOTTOM OF BEDROCK KEY, MIN 4' BELOW SUITABLE BEDROCK CONTACT

				<b>HOLTEN LAKES STAGE 4 SLURRY WALL</b>			
<b>REVISIONS</b>				<b>Slurry Wall Profile Sta 0+00 to 56+00</b>			
NO.	DESCRIPTION	DATE	BY	<b>DEERE &amp; AULT</b> <b>CONSULTANTS, INC.</b>		800 S. AIRPORT RD., BLDG. A, SUITE 205 LONGMONT, CO 80503 TEL 303.651.1468 FAX 303.651.1469	
1	OWNER REVIEW	1/6/2017	CJH				
2	FOR CONSTRUCTION	2/16/17	CJH				
3	AS-CONSTRUCTED	8/3/17	CJH				
				DESIGNED BY: <u>CJH</u>		APPROVED BY: <u>CJH</u>	JOB NO.
				DRAWN BY: <u>ITR</u>		DATE: <u>---</u>	0134.024.70
				CHECKED BY: <u>DHF</u>		SCALE: <u>AS NOTED</u>	
							4



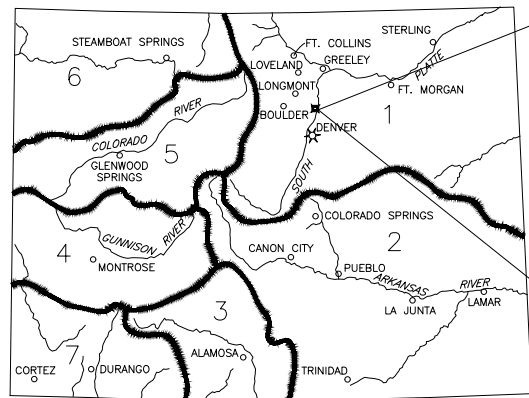
				<b>HOLTON LAKES STAGE 4 SLURRY WALL</b>																																																																	
<table border="1"> <tr> <td>NO.</td> <td>REVISIONS</td> <td>DATE</td> <td>BY</td> </tr> <tr> <td>1</td> <td>OWNER REVIEW</td> <td>1/6/2017</td> <td>CJH</td> </tr> <tr> <td>2</td> <td>FOR CONSTRUCTION</td> <td>2/16/17</td> <td>CJH</td> </tr> <tr> <td></td> <td>AS-CONSTRUCTED</td> <td>8/3/17</td> <td>CJH</td> </tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table>				NO.	REVISIONS	DATE	BY	1	OWNER REVIEW	1/6/2017	CJH	2	FOR CONSTRUCTION	2/16/17	CJH		AS-CONSTRUCTED	8/3/17	CJH																									<table border="1"> <tr> <td colspan="2"><b>Slurry Wall Profile Sta 56+00 to 67+00</b></td> <td colspan="2"> <b>DEERE &amp; AULT</b>  <b>CONSULTANTS, INC.</b> </td> <td colspan="2">         600 S. AIRPORT RD., BLDG. A, SUITE 205          LONGMONT, CO 80503          TEL. 303.651.1468 FAX 303.651.1469       </td> </tr> <tr> <td>DESIGNED BY:</td> <td>CJH</td> <td>APPROVED BY:</td> <td>CJH</td> <td>JOB NO.</td> <td>SHEET:</td> </tr> <tr> <td>DRAWN BY:</td> <td>ITR</td> <td>DATE:</td> <td>----</td> <td rowspan="2">0134.024.70</td> <td rowspan="2">5</td> </tr> <tr> <td>CHECKED BY:</td> <td>DHF</td> <td>SCALE:</td> <td>AS NOTED</td> </tr> </table>				<b>Slurry Wall Profile Sta 56+00 to 67+00</b>		<b>DEERE &amp; AULT</b> <b>CONSULTANTS, INC.</b>		600 S. AIRPORT RD., BLDG. A, SUITE 205 LONGMONT, CO 80503 TEL. 303.651.1468 FAX 303.651.1469		DESIGNED BY:	CJH	APPROVED BY:	CJH	JOB NO.	SHEET:	DRAWN BY:	ITR	DATE:	----	0134.024.70	5	CHECKED BY:	DHF	SCALE:	AS NOTED
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CHECKED BY:	DHF	SCALE:	AS NOTED																																																																		



AS-CONSTRUCTED PLANS FOR

# HOLTON LAKES - RESERVOIR 2 SLURRY WALL

WELD COUNTY, COLORADO



STATE OF COLORADO  
PROJECT LOCATION MAP

N.T.S.

NORTH



SITE

PROJECT LOCATION MAP

NOT TO SCALE

NORTH

Sheet List Table	
SHEET NUMBER	SHEET TITLE
1	ASB COVER
2	ASB EXISTING CONDITIONS
3	ASB SLURRY WALL PLAN
4	ASB SLURRY WALL PROFILE
5	ASB SECTIONS 1
6	ASB SECTIONS 2
7	ASB EXPLORATORY LOGS 1
8	ASB EXPLORATORY LOGS 2
9	ASB DETAILS

PREPARED FOR:

GREAT LAKES ENVIRONMENTAL AND INFRASTRUCTURE  
625 DALLAS DRIVE, SUITE 350  
DENTON, TX 76205

READY MIXED CONCRETE COMPANY

11778 HIGHWAY 52  
FORT LUPTON, CO 80621

PREPARED BY:

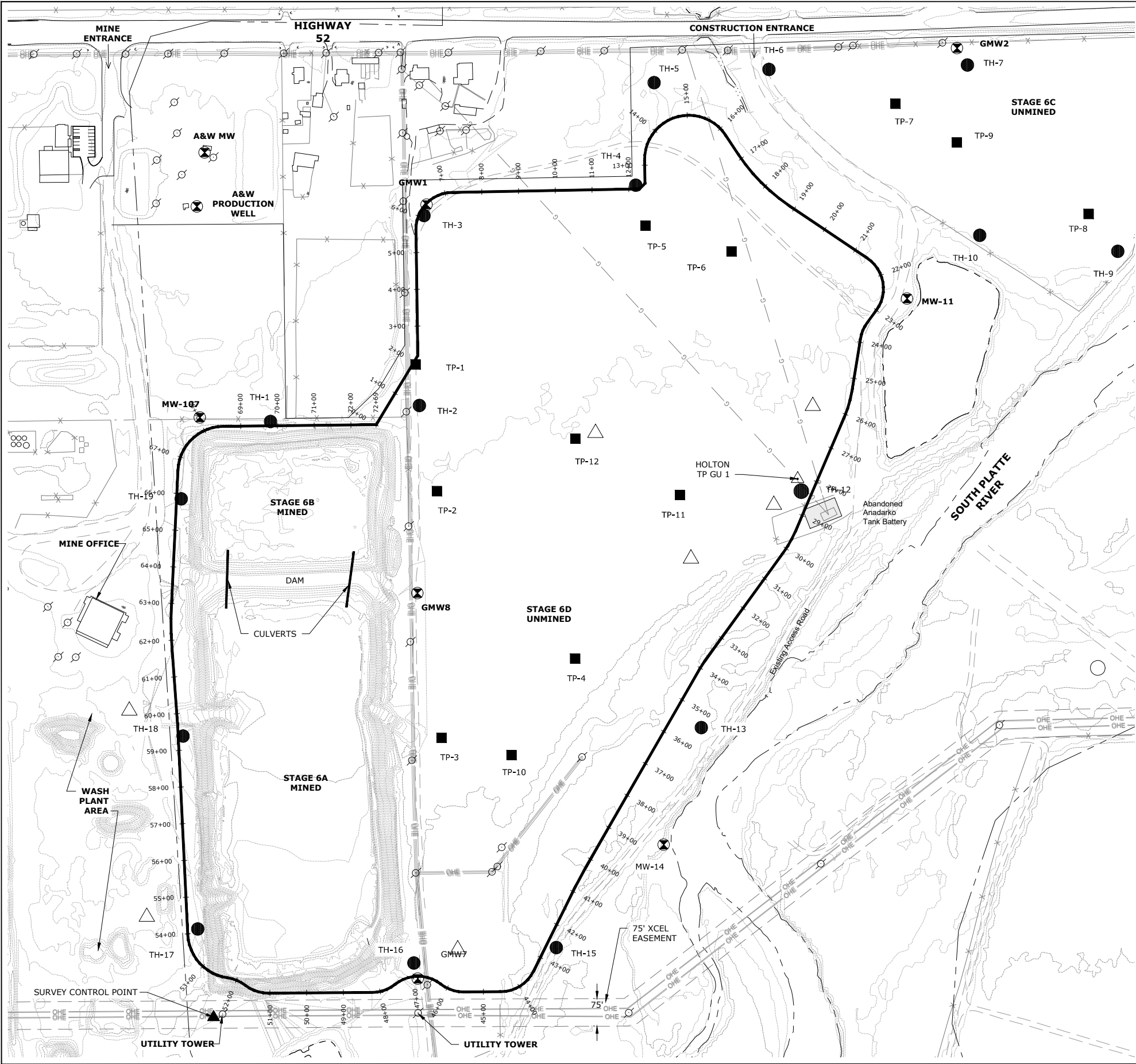
CIVIL RESOURCES, LLC

323 5th STREET  
P.O. BOX 680  
FREDERICK, CO 80530  
303 833 1416



REVISIONS				DATE:
NO.	DESCRIPTION	DATE	BY	
1	AS-CONSTRUCTED	MAY 2019	GL	MAR 1, 2019
				DWG:
				ASB SLURRY WALL.dwg
				SHEET:
				1

J:\Great Lakes\Holton Ponds\Drawings\SHEETS\As Built\April-May 2019\As Constructed Slurry Wall Plans April - May 2019\ASB SLURRY WALL.dwg, 6/24/2019 10:52:24 AM



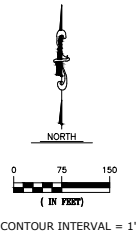
**LEGEND**

- 25+00 26+00 PROPOSED SLURRY WALL ALIGNMENT
- 4870 EXISTING CONTOUR (2' INTERVAL)
- ESTIMATED BEDROCK CONTOUR (2' INTERVAL)
- EXISTING GRAVEL ROAD
- OHE EXISTING OVERHEAD ELECTRIC
- G EXISTING GAS LINE (ABANDONED IN SLURRY WALL AREAS)
- ABANDONED GAS WELL
- TH-1 BORING LOCATION
- MW-11 MONITORING WELL LOCATION
- TP-2 TEST PIT
- SURVEY CONTROL POINT

- NOTE:
- HORIZONTAL DATUM: COLORADO STATE PLANE-NORTH ZONE-NAD83/2011
  - VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88)
  - SURVEY BY KING SURVEYORS, DEC, 2018
  - BURIED ELECTRIC LINES ARE PRESENT IN THE AREA AND ARE NOT SHOWN. CALL KUCHAR ELECTRIC AT (303)-589-4743 FOR LOCATES.

SURVEY CONTROL POINT:

N: 1,270,006.4620  
E: 3,186,982.6310  
ELEVATION = 4900.949



CIVIL RESOURCES, L

323 5th STREET  
P.O. Box 680  
FREDERICK, CO 80530  
303.833.1416  
WWW.CIVILRESOURCES.COM

GREAT LAKES ENVIRONMENTAL AND INFRASTRUCTURE

625 DALLAS DRIVE, SUITE 350  
DENTON, TX 76205  
###  
CONTACT: ###

HOLTON LAKES  
RESERVOIR 2  
SLURRY WALL

REVISIONS		
NO.	DESCRIPTION	DATE
1	AS-CONSTRUCTED	MAY 2019

DESIGNED BY: GL DATE: MAR 1, 2019

DRAWN BY: BP SCALE: AS NOTED

CHECKED BY: GL AS NOTED

JOB NO.: 296.001.01

DWG NAME: ASB SLURRY WALL.DWG

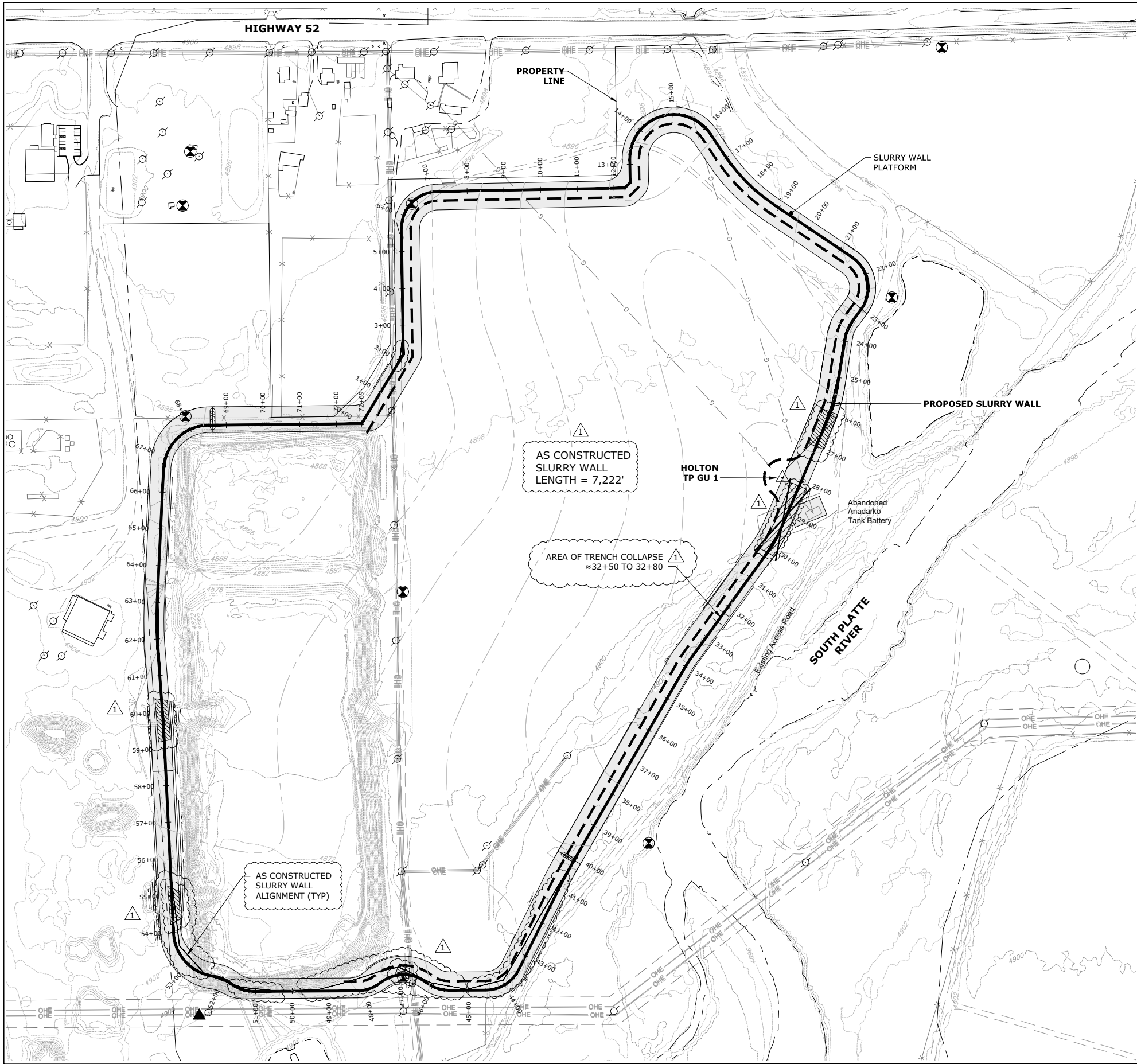
EXISTING  
CONDITIONS

SHEET:

2



J:\Great Lakes\Holton Ponds\Drawings\SHEETS\As Built\April-May 2019\As Constructed Slurry Wall Plans April - May 2019\ASB SLURRY WALL.dwg 6/24/2019 10:52:38 AM



- NOTES:
1. BASE MAP BY KING SURVEYORS DECEMBER, 2018.
  2. REMOVE TREES IN PLATFORM OR AS DIRECTED BY OWNER.
  3. BURIED ELECTRIC IS PRESENT ALONG THE ALIGNMENT AND IS NOT SHOWN. CALL KUCHER ELECTRIC (303)-589-4743 FOR LOCATES.
  4. STAKE THE SLURRY WALL STA 43+00 TO 53+00 FOR XCEL INSPECTION.

