OGMCOAL DNR <ogmcoal@utah.gov>

Fwd: Deer Creek Channel Reconstruction Plan

Steve Christensen <stevechristensen@utah.gov> Mon, Sep 21, 2020 at 3:11 PM
To: OGMCOAL DNR <ogmcoal@utah.gov>

Deer Creek incoming

---------- Forwarded message ---------
From: **Oakley, Dennis (PacifiCorp)** <Dennis.Oakley@pacificorp.com>
Date: Thu, Sep 17, 2020 at 4:04 PM
Subject: Deer Creek Channel Reconstruction Plan
To: Steve Christensen <stevechristensen@utah.gov>
Cc: Ralston, Dana (PacifiCorp) <Dana.Ralston@pacificorp.com>, Owen, James (PacifiCorp) <James.Owen@pacificorp.com>, Semborski, Charles (PacifiCorp) <Charles.Semborski@pacificorp.com>

Steve,

As promised, attached is the plan that I just received from RBG engineering that outlines the reconstruction of approximately 900 feet of the Deer Creek reclaimed channel. Also note where the water leaked to the surface from the 16" "pre-historic" culvert, a 24" HDPE pipe will be extended down to the channel (approx. 250') and provide a permanent discharge point for the water to flow without causing any other damage to the surface.

I am currently working on a letter to DEQ (cc'ed to the Division) that explains PacifiCorp's findings for remediating this occurrence after an extensive investigation this summer. I will be writing a convincing argument suggesting that the ground water flow in the culvert is not mine water discharge and therefore, will not require a UPDES discharge permit. I hope to have the final draft ready to send off by Monday of next week. We will be applying for a construction dewatering permit as recommended by Jeff Studentka (DEQ). Please relay this plan to your staff as I will be diligently working towards getting equipment on site as quickly as possible.

Please let me know asap if you have any questions or concerns regarding this plan. Whenever we can have another on-site meeting to finalize division concurrence with our plan, I can be ready. Just let me know the day you and your staff can come down.

Best Regards,

Dennis Oakley

Senior Mine Engineer

Thermal Generation Environmental Services

PACIFICORP
A BERKSHIRE HATHAWAY ENERGY COMPANY

1407 West North Temple, STE 210

Salt Lake City, Utah 84116

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Steve Christensen, Coal Program Manager
Utah Division of Oil, Gas and Mining
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Salt Lake City, Utah 84116
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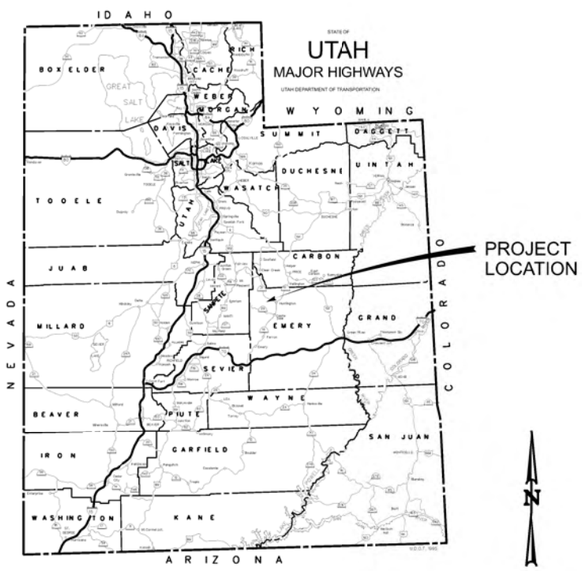
Deer Creek Mine Reclamation.pdf
6935K

PACIFICORP
DEER CREEK MINE RECLAMATION

NEAR HUNTINGTON,
EMERY COUNTY, UTAH



INDEX OF SHEETS

SHEET	DESCRIPTION
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G101	GENERAL NOTES
G102	GENERAL SITE PLAN
E101	TYPICAL CHANNEL SECTION
E102	CHANNEL SECTIONS
E103	CHANNEL SECTIONS
PP101	CHANNEL ALIGNMENT AND PROFILE

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
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6.				

DESIGNED BY M. HARPER
DRAWN BY B. GOLDING
CHECKED BY B. HORROCKS
PROJECT NO. 20200-1023
DATE 17-SEP-2020

RB&G ENGINEERING, INC.
1435 WEST 820 NORTH
PROVO, UTAH 84601-1343
801 374-5771 PROV
801 521-0777 SALT LAKE CITY

PACIFICORP
DEER CREEK MINE RECLAMATION

TITLE SHEET AND INDEX OF SHEETS

SEAL
PROFESSIONAL ENGINEER
BRANDON J. HORROCKS
ELECTRONIC SEAL
STATE OF UTAH
09/17/2020

DRAWING NO.
G100

17-SEP-2020
DGN File: E:\2020\023_Deer Creek Mine\Cad\Sheet_Files\202001_023_G100_TITLE.dgn

MATERIALS

1. ROCK USED FOR THE RIPRAP LAYER SHALL BE ANGULAR, CLEAN STONE OBTAINED FROM THE PROJECT SITE. THE ROCK SHALL BE PROCESSED BY THE CONTRACTOR TO MEET THE GRADATION REQUIREMENTS WHEN TESTED IN ACCORDANCE WITH ASTM C136. IF ROCK IS REQUIRED FOR CONSTRUCTION THAT IS NOT AVAILABLE FROM THE PROJECT SITE, PROVIDE ROCK ACCEPTABLE TO THE ENGINEER.

