APPENDIX K

AS-BUILT DRAWINGS

MCLAREN TAILINGS ABANDONED MINE SITE
RECLAMATION PROJECT
COOKE CITY, MONTANA
2010 AS-BUILT CONSTRUCTION DRAWINGS

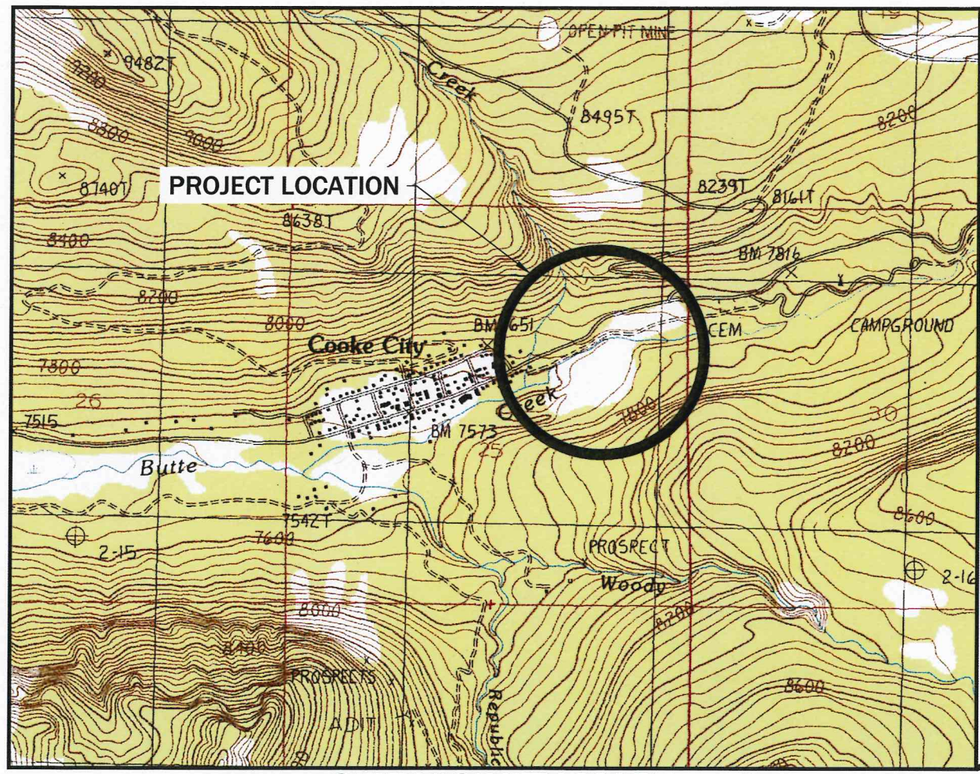
PREPARED FOR

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY MINE WASTE CLEANUP

PREPARED BY

PIONEER TECHNICAL SERVICES, INC.

FEBRUARY 2011



SITE VICINITY MAP

SOURCE: 7.5 MINUTE USGS QUADS

SHEET
G-1AB

LEGEND

EXISTING - PLAN VIEW

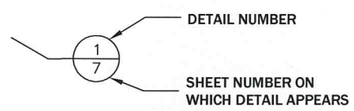
- 7700 — INDEX CONTOURS
- INTERMEDIATE CONTOURS
- CULVERT
- EXISTING ROAD
- STREAM CHANNEL/SURFACE WATER
- PWR — PWR — ELECTRICAL LINE
- PROPERTY LINE

PROPOSED - PLAN VIEW

- 7700 — INDEX CONTOURS
- INTERMEDIATE CONTOURS
- 2+00 — 100 FT. STATIONING
- 2% — GRADE OR SURFACE SLOPE (PERCENT)
- PROPOSED ROAD
- OE — OE — OVERHEAD ELECTRICAL LINE
- UE — UE — UNDERGROUND ELECTRICAL LINE
- JSB — JSB — JERSEY BARRIER
- SOX — SOX — COMPOST FILTER SOX
- SPS — SPS — STREAM PROTECTION STRUCTURE
- PRP — PRP — PROPANE LINE
- X — X — WILDLIFE EXCLUSION FENCE

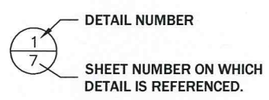
- CENTERLINE
- ℄ CENTERLINE
- SLOPE DESIGNATION (ARROWS POINT DOWN SLOPE)
- 1 3 SLOPE DESIGNATION

DETAIL INDICATOR



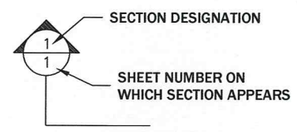
ON PLAN

DETAIL



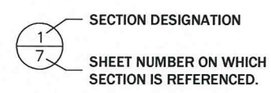
AT DETAIL

SECTION INDICATOR



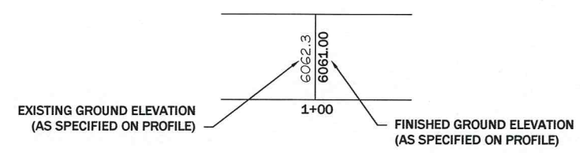
ON PLAN

SECTION



AT SECTION

PROFILE ELEVATIONS



NOTES:
ON PLANS: "–" SYMBOL IN UPPER HALF OF BUBBLE INDICATES GENERAL REFERENCE TO NOTED DRAWING NUMBER.
AT DETAIL/SECTIONS: "–" SYMBOL (NO DRAWING NUMBER) IN LOWER HALF OF BUBBLE INDICATES DETAIL/SECTION IS REFERENCED ON MORE THAN ONE DRAWING.

REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: JSM\MCB
CHECKED BY: JSM\MWB\MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: PIONEER

SCALE IN FEET
0

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

LEGEND

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET G-2AB

SHEET INDEX

SHEET NO.	DESCRIPTION
G-1AB	COVER
G-2AB	LEGEND
G-3AB	SHEET INDEX
G-5AB	PROJECT OVERVIEW
F-1AB	PROJECT FACILITIES PLAN VIEW
F-2AB	WEST BRIDGE PLAN AND PROFILE
F-3AB	EAST BRIDGE PLAN AND PROFILE
F-4AB	HAUL ROAD PLAN VIEW
F-5AB	CLEAR, GRUB, AND TIMBER REMOVAL PLAN VIEW
WRE-1AB	WASTE ROCK EXCAVATION PLAN VIEW
WRE-2AB	WASTE ROCK EXCAVATION CROSS SECTIONS STA 0+00 TO 4+50
WRE-3AB	WASTE ROCK EXCAVATION CROSS SECTIONS STA 5+00 TO 5+50
TE-1AB	TAILINGS EXCAVATION AND SEQUENCE
GW-2AB	PHASE I DEWATERING SYSTEM LAYOUT
GW-3AB	PHASE I DEWATERING SYSTEM AND PUMPING WELL LOCATIONS
GW-4AB	PHASE I DEWATERING SYSTEM AND PUMPING WELL LOCATIONS
GW-5AB	DEWATERING CONTROL BUILDING PLAN VIEW
GW-6AB	WATER TREATMENT SYSTEM
GW-8AB	SEDIMENT POND PLAN VIEW
GW-9AB	SEDIMENT POND CROSS SECTIONS STA 0+00 TO 2+25
GW-10AB	SEDIMENT POND CROSS SECTIONS STA 2+50 TO 3+25
GW-14AB	BUILDING PAD CROSS SECTIONS STA 7+00 TO 7+75
GW-15AB	BUILDING PAD CROSS SECTIONS STA 8+00 TO 8+50
GW-19AB	SEDIMENT DETENTION POND INLETS & PERIMETER WATER BYPASS
GW-25AB	C3 PUMPING WELL PLAN AND PROFILE
R-1AB	REPOSITORY AREA CLEARING LIMITS
R-2AB	REPOSITORY FINAL EXCAVATION PLAN
R-4AB	REPOSITORY CROSS SECTIONS STA 0+00 TO 0+60
R-5AB	REPOSITORY CROSS SECTIONS STA 0+80 TO 1+40
R-6AB	REPOSITORY CROSS SECTIONS STA 1+60 TO 2+20
R-7AB	REPOSITORY CROSS SECTIONS STA 2+40 TO 3+00
R-8AB	REPOSITORY CROSS SECTIONS STA 3+20 TO 3+80
R-9AB	REPOSITORY CROSS SECTIONS STA 4+00 TO 4+60
R-10AB	REPOSITORY CROSS SECTIONS STA 4+80 TO 5+40
R-11AB	REPOSITORY CROSS SECTIONS STA 5+60 TO 6+20
R-12AB	REPOSITORY CROSS SECTION VOLUME TABLE

SHEET NO.	DESCRIPTION
SW-1AB	STORM WATER CONTROLS PLAN VIEW
SW-5AB	CHANNEL #4 PLAN AND PROFILE
SW-6AB	CHANNEL #5 PLAN AND PROFILE
SW-7AB	STORM WATER DRAIN PLAN AND PROFILE
SW-10AB	4 INCH DRAIN PLAN AND PROFILE
C-1AB	2010 REVEGETATION PLAN
BMP-1AB	2010 CONSTRUCTION BMP'S PLAN VIEW

SHEET NO.	DESCRIPTION
FD-2AB	STRUCTURAL REINFORCED EMBANKMENT DETAILS
FD-3AB	EAST BRIDGE ABUTMENT DETAILS
FD-4AB	HAUL ROAD DETAIL
FD-5AB	JERSEY BARRIER DETAILS
FD-8AB	WEST BRIDGE PROFILE SECTION VIEW
FD-9AB	WEST BRIDGE CROSS SECTIONS STA 1+25 TO 2+20
GWD-1AB	TYPICAL 30 TO 120 GPM PUMPING WELL DETAIL
GWD-2AB	TYPICAL 100 TO 200 GPM PUMPING WELL DETAIL
GWD-8AB	30" DROP STRUCTURE DETAILS
GWD-9AB	DEWATERING CONTROL BUILDING DETAILS
GWD-10AB	DEWATERING CONTROL BUILDING DETAILS
GWD-11AB	DEWATERING CONTROL BUILDING DETAILS
GWD-12AB	DEWATERING CONTROL BUILDING DETAILS
GWD-13AB	DEWATERING CONTROL BUILDING DETAILS
GWD-14AB	DEWATERING CONTROL BUILDING DETAILS
GWD-15AB	DEWATERING CONTROL BUILDING DETAILS
GWD-16AB	DEWATERING CONTROL BUILDING DETAILS
GWD-17AB	DEWATERING CONTROL BUILDING DETAILS
GWD-18AB	DEWATERING CONTROL BUILDING DETAILS
GWD-19AB	DEWATERING CONTROL BUILDING DETAILS
GWD-20AB	DEWATERING CONTROL BUILDING DETAILS
GWD-21AB	DEWATERING CONTROL BUILDING DETAILS
GWD-22AB	DEWATERING CONTROL BUILDING FOOTING DETAIL
GWD-23AB	DEWATERING CONTROL BUILDING FOUNDATION WALL DETAIL
GWD-24AB	DEWATERING CONTROL BUILDING SLAB CONTROL JOINTS DETAIL
GWD-25AB	DEWATERING CONTROL BUILDING COLUMN FOOTING DETAILS
GWD-27AB	INITIAL CONSTRUCTION DEWATERING DETAILS
SWD-1AB	STORM WATER CHANNEL DETAILS
SWD-2AB	STORM WATER CHANNEL DETAILS
SWD-4AB	CULVERT AND RIPRAP APRON INSTALLATION DETAILS
SWD-6AB	LINED BAILS
BMPD-1AB	STREAM PROTECTION DETAILS
BMPD-2AB	BMP'S DETAILS
BMPD-3AB	NORTH AMERICAN GREEN SLOPE INSTALLATION DETAIL

REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: JSM\MWB\MCB
CHECKED BY: JSM\MWB\MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: PIONEER