**LEGEND**

- SLURRY WALL PLATFORM
- AS-CONSTRUCTED SLURRY WALL ALIGNMENT THIN LINE IS 3' OR MORE OFF OF PROPOSED SLURRY WALL ALIGNMENT
- EXISTING CONTOUR (2' INTERVAL)
- PROPOSED CONTOUR (2' INTERVAL)
- ESTIMATED BEDROCK CONTOUR (2' INTERVAL)
- MINE LIMIT
- BORING LOCATION
- MONITORING WELL LOCATION
- TEST PIT LOCATION
- ABANDONED GAS WELL
- STRUCTURAL CROSSING TO BE COORDINATED WITH OWNER SEE DETAIL SHEET 9.
- ABANDONED GAS LINE
- OVERHEAD ELECTRIC
- CROSS SECTION CALLOUT
- SHEET WHERE SHOWN
- SHEET WHERE TAKEN
- AS CONSTRUCTED
- AS CONSTRUCTED SLURRY WALL ALIGNMENT (ALIGNMENT DEVIATION GREATER THAN 3')
- AS DESIGNED

0 75 150  
( IN FEET )  
CONTOUR INTERVAL = 2'

NOTE:  
HORIZONTAL DATUM: COLORADO STATE PLANE-NORTH ZONE-NAD83/2011  
VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88)



CIVIL RESOURCES, L  
323 5th STREET  
P.O. Box 680  
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303.833.1416  
WWW.CIVILRESOURCES.COM

GREAT LAKES ENVIRONMENTAL AND INFRASTRUCTURE  
625 DALLAS DRIVE, SUITE 350  
DENTON, TX 76205  
###  
CONTACT: ###

HOLTON LAKES  
RESERVOIR 2  
SLURRY WALL

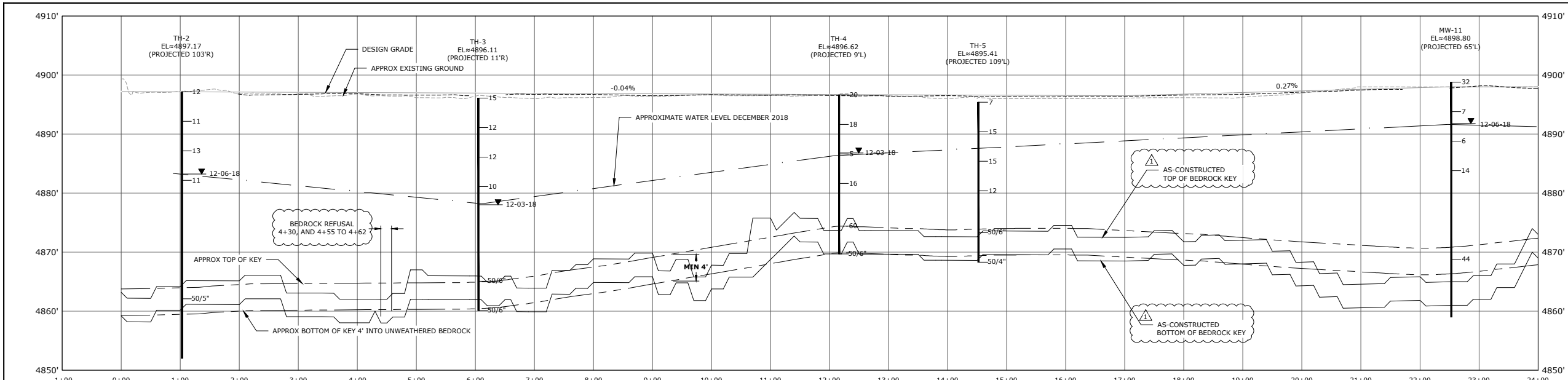
REVISIONS		
NO.	DESCRIPTION	DATE
1	AS-CONSTRUCTED	MAY 2019

DESIGNED BY: GL DATE: MAR 1, 2019  
DRAWN BY: BP SCALE: AS NOTED  
CHECKED BY: GL AS NOTED  
JOB NO.: 296.001.01  
DWG NAME: ASB SLURRY WALL.DWG

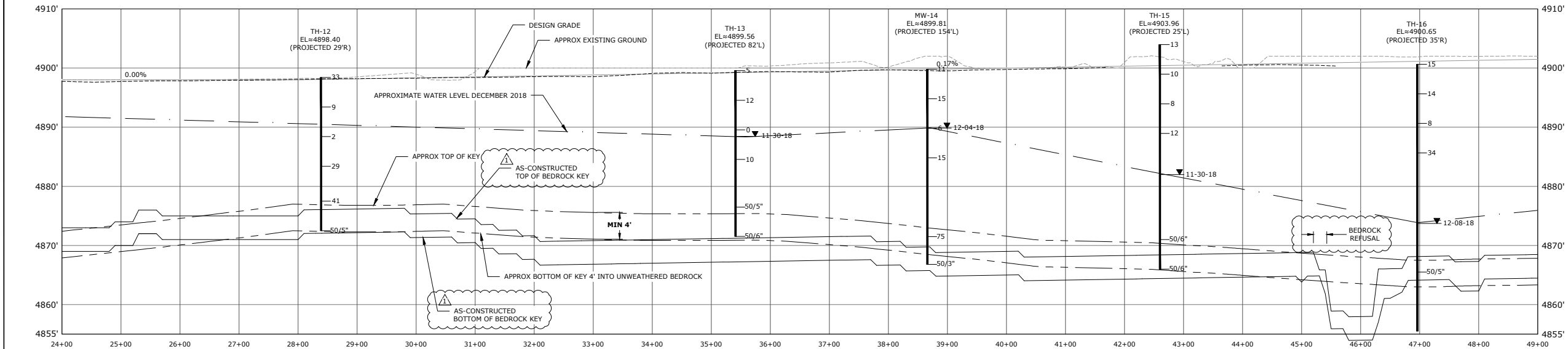
SLURRY WALL PLAN

SHEET:

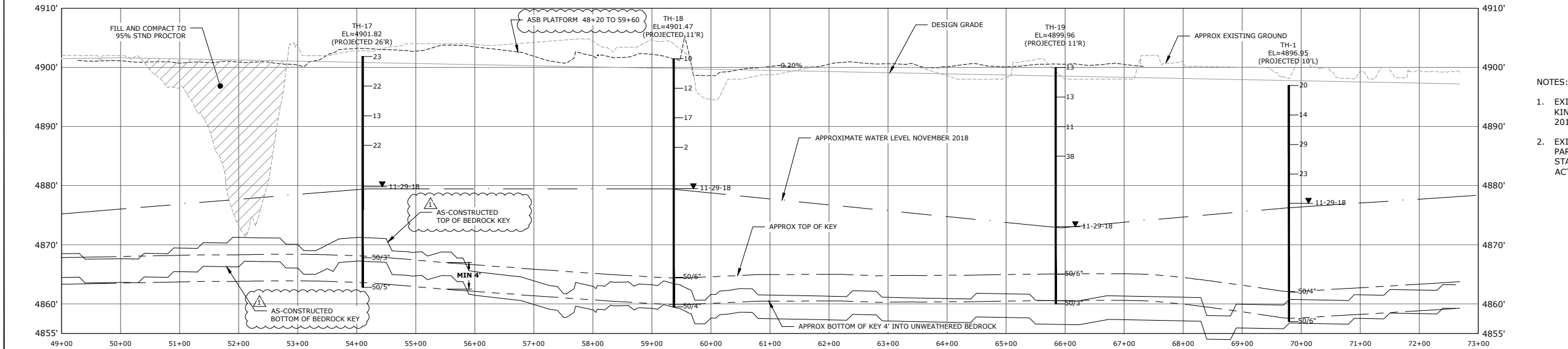
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SLURRY WALL PROFILE STATION 0+00 TO 24+00

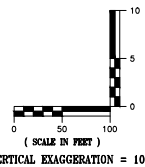


SLURRY WALL PROFILE STATION 24+00 TO 49+00



SLURRY WALL PROFILE STATION 49+00 TO 72+68.60

- NOTES:
- EXISTING GROUND BASED ON KING SURVEYORS SURVEY DEC. 2018
  - EXISTING GROUND MAY VARY PARTICULARLY BETWEEN APPROX STA 52+00 AND 61+00 IN THE ACTIVE WASH PLANT AREA.



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GREAT LAKES ENVIRONMENTAL AND INFRASTRUCTURE  
625 DALLAS DRIVE, SUITE 350  
DENTON, TX 76205  
###  
CONTACT: ###

HOLTON LAKES  
RESERVOIR 2  
SLURRY WALL

REVISIONS		
NO.	DESCRIPTION	DATE
1	AS-CONSTRUCTED	MAY 2019

DESIGNED BY: GL DATE: MAR 1, 2019  
DRAWN BY: BP SCALE: AS NOTED  
CHECKED BY: GL AS NOTED  
JOB NO.: 296.001.01  
DWG NAME: ASB SLURRY WALL.DWG

ASB SLURRY  
WALL PROFILE

SHEET:



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GREAT LAKES ENVIRONMENTAL AND INFRASTRUCTURE  
625 DALLAS DRIVE, SUITE 350  
DENTON, TX 76205  
###  
CONTACT: ###

HOLTON LAKES  
RESERVOIR 2  
SLURRY WALL

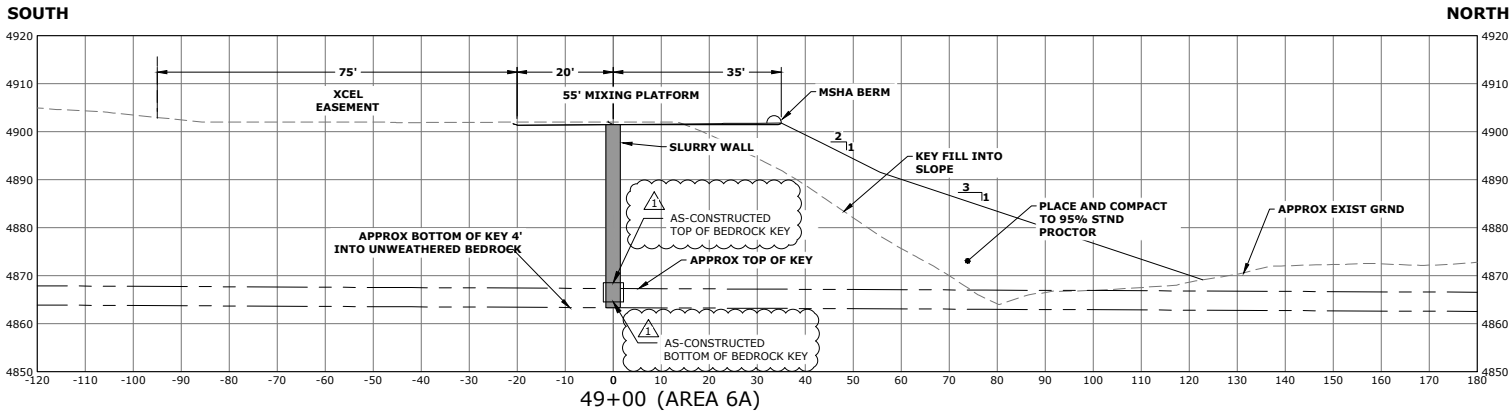
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NO.	DESCRIPTION	DATE
1	AS-CONSTRUCTED	MAY 2019

DESIGNED BY: GL	DATE: MAR 1, 2019
DRAWN BY: BP	SCALE: AS NOTED
CHECKED BY: GL	AS NOTED
JOB NO.: 296.001.01	
DWG NAME: ASB SLURRY WALL.DWG	

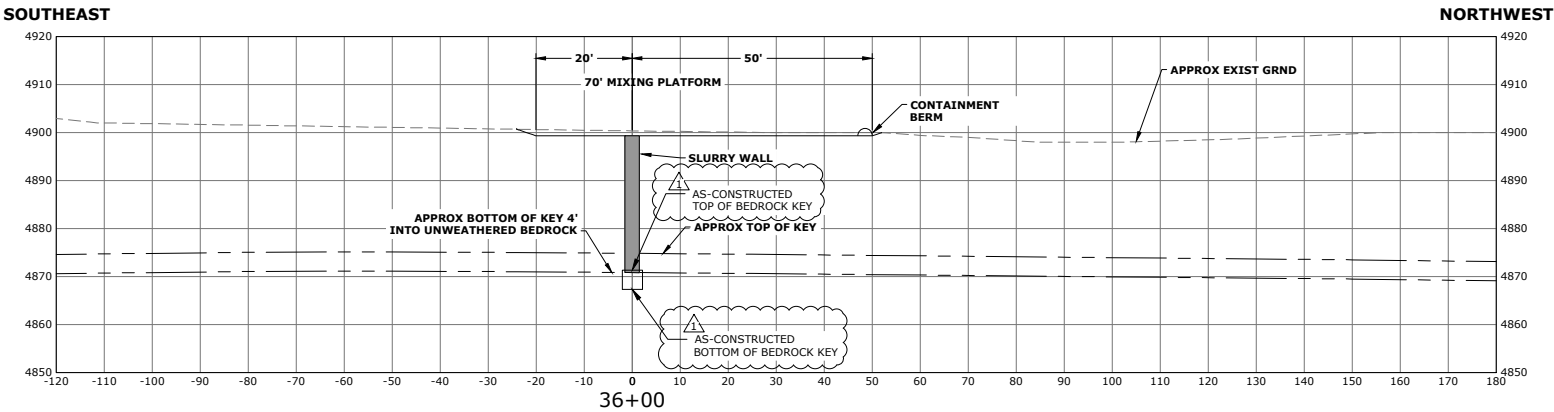
ASB SECTIONS 1

SHEET:

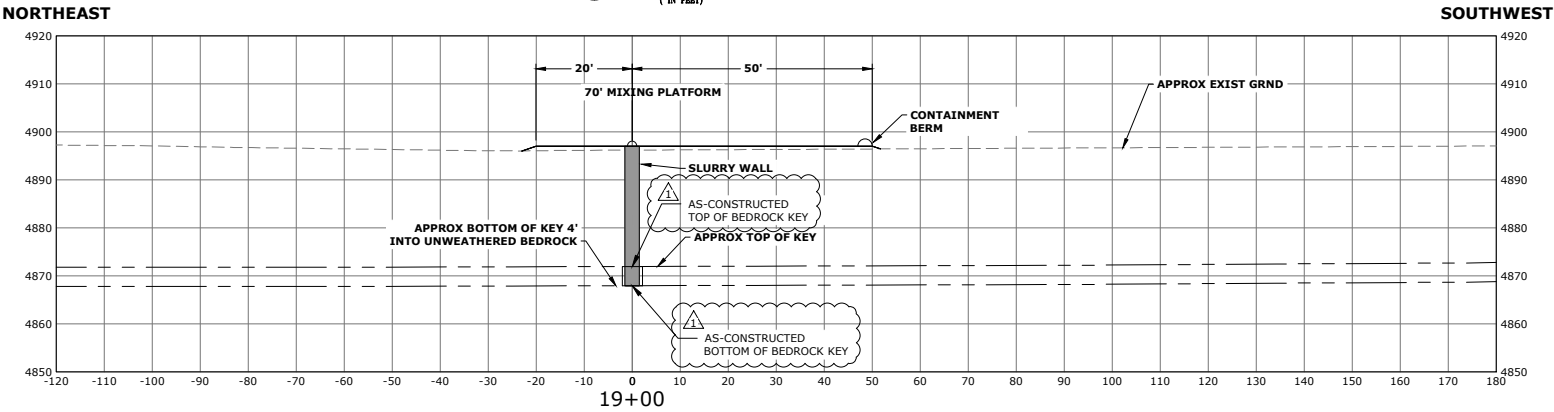
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49+00 CROSS SECTION  
3 5 0 10 20  
( IN FEET )



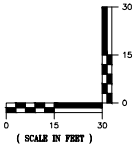
36+00 CROSS SECTION  
3 5 0 10 20  
( IN FEET )



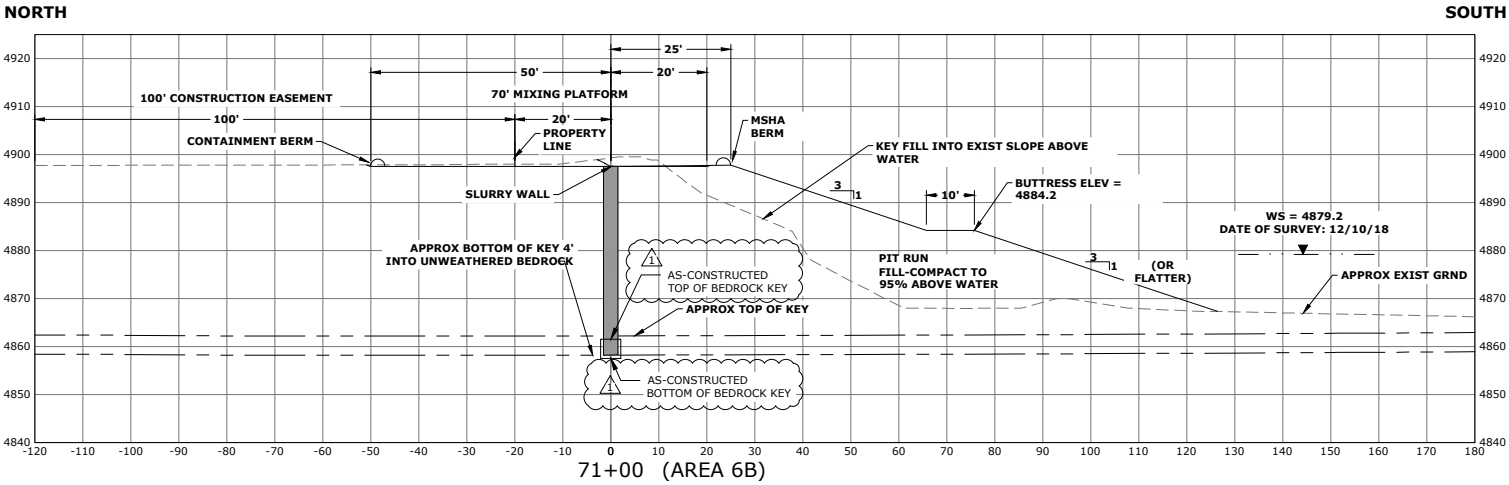
19+00 CROSS SECTION  
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( IN FEET )