2. MATERIAL USED FOR THE RIPRAP BEDDING LAYER SHALL ANGULAR, CLEAN STONE IMPORTED TO THE PROJECT SITE. THE MATERIAL SHALL MEET THE GRADATION REQUIREMENTS WHEN TESTED IN ACCORDANCE WITH ASTM C136.

3. MATERIAL USED FOR THE CHANNEL LINER LAYER SHALL BE OBTAINED FROM THE PROJECT SITE. THE MATERIAL SHALL MEET THE GRADATION REQUIREMENTS WHEN TESTED IN ACCORDANCE WITH ASTM C136.

   THE FRACTION OF THE CHANNEL LINER THAT PASSES A NO. 40 SIEVE SHALL HAVE A PLASTICITY INDEX GREATER THAN 3 AND A LIQUID LIMIT LESS THAN 50.

4. MATERIAL USED FOR THE BASE LAYER SHALL BE OBTAINED FROM THE PROJECT SITE BY PROCESSING EXISTING RIPRAP BEDDING MATERIALS. THE MATERIAL SHALL MEET THE GRADATION REQUIREMENTS WHEN TESTED IN ACCORDANCE WITH ASTM C136 OR OTHERWISE APPROVED BY ENGINEER.

5. FILTER FABRIC SHALL BE NON-WOVEN GEOTEXTILE FABRIC WEIGHING AT LEAST 8 OZ PER SQUARE YARD.

6. HDPE PIPE SHALL HAVE A DR NO GREATER THAN 32.5

EMBANKMENT GRADATION REQUIREMENTS							
RIPRAP		RIPRAP BEDDING		CHANNEL LINER		BASE LAYER	
SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING	SIEVE SIZE	PERCENT PASSING
48"	100	6"	100	2"	100	3"	100
24"	55 - 100	3"	60 - 100	# 4	50 - 85	# 1"	45 - 100
24"	55 - 100	1"	25 - 60	# 200	20 - 50	# 4	0 - 40
24"	55 - 100	½"	0 - 30			#200	0 - 15
18"	25 - 70						
9"	0 - 30						

ESTIMATED QUANTITIES		
ITEM	UNIT	QTY.
EXCAVATION	CU. YDS.	22,740
BASE LAYER	CU. YDS.	2,220
CHANNEL LINER	CU. YDS.	3,760
RIPRAP BEDDING	CU. YDS.	1,950
RIPRAP	CU. YDS.	9,560

NOTE:
QUANTITIES SHOWN ABOVE DO NOT INCLUDE THE WORK REQUIRED FOR INSTALLATION OF THE 24-INCH HDPE PIPELINE.

EXCAVATION

1. TO THE EXTENT THEY ARE NEEDED, ALL SUITABLE MATERIAL FROM THE EXCAVATION OF THE CHANNEL SHALL BE USED IN THE CONSTRUCTION UNLESS OTHERWISE APPROVED BY THE ENGINEER, PROCESS EXCAVATED MATERIALS SO THEY MEET THE GRADATION REQUIREMENTS SPECIFIED.

2. ALL SURPLUS OR UNSUITABLE EXCAVATED MATERIALS ARE DESIGNATED AS WASTE AND SHALL BE DISPOSED OF BY THE CONTRACTOR AT SITES OF THE OWNER'S CHOOSING. THE DISPOSAL SHALL BE IN AN ENVIRONMENTALLY ACCEPTABLE MANNER THAT DOES NOT VIOLATE LOCAL OR GOVERNING RULES AND REGULATIONS.

3. EXCAVATIONS SHALL COMPLY WITH OSHA CONSTRUCTION INDUSTRY STANDARDS (29CFR PART 1926) SUBPART P, EXCAVATIONS, TRENCHING, AND SHORING. ALL EXCAVATIONS SHALL BE COMPLETED AND MAINTAINED IN A SAFE AND STABLE CONDITION THROUGHOUT CONSTRUCTION.

GENERAL

1. RESTORE SITE TO CONDITIONS PRIOR TO CONSTRUCTION ACTIVITIES, INCLUDING ADDING TOPSOIL AND POCKMARKING WHERE NEEDED.

EARTHFILL

1. FOUNDATION PREPARATION OF THE EXISTING MATERIAL BELOW THE BASE LAYER SHALL BE PROOFROLLED WITH 4 PASSES USING VIBRATORY COMPACTION EQUIPMENT WEIGHTING AT LEAST 5 TONS.

2. EARTHFILL SHALL NOT BE PLACED UNTIL THE REQUIRED EXCAVATION AND COMPACTION OF UNDERLYING MATERIALS HAVE BEEN COMPLETED, INSPECTED, AND APPROVED BY THE ENGINEER. EARTHFILL SHALL NOT BE PLACED UPON A FROZEN SURFACE NOR SHALL SNOW, ICE, OR FROZEN MATERIAL BE INCORPORATED IN THE EARTHFILL MATRIX.

3. EARTHFILL SHALL BE PLACED IN APPROXIMATELY HORIZONTAL LAYERS UNLESS CONTRACTOR DEMONSTRATES SPECIFIED COMPACTION OF MATERIALS PLACED ON SLOPES.

4. CHANNEL LINER SHALL BE PLACED AND COMPACTED IN LIFTS THAT DO NOT EXCEED 8 INCHES.

5. THE IN-PLACE EARTHFILL MATRIX OF THE BASE LAYER SHALL NOT BE LESS THAN 95% COMPACTION OF THE MAXIMUM LABORATORY DENSITY DETERMINED BY ASTM D 7382-08.