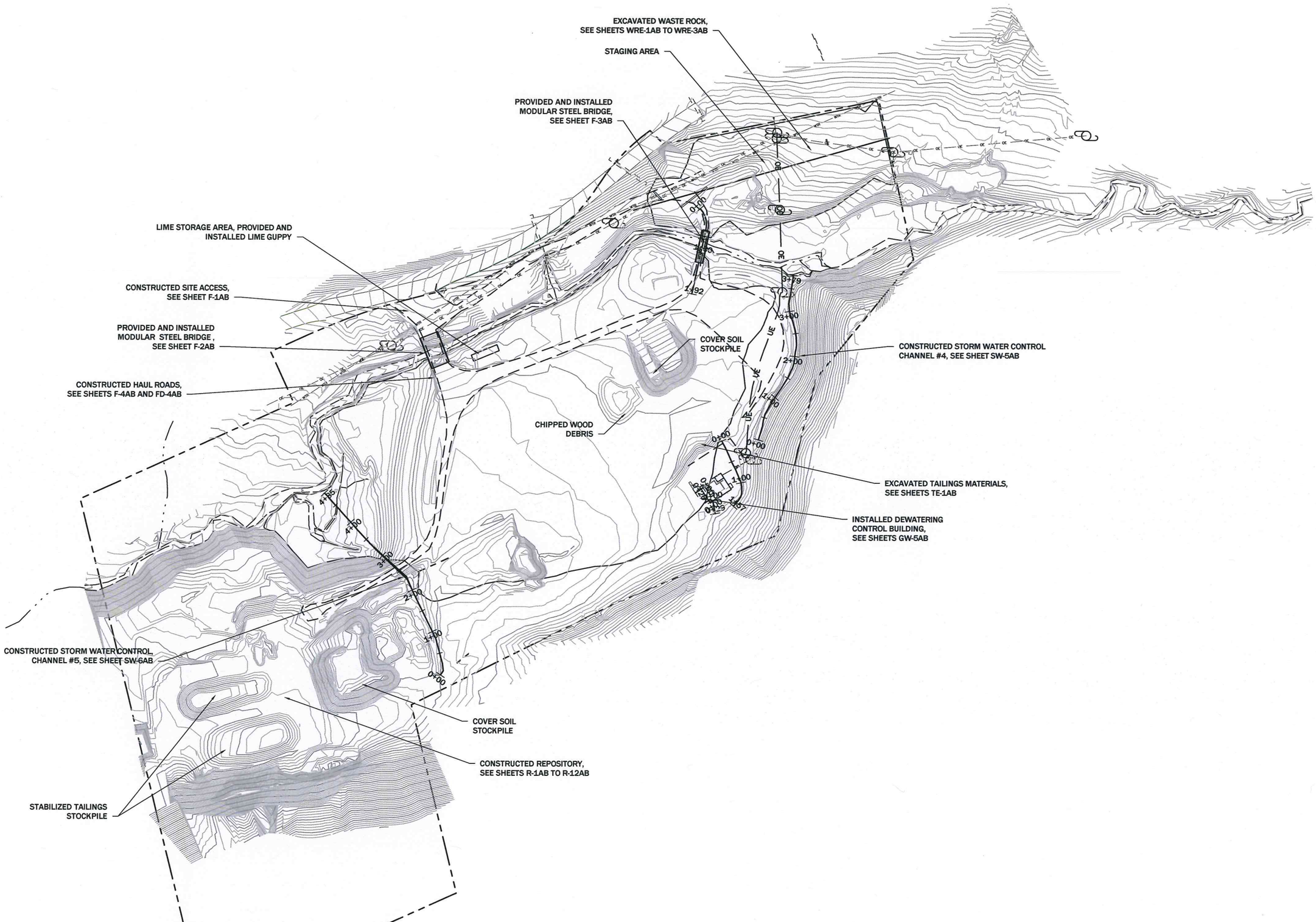
SCALE IN FEET
0

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

SHEET INDEX

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
G-3AB



REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

N

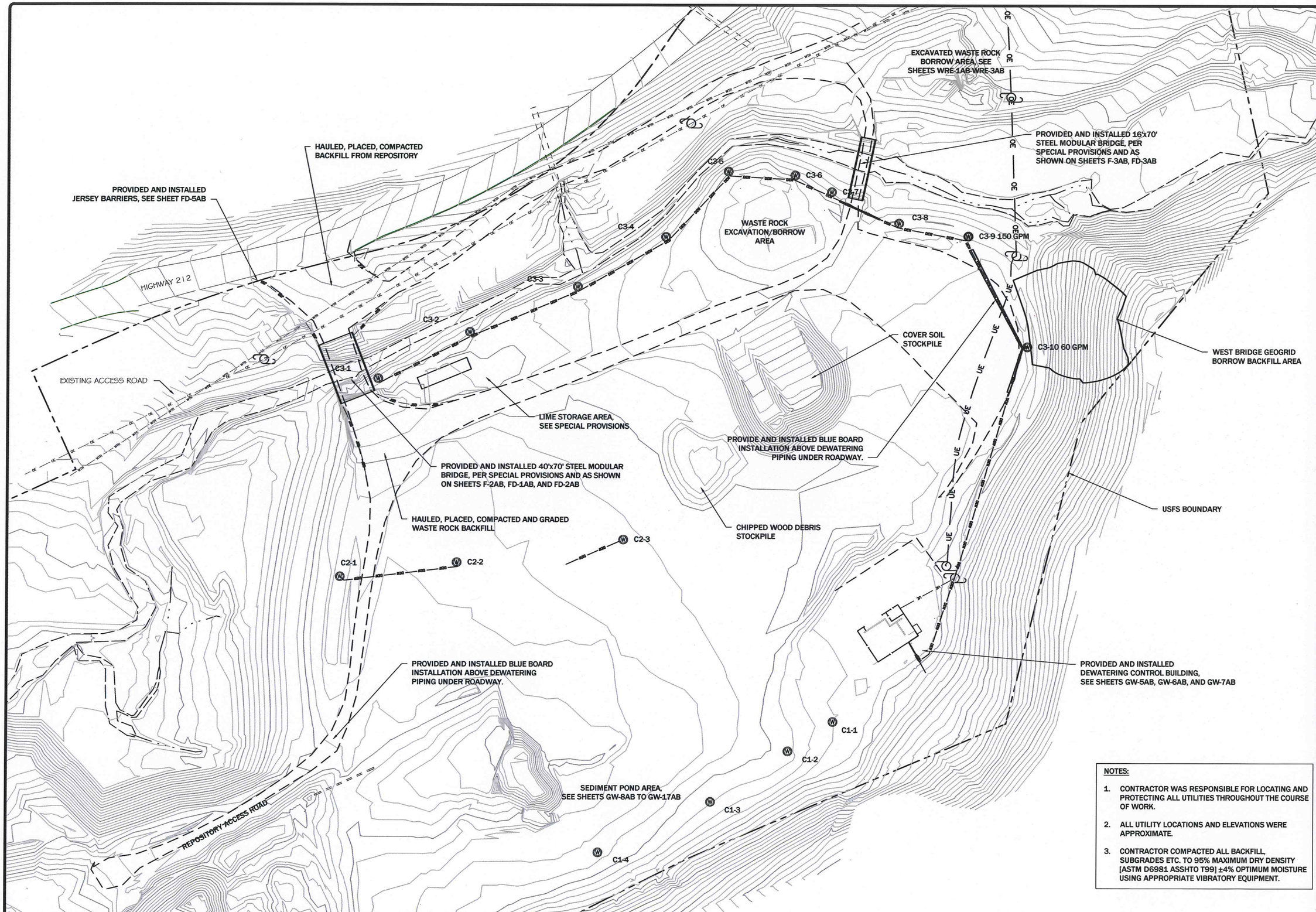
SCALE IN FEET
0 100 200

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

PROJECT OVERVIEW

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET G-5AB



NOTES:

1. CONTRACTOR WAS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES THROUGHOUT THE COURSE OF WORK.
2. ALL UTILITY LOCATIONS AND ELEVATIONS WERE APPROXIMATE.
3. CONTRACTOR COMPACTED ALL BACKFILL, SUBGRADES ETC. TO 95% MAXIMUM DRY DENSITY [ASTM D6981 ASSHTO T99] ±4% OPTIMUM MOISTURE USING APPROPRIATE VIBRATORY EQUIPMENT.

REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

N

SCALE IN FEET
0 50 100

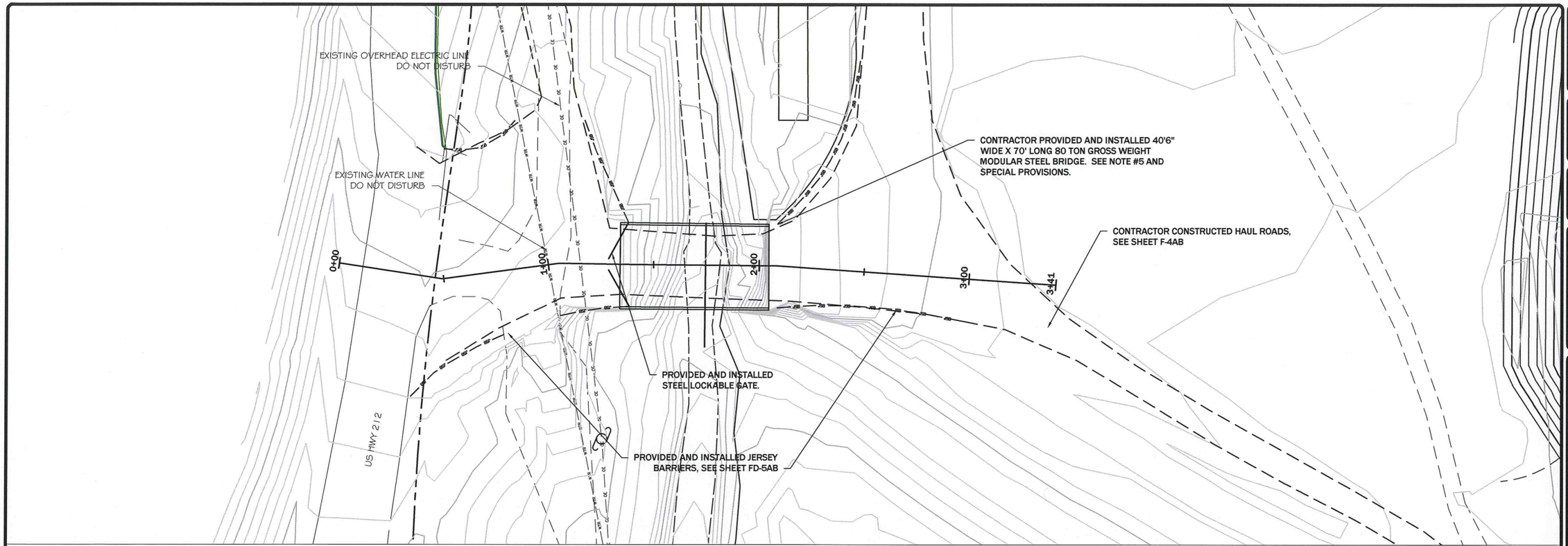
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

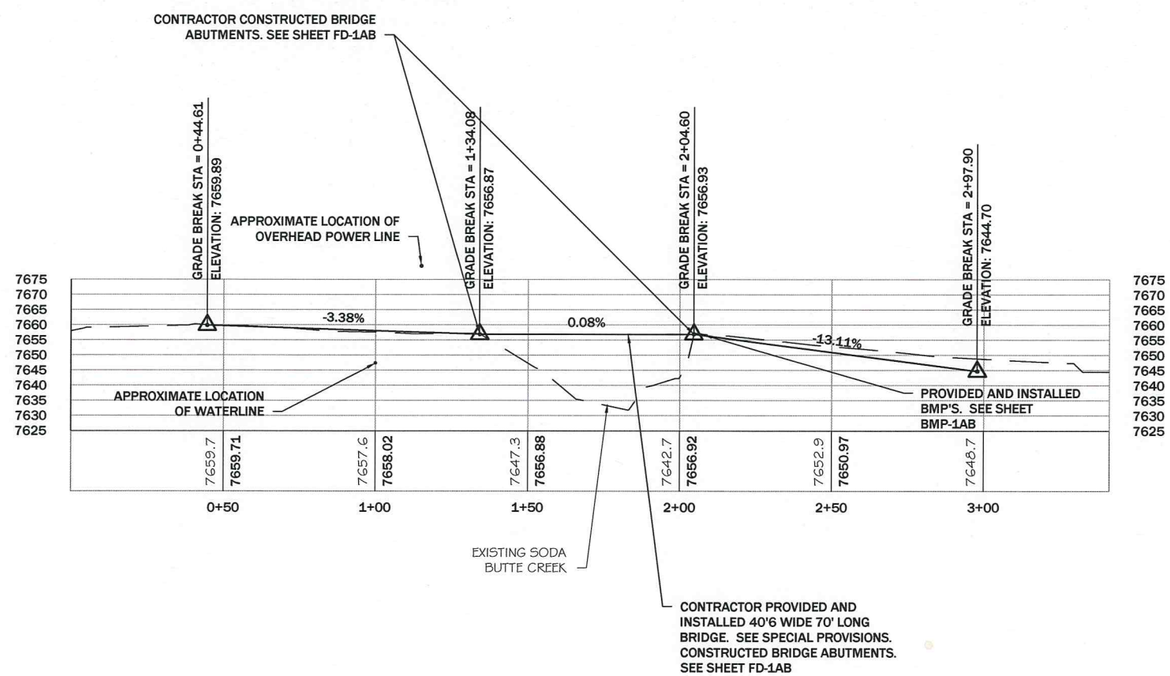
PROJECT FACILITIES PLAN VIEW

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET F-1AB

2/2/2011 11:57:50 AM \\SRVW2K\CLIENTDATA1$\DEQ\MCLAREN\2010\DRAWINGS\AS-BUILTS-2010\CONSTRUCTION\MC-FBID-AB-10-PLN-023-09.DWG





NOTES:

1. CONTRACTOR WAS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES THROUGHOUT THE COURSE OF WORK.
2. UTILITY LOCATIONS AND ELEVATIONS SHOWN ON DRAWINGS ARE APPROXIMATE.
3. CONTRACTOR COORDINATED WITH UTILITY COMPANIES PRIOR TO COMPLETING EARTH WORK WITHIN 15 FEET OF ALL OVERHEAD POLES.
4. CONTRACTOR WAS RESPONSIBLE FOR HAVING UTILITY OWNER INSTALL POLE WRAPS ON UTILITY POLES WHEN REQUIRED BY UTILITY OWNER.
5. CONTRACTOR PROVIDED AND INSTALLED (1) 40'x70' LONG MODULAR STEEL BRIDGE AS DESCRIBED IN SECTION III OF THE SPECIAL PROVISIONS AND AS SPECIFIED BY MANUFACTURER AND AS SHOWN ON SHEETS FD-1AB AND FD-2AB.
6. CONTRACTOR WAS RESPONSIBLE FOR PROPERLY INSTALLING AND MAINTAINING BMP'S THROUGHOUT THE COURSE OF WORK AND AS DIRECTED BY ENGINEER.

REVISION:

DATE:	BY:	DESC:
1/21/09	JSM	GROSS WT OF BRIDGE

DRAWN BY: CLA
DESIGNED BY: MCB
CHECKED BY: JSM
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

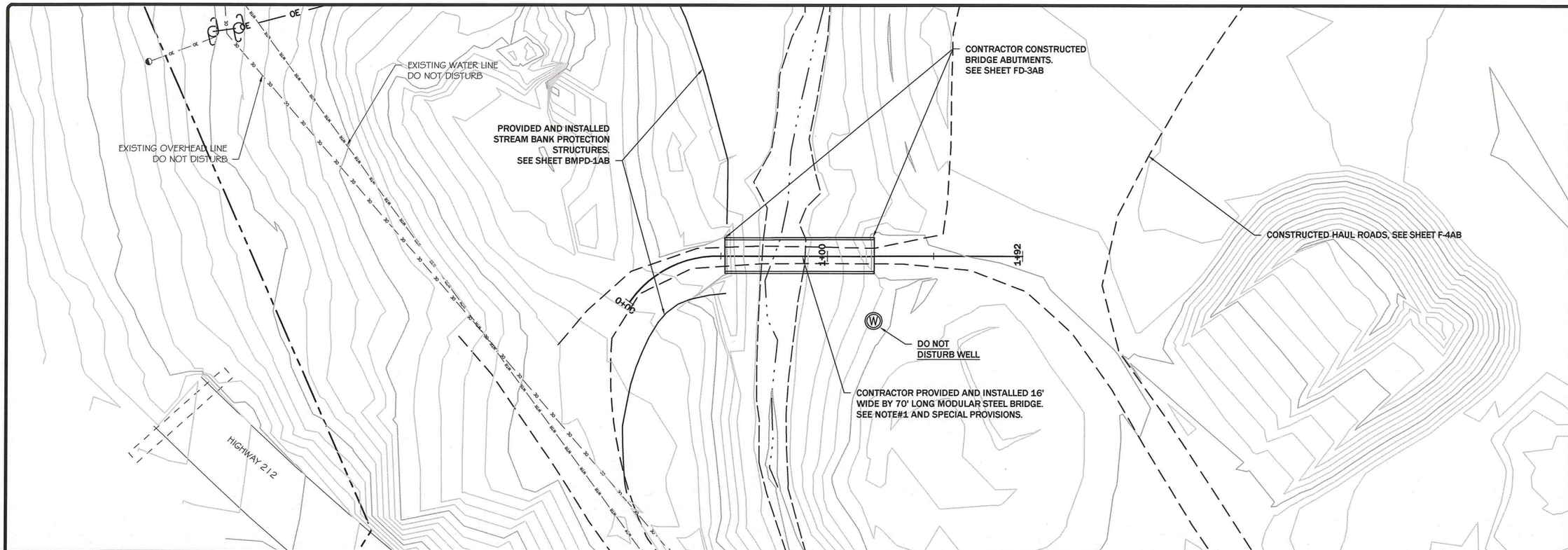
SCALE IN FEET
0 25 50

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

WEST BRIDGE PLAN AND PROFILE

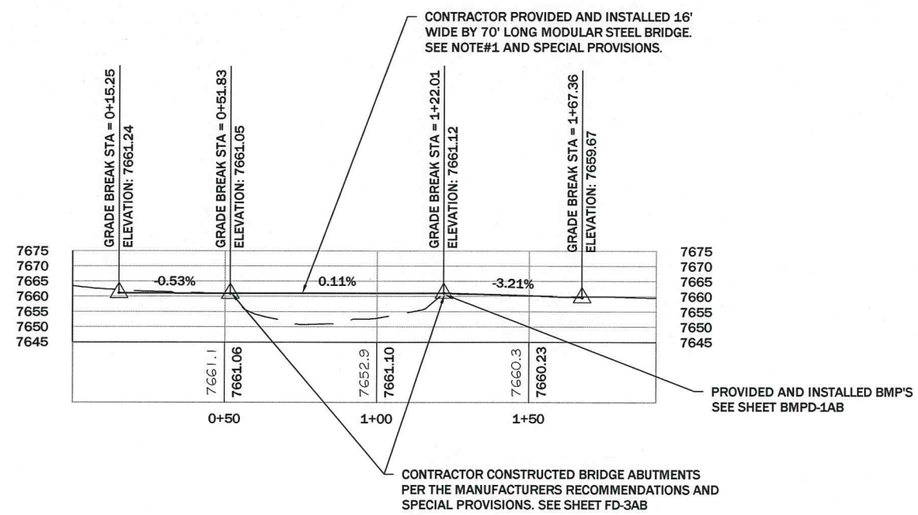
PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59702
(406)-782-5177

SHEET F-2AB



NOTES:

1. CONTRACTOR PROVIDED AND INSTALLED (1) 16' WIDE BY 70' LONG MODULAR STEEL BRIDGE AS DESCRIBED IN SECTION 3, OF THE SPECIAL PROVISIONS AND AS SPECIFIED BY MANUFACTURER AND AS SHOWN ON SHEET FD-3.
2. CONTRACTOR WAS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES THROUGHOUT THE COURSE OF WORK.
3. CONTRACTOR PROVIDED, INSTALLED AND MAINTAINED BMP'S THROUGHOUT THE COURSE OF WORK AND AS DIRECTED BY ENGINEER.



REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: MCB
CHECKED BY: JSM
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 25 50

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

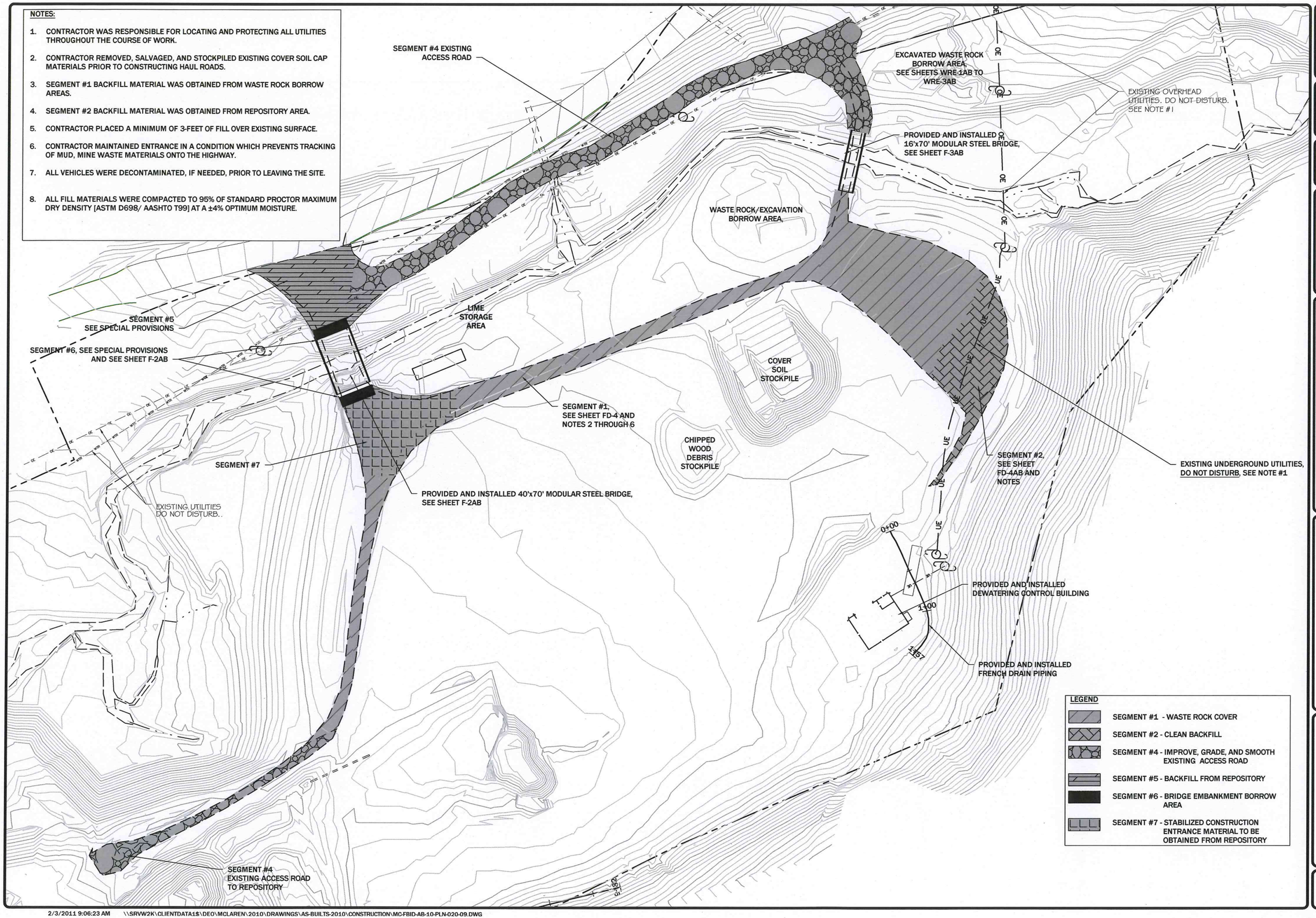
EAST BRIDGE
PLAN
AND
PROFILE

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
F-3AB

NOTES:

1. CONTRACTOR WAS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES THROUGHOUT THE COURSE OF WORK.
2. CONTRACTOR REMOVED, SALVAGED, AND STOCKPILED EXISTING COVER SOIL CAP MATERIALS PRIOR TO CONSTRUCTING HAUL ROADS.
3. SEGMENT #1 BACKFILL MATERIAL WAS OBTAINED FROM WASTE ROCK BORROW AREAS.
4. SEGMENT #2 BACKFILL MATERIAL WAS OBTAINED FROM REPOSITORY AREA.
5. CONTRACTOR PLACED A MINIMUM OF 3-FEET OF FILL OVER EXISTING SURFACE.
6. CONTRACTOR MAINTAINED ENTRANCE IN A CONDITION WHICH PREVENTS TRACKING OF MUD, MINE WASTE MATERIALS ONTO THE HIGHWAY.
7. ALL VEHICLES WERE DECONTAMINATED, IF NEEDED, PRIOR TO LEAVING THE SITE.
8. ALL FILL MATERIALS WERE COMPACTED TO 95% OF STANDARD PROCTOR MAXIMUM DRY DENSITY [ASTM D698/ AASHTO T99] AT A ±4% OPTIMUM MOISTURE.



REVISION:		
DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: MCB
CHECKED BY: JSM
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

N

SCALE IN FEET
0 50 100

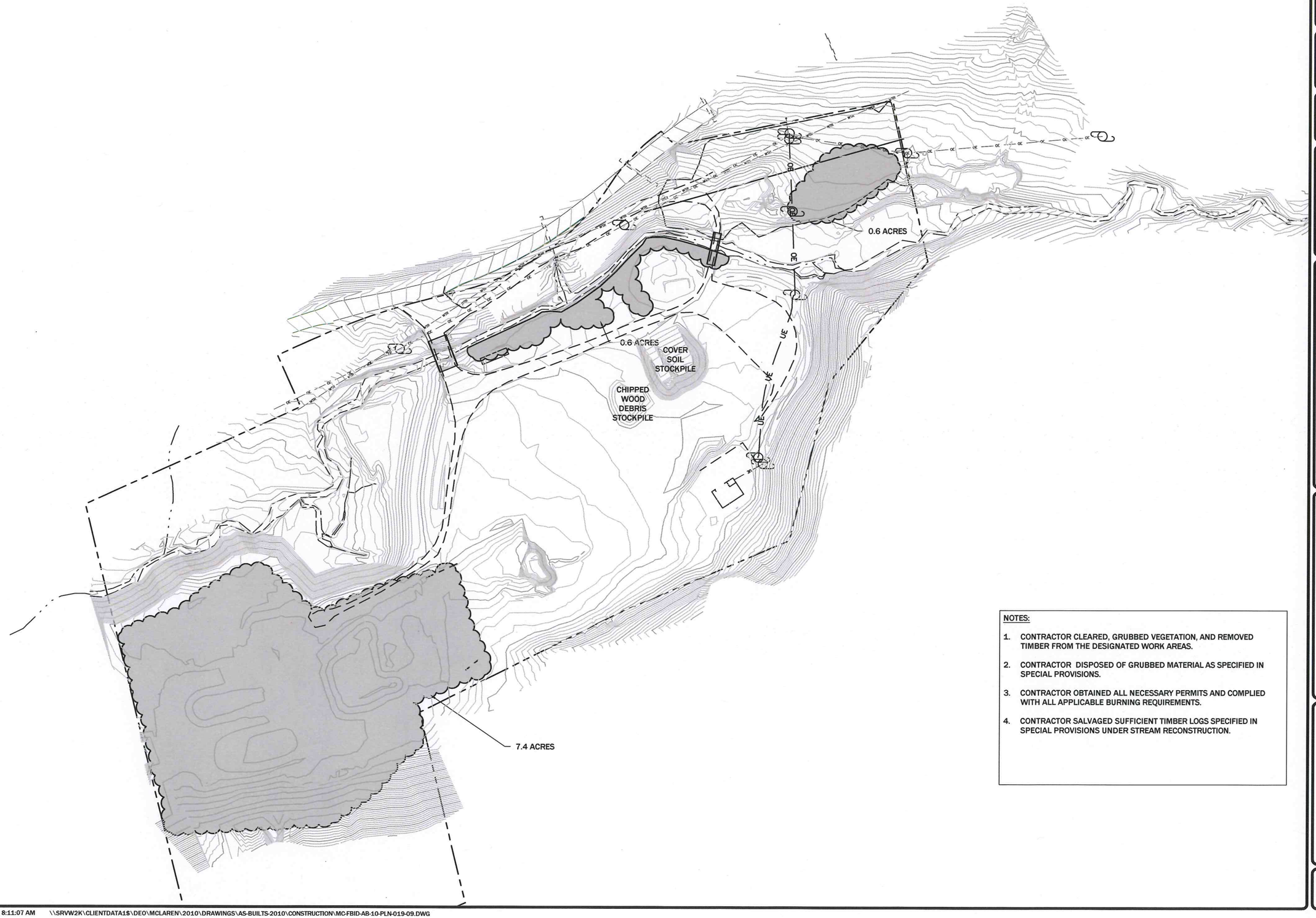
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

HAUL ROAD PLAN VIEW

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET F-4AB

2/3/2011 9:06:23 AM \\SRVW2K\CLIENTDATA1$\DEO\MCLAREN\2010\DRAWINGS\AS-BUILTS-2010\CONSTRUCTION\MC-FBID-AB-10-PLN-020-09.DWG



NOTES:

1. CONTRACTOR CLEARED, GRUBBED VEGETATION, AND REMOVED TIMBER FROM THE DESIGNATED WORK AREAS.
2. CONTRACTOR DISPOSED OF GRUBBED MATERIAL AS SPECIFIED IN SPECIAL PROVISIONS.
3. CONTRACTOR OBTAINED ALL NECESSARY PERMITS AND COMPLIED WITH ALL APPLICABLE BURNING REQUIREMENTS.
4. CONTRACTOR SALVAGED SUFFICIENT TIMBER LOGS SPECIFIED IN SPECIAL PROVISIONS UNDER STREAM RECONSTRUCTION.

REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: MCB
CHECKED BY: JSM
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/10

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

N

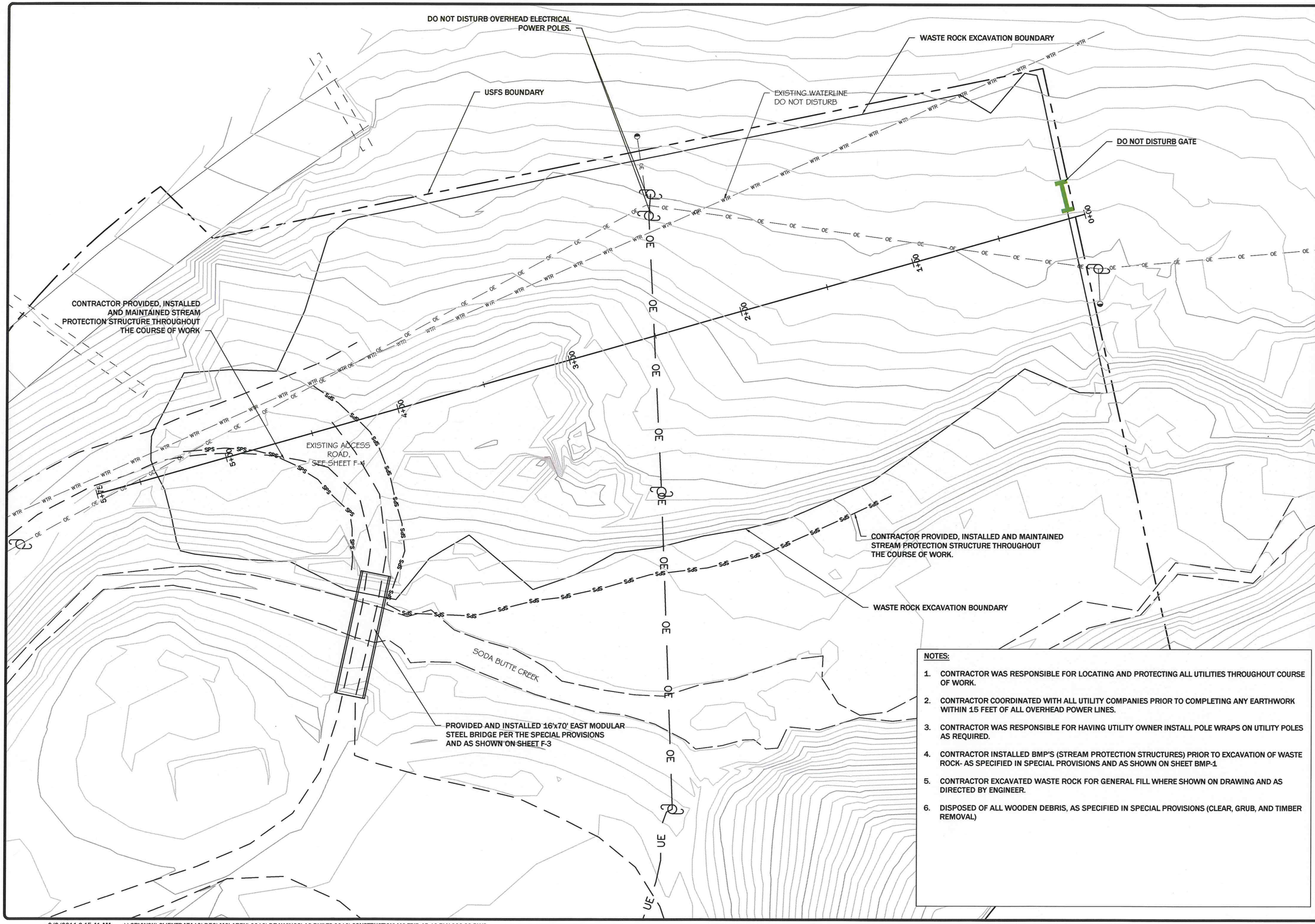
SCALE IN FEET
0 100 200

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

CLEAR, GRUB, AND TIMBER REMOVAL PLAN VIEW

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET F-5AB



NOTES:

1. CONTRACTOR WAS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES THROUGHOUT COURSE OF WORK.
2. CONTRACTOR COORDINATED WITH ALL UTILITY COMPANIES PRIOR TO COMPLETING ANY EARTHWORK WITHIN 15 FEET OF ALL OVERHEAD POWER LINES.
3. CONTRACTOR WAS RESPONSIBLE FOR HAVING UTILITY OWNER INSTALL POLE WRAPS ON UTILITY POLES AS REQUIRED.
4. CONTRACTOR INSTALLED BMP'S (STREAM PROTECTION STRUCTURES) PRIOR TO EXCAVATION OF WASTE ROCK- AS SPECIFIED IN SPECIAL PROVISIONS AND AS SHOWN ON SHEET BMP-1
5. CONTRACTOR EXCAVATED WASTE ROCK FOR GENERAL FILL WHERE SHOWN ON DRAWING AND AS DIRECTED BY ENGINEER.
6. DISPOSED OF ALL WOODEN DEBRIS, AS SPECIFIED IN SPECIAL PROVISIONS (CLEAR, GRUB, AND TIMBER REMOVAL)

REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: MCB
CHECKED BY: JSM
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/10

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

N

SCALE IN FEET
0 25 50

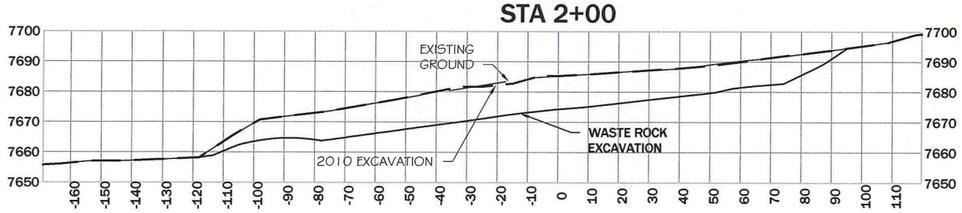
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

WASTE ROCK EXCAVATION PLAN VIEW

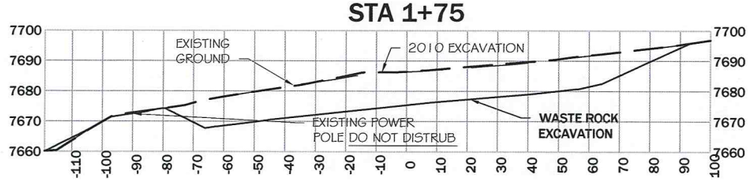
PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
WRE-1AB

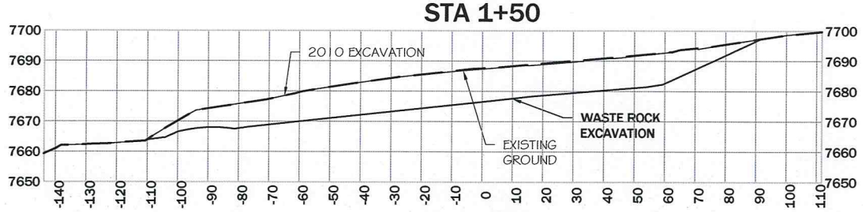
STA 2+00



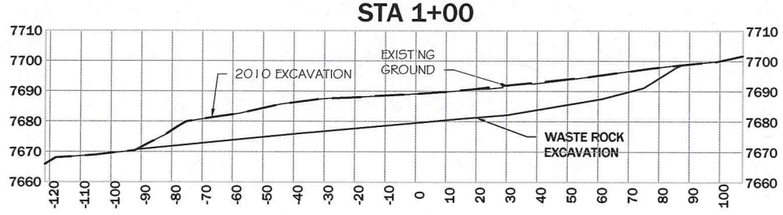
STA 1+75



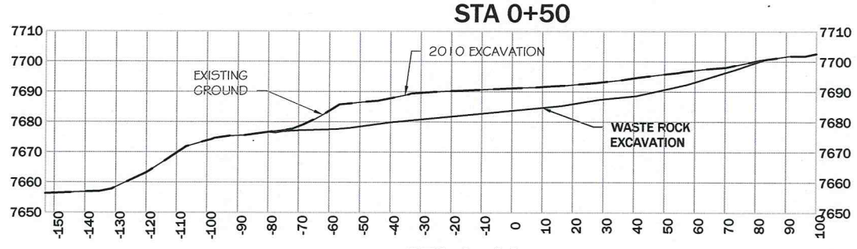
STA 1+50



STA 1+00



STA 0+50



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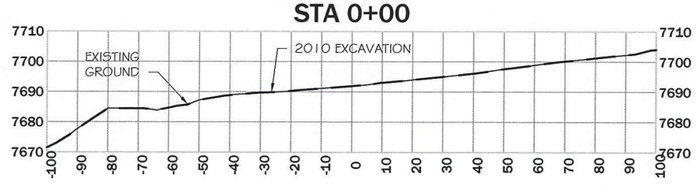

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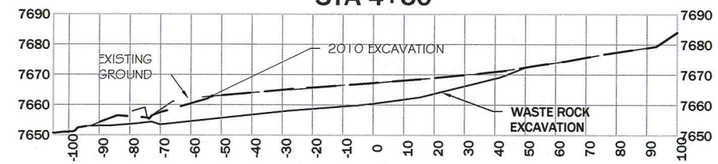

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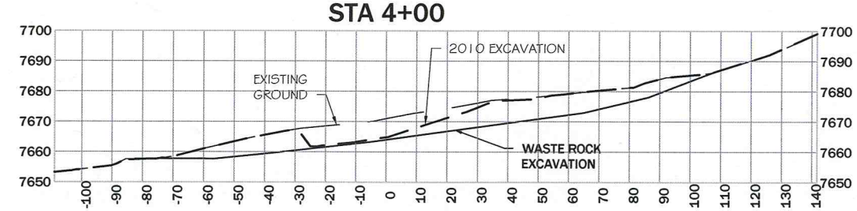

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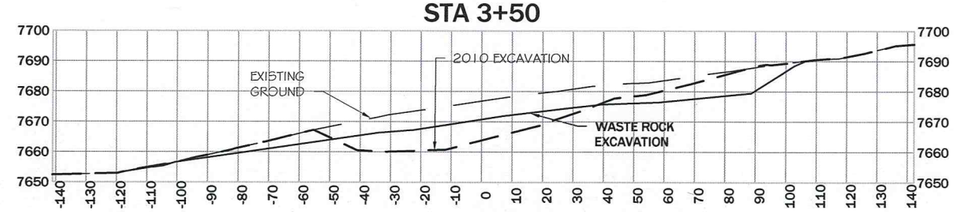

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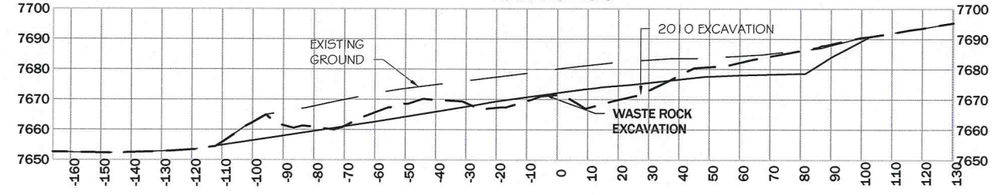

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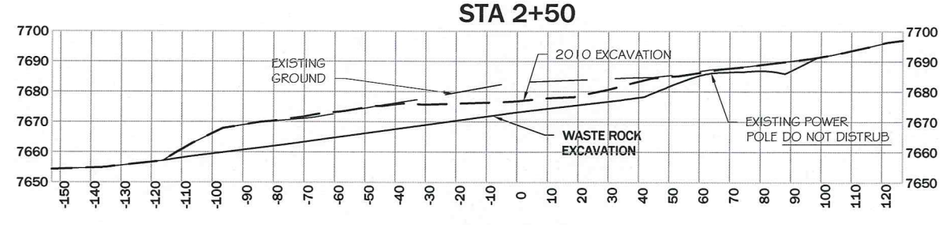

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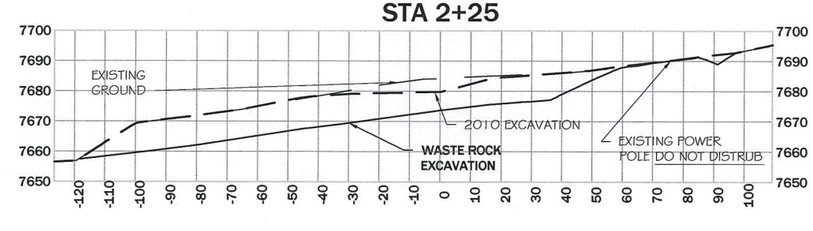


REVISION:		
DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: MCB
CHECKED BY: JSM
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/10

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 25 50

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

WASTE ROCK EXCAVATION CROSS SECTIONS STA 0+00 TO 4+50

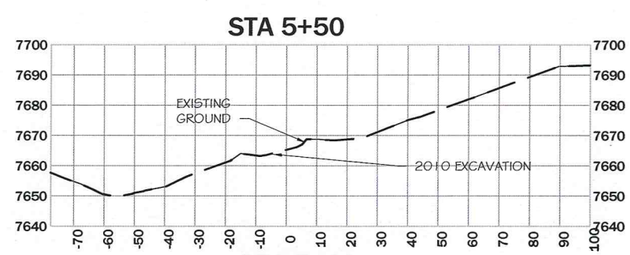
PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

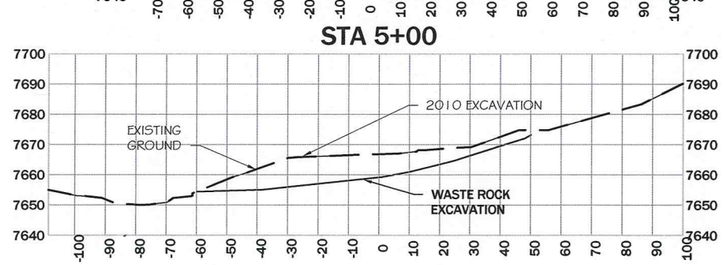
SHEET
WRE-2AB

Waste Rock Total Volume Table			
Station	Cut Area (ft^2)	Cut Volume (bcy) See Note #1	Cumulative Cut Vol (bcy) See Note #1
0+00.00	0.00	0.00	0.00
0+25.00	0.00	0.00	0.00
0+50.00	0.00	0.00	0.00
0+75.00	0.00	0.00	0.00
1+00.00	0.05	0.02	0.02
1+25.00	0.21	0.12	0.14
1+50.00	0.00	0.10	0.24
1+75.00	2.34	1.08	1.32
2+00.00	18.40	9.60	10.92
2+25.00	150.36	78.13	89.05
2+50.00	340.12	227.07	316.13
2+75.00	645.80	456.44	772.57
3+00.00	1197.93	853.58	1626.15
3+25.00	1502.94	1250.40	2876.55
3+50.00	1123.93	1216.14	4092.69
3+75.00	802.38	891.81	4984.50
4+00.00	302.22	511.39	5495.89
4+25.00	74.37	174.35	5670.24
4+50.00	44.00	54.80	5725.04
4+75.00	0.00	20.37	5745.41
5+00.00	0.00	0.00	5745.41
5+25.00	0.00	0.00	5745.41
5+50.00	0.00	0.00	5745.41
5+75.00	0.00	0.00	5745.41

NOTES:

1. ALL VOLUMES ARE IN BANK CUBIC YARDS. CONTRACTOR IS RESPONSIBLE FOR DETERMINING SHRINK/SWELL FACTOR.





REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: MCB
CHECKED BY: JSM
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/10

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 25 50

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

WASTE ROCK
EXCAVATION
CROSS SECTIONS
STA 5+00 TO 5+50

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
WRE-3AB

REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: MCB
CHECKED BY: JSM
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/10

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

N

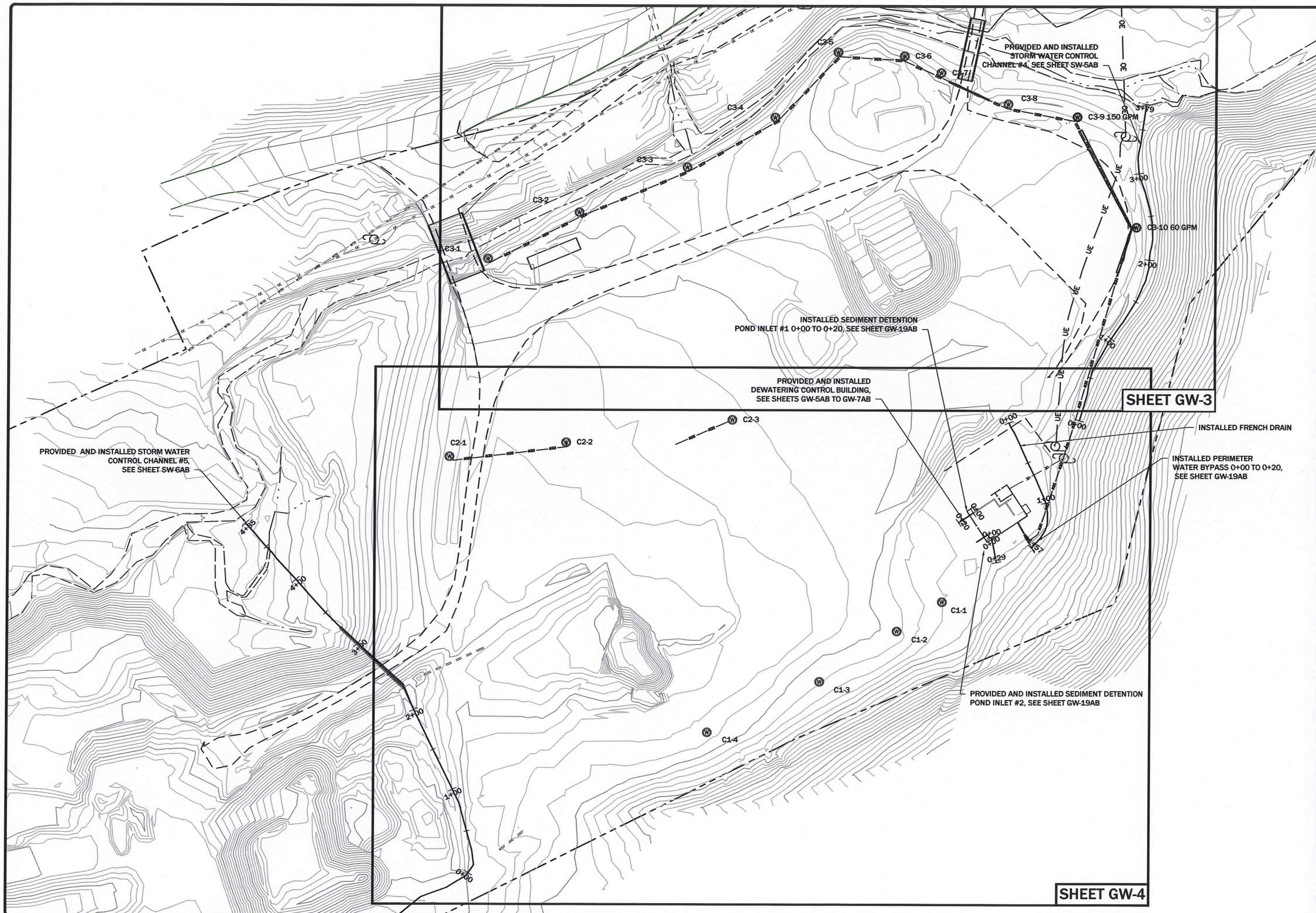
SCALE IN FEET
0 100 200

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

TAILINGS
EXCAVATION
AND
SEQUENCE

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
TE-1AB



REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: MWB
CHECKED BY: JSM
APPROVED BY: MWB
PROJECT NO: 10140
DATE: 2/18/10