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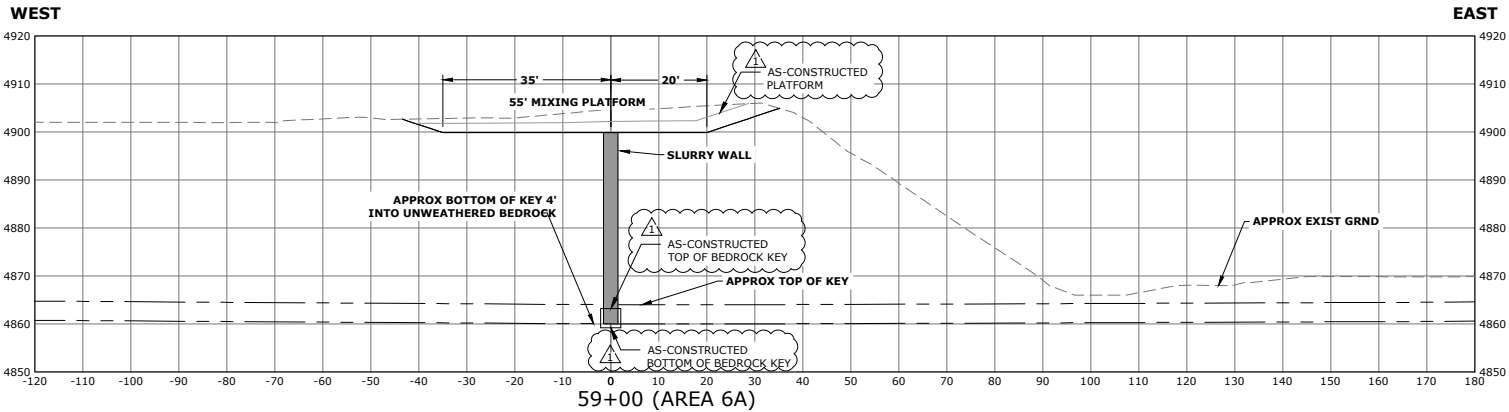
- EXISTING GROUND BASED ON KING SURVEYORS SURVEY DEC. 2018
- EXISTING GROUND MAY VARY PARTICULARLY BETWEEN APPROX STA 52+00 AND 61+00 IN THE ACTIVE WASH PLANT AREA.



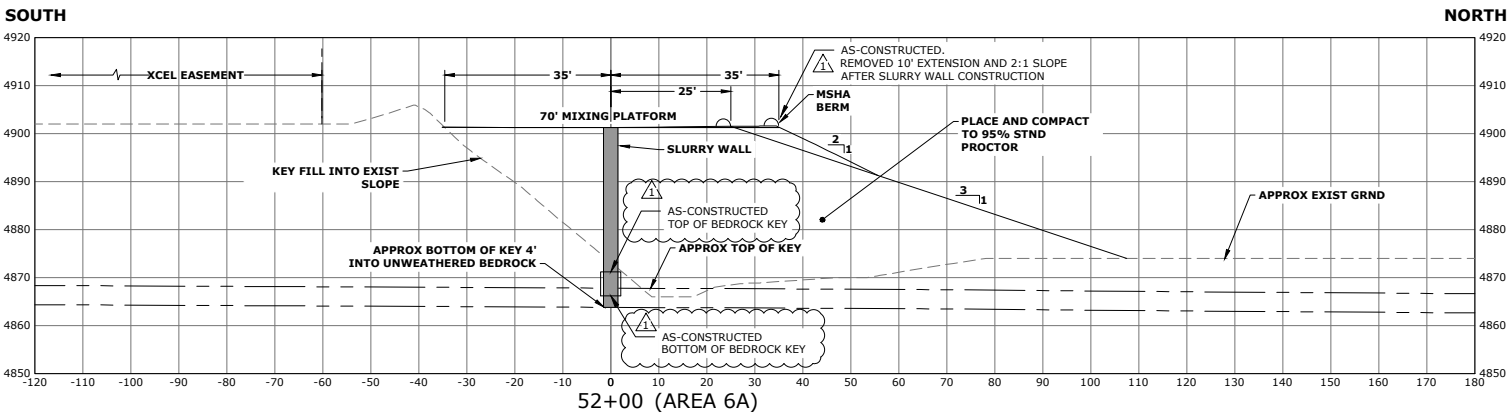
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71+00 CROSS SECTION  
(IN FEET)



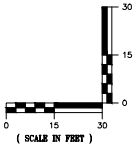
59+00 CROSS SECTION  
(IN FEET)



52+00 CROSS SECTION  
(IN FEET)

NOTES:

- EXISTING GROUND BASED ON KING SURVEYORS SURVEY DEC. 2018
- EXISTING GROUND MAY VARY PARTICULARLY BETWEEN APPROX STA 52+00 AND 61+00 IN THE ACTIVE WASH PLANT AREA.



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625 DALLAS DRIVE, SUITE 350  
DENTON, TX 76205

###

CONTACT: ###

HOLTON LAKES  
RESERVOIR 2  
SLURRY WALL

REVISIONS

NO.	DESCRIPTION	DATE
1	AS-CONSTRUCTED	MAY 2019

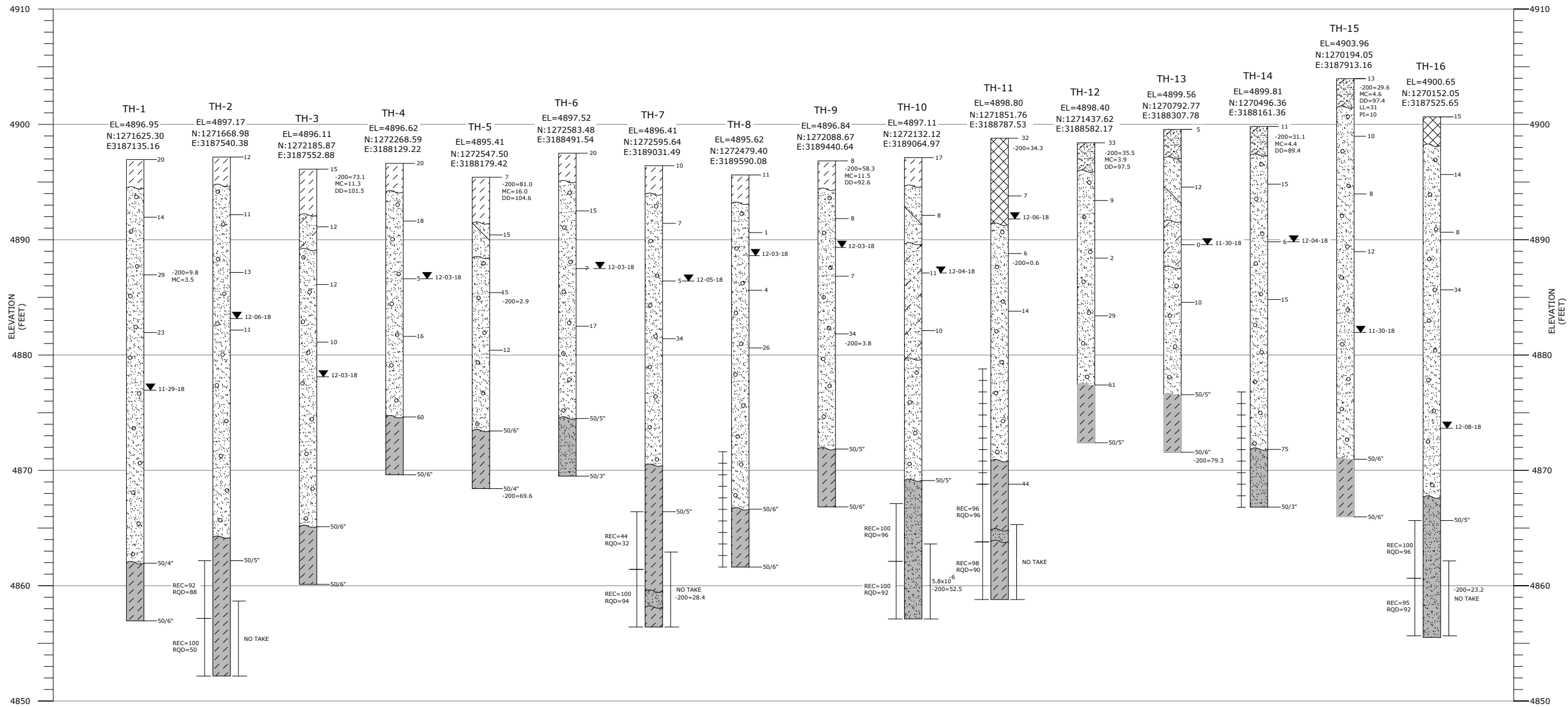
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DRAWN BY: BP SCALE: AS NOTED  
CHECKED BY: GL AS NOTED  
JOB NO.: 296.001.01  
DWG NAME: ASB SLURRY WALL.DWG

ASB SECTIONS 2

SHEET:

6

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BORE LOG LEGEND:

	FILL:		SAND:
	SAND, LOOSE TO DENSE, CLAYEY, LOCALLY GRAVELLY, MOIST TO WET, GREY.		VERY LOOSE TO MEDIUM DENSE, LOCALLY DENSE, SCATTERED SMALL GRAVEL, LOCALLY GRAVELLY, LOCAL COBBLES, SLIGHTLY MOIST TO WET, PINK, TAN, GREY, WELL GRADED.
	CLAY:		CLAYSTONE:
	STIFF TO VERY STIFF, LOCALLY MEDIUM STIFF, SANDY TO VERY SANDY LOCALLY GRADING TO CLAYEY SAND, SCATTERED GRAVEL, ORGANIC, DRY TO SLIGHTLY MOIST, DARK BROWN, LOCAL GYPSUM.		VERY HARD TO HARD (SOILS), VERY LOW STRENGTH BEDROCK, LOCALLY SANDY, MODERATE TO HIGHLY PLASTIC, LOCAL LIGNITE, SLIGHTLY WEATHERED TO FRESH.
	SAND:		SANDSTONE:
	LOOSE TO MEDIUM DENSE; CLAYEY LOCALLY GRADING TO SANDY CLAY, LOCALLY SILTY, SCATTERED GRAVEL, POORLY GRADED, MOIST, YELLOW-TAN, BROWN.		VERY HARD (SOILS), VERY LOW TO LOW STRENGTH BEDROCK, CLAYEY TO VERY CLAYEY WITH LOCAL CLAYSTONE LAMINATIONS, FINE TO MEDIUM GRAINED, SLIGHTLY WEATHERED TO FRESH.
	SAND:		
	VERY LOOSE TO LOOSE, SILTY, WELL GRADED, SCATTERED GRAVEL, DRY TO MOIST, LIGHT BROWN.		

NOTES:

- EXPLORATORY BORINGS TH-1 THROUGH TH-19 WERE DRILLED BETWEEN NOVEMBER 29 AND DECEMBER 6, 2018 USING AN ALL TERRAIN BUGGY MOUNTED CME-550 DRILL RIG ADVANCING 4.25-INCH HOLLOW STEM AUGERS. NQ CORING WAS PERFORMED IN THE BEDROCK ON TH-2, TH-7, TH-10, TH-11, AND TH-16. PACKER PERMEABILITY TESTS WERE PERFORMED ON THE CORE INTERVALS.
- EXPLORATORY TEST PITS TP-1 THROUGH TP-12 WERE EXCAVATED DECEMBER 5, 2018 USING A RUBBER TIERED CASE EXTENDAHOE.
- LINE BETWEEN MATERIALS REPRESENT APPROXIMATE BOUNDARIES BETWEEN TYPES AND TRANSITIONS MAY BE GRADUAL.
- GROUNDWATER WAS MEASURED AT THE TIME OF DRILLING OR EXCAVATION ON THE INDICATED DATES.
- LAB TESTING:

G = % GRAVEL BY WEIGHT  
S = % SAND BY WEIGHT  
-200 = % PASSING THE 200 SIEVE  
LL = LIQUID LIMIT  
PI = PLASTICITY INDEX  
MC = % INSITU MOISTURE CONTENT  
DD = DRY DENSITY, PCF

12-05-18 WATER LEVEL AND DATE MEASURED

INTERVAL OF BULK DISTURBED SAMPLE

5 CALIFORNIA OR STANDARD SPLIT SPOON SAMPLE, NUMBER INDICATES THE BLOW COUNTS OF A 140-LB HAMMER FREEFALLING 30-INCHES REQUIRED TO DRIVE THE SAMPLER 1-FT.

WELL SCREEN INTERVAL

K=1x10<sup>-5</sup> PACKER TEST INTERVAL AND RESULTS OR "NO TAKE" IF INDICATED.

NQ CORE INTERVAL  
REC = % RECOVERED  
RQD = % ROCK QUALITY DESIGNATION



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625 DALLAS DRIVE, SUITE 350  
DENTON, TX 76205  
###  
CONTACT: ###

HOLTON LAKES  
RESERVOIR 2  
SLURRY WALL

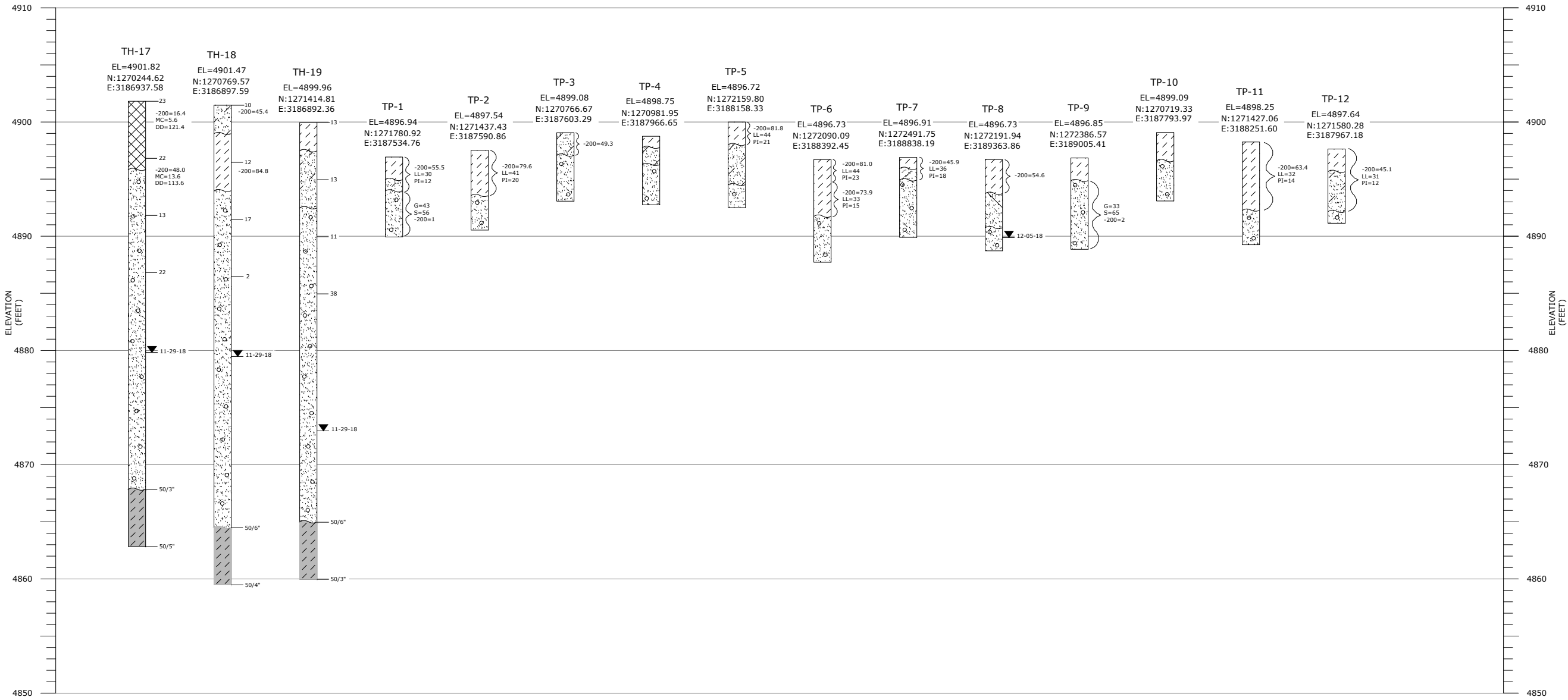
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NO	DESCRIPTION	DATE
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DRAWN BY: BP	SCALE: AS NOTED
CHECKED BY: GL	AS NOTED
JOB NO.: 296.001.01	
DWG NAME: ASB SLURRY WALL.DWG	