6. THE IN-PLACE EARTHFILL MATRIX OF CHANNEL LAYER SHALL NOT BE LESS THAN 95% COMPACTION OF THE MAXIMUM LABORATORY DENSITY DETERMINED BY ASTM D 698. MOISTURE CONTENT SHALL BE WITHIN THE OPTIMUM MOISTURE CONTENT.

7. PLACEMENT AND COMPACTION OF RIPRAP AND RIPRAP BEDDING SHALL BE SUCH THAT VOIDS ARE MINIMIZED AND THE MATERIAL IS STABLE WHEN IN PLACE.

8. DURING PLACEMENT AND COMPACTION OF EARTHFILL, THE MOISTURE CONTENT OF THE MATERIAL BEING PLACED SHALL BE MAINTAINED AS SPECIFIED. THE APPLICATION OF WATER TO THE EARTHFILL MATERIAL SHALL BE ACCOMPLISHED AT THE BORROW AREAS. NO MORE THAN 2% MOISTURE MAY BE ADDED TO THE MATERIALS AFTER PLACEMENT.

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
1				
2				
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4				
5				

DESIGNED BY M. HARPER
DRAWN BY B. COLLINS
CHECKED BY B. HORROCKS
PROJECT NO. 20200-1-003
DATE 17-SEP-2020

RB&G ENGINEERING, INC.
1435 WEST 820 NORTH
PROVO, UTAH 84601-1343
801 374-5771 (voice)
801 374-5771 (fax-call first)

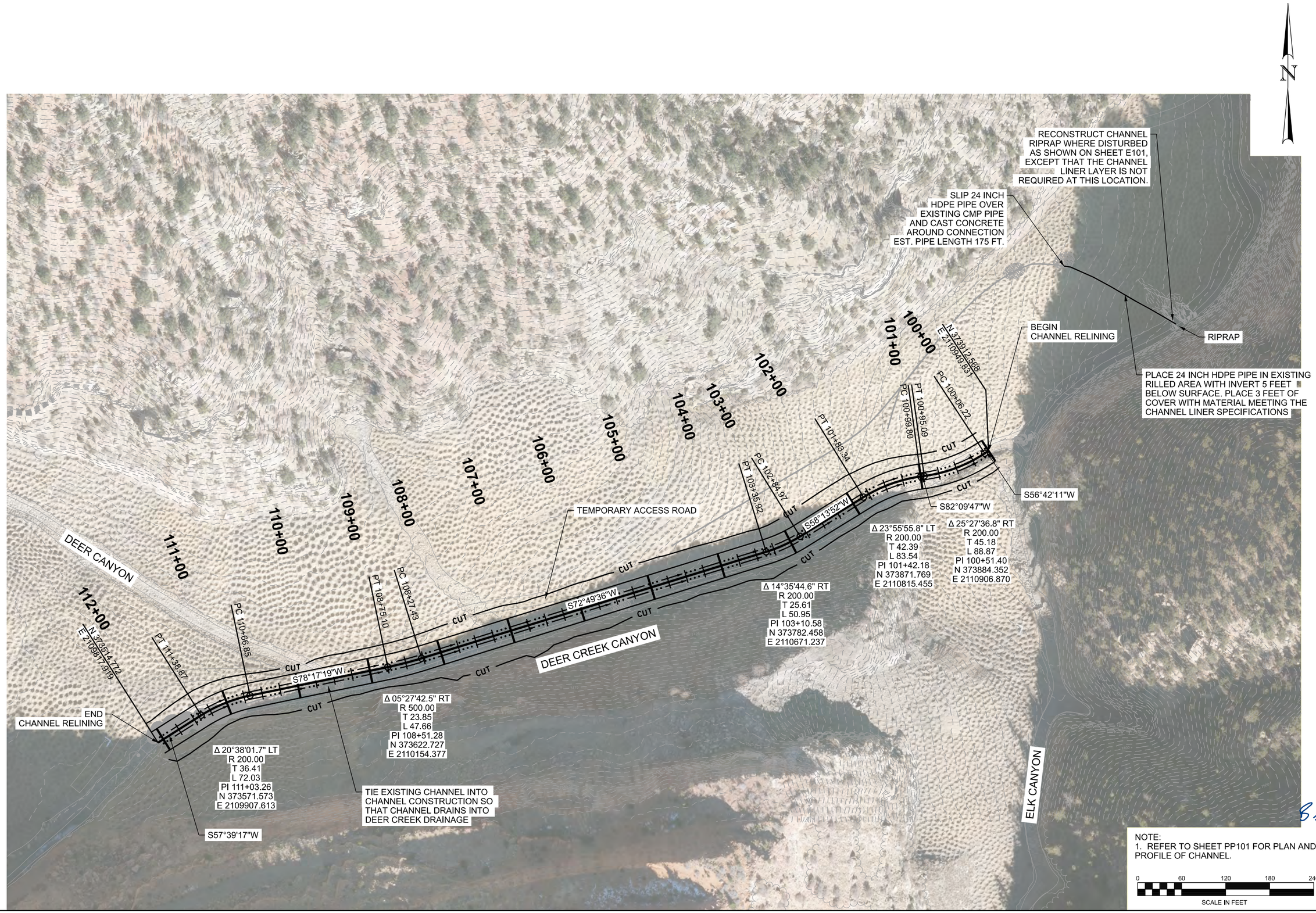
PACIFICORP
DEER CREEK MINE RECLAMATION

GENERAL NOTES

SEAL
PROFESSIONAL ENGINEER
No. 7149097
BRANDON J. HORROCKS
ELECTRONIC SEAL
STATE OF UTAH
09/17/2020

DRAWING NO.
G101

17-SEP-2020
DGN File: E:\2020\023_Deer Creek Mine\Cad\Sheet_Files\202001_023_G101.dgn



NOTE:
1. REFER TO SHEET PP101 FOR PLAN AND PROFILE OF CHANNEL.