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 50 100

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

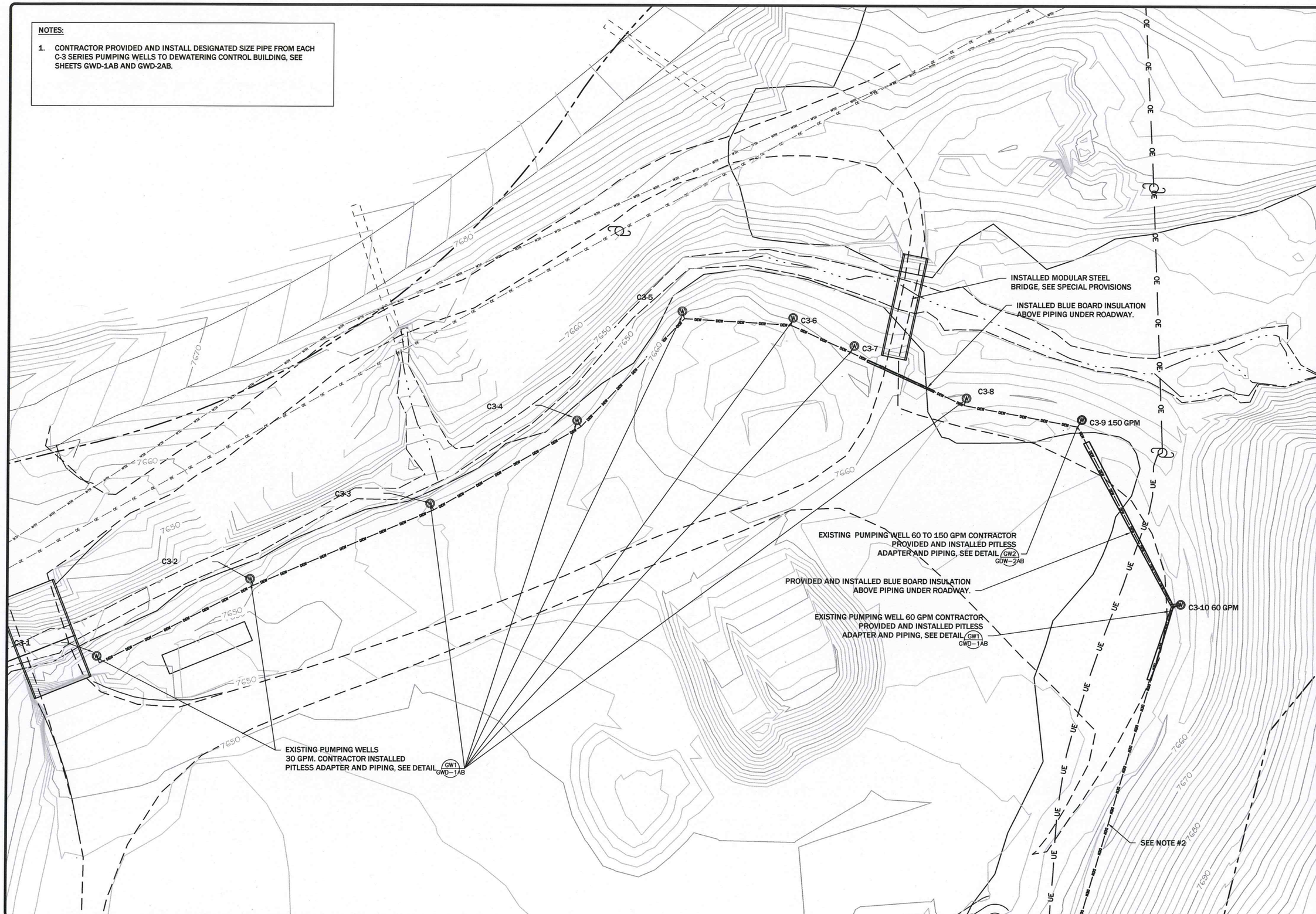
PHASE I
DEWATERING SYSTEM LAYOUT

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GW-2AB

NOTES:

1. CONTRACTOR PROVIDED AND INSTALL DESIGNATED SIZE PIPE FROM EACH C-3 SERIES PUMPING WELLS TO DEWATERING CONTROL BUILDING, SEE SHEETS GWD-1AB AND GWD-2AB.



REVISION: DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: MWB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/10

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

N

SCALE IN FEET
0 30 60

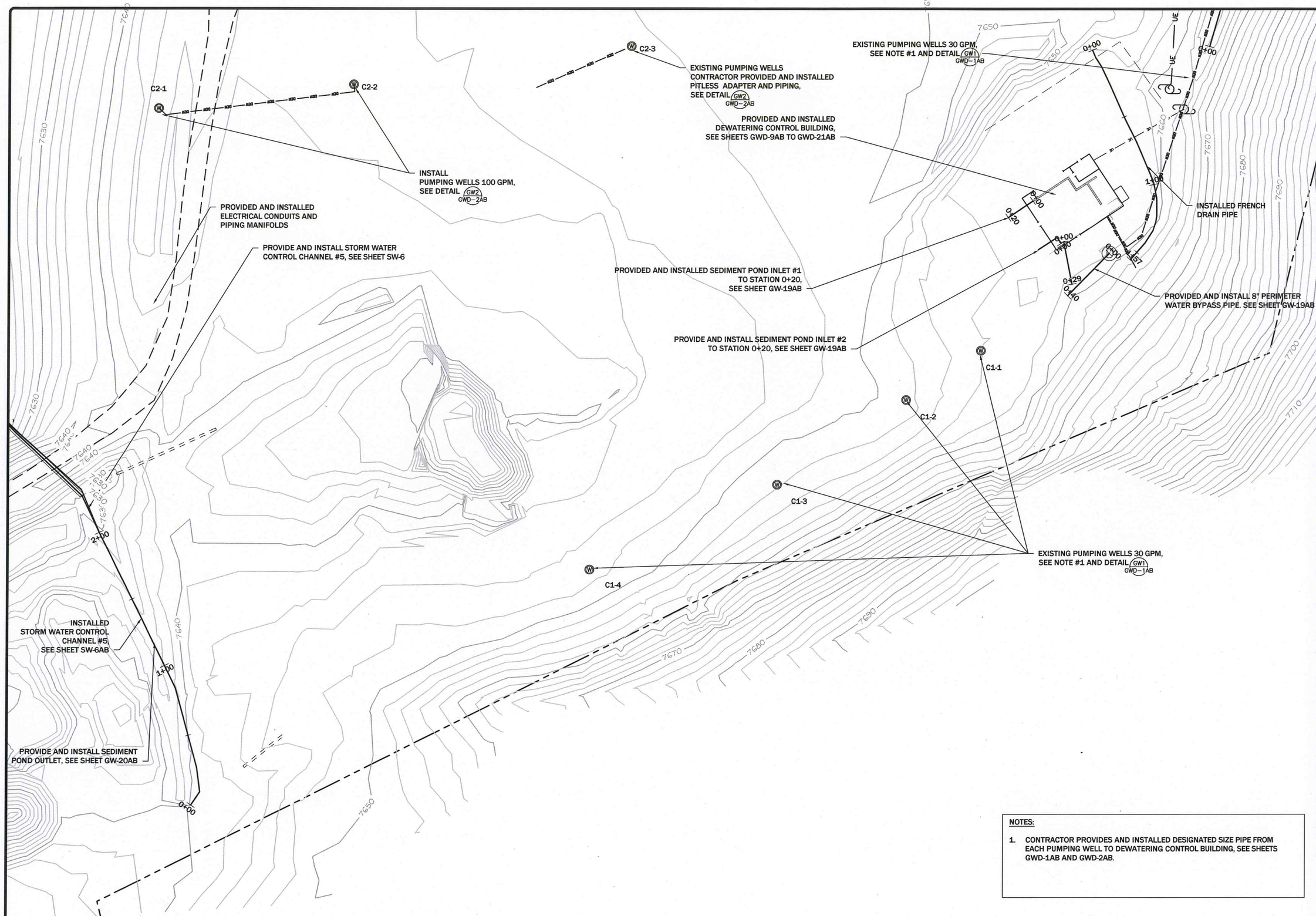
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

PHASE I
DEWATERING SYSTEM AND PUMPING WELL LOCATIONS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
GW-3AB

2/3/2011 9:16:54 AM \\SRVW2K\CLIENTDATA1$\DEQ\MCLAREN\2010\DRAWINGS\AS-BUILTS-2010\CONSTRUCTION\MC-FBID-AB-10-PLN-017-09.DWG



NOTES:

1. CONTRACTOR PROVIDES AND INSTALLED DESIGNATED SIZE PIPE FROM EACH PUMPING WELL TO DEWATERING CONTROL BUILDING, SEE SHEETS GWD-1AB AND GWD-2AB.

REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: MWB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/10