ASB  
EXPLORATORY  
LOGS 1

SHEET:  
7

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NOTE: FOR LEGEND AND NOTES, SEE SHEET 7



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###

CONTACT: ###

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RESERVOIR 2  
SLURRY WALL

REVISIONS

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DWG NAME: ASB SLURRY WALL.DWG

ASB  
EXPLORATORY  
LOGS 2

SHEET:

8







AS-CONSTRUCTED PLANS FOR  
MORTON STAGE 5 - SLURRY WALL  
FORT LUPTON, COLORADO



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FORGEN

6025 S. QUEBEC ST. SUITE 300  
CENTENNIAL, CO 80111  
720-266-6030(p)  
RODNEY LOUVIERE

MORTON  
STAGE 5 - SLURRY WALL  
FORT LUPTON, COLORADO

Sheet List Table	
SHEET NUMBER	SHEET TITLE
1	Cover
2	EXISTING CONDITIONS
3	SLURRY WALL PLAN
4	SLURRY WALL PROFILE
5	ASB SECTIONS-1
6	ASB SECTIONS-2
7	ASB BORELOGS-1
8	ASB BORELOGS-2
9	ASB TEST PITS
10	RECLAMATION VOLUMES
11	CLAYSTONE DEMISING BERM
12	ASB DETAILS

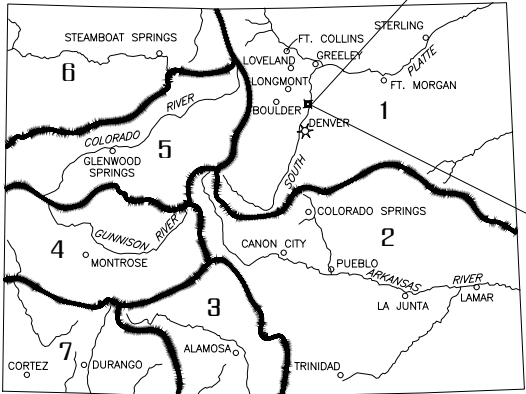
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NO.	DESCRIPTION	DATE
1	AS-CONSTRUCTED	8/25/2020

DESIGNED BY: GL	DATE: August 25, 2020
DRAWN BY: KR	SCALE: AS NOTED
CHECKED BY: GL	AS NOTED
JOB NO.: 296.001.02	
DWG NAME: MORTON-SW-ASBUILT.DWG	

COVER

SHEET:

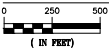
1



STATE OF COLORADO  
PROJECT LOCATION MAP

N.T.S.

PROJECT LOCATION MAP



PREPARED FOR:

FORGEN

6025 S. QUEBEC ST. SUITE 300  
CENTENNIAL, CO 80111  
720-266-6030

READY MIXED CONCRETE COMPANY

11778 HIGHWAY 52  
FORT LUPTON, CO 80621

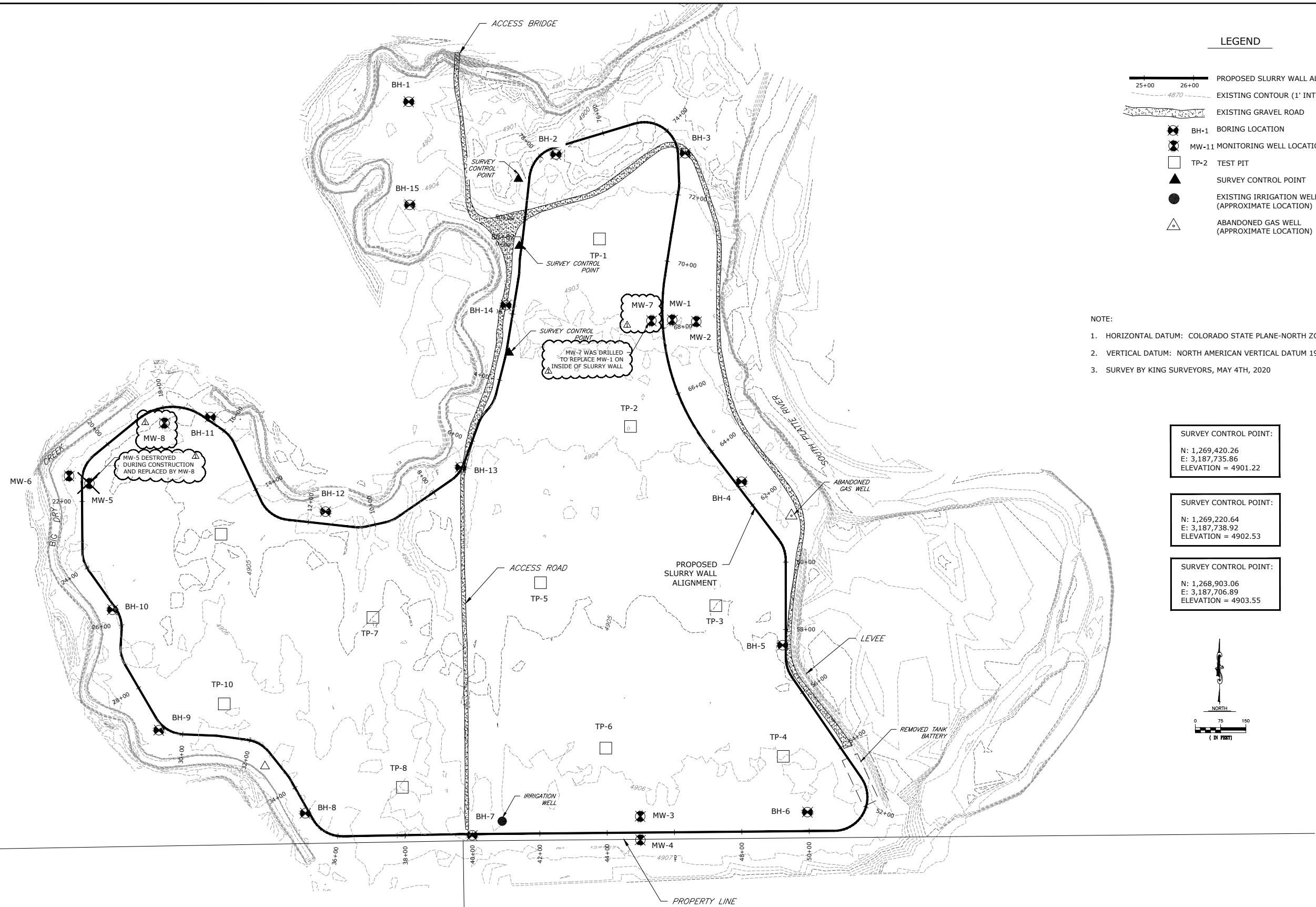
PREPARED BY:

CIVIL RESOURCES, LLC

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P.O. BOX 680  
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303 833 1416



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LEGEND

- 25+00 26+00  
4870  
4870
- PROPOSED SLURRY WALL ALIGNMENT  
EXISTING CONTOUR (1' INTERVAL)  
EXISTING GRAVEL ROAD
- BH-1 BORING LOCATION  
MW-11 MONITORING WELL LOCATION  
TP-2 TEST PIT  
SURVEY CONTROL POINT  
EXISTING IRRIGATION WELL (APPROXIMATE LOCATION)  
ABANDONED GAS WELL (APPROXIMATE LOCATION)

- NOTE:
- HORIZONTAL DATUM: COLORADO STATE PLANE-NORTH ZONE-NAD83/2011
  - VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88)
  - SURVEY BY KING SURVEYORS, MAY 4TH, 2020

- SURVEY CONTROL POINT:  
N: 1,269,420.26  
E: 3,187,735.86  
ELEVATION = 4901.22
- SURVEY CONTROL POINT:  
N: 1,269,220.64  
E: 3,187,738.92  
ELEVATION = 4902.53
- SURVEY CONTROL POINT:  
N: 1,268,903.06  
E: 3,187,706.89  
ELEVATION = 4903.55



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STAGE 5 - SLURRY WALL  
FORT LUPTON, COLORADO

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NO.	DESCRIPTION	DATE
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JOB NO.: 296.001.02	
DWG NAME: MORTON-SW-ASBUILT.DWG	

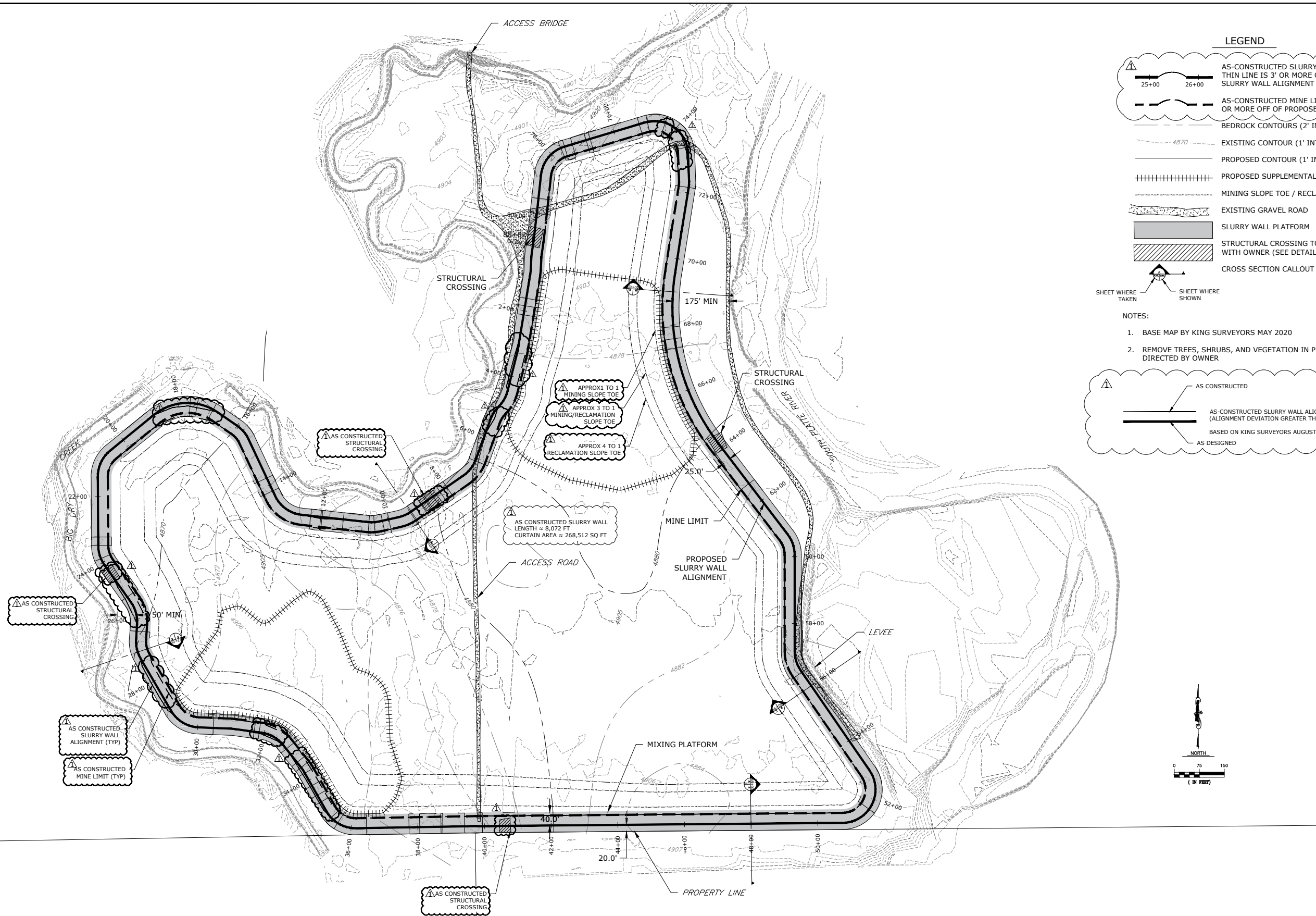
EXISTING  
CONDITIONS



SHEET:



J:\GREAT LAKES\MORTON RES 3\DRAWINGS\SHEETS\MORTON-SW-ASBUILT.DWG



**LEGEND**

- AS-CONSTRUCTED SLURRY WALL ALIGNMENT  
THIN LINE IS 3' OR MORE OFF OF PROPOSED  
SLURRY WALL ALIGNMENT
- AS-CONSTRUCTED MINE LIMIT, THIN LINE IS 3'  
OR MORE OFF OF PROPOSED MINE LIMIT
- BEDROCK CONTOURS (2' INTERVAL)
- EXISTING CONTOUR (1' INTERVAL)
- PROPOSED CONTOUR (1' INTERVAL)
- PROPOSED SUPPLEMENTAL FINES BORROW AREA
- MINING SLOPE TOE / RECLAMATION SLOPE TOE
- EXISTING GRAVEL ROAD
- SLURRY WALL PLATFORM
- STRUCTURAL CROSSING TO BE COORDINATED  
WITH OWNER (SEE DETAIL SHEET 10)
- CROSS SECTION CALLOUT

- NOTES:**
- BASE MAP BY KING SURVEYORS MAY 2020
  - REMOVE TREES, SHRUBS, AND VEGETATION IN PLATFORM OR AS DIRECTED BY OWNER

**AS CONSTRUCTED**

AS-CONSTRUCTED SLURRY WALL ALIGNMENT  
(ALIGNMENT DEVIATION GREATER THAN 3')

BASED ON KING SURVEYORS AUGUST 8TH, 2020

AS DESIGNED



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**MORTON**  
**STAGE 5 - SLURRY WALL**  
**FORT LUPTON, COLORADO**

REVISIONS		
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JOB NO.: 296.001.02  
DWG NAME: MORTON-SW-ASBUILT.DWG

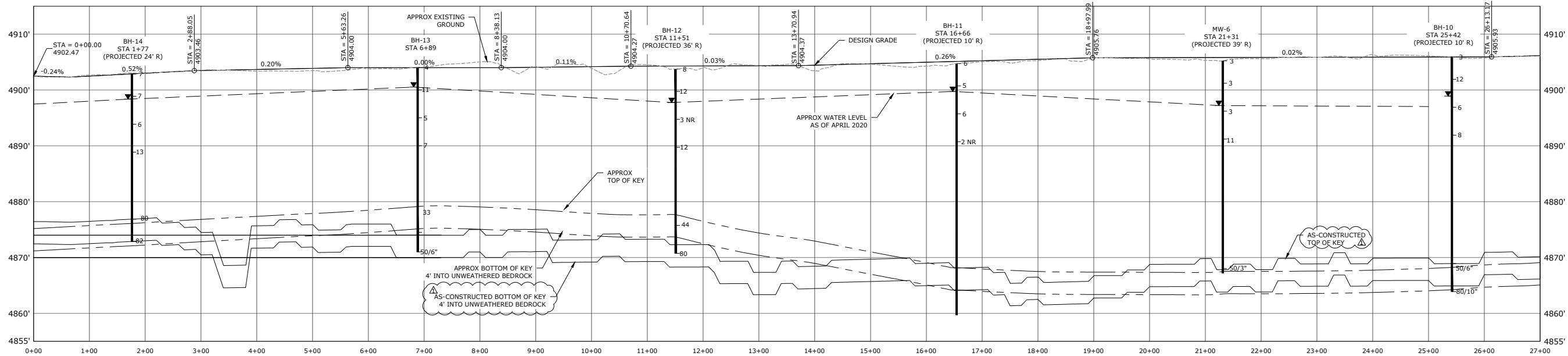
**SLURRY  
WALL  
PLAN**

SHEET:

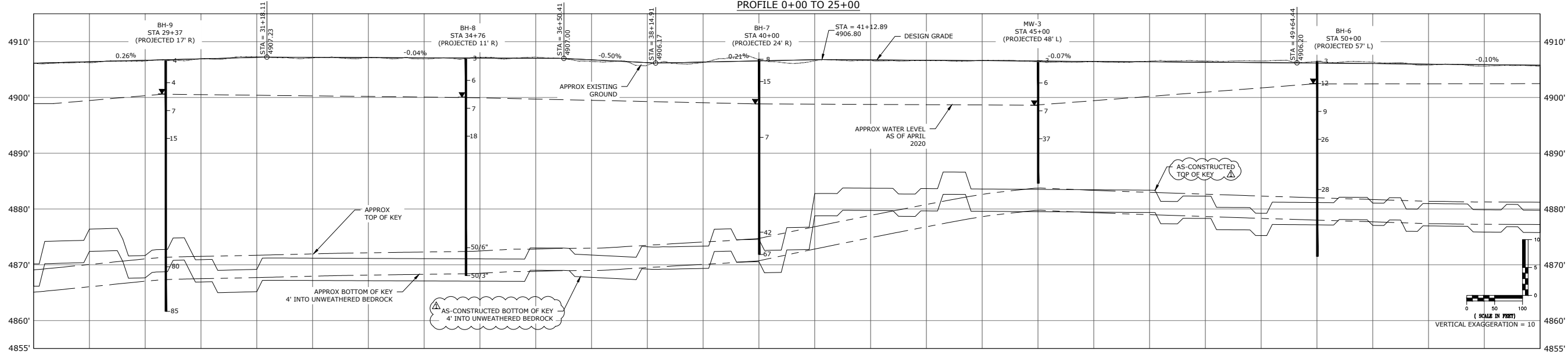


Know what's below.  
Call before you dig.