0 60 120 180 240
SCALE IN FEET

NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
6				
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1				

DESIGNED BY M. HARPER
DRAWN BY B. GOLDING
CHECKED BY B. HORROCKS
PROJECT NO. 202001-023
DATE 17-SEP-2020

RB&G ENGINEERING, INC.
1435 WEST 820 NORTH
PROVO, UTAH 84601-1343
801 374-5771 PROVO
801 521-5771 SALT LAKE CITY

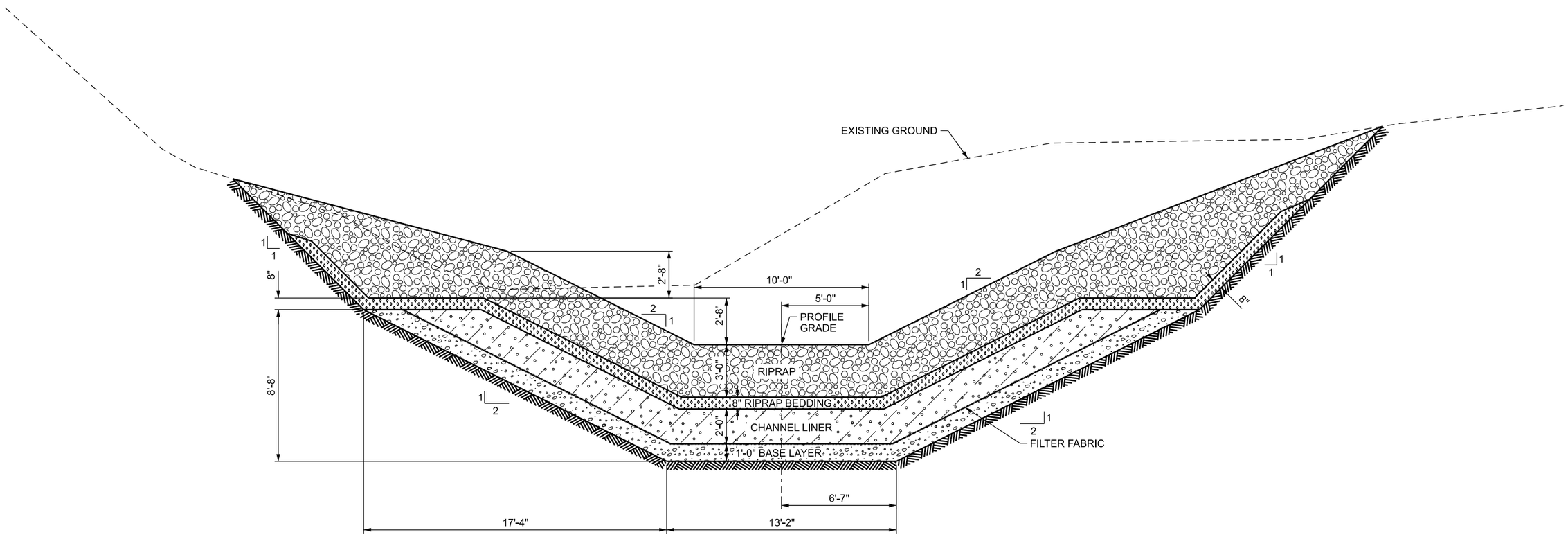
PACIFICORP
DEER CREEK MINE RECLAMATION

OVERALL SITE PLAN

SEAL
PROFESSIONAL ENGINEER
No. 7714007
BRANDON D. HORROCKS
ELECTRONIC SEAL
STATE OF UTAH
09/17/2020

DRAWING NO.
G102

17-SEP-2020
DGN File: E:\2020\023_Deer Creek Mine\Cad\Sheet_Files\202001_023_G102.dgn



TYPICAL SECTION

NOTES:

1. OCCASIONAL RIPRAP ROCKS 36" TO 48" IN SIZE MAY BE USED PROVIDED THESE ROCKS ARE AT LEAST 5 FEET FROM OTHER 36"- 48" ROCKS.
2. OVERLAP FILTER FABRIC AT LEAST 2 FEET WITH UPSTREAM SECTION ON TOP OF DOWNSTREAM SECTION.

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DESIGNED BY M. HARPER
DRAWN BY B. GOLDING
CHECKED BY B. HORROCKS
PROJECT NO. 202001-023
DATE 17-SEP-2020