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: UNITS

N

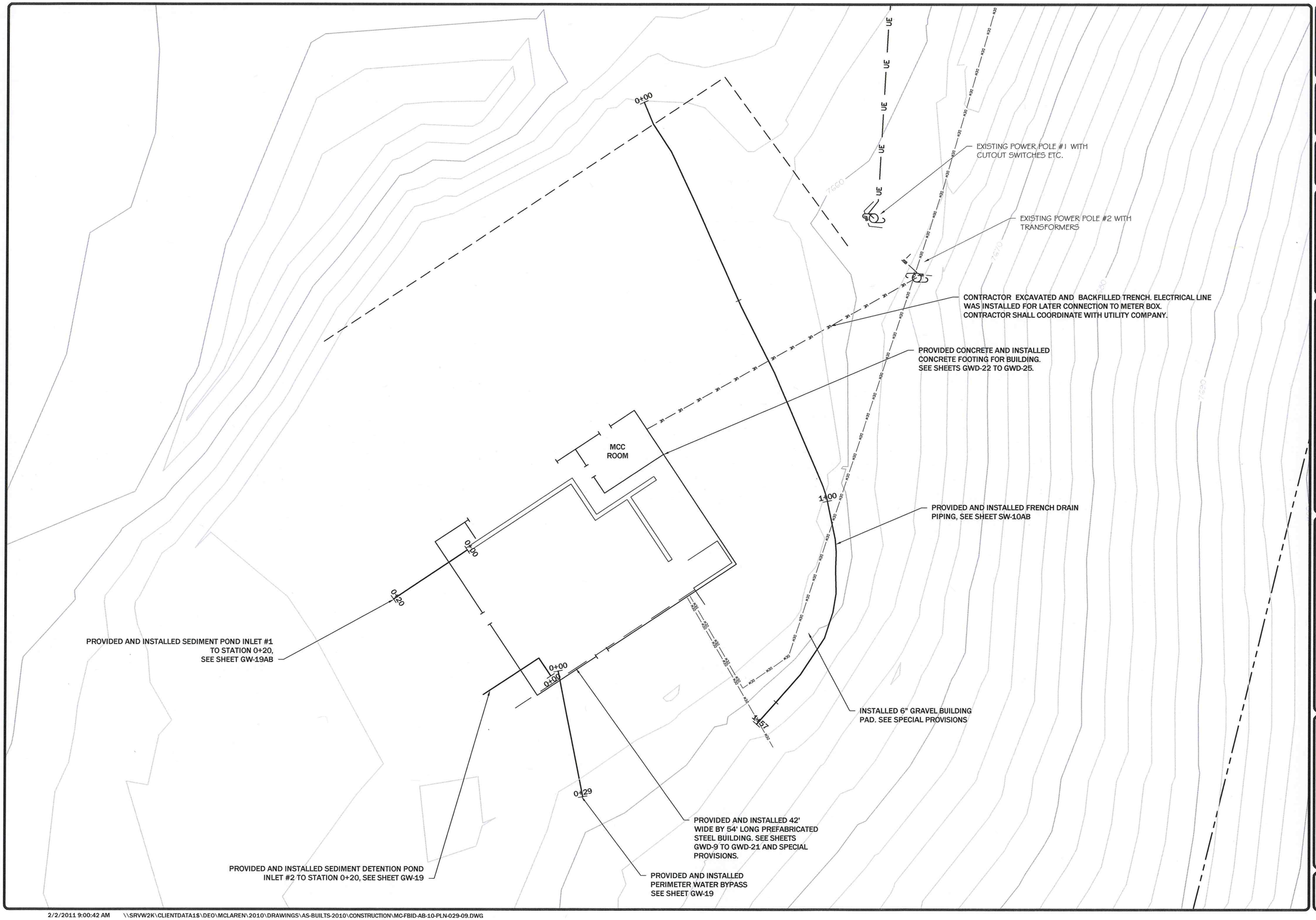
SCALE IN FEET
0 30 60

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

PHASE I
DEWATERING SYSTEM
AND PUMPING
WELL LOCATIONS

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
GW-4AB



REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

N

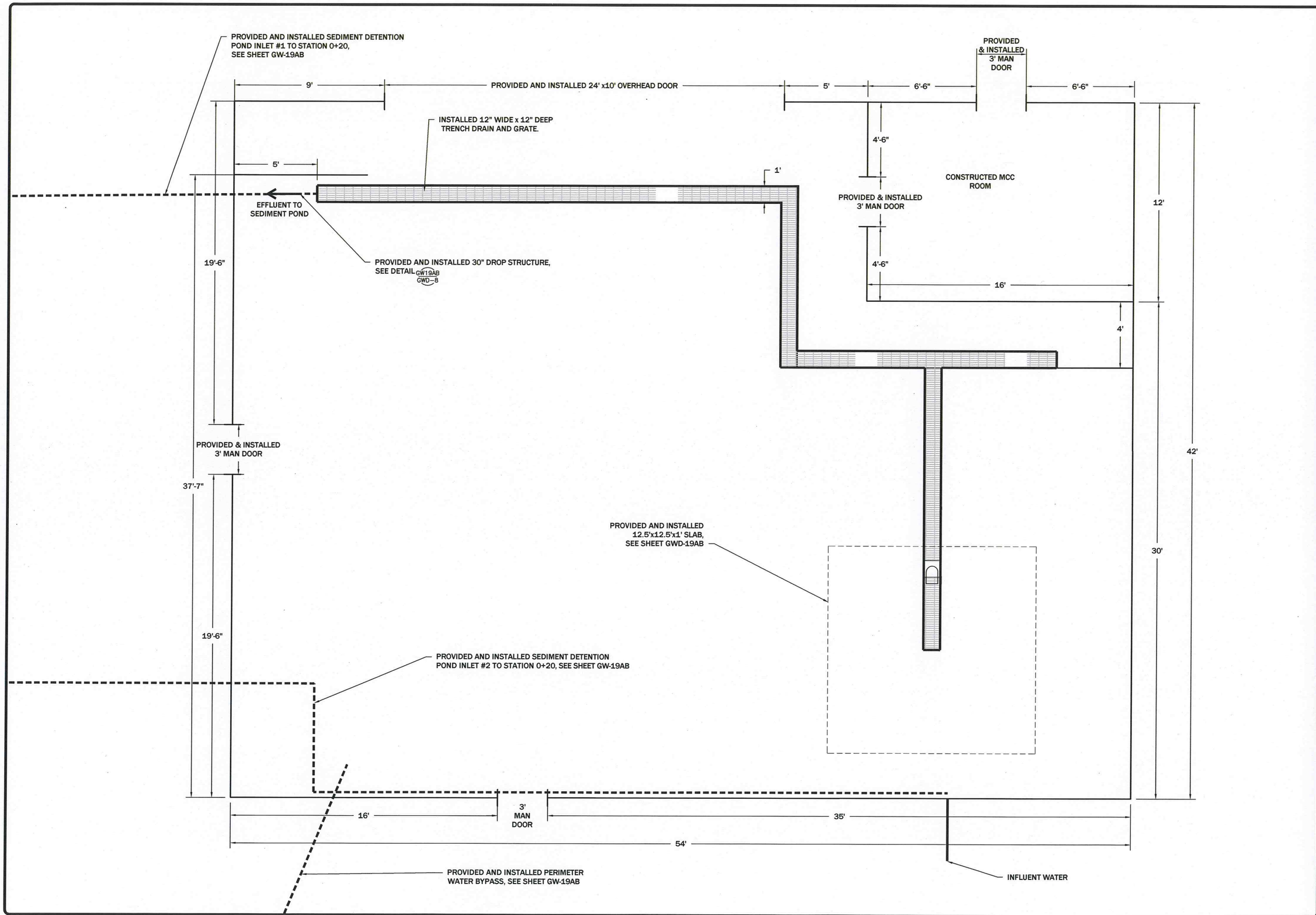
SCALE IN FEET
0 10 20

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

DEWATERING CONTROL BUILDING PLAN VIEW

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
GW-5AB



REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

1 0 3
SCALE : 3/16"=1'-0"

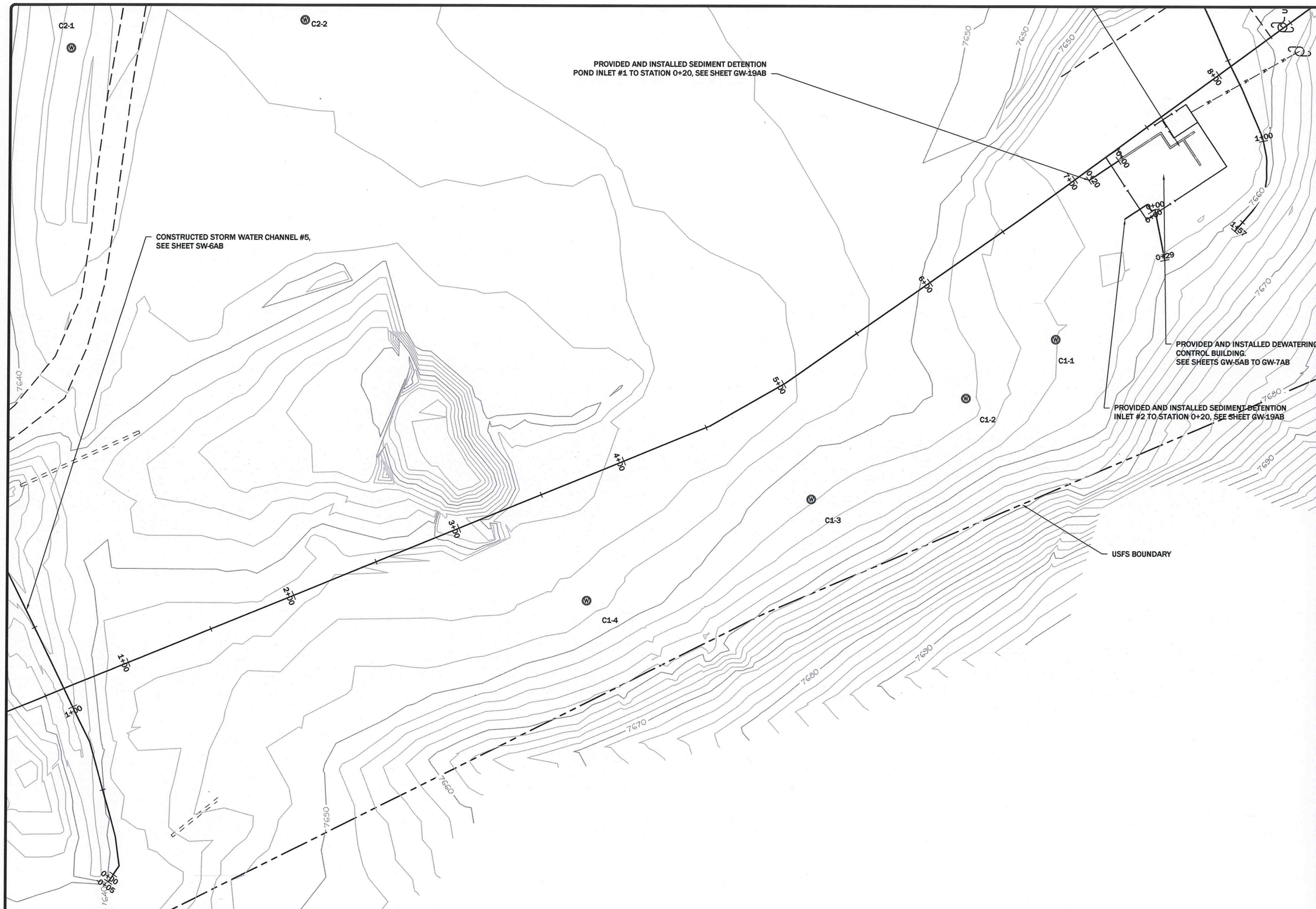
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

WATER TREATMENT SYSTEM

PIONEER TECHNICAL SERVICES, INC.
BUTTE, MONTANA 59701
63-1/2 WEST BROADWAY
(406)-782-5177

SHEET
GW-6AB

2/3/2011 9:39:49 AM \\SRVW2K\CLIENTDATA1$\DEO\MCLAREN\2010\DRAWINGS\AS-BUILTS-2010\CONSTRUCTION\MC-FBID-AB-10-PLN-003-09.DWG



REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

N

SCALE IN FEET
0 25 50

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

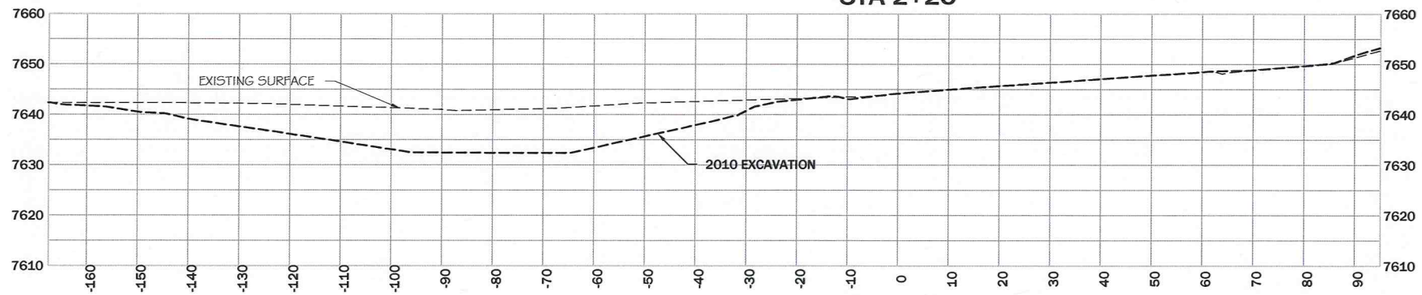
SEDIMENT PONDS PLAN VIEW

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
GW-8AB

2/2/2011 12:52:34 PM \\SRVW2K\CLIENTDATA1$\DEQ\MCLAREN\2010\DRAWINGS\AS-BUILTS-2010\CONSTRUCTION\MC-FBID-AB-10-PLN-002-09.DWG

STA 2+25



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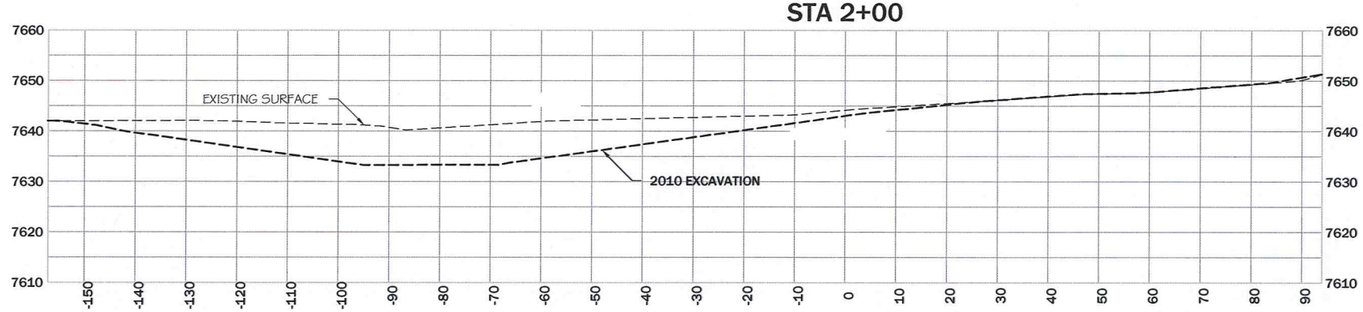

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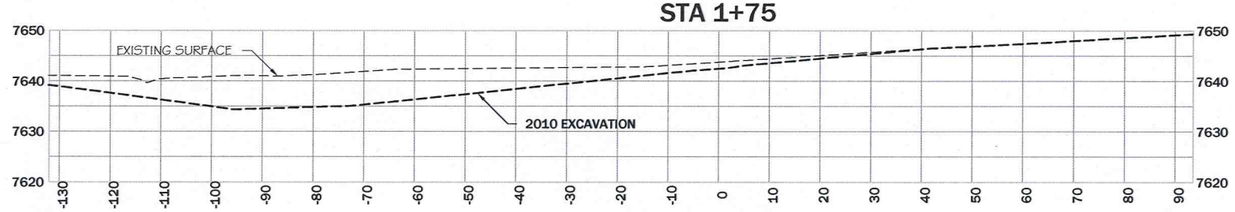

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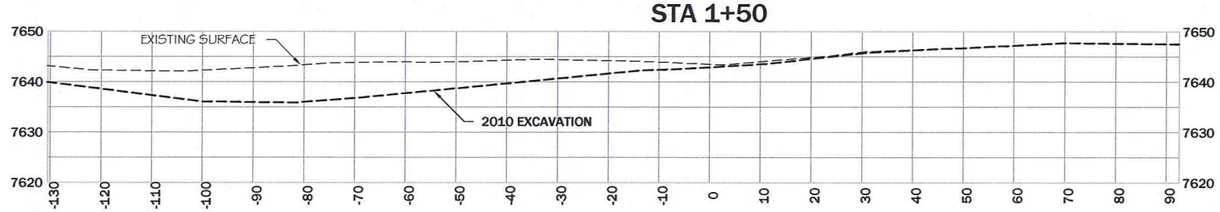

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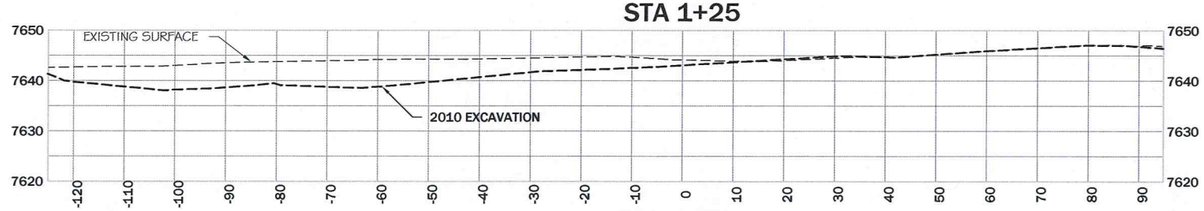

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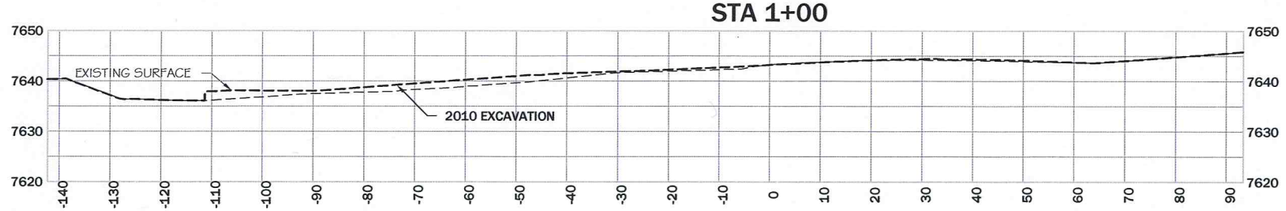


REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 15 30

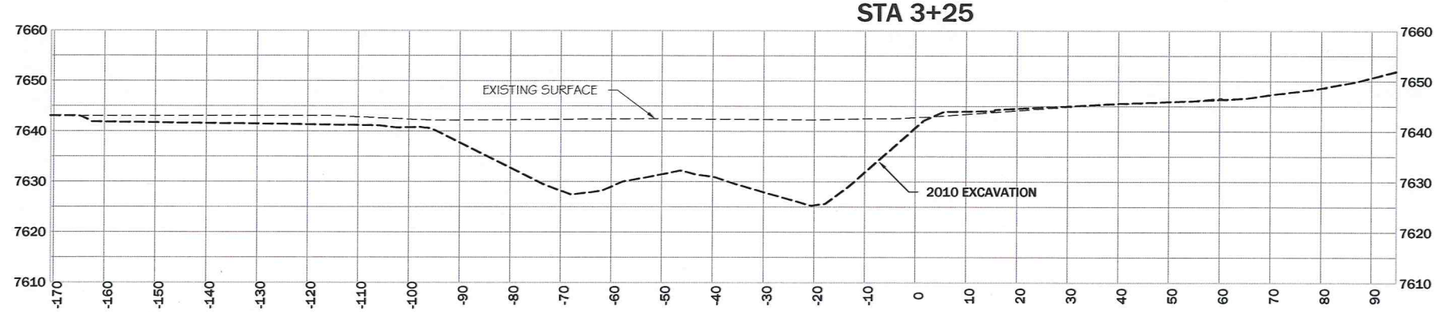
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