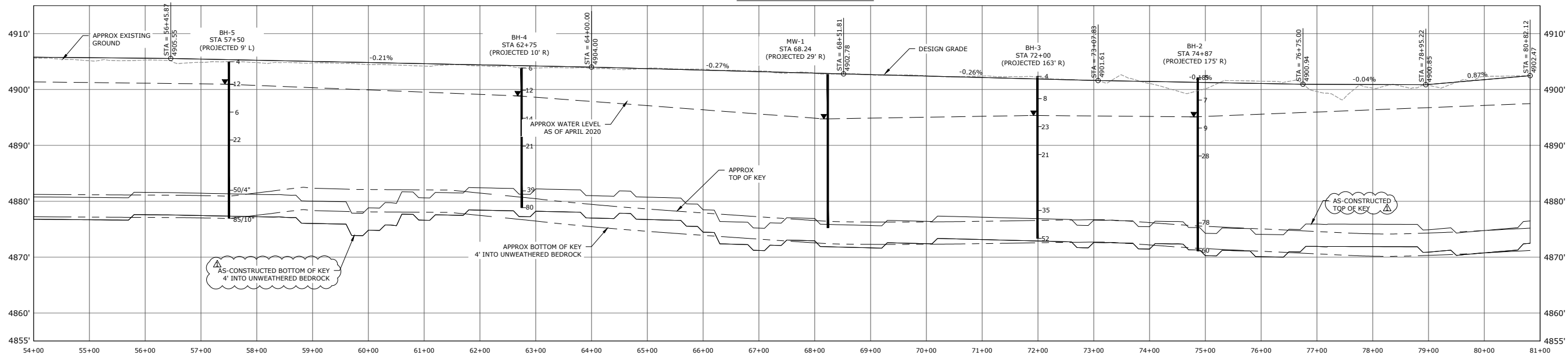
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PROFILE 0+00 TO 25+00



PROFILE - 25+00 TO 50+00



PROFILE - 50+00 TO 80+82

NOTE:

- EXISTING GROUND BASED ON KING SURVEYORS SURVEY MAY 2020



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720-266-6030(p)  
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STAGE 5 - SLURRY WALL  
FORT LUPTON, COLORADO

REVISIONS		
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DESIGNED BY: GL  
DRAWN BY: KR  
CHECKED BY: GL  
JOB NO.: 296.001.02  
DWG NAME: MORTON-SW-ASBUILT.dwg

DATE: August 21, 2020  
SCALE: AS NOTED  
AS NOTED

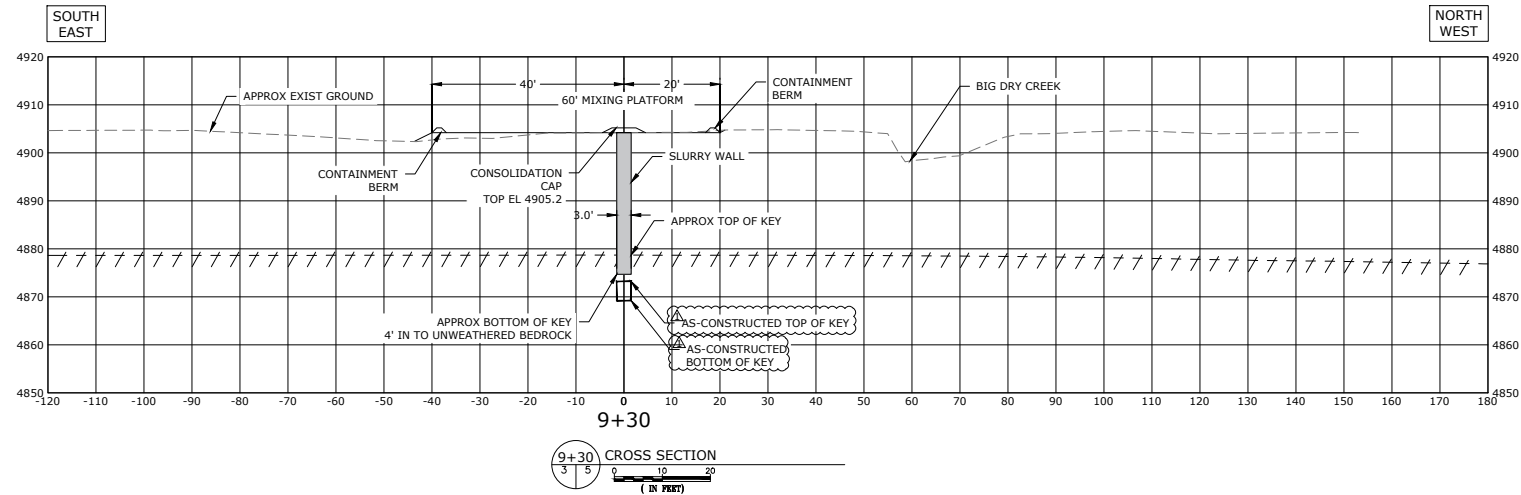
SLURRY WALL  
PROFILE

SHEET:

4

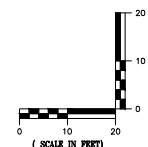
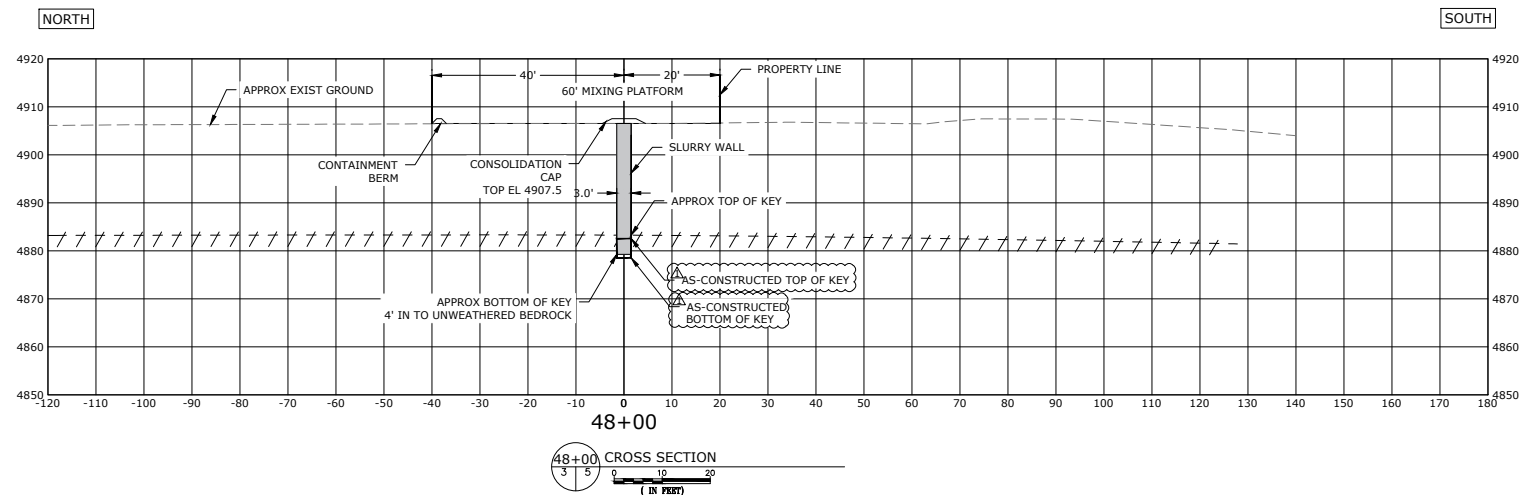
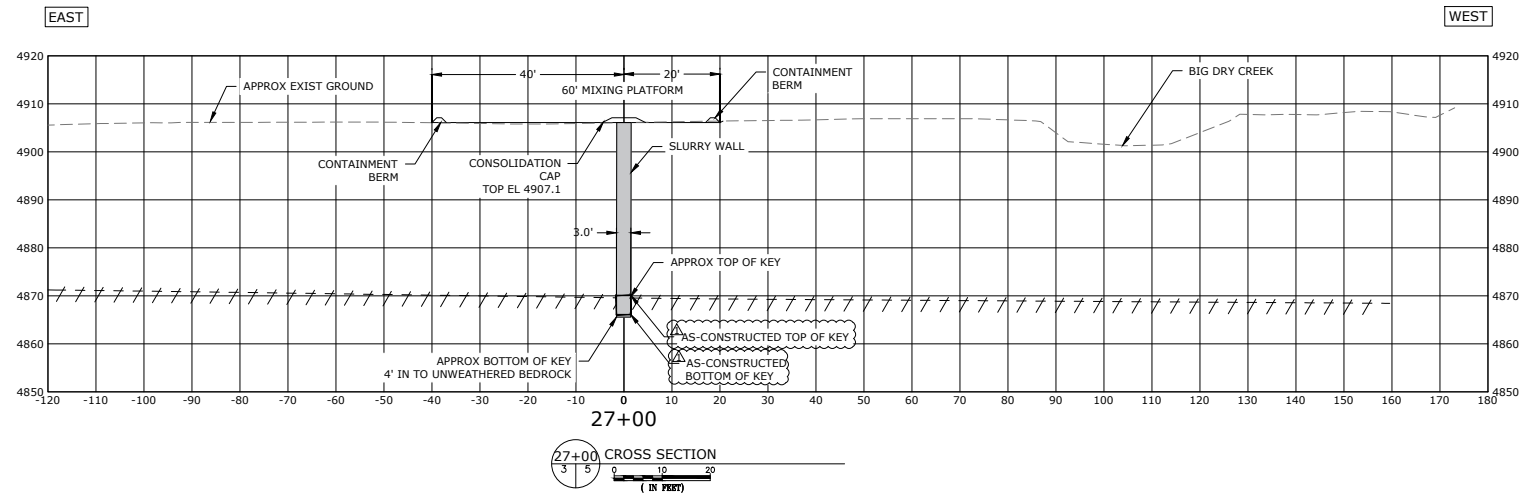


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NOTE:

1. EXISTING GROUND BASED UPON KING SURVEYORS SURVEY MAY 2020



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STAGE 5 - SLURRY WALL  
FORT LUPTON, COLORADO

#### REVISIONS

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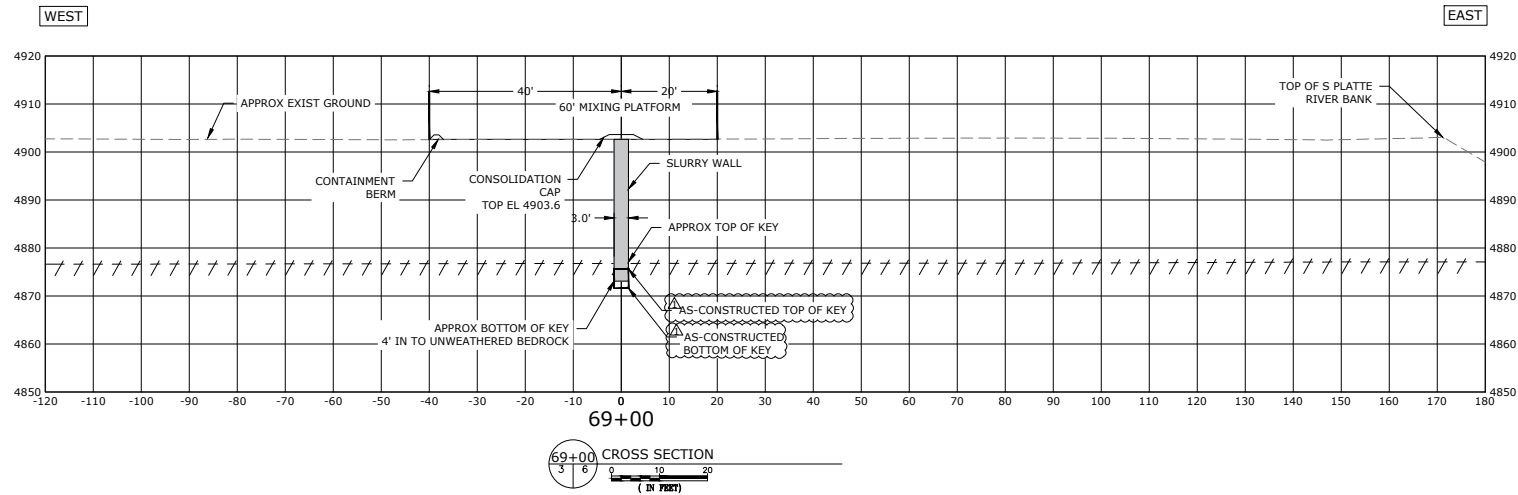
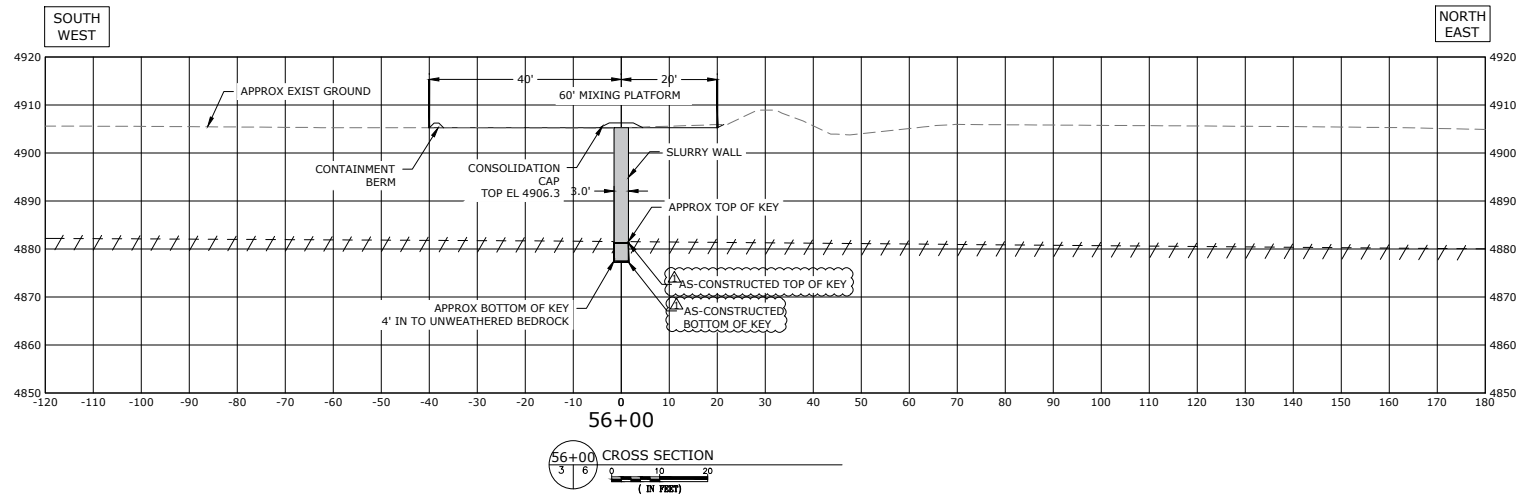
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DWG NAME: MORTON-SECTIONS.DWG

ASB  
SLURRY  
WALL  
SECTIONS-1

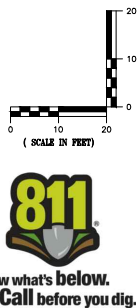
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NOTE:  
1. EXISTING GROUND BASED UPON KING SURVEYORS SURVEY MAY 2020