RB&G ENGINEERING, INC.
1435 WEST 820 NORTH
PROVO, UTAH 84601-1343
801 374-5771 PROVO
801 521-5771 SALT LAKE CITY

PACIFICORP
DEER CREEK MINE RECLAMATION

TYPICAL CHANNEL SECTION

SEAL
PROFESSIONAL ENGINEER
No. 7746607
BRANDON D. HORROCKS
ELECTRONIC SEAL
STATE OF UTAH
09/17/2020

DRAWING NO.
E101

17-SEP-2020
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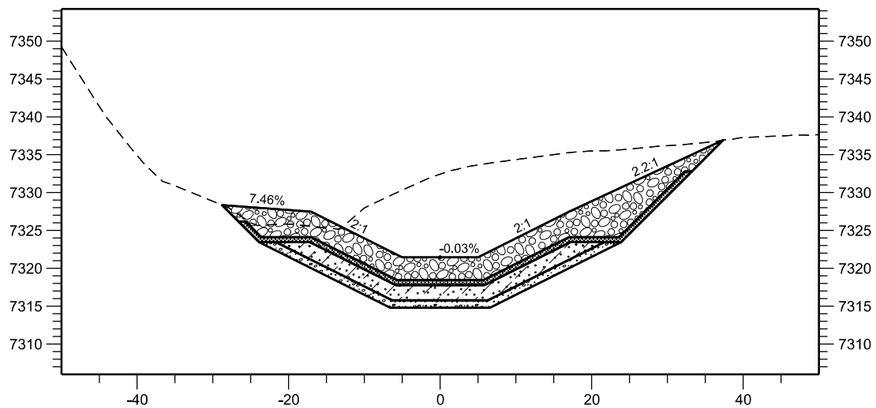

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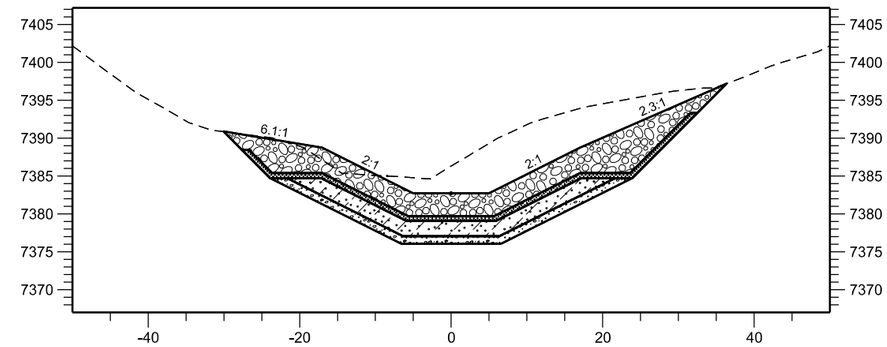

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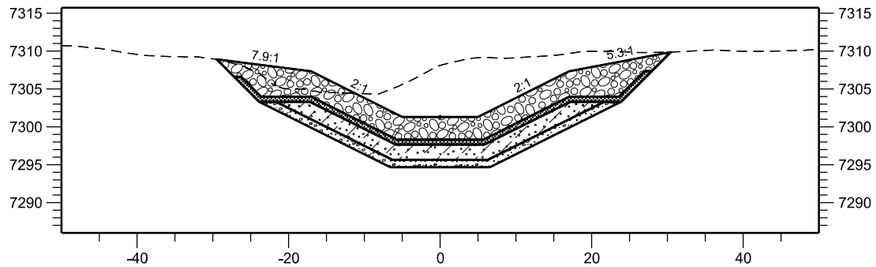

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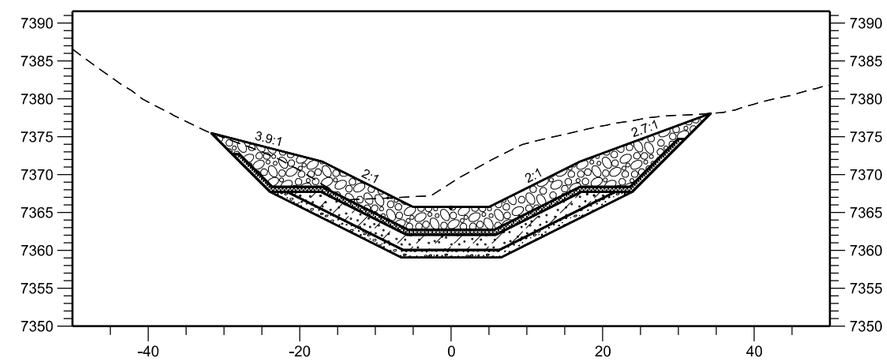
MATERIAL LEGEND

- RIPRAP
- RIPRAP BEDDING
- CHANNEL LINER
- BASE LAYER



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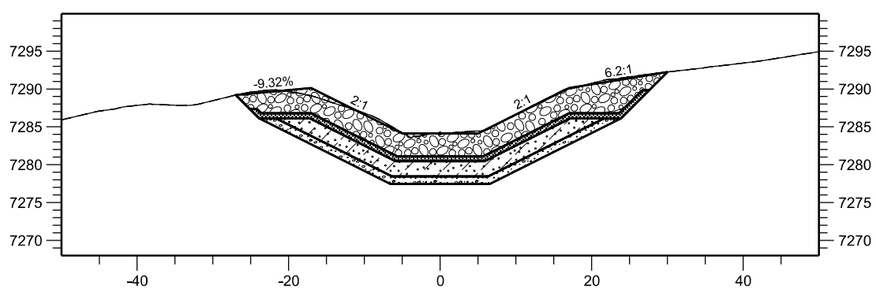

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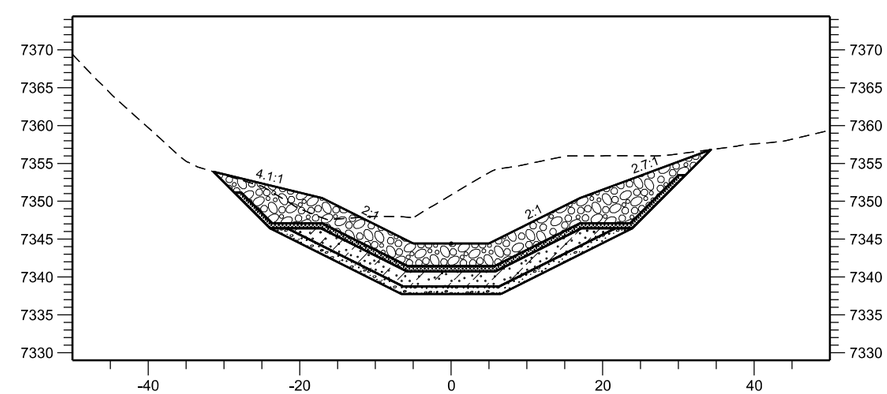