SEDIMENT POND
CROSS SECTIONS
STA 1+00 TO 2+25

PIONEER TECHNICAL SERVICES, INC
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)782-5177

SHEET
GW-9AB

STA 3+25



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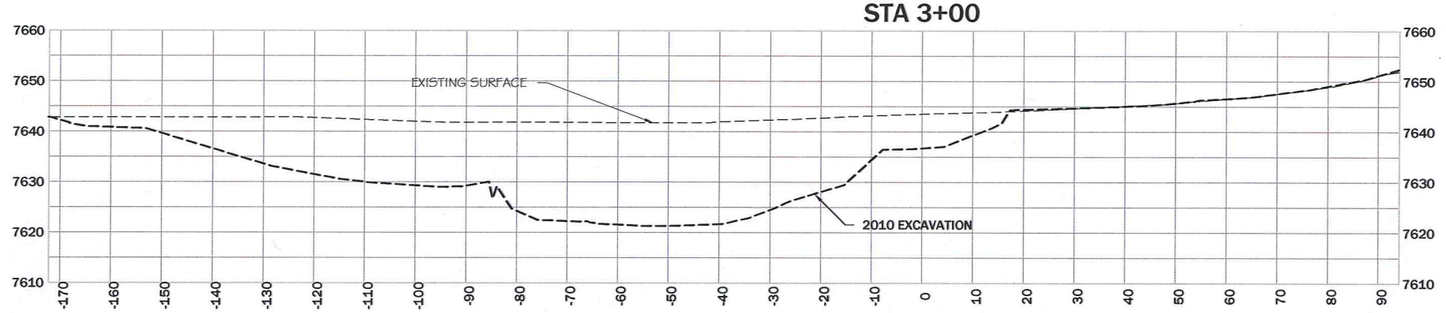

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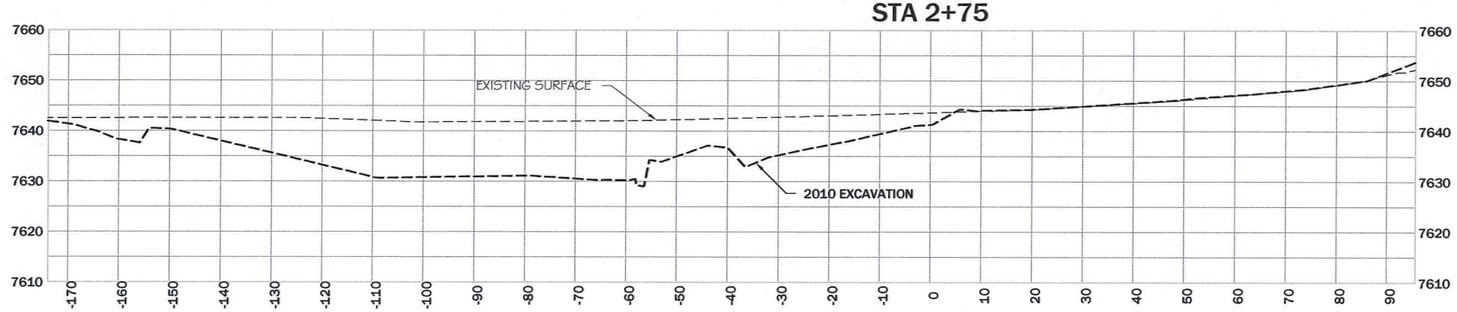

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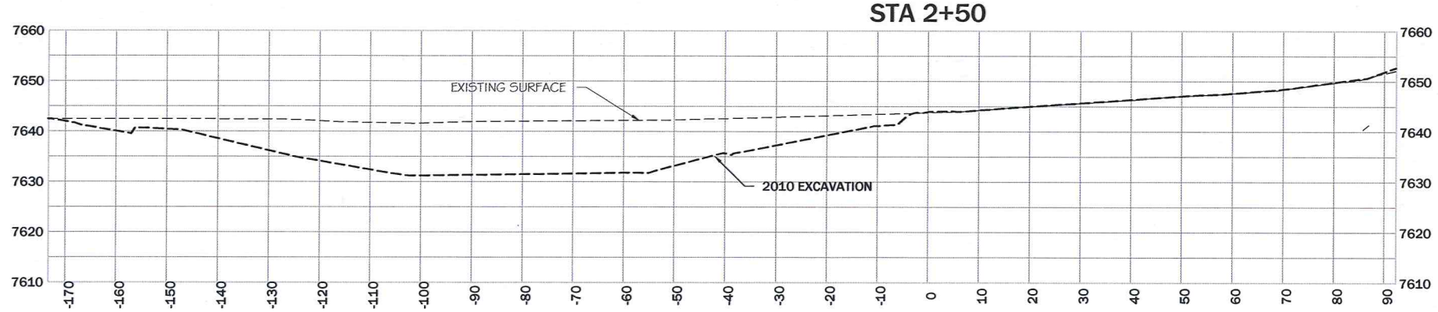


REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 15 30

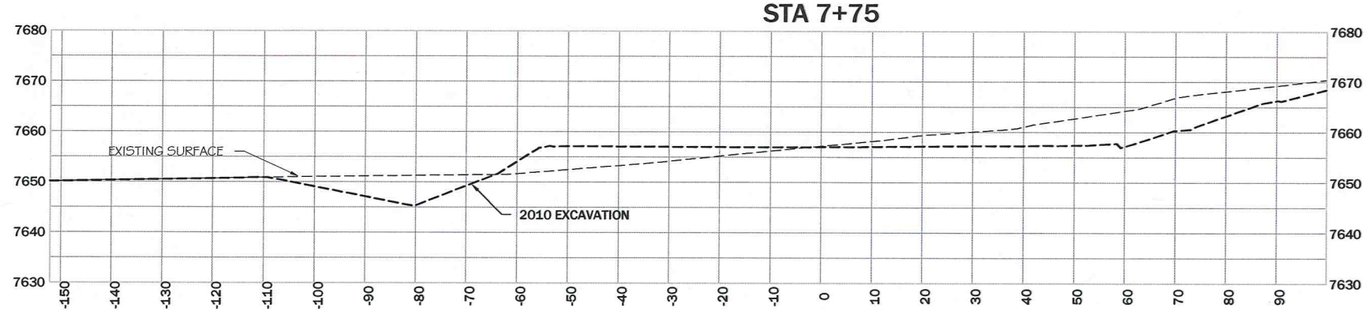
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

SEDIMENT POND
CROSS SECTIONS
STA 2+50 TO 3+25

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
GW-10AB

STA 7+75



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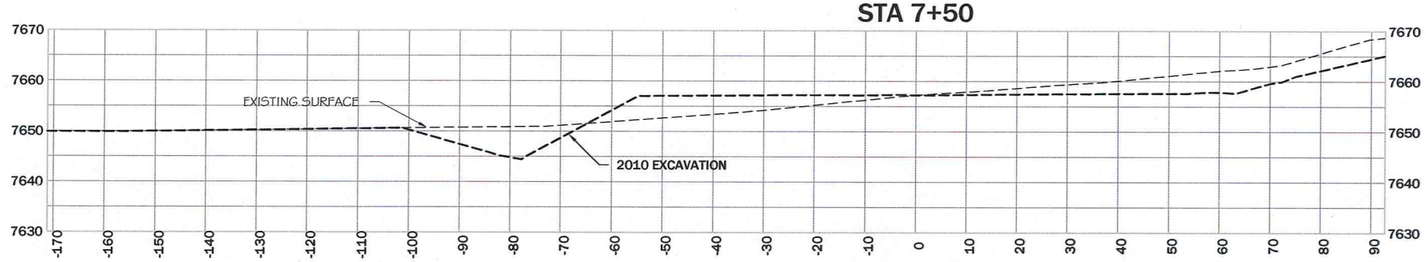

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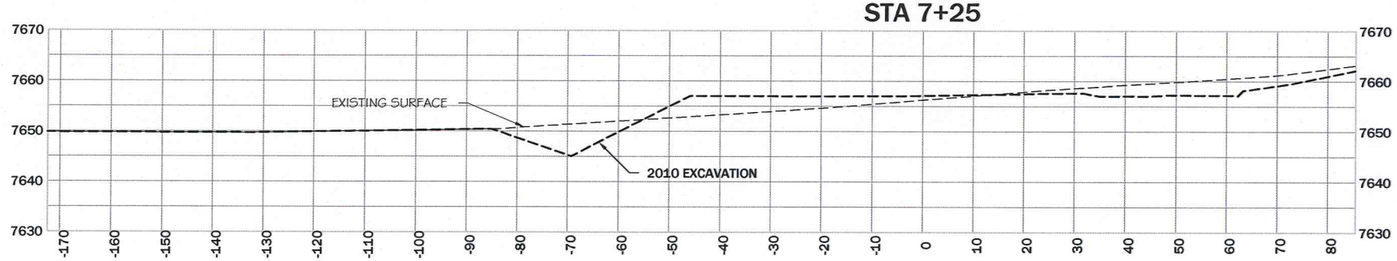
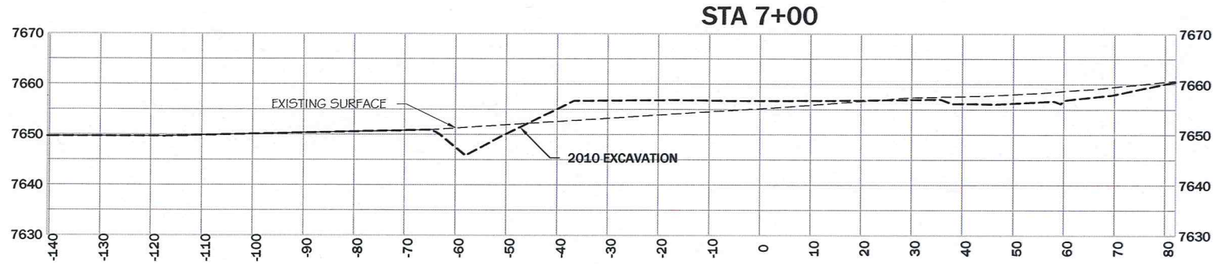


STA 7+00



REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 15 30

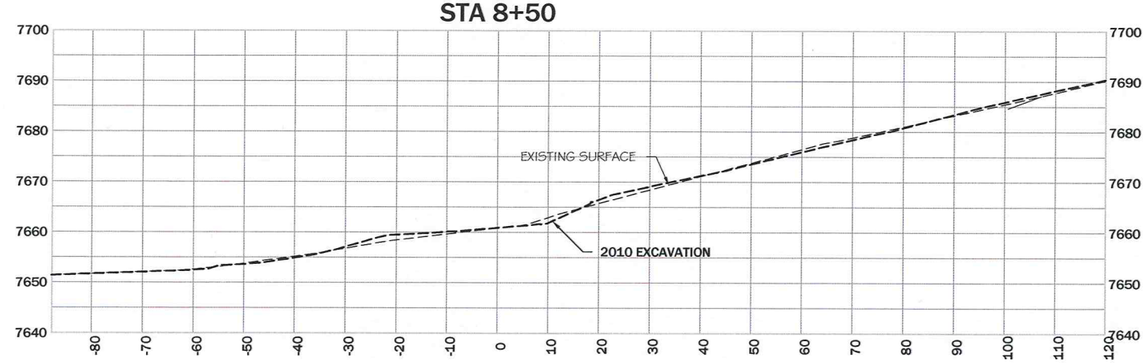
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

BUILDING PAD
CROSS SECTIONS
STA 7+00 TO 7+75

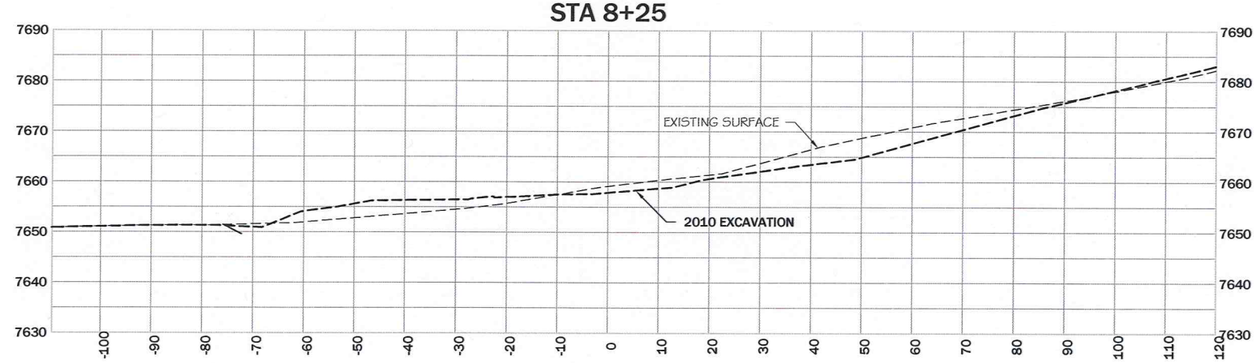
PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
GW-14AB

STA 8+50



STA 8+25



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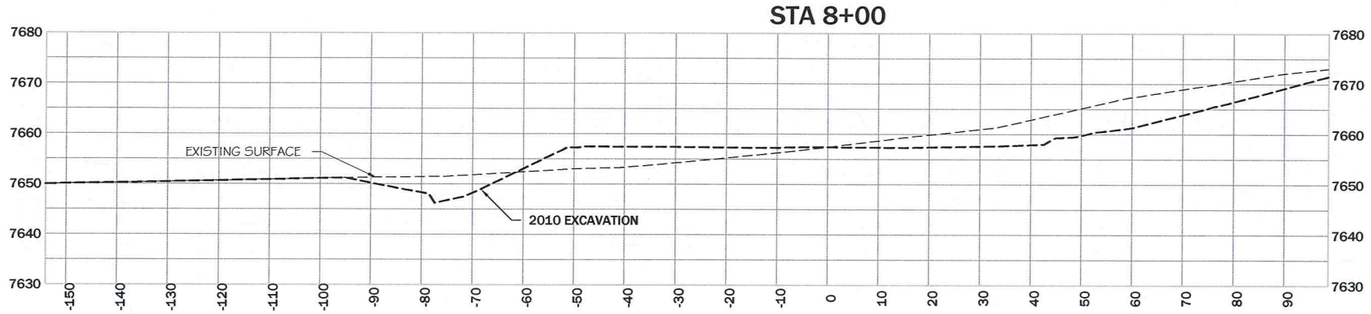


REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

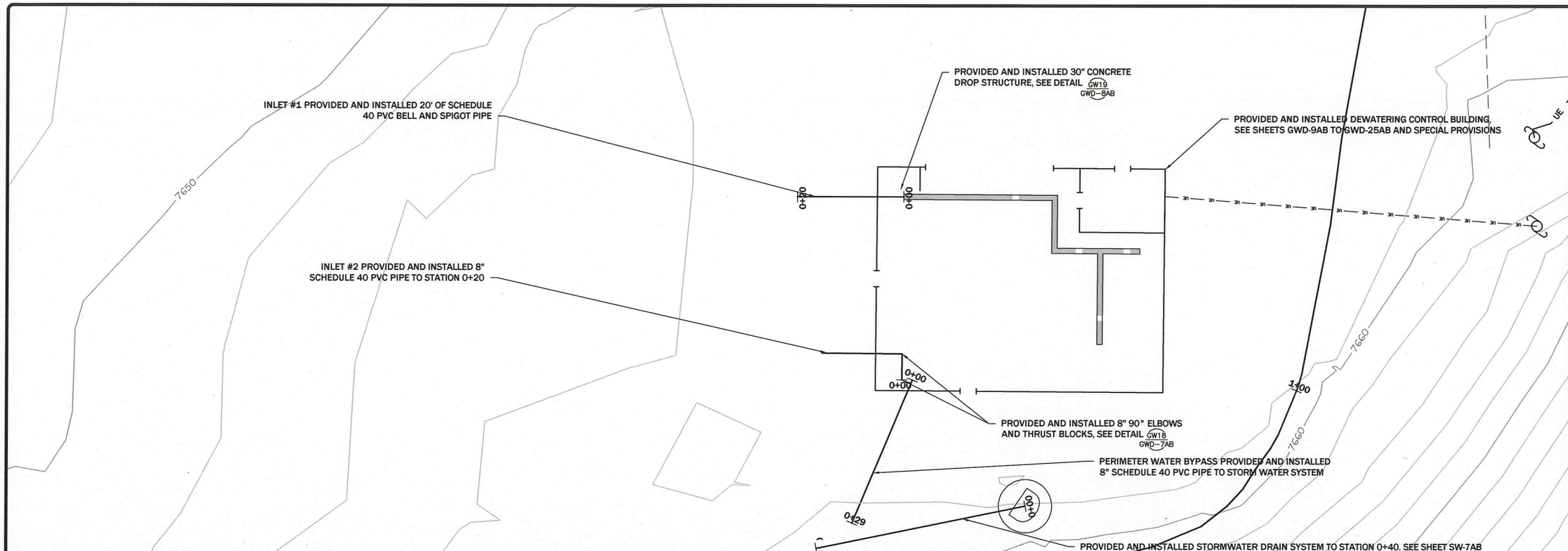
SCALE IN FEET
0 15 30

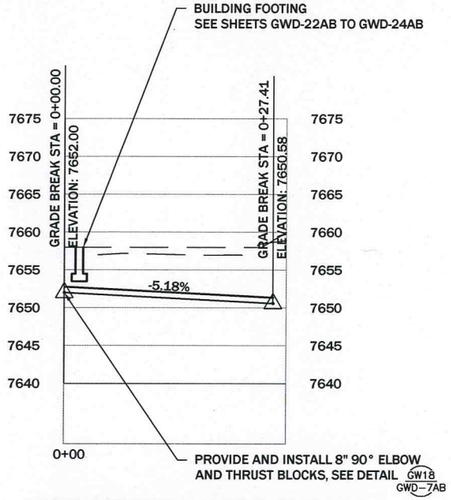
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

BUILDING PAD
CROSS SECTIONS
STA 8+00 TO 8+50

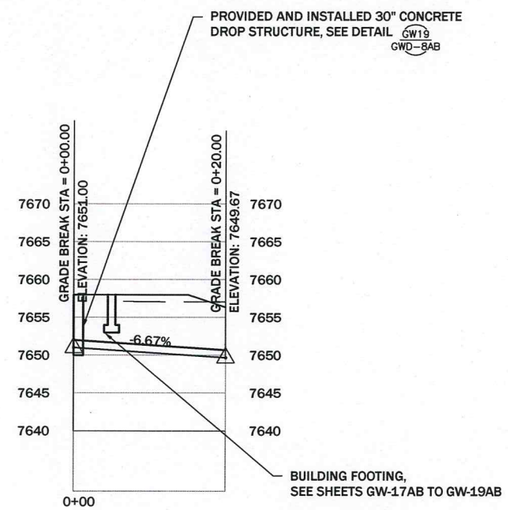
PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
GW-15AB

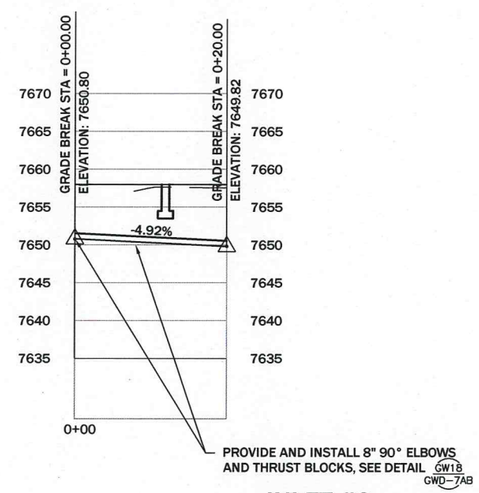




PERIMETER WATER BYPASS



INLET #1



INLET #2

REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

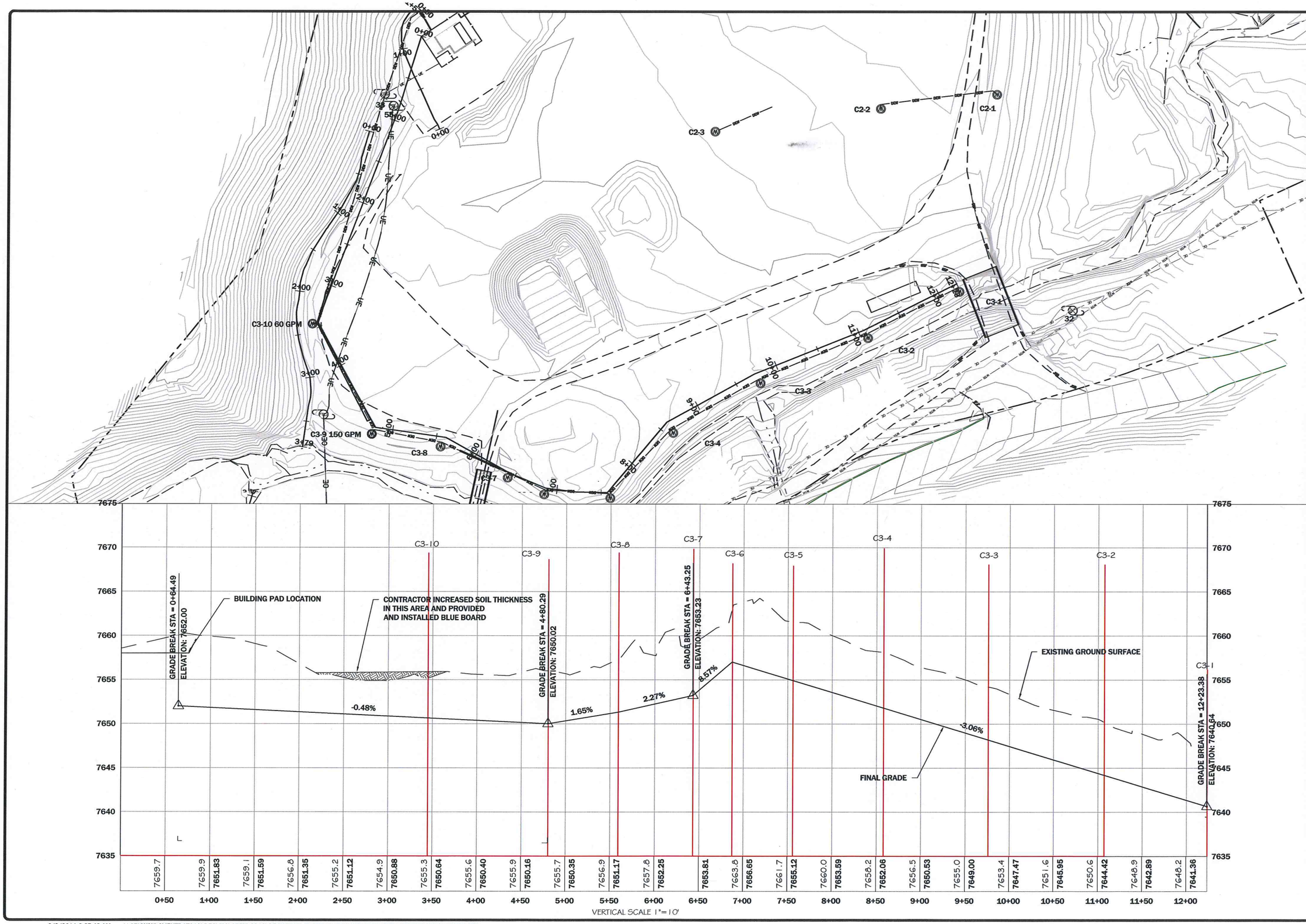
SCALE IN FEET
0 10 20

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

SEDIMENT DETENTION POND INLETS AND PERIMETER WATER BYPASS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
GW-19AB



REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10152
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE:
DATUM:
UNITS:
SOURCE:

SCALE IN FEET
0 50 100

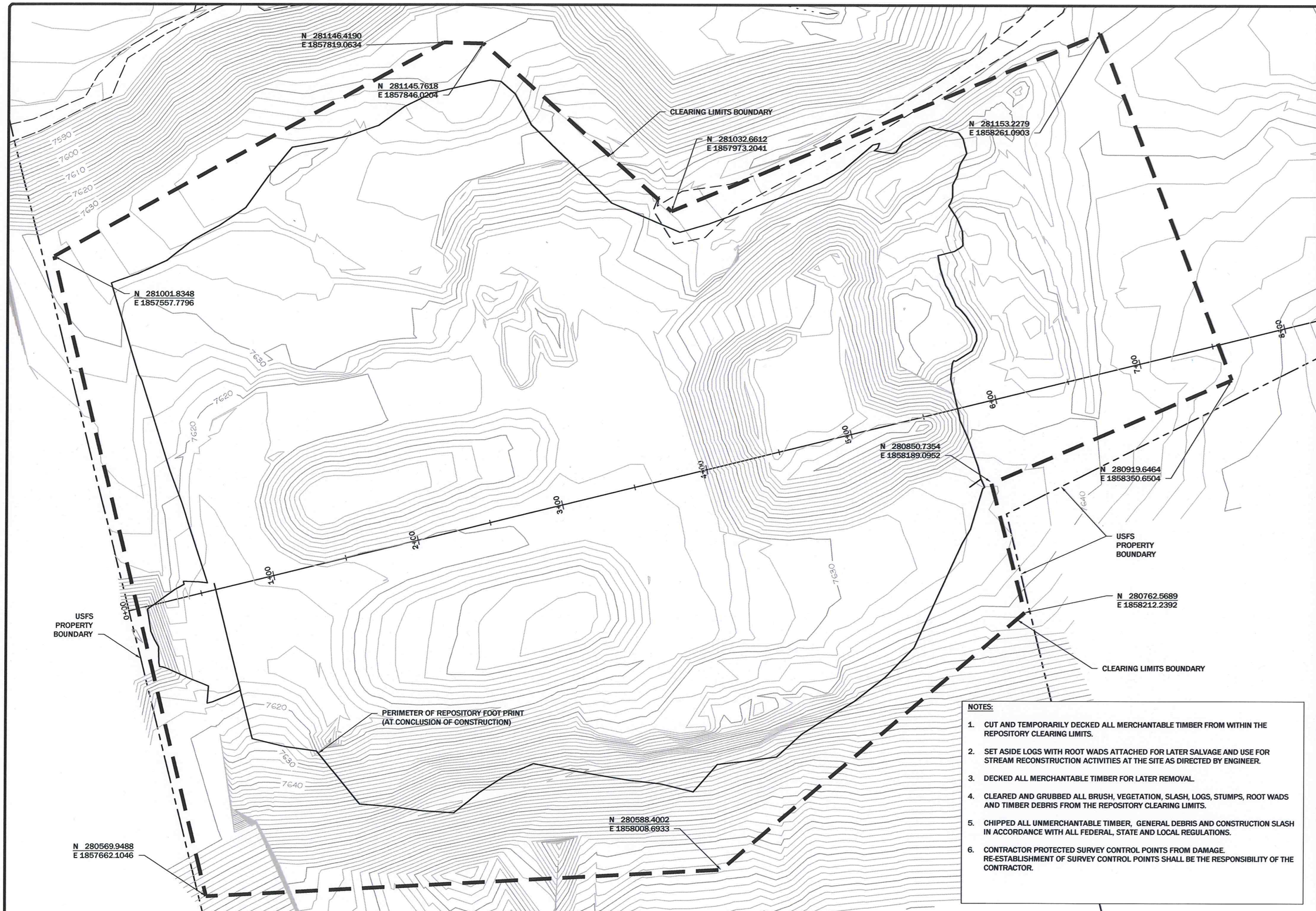
MDEQ/MWCB
McLAREN TAILING ABAONDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

C-3
PUMPING WELLS
PLAN AND PROFILE

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GW-25AB

2/2/2011 9:35:43 AM \\SRVW2K\CLIENTDATA1$\DEO\MCLAREN\2010\DRAWINGS\AS-BUILTS-2010\CONSTRUCTION\PUMPING PROFILE-AB-10.DWG



NOTES:

1. CUT AND TEMPORARILY DECKED ALL MERCHANTABLE TIMBER FROM WITHIN THE REPOSITORY CLEARING LIMITS.
2. SET ASIDE LOGS WITH ROOT WADS ATTACHED FOR LATER SALVAGE AND USE FOR STREAM RECONSTRUCTION ACTIVITIES AT THE SITE AS DIRECTED BY ENGINEER.
3. DECKED ALL MERCHANTABLE TIMBER FOR LATER REMOVAL.
4. CLEARED AND GRUBBED ALL BRUSH, VEGETATION, SLASH, LOGS, STUMPS, ROOT WADS AND TIMBER DEBRIS FROM THE REPOSITORY CLEARING LIMITS.
5. CHIPPED ALL UNMERCHANTABLE TIMBER, GENERAL DEBRIS AND CONSTRUCTION SLASH IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.
6. CONTRACTOR PROTECTED SURVEY CONTROL POINTS FROM DAMAGE. RE-ESTABLISHMENT OF SURVEY CONTROL POINTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

REVISION:

DATE:	BY:	DESC:

DRAWN BY:	CLA
DESIGNED BY:	SDB
CHECKED BY:	MCB
APPROVED BY:	JSM
PROJECT NO:	10140
DATE:	2/18/11

DISPLAYED AS:	
COORD SYS/ZONE:	MSP
DATUM:	NAD83
UNITS:	FEET
SOURCE:	PIONEER

N

SCALE IN FEET