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STAGE 5 - SLURRY WALL  
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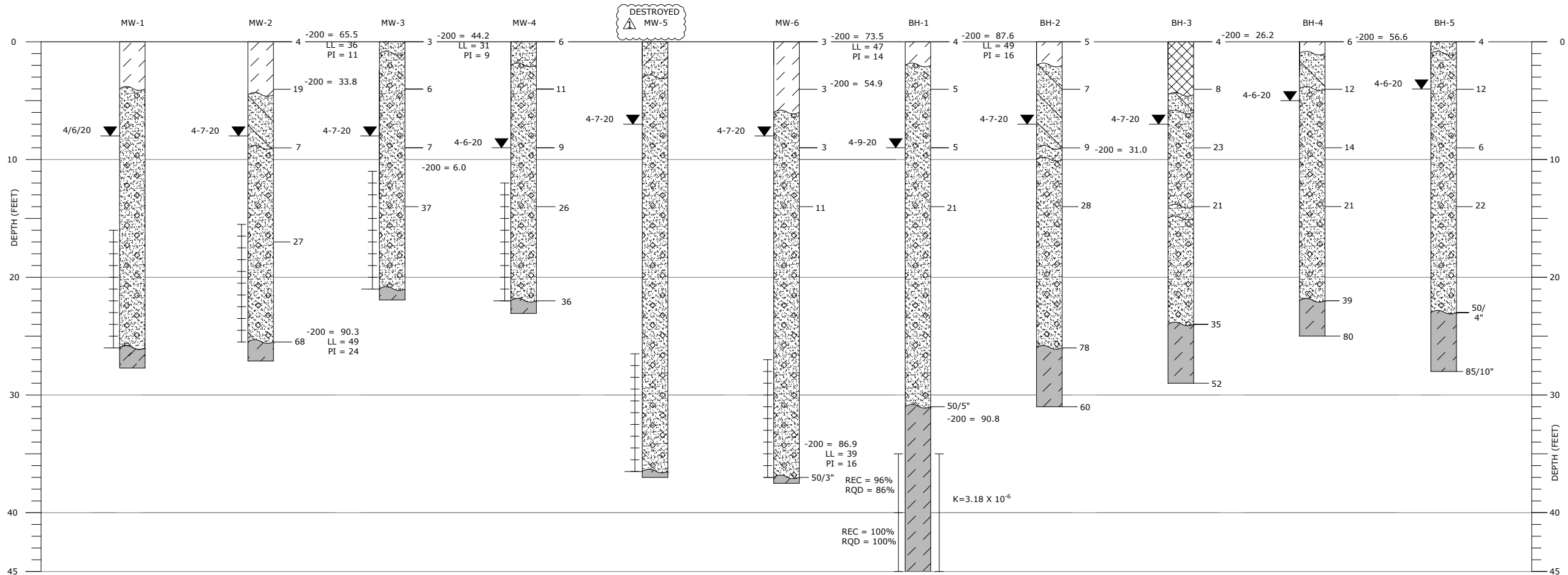
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ASB  
SLURRY  
WALL  
SECTIONS-2

SHEET:  
6

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BORE LOG LEGEND:

	FILL:		SAND:
	SAND, LOOSE, CLAYEY, LOCALLY GRAVELLY, MOIST TO WET, BROWN.		LOOSE TO MEDIUM DENSE, LOCALLY DENSE, SCATTERED SMALL GRAVEL, LOCALLY GRAVELLY, LOCAL COBBLES, SLIGHTLY MOIST TO WET, TAN, GREY, PINK, WELL GRADED.
	CLAY:		CLAYSTONE:
	SOFT TO VERY STIFF LOCALLY, SANDY TO VERY SANDY LOCALLY GRADING TO CLAYEY SAND, SCATTERED GRAVEL, ORGANIC, DRY TO SLIGHTLY MOIST, DARK BROWN.		HARD TO VERY HARD (SOILS), VERY LOW STRENGTH BEDROCK, SANDY, MODERATE TO HIGHLY PLASTIC, MOIST, SLIGHTLY WEATHERED TO FRESH, BROWN TO GREY.
	SAND:		SANDSTONE:
	LOOSE; CLAYEY LOCALLY GRADING TO SANDY CLAY, LOCALLY SILTY, SCATTERED GRAVEL, POORLY GRADED, MOIST, TAN, BROWN, BLACK.		VERY HARD (SOILS), LOW STRENGTH BEDROCK LOCALLY, SILTY WITH LOCAL LIGNITE LAMINATIONS, FINE TO MEDIUM GRAINED, MOIST TO VERY MOIST, SLIGHTLY WEATHERED TO FRESH. GREY TO OLIVE.
	SAND:		
	LOOSE TO MEDIUM DENSE, LOCALLY VERY LOOSE, SILTY, SCATTERED GRAVEL, DRY TO MOIST, LIGHT BROWN TO BROWN.		

NOTES:

- EXPLORATORY BORINGS AND MONITORING WELLS WERE DRILLED AT THE APPROXIMATE LOCATION SHOWN ON THE SITE PLAN.
- EXPLORATORY BORINGS WERE DRILLED APRIL 2 THROUGH APRIL 9, 2020.
- LINES BETWEEN MATERIALS ARE APPROXIMATE AND TRANSITIONS MAY BE GRADUAL.
- GROUNDWATER LEVELS WERE MEASURED AT THE TIME OF DRILLING AND WILL FLUCTUATE SEASONALLY AND WITH RIVER AND CREEK STAGE AND LOCAL IRRIGATION.
- BORINGS AND MONITORING WELLS WERE DRILLED WITH BUGGY MOUNTED ALL TERRAIN CME 550 POWERING 8-INCH O.D. DIAMETER HOLLOW STEM AUGER. PACKER TEST INTERVALS WERE CORED USING AN NQ CORE BARREL.
- TEST PITS WERE EXCAVATED WITH A TRACK HOE ON APRIL 10, 2020.

WATER LEVEL  
AND DATE  
MEASURED

4-6-20

WELL SCREEN  
INTERVAL

NQ CORE INTERVAL  
REC = % RECOVERED  
RQD = % ROCK QUALITY  
DESIGNATION

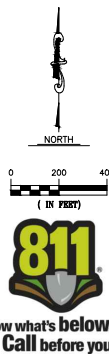
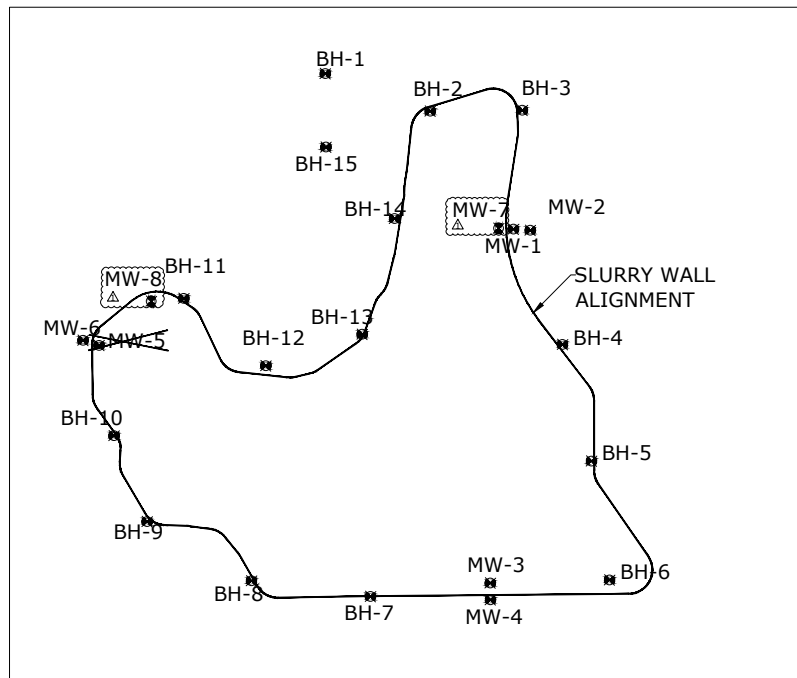
LABORATORY TESTING:

-200 = % PASSING THE #200 SIEVE  
LL = LIQUID LIMIT, %  
PI = PLASTICITY INDEX, %  
GNP = GRANULAR NON-PLASTIC

INTERVAL OF BULK  
DISTURBED SAMPLE

5 NR INDICATES  
NO RECOVERY.

K=1x10<sup>-5</sup> PACKER  
TEST INTERVAL AND  
RESULTS OR "NO  
TAKE" IF INDICATED.



323 5th STREET  
P.O. Box 680  
FREDERICK, CO 80530  
303.833.1416  
WWW.CIVILRESOURCES.COM

FORGEN

6025 S. QUEBEC ST. SUITE 300  
CENTENNIAL, CO 80111  
720-266-6030 (p)  
RODNEY LOUVIERE

MORTON  
STAGE 5 - SLURRY WALL  
FORT LUPTON, COLORADO

REVISIONS		
NO.	DESCRIPTION	DATE
1	AS-CONSTRUCTED	8/21/2020

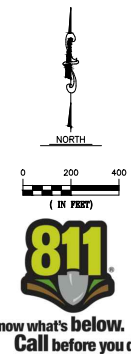
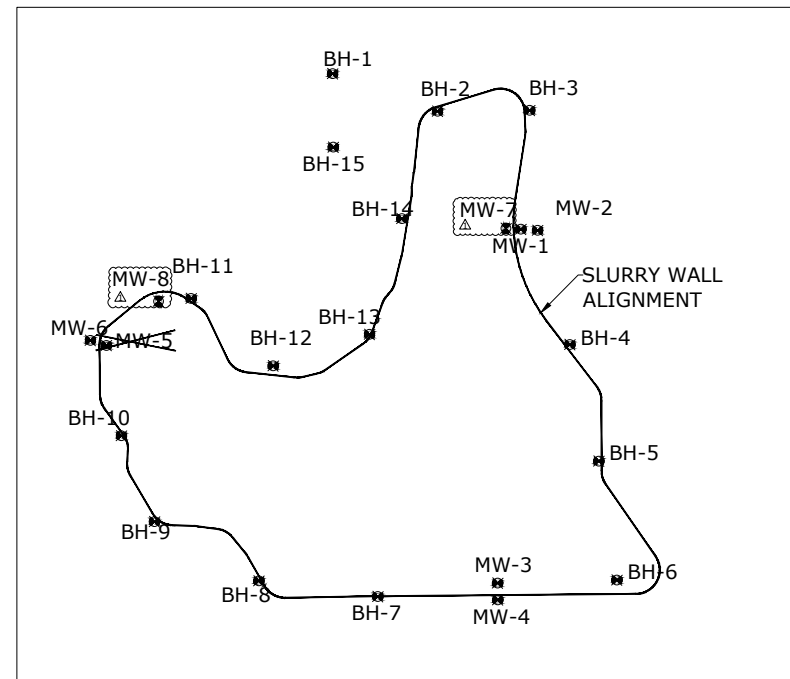
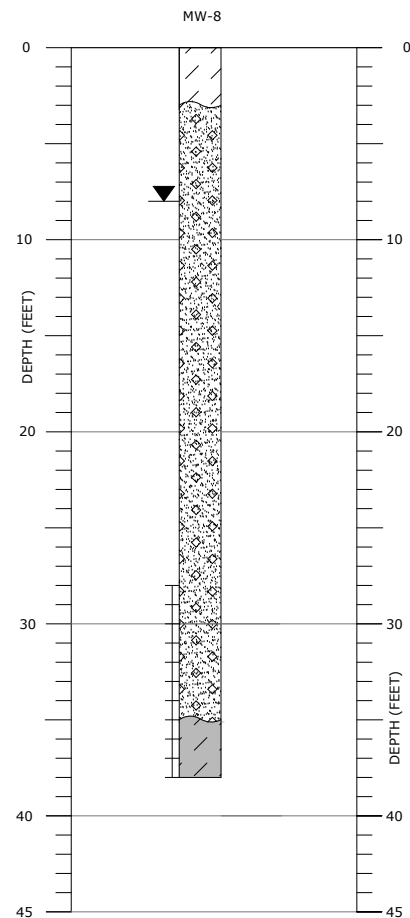
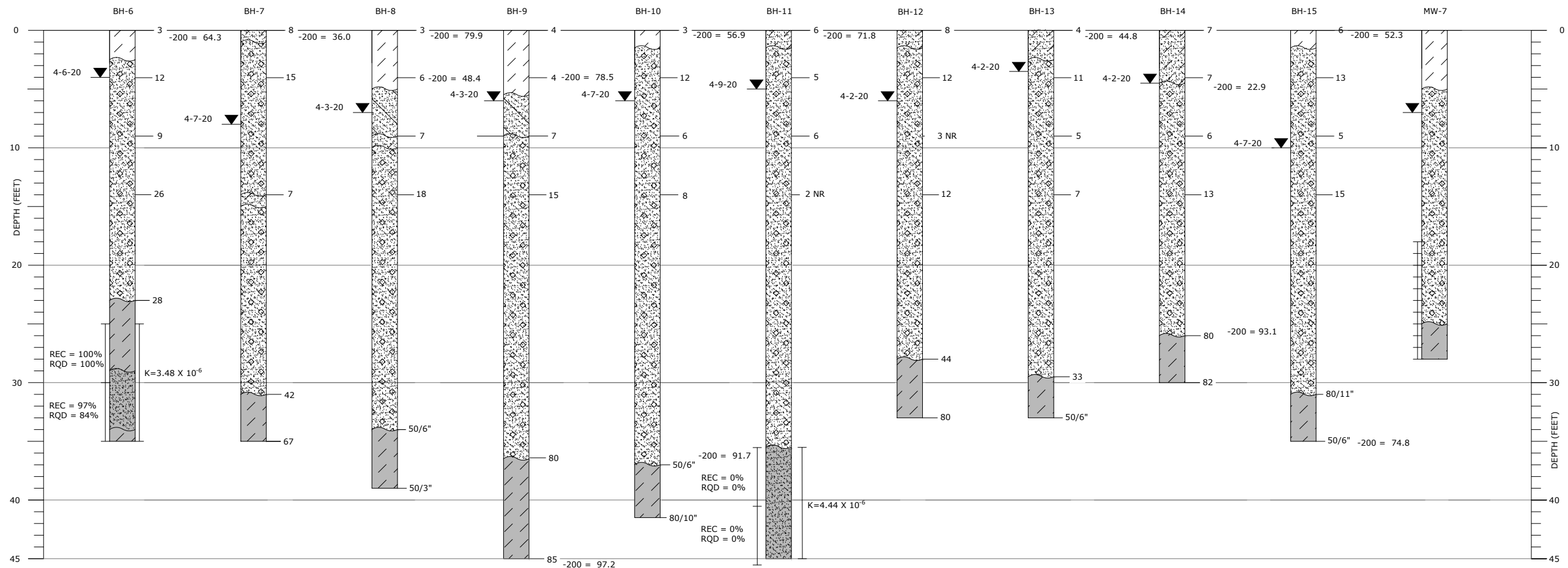
DESIGNED BY: GL DATE: August 21, 2020  
DRAWN BY: KR SCALE: AS NOTED  
CHECKED BY: GL AS NOTED  
JOB NO.: 296.001.02  
DWG NAME: BOREHOLE LOGS.DWG

ASB  
EXPLORATORY  
BORELOGS-1

SHEET:

7

J:\GREAT LAKES\MORTON RES 3\DRAWINGS\SHEETS\BOREHOLE LOGS.DWG



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CENTENNIAL, CO 80111  
720-266-6030(p)  
RODNEY LOUVIERE

MORTON  
STAGE 5 - SLURRY WALL  
FORT LUPTON, COLORADO

REVISIONS		
NO.	DESCRIPTION	DATE
1	AS-CONSTRUCTED	8/21/2020

DESIGNED BY: GL DATE: August 21, 2020  
DRAWN BY: KR SCALE: AS NOTED  
CHECKED BY: GL AS NOTED  
JOB NO.: 296.001.02  
DWG NAME: BOREHOLE LOGS.DWG