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NO.	AUTHORIZED BY	REVISION	MADE BY	DATE
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DESIGNED BY M. HARPER
DRAWN BY J. RUSBY
CHECKED BY B. HORROCKS
PROJECT NO. 202001-023
DATE 17-SEP-2020

RB&G ENGINEERING, INC.
1435 WEST 820 NORTH
PROVO, UTAH 84601-1343
801 374-5771 PROVO
801 521-5771 SALT LAKE CITY

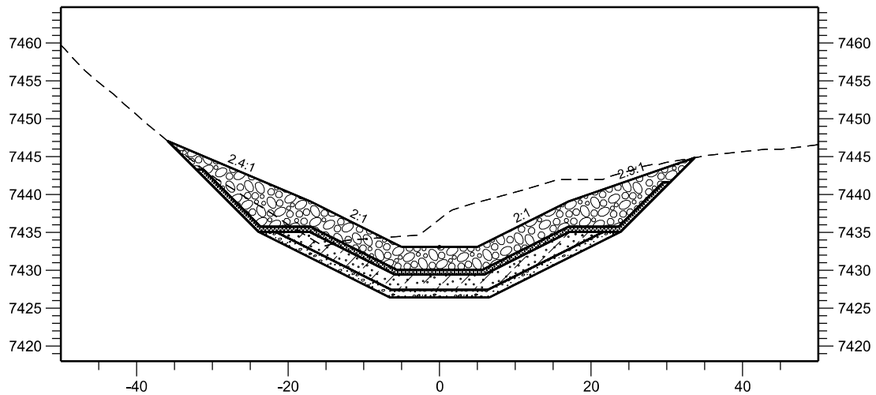
PACIFICORP
DEER CREEK MINE RECLAMATION

CHANNEL SECTIONS

SEAL
PROFESSIONAL ENGINEER
BRANDON D. HORROCKS
ELECTRONIC SEAL
STATE OF UTAH
09/17/2020

DRAWING NO.
E102

17-SEP-2020
DGN File: E:\2020\023_Deer Creek Mine\Cad\Sheet_Files\202001_023_E102.dgn



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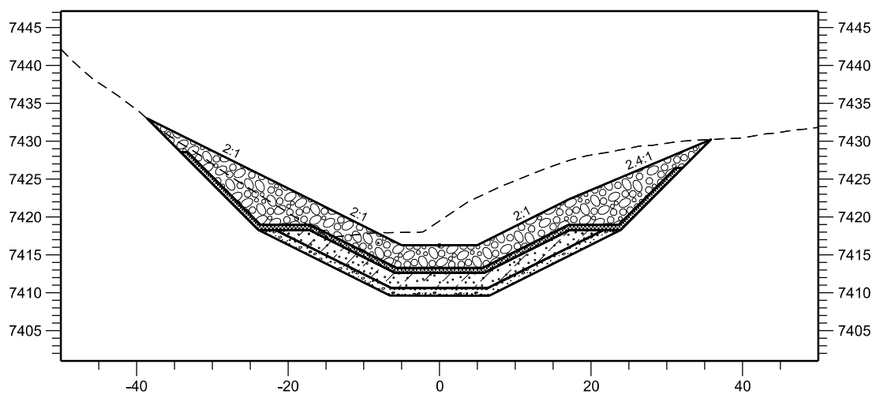

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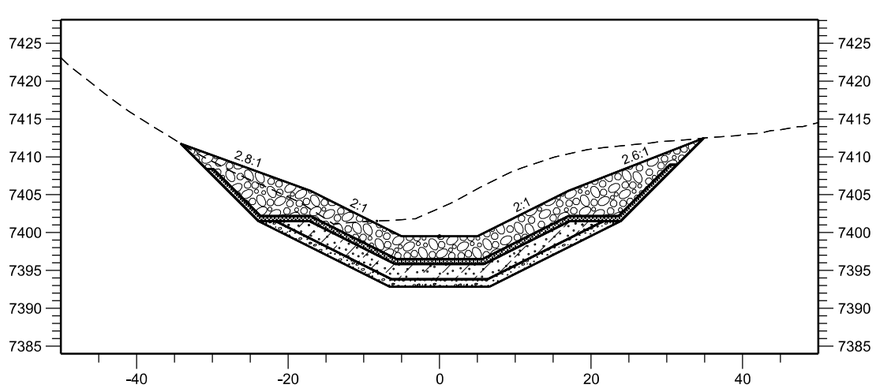