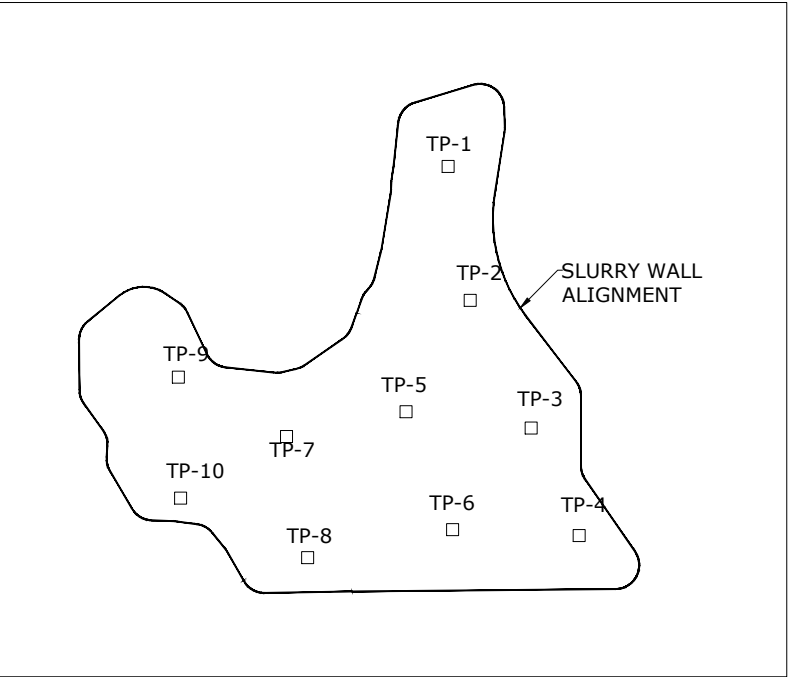
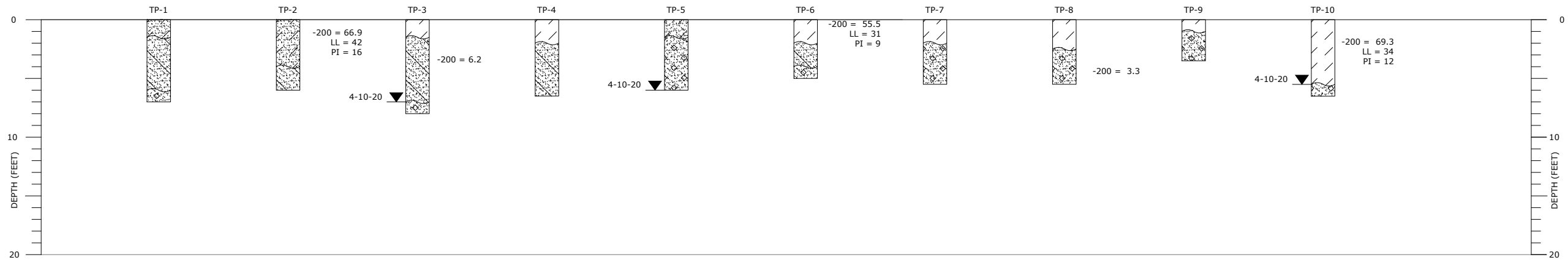
ASB  
EXPLORATORY  
BORELOGS-2

SHEET:

8



J:\GREAT LAKES\MORTON RES 3\DRAWINGS\SHEETS\BOREHOLE LOGS.DWG



0 200 500  
( IN FEET )



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CENTENNIAL, CO 80111  
720-266-6030(p)  
RODNEY LOUVIERE

MORTON  
STAGE 5 - SLURRY WALL  
FORT LUPTON, COLORADO

REVISIONS		
NO.	DESCRIPTION	DATE
1	AS-CONSTRUCTED	8/21/2020

DESIGNED BY: GL DATE: August 21, 2020  
DRAWN BY: KR SCALE: AS NOTED  
CHECKED BY: GL AS NOTED  
JOB NO.: 296.001.02  
DWG NAME: BOREHOLE LOGS.DWG

ASB  
EXPLORATORY  
TEST PIT  
LOGS

SHEET:

9



CIVIL RESOURCES

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CENTENNIAL, CO 80111  
720-266-6030(p)  
RODNEY LOUVIERE

MORTON  
STAGE 5 - SLURRY WALL  
FORT LUPTON, COLORADO

REVISIONS

NO.	DESCRIPTION	DATE
1	AS-CONSTRUCTED	8/20/2020

DESIGNED BY: GL DATE: August 20, 2020  
DRAWN BY: KR SCALE: AS NOTED  
CHECKED BY: GL AS NOTED  
JOB NO.: 296.001.02  
DWG NAME: CLAYSTONE EMBANKMENT.DWG

RECLAMATION  
VOLUMES

SHEET:

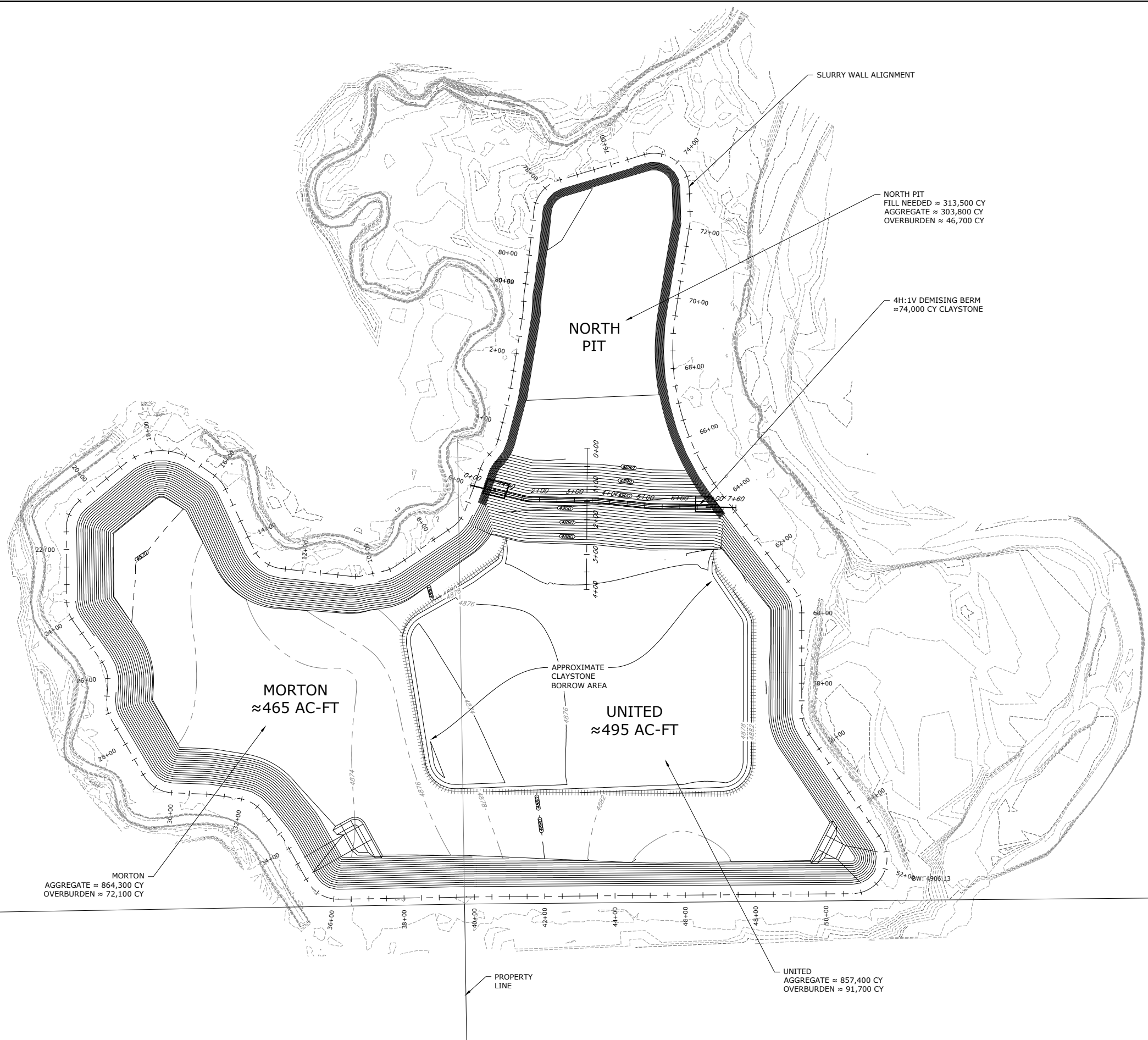
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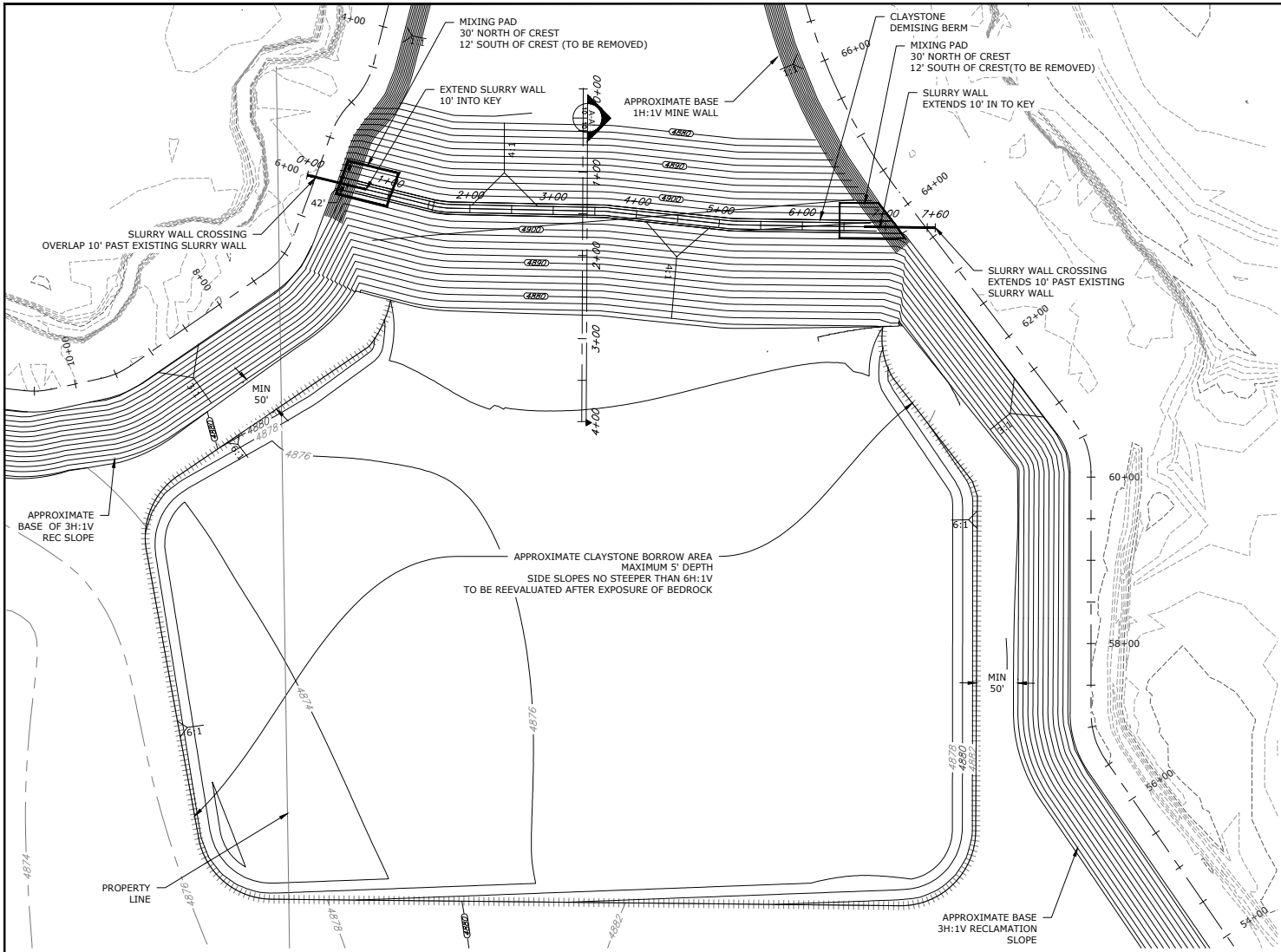


FUTURE  
CONTRACT  
(NOT A FINAL  
CONSTRUCTION PLAN)

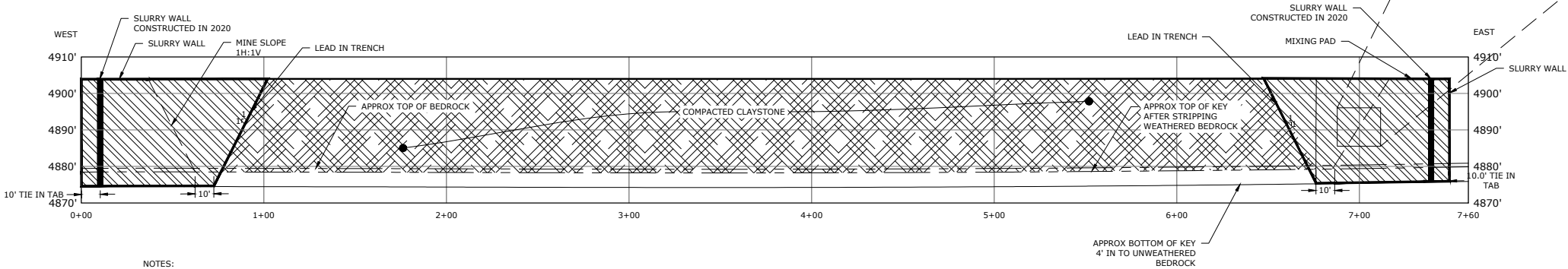
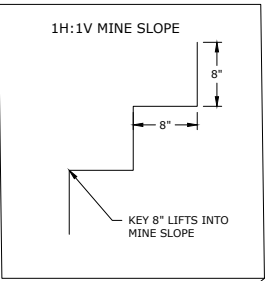
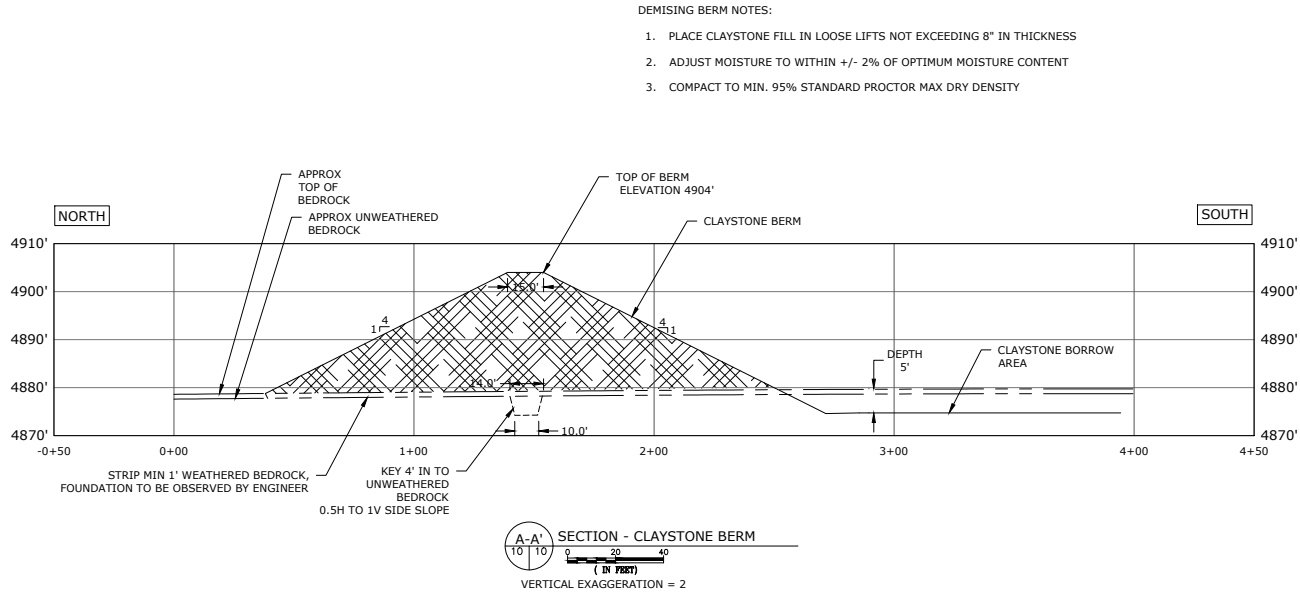


Know what's below.  
Call before you dig.



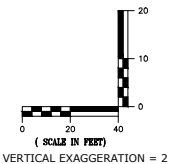


- NOTE:
1. RECLAMATION SLOPES ARE SHOWN AT 3H:1V USING SITE OVERBURDEN. IF BEDROCK IS USED IN THE RECLAMATION SLOPE, SLOPE SHALL BE NO STEEPER THAN 4:1.
  2. BEDROCK BORROW AREA SHALL BE OFFSET A MINIMUM OF 50' FROM THE TOE OF THE DEMISING BERM AND RECLAMATION SLOPE.
  3. UPON COMPLETION OF MINING, BEDROCK BORROW SHALL BE REEVALUATED AND CONSTRUCTED IN A MANNER THAT BEST SUITS THE FINAL RESERVOIR FACILITY.



- NOTES:
1. SLURRY SHALL CROSS 2020 SLURRY WALL AT A MINIMUM DISTANCE OF 10'.
  2. SLURRY WALL SHALL OVERLAP DEMISING BERM KEY A MINIMUM OF 10'.