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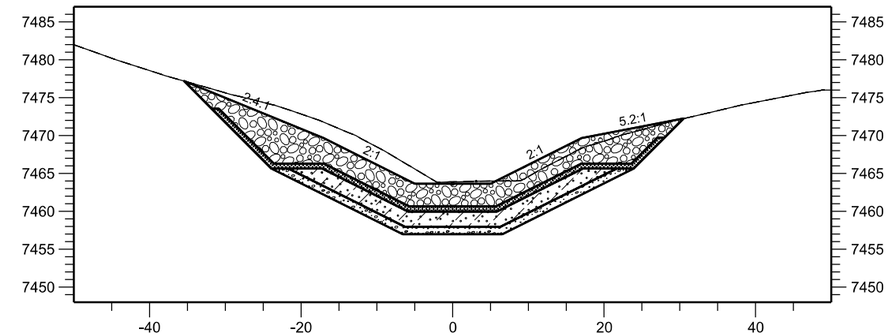
MATERIAL LEGEND

- RIPRAP
- RIPRAP BEDDING
- CHANNEL LINER
- BASE LAYER



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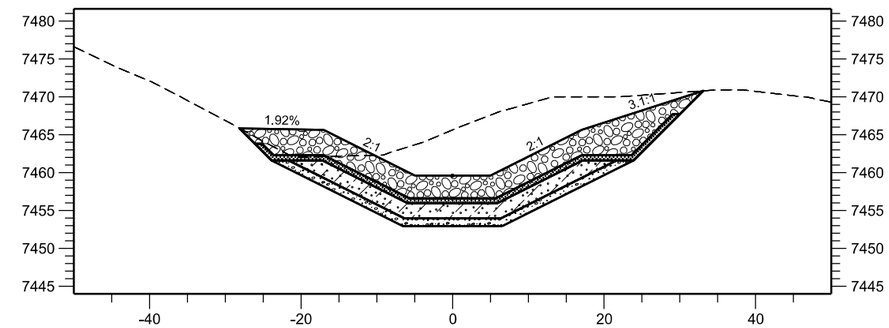

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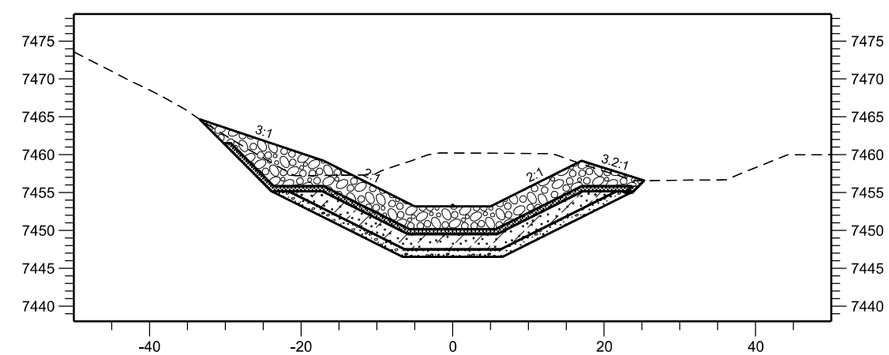

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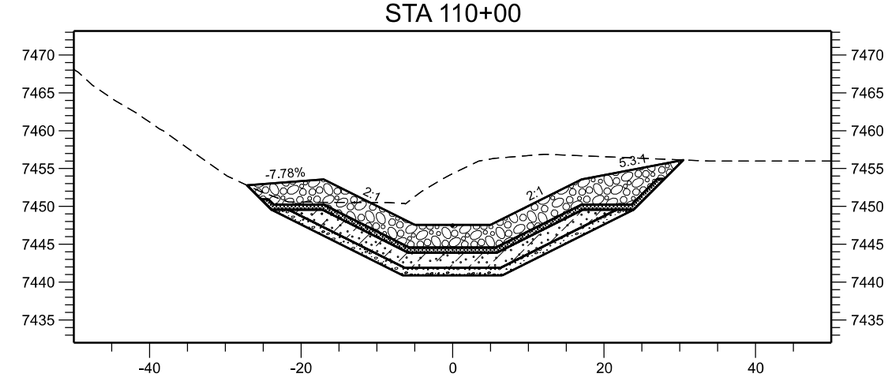

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RB&G ENGINEERING, INC.
1435 WEST 820 NORTH
PROVO, UTAH 84601-1343
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801 521-5771 SALT LAKE CITY

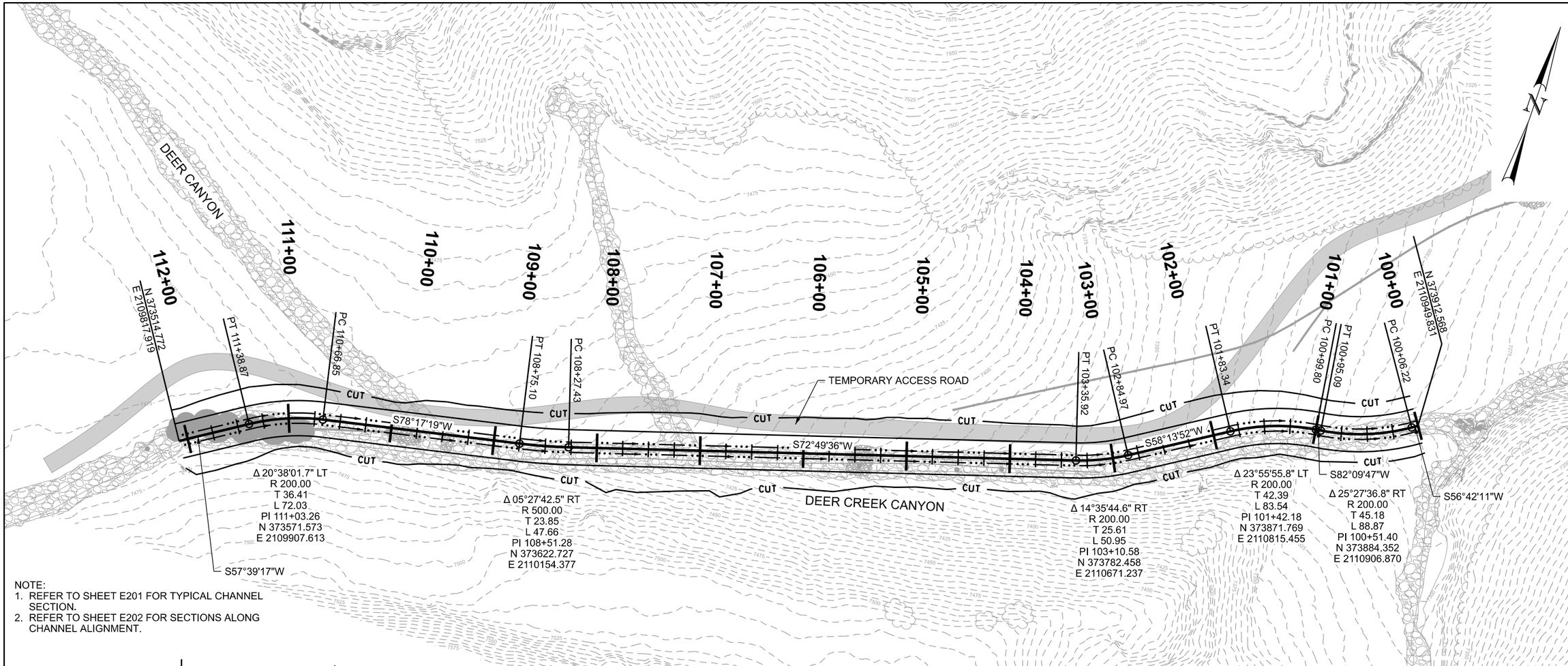
PACIFICORP
DEER CREEK MINE RECLAMATION

CHANNEL SECTIONS

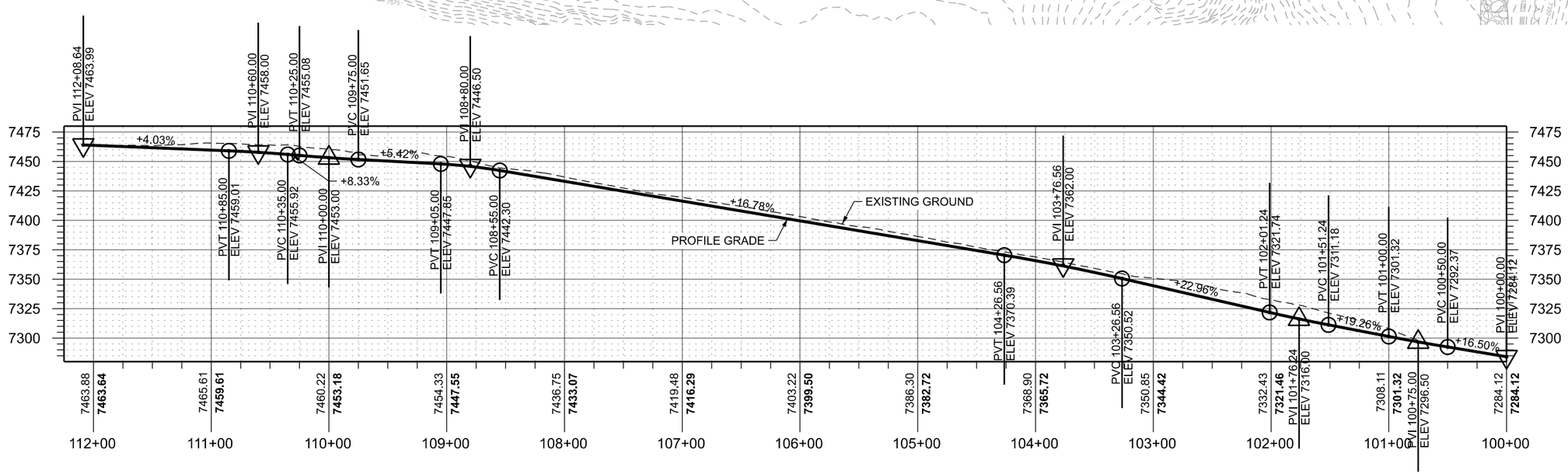
SEAL
PROFESSIONAL ENGINEER
No. 7714607
BRANDON D. HORROCKS
ELECTRONIC SEAL
STATE OF UTAH
09/17/2020

DRAWING NO.
E103

17-SEP-2020
DGN File: E:\2020\023_Deer Creek Mine\Cad\Sheet_Files\202001_023_E103.dgn



NOTE:
1. REFER TO SHEET E201 FOR TYPICAL CHANNEL SECTION.
2. REFER TO SHEET E202 FOR SECTIONS ALONG CHANNEL ALIGNMENT.



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DATE 17-SEP-2020

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1435 WEST 820 NORTH
PROVO, UTAH 84601-1343
801 374-5771 PROVO
801 521-5771 SALT LAKE CITY

PACIFICORP
DEER CREEK MINE RECLAMATION

CHANNEL ALIGNMENT AND PROFILE

SEAL
PROFESSIONAL ENGINEER
No. 7214007
BRANDON D. HORROCKS
ELECTRONIC SEAL
STATE OF UTAH
09/17/2020

DRAWING NO.
PP101

17-SEP-2020
DGN File: E:\2020\023_Deer Creek Mine\Cad\Sheet_Files\202001_023_PP101.dgn