PROFILE - CLAYSTONE BERM



**FUTURE CONTRACT**  
(NOT A FINAL CONSTRUCTION PLAN)



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720-266-6030(p)  
RODNEY LOUVIERE

MORTON  
STAGE 5 - SLURRY WALL  
FORT LUPTON, COLORADO

REVISIONS

NO.	DESCRIPTION	DATE
1	AS-CONSTRUCTED	8/20/2020

DESIGNED BY: GL DATE: August 20, 2020  
DRAWN BY: KR SCALE: AS NOTED  
CHECKED BY: GL AS NOTED  
JOB NO.: 296.001.02  
DWG NAME: CLAYSTONE EMBANKMENT.DWG

CLAYSTONE  
DEMISING  
BERM

SHEET:

11





# Attachment C

SEO Provisional Approval Letters





**COLORADO**  
Division of Water Resources  
Department of Natural Resources

John W. Hickenlooper  
Governor

Robert Randall  
Executive Director

Kevin G. Rein, P.E.  
Director/State Engineer

May 23, 2018

BRYAN BLACK  
DEERE & AULT CONSULTANTS, INC.  
600 S. AIRPORT ROAD, BUILDING A, SUITE 205  
LONGMONT, CO 80503  
TRANSMISSION VIA EMAIL: [Bryan.Black@deereault.com](mailto:Bryan.Black@deereault.com)

**RE: SLURRY WALL LINER APPROVAL - PROVISIONAL  
HOLTON LAKES STAGE 4 RESERVOIR (WDID 0203946)  
MORTON-HOLTON LAKES MINE, DRMS M-2008-082 (WDID 0203053)  
S1/2 OF SECTION 6 AND N1/2 OF SECTION 7, ALL IN TOWNSHIP 1 NORTH, RANGE 66 WEST  
OF THE 6<sup>TH</sup> P.M.  
WATER DIVISION 1, WATER DISTRICT 2, WELD COUNTY**

Dear Mr. Black:

The purpose of this letter is to provisionally approve the lining of the Holton Lakes Stage 4 Reservoir. This reservoir is located in the S1/2 of Section 6 and the N1/2 of Section 7, all in Township 1 North, Range 66 West of the 6<sup>th</sup> P.M. and is a part of the Morton-Holton Lakes Mine gravel pit (DRMS M-2008-082). Mining has not commenced within the liner boundary. This slurry wall liner leak test commenced January 17, 2018 and concluded on April 17, 2018. A site inspection was performed by our office on April 17, 2018 to review site conditions and the leak test plan.

Your report dated May 3, 2018 provides the liner summary and leak test result. The test data provided indicates that liner meets the design standard referenced in the August 1999 State Engineer Guidelines for Lining Criteria for Gravel Pits (1999 SEO Guidelines). **Meeting the design standard requires that during reservoir operations all water inflows and outflows for the liner perimeter enclosed area be accounted for on a monthly basis.**

This liner approval is applicable only during mining operations at the site and does not classify the structure as a reservoir capable of water storage. However, for the remainder of mining operations, water within the liner boundary is now classified as trapped native ground water. The trapped native ground water may be removed from within the lined area and returned to the stream system through surface flow or ground water recharge without the need for replacement so long as the operator does not put the water to beneficial use. All native trapped ground water remaining that is put to beneficial use (except for the water removed in product) must be replaced by the operator. All inflow of water into the liner boundary from any source, including precipitation and ground water inflows shall be removed by the pit operator so as not to cause out-of-priority storage. **In order for the liner to be approved for water storage the operator must perform a final leak test once mining is complete and the site is at final grade.** The final leak test will be allowed to have a modified duration of 30-days as long as the liner continues to satisfactorily operate during mining operations.





Please contact me at 303-866-3581 x8246 if you have any questions.

Sincerely,



---

Ioana Comaniciu, P.E.

Water Resource Engineer

Ec: Jorge Vidal, District 2 Water Commissioner ([Jorge.Vidal@state.co.us](mailto:Jorge.Vidal@state.co.us))  
Louis Flink, Diversion Records Coordinator ([Louis.Flink@state.co.us](mailto:Louis.Flink@state.co.us))  
Colby Hayden, Deere & Ault Consultants Inc. ([Colby.Hayden@deereault.com](mailto:Colby.Hayden@deereault.com))  
Joe Lamanna, Boral Construction Materials, ([Joe.Lamanna@boral.com](mailto:Joe.Lamanna@boral.com))  
John McElwain, Hall-Irwin Construction, ([jmcElwain@hall-irwin.com](mailto:jmcElwain@hall-irwin.com))  
WDID File (0203946 & 0203053)



November 4, 2019

Gary Linden, P.G.  
Civil Resources, LLC  
323 Fifth Street  
P.O. Box 680  
Frederick, CO 80530  
Transmission via email: [gary@civilresources.com](mailto:gary@civilresources.com)

**RE: SLURRY WALL LINER APPROVAL - PROVISIONAL  
MORTON-HOLTON LAKES STAGES 6A, 6B AND 6D (PART OF RESERVOIR NO. 2) (WDID 0203950)  
MORTON-HOLTON LAKES MINE, DRMS M-2008-082 (WDID 0203053)  
THE SW1/4 OF SECTION 6, TOWNSHIP 1 NORTH, RANGE 66 WEST OF THE 6<sup>TH</sup> P.M.  
AND THE SE1/4 OF SECTION 1, TOWNSHIP 1 NORTH, RANGE 67 WEST OF THE 6<sup>TH</sup> P.M.  
WATER DIVISION 1, WATER DISTRICT 2, WELD COUNTY**

Dear Mr. Linden:

The purpose of this letter is to provisionally approve the lining of the Morton-Holton Lakes Stage 6A, 6B and 6D, which represent a portion of future Reservoir No. 2. This reservoir is located in the SW1/4 of Section 6, Township 1 North, Range 66 West of the 6<sup>th</sup> P.M. and the SE1/4 of Section 1, Township 1 North, Range 67 West of the 6<sup>th</sup> P.M. and is a part of the Morton-Holton Lakes Mine gravel pit (DRMS M-2008-082). Mining has not commenced within the liner boundary. This slurry wall liner leak test commenced June 13, 2019 and concluded on October 4, 2019. A site inspection was performed by our office on August 21, 2019 to review site conditions and the leak test plan.

Your report dated October 14, 2019 provides the liner summary and leak test results. The test data provided indicates that liner meets the design standard referenced in the August 1999 State Engineer Guidelines for Lining Criteria for Gravel Pits (1999 SEO Guidelines). **Meeting the design standard requires that during reservoir operations all water inflows and outflows for the liner perimeter enclosed area be accounted for on a monthly basis.**

This liner approval is applicable only during mining operations at the site and does not classify the structure as a reservoir capable of water storage. However, for the remainder of mining operations, water within the liner boundary is now classified as trapped native ground water. The trapped native ground water may be removed from within the lined area and returned to the stream system through surface flow or ground water recharge without the need for replacement so long as the operator does not put the water to beneficial use. All native trapped ground water remaining that is put to beneficial use (except for the water removed in product) must be replaced by the operator. All inflow of water into the liner boundary from any source, including precipitation and ground water inflows shall be removed by the pit operator so as not to cause out-of-priority storage. **In order for the liner to be approved for water storage the operator must perform a final leak test once mining is complete and the site is at final grade.** The final leak test will be allowed to have a modified duration of 45-days or less as long as the liner continues to satisfactorily operate during mining operations.



Please contact me at 303-866-3581 x8246 if you have any questions.

Sincerely,



---

Ioana Comaniciu, P.E.  
Water Resource Engineer

Ec: Jorge Vidal, District 2 Water Commissioner ([Jorge.Vidal@state.co.us](mailto:Jorge.Vidal@state.co.us))  
Louis Flink, Diversion Records Coordinator ([Louis.Flink@state.co.us](mailto:Louis.Flink@state.co.us))  
Joe Lamanna, Ready Mixed Concrete Company, ([JLamanna@brannan1.com](mailto:JLamanna@brannan1.com))  
WDID File (0203950 & 0203053)

# Attachment D

Pond 1 Claystone Reclamation Slope Bid Documents

---



# **BID FORMS**

**For**

**Brannan Aggregates Morton Lakes Reservoir 1 Slope  
Reclamation and Spillway Construction Project**

**Brannan Sand and Gravel Company, LLC  
2500 E. Brannan Way  
Denver, CO 80229  
November 3, 2020**

## SECTION 00300 - BID PROPOSAL

Date: November 9, 2020

Owner (name and address): Brannan Sand and Gravel Company, LLC  
2500 E Brannan Way  
Denver, CO 80229

Contractor (name and address): Claystone Construction, Inc. 11840 SH 52, Ft. Lupton, Co 80216

For the following Project (project title, location, and scope): Brannan Aggregates Morton Lakes Reservoir 1 Slope Reclamation and Spillway Construction Project located in the W1/4 of Section 6, T1N, R66W in Weld County Colorado. Project includes clear and grub, excavation, compacted fill, and spillway construction. Earthwork including excavation, dewatering, hauling, stockpiling of fill materials, sorting, placing, and compaction of materials per the technical specifications and as necessary to construct the reclamation slopes and fill beneath the spillways. Spillway construction includes riprap installation, installation of concrete cutoff walls, pyramat erosion protection, and reseeding. Specifically the scope includes all labor and materials for construction of the Morton Lakes Reservoir 1 as shown on the design drawings and summarized in the technical specifications for this project.

The Engineer is: Civil Resources, LLC  
Brad L. Hagen, P.E.  
323 Fifth Street  
PO Box 680  
Frederick, CO 80530

The Owners Representative is: Brannan Aggregates  
Joe Lamanna  
11778 Highway 52  
Ft. Lupton, CO 80621

1. In compliance with your REQUEST FOR PROPOSALS dated November 4, 2020, and subject to all conditions thereof, the undersigned Claystone Construction, Inc., a Corporation [specify Corporation, LLC, Partnership] duly registered in the State of Colorado, hereby proposes to furnish and do everything required by the Contract Documents to which this refers at the fixed price sum shown on the following Bid Schedule. (The Bid Schedule lists the various divisions of construction contemplated in the Contract Documents, together with an estimate of the units of each for unit price items. With these units as the basis for unit cost items, the bidder will extend each item, using the cost he inserts in the unit column to obtain a final fixed sum bid price. Any total cost found inconsistent with the unit cost when the bids are examined will be deemed in error and corrected to agree with the unit cost which shall be considered correct. Unit pricing is required for informational purposes only in the event a change order or construction change directive is necessary due to unforeseen circumstances. The unit or incremental price shall include all costs associated with the Work including labor, materials, tools, equipment, fees, taxes, insurance, bonding, overhead, profit and other related items.)
2. The undersigned bidder does hereby declare and stipulate that this proposal is made in good faith, without collusion or connection with any other person or persons bidding for the same Work, and that it is made in pursuance of and subject to all the terms and conditions of the Invitation to Bid and Instructions to Bidders, the Agreement, the Contract Drawings, and the Specifications pertaining to the Work to be done, all of which have been examined by the undersigned.
3. The undersigned has examined the location of the proposed Work, the Drawings, Specifications, and other Contract Documents and is familiar with the local conditions at the place where the Work is to be performed.
4. The undersigned bidder agrees to execute the Agreement and a Performance Bond and a Payment Bond for the amount of the total of this Bid within five (5) calendar days from the date when the written Notice of the Award of the Agreement is delivered to him at the address given on this Bid. The name and address of the corporate surety with which the Bidder proposes to furnish the specified Performance and Payment Bonds is as follows: Security Insurance Group, 8219 W. 20<sup>th</sup> St., Greeley, CO 80634

5. All the various phases of Work enumerated in the Contract Documents with their individual jobs and overhead, whether specifically mentioned,

included by implication or appurtenant thereto, to include, without limitation, supervision and management, are to be performed by the Contractor under one of the items listed in the Bid Schedule, irrespective of whether it is named in said list.

6. Payment for Work performed will be in accordance with the Bid Schedule subject to changes as provided in the Contract Documents.
7. If applicable, the undersigned Bidder hereby acknowledges Addenda No. 1\_\_ through 4\_.
8. [RESERVED]
9. Bidder may not alter or amend the Bid Schedule to add, modify, or delete any line item. Owner may, at its discretion, reject any such bid as unresponsive.
10. Bidders are encouraged, but not required, to consider using fuel futures contracts to secure the cost of fuel for the project.

**\*No cost for a payment or performance bond is included in this pricing, Claystone Construction would prefer to negotiate this cost at time of contract.**

<i>Site Preparation</i>					
Item #	Item	Qty	Unit	Unit Cost	Total Cost
1	Mobilization	1	LS	\$10,100.00	\$10,100.00
2	Surveying	1	LS	\$30,000.00	\$30,000.00
<i>Site Work: Spillway 1A</i>					
3	Earthwork	1	LS	\$1,250.00	\$1,250.00
4	Riprap Bedding	60	CY	\$75.00	\$4,500.00
5	Riprap Type M	122	CY	\$94.00	\$11,468.00
6	Soil Riprap	124	CY	\$65.00	\$8,060.00
7	Concrete Wall	30	CY	\$926.00	\$27,780.00
8	Seeding and Mulching	0.65	AC	\$1,500.00	\$975.00
<i>Site Work: Spillway 1B</i>					
9	Earthwork	1	LS	\$1,250.00	\$1,250.00
10	Riprap Bedding	60	CY	\$75.00	\$4,500.00
11	Riprap Type M	122	CY	\$94.00	\$11,468.00
12	Soil Riprap	124	CY	\$65.00	\$8,060.00
13	Concrete Wall	30	CY	\$926.00	\$27,780.00
14	Seeding and Mulching	1.04	AC	\$1,500.00	\$1,560.00
<i>Site Work: Spillway 1C</i>					
15	Earthwork	1	LS	\$1,250.00	\$1,250.00
16	Riprap Bedding	60	CY	\$75.00	\$4,500.00
17	Riprap Type M	122	CY	\$94.00	\$11,468.00
18	Soil Riprap	124	CY	\$65.00	\$8,060.00



19	Concrete Wall	30	CY	\$926.00	\$27,780.00
20	Seeding and Mulching	1.04	AC	\$1,500.00	\$1,560.00
<i>Site Work: Reclamation Slope</i>					
21	Foundation and Highwall, Excavation and Preparation	66,000	CY	\$1.45	\$95,700.00
22	Reclamation and Slope Fill*	398,000	CY	\$2.05	\$815,900.00

\* The reclamation and slope fill will be sourced from reject gravel and claystone in the pond. The estimated volume of reject gravel is 72,000 cy and the estimated volume of claystone is 320,000 cy with approximately 55,000 cy of weathered claystone.

**TOTAL FIXED PRICE BID = \$1,114,969.00**

Total Fixed Price in Words: One Million One Hundred Fourteen Thousand Nine Hundred Sixty Nine and no/cents

#### PRICES


The foregoing prices for each line item includes all labor, supervision, management, materials, equipment, transportation, utilities, fuel, shoring, removal, dewatering, overhead, profit, supervision, bonding costs, insurance, permits, taxes, and all other related or appurtenant costs to cover the completed Work for that line item.

BIDDER acknowledges that the Owner has the right to delete items in the Bid or change quantities at his sole discretion without affecting the Agreement or prices of any item so long as the deletion or change does not exceed fifty percent (50%) of the total Contract Amount.

#### QUANTITIES

The approximate quantities of Work to be completed in place under the Agreement at unit prices are identified in the "Bid Schedule" and are for the purpose of comparing bids and extending the unit prices should additional work be requested by the Owner. These quantities have been estimated from the Contract Documents. The quantities used are for the general information of the bidder and represent the major items of the work to be done. Minor items and minor details are not listed but shall be part of the complete Agreement. The Contractor should verify contract quantities prior to submitting a bid and is ultimately responsible for the quantities incorporated in its bid.

RESPECTFULLY SUBMITTED:

  
\_\_\_\_\_  
Signature

\_\_\_\_\_  
President

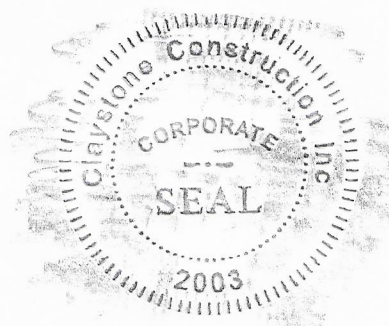
\_\_\_\_\_  
Title

\_\_\_\_\_  
License Number (if applicable)

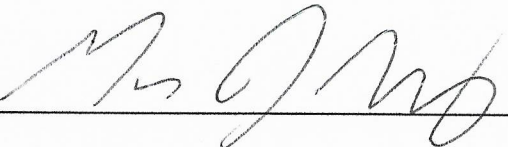
(SEAL - IF BID is by a corporation)

November 9, 2020  
\_\_\_\_\_

Date



Attest:

A handwritten signature in dark ink, appearing to be 'M. J. W.', is written over a horizontal line.

Address: 11840 SH 52

Ft. Lupton, Co 80216

Telephone: 303-857-7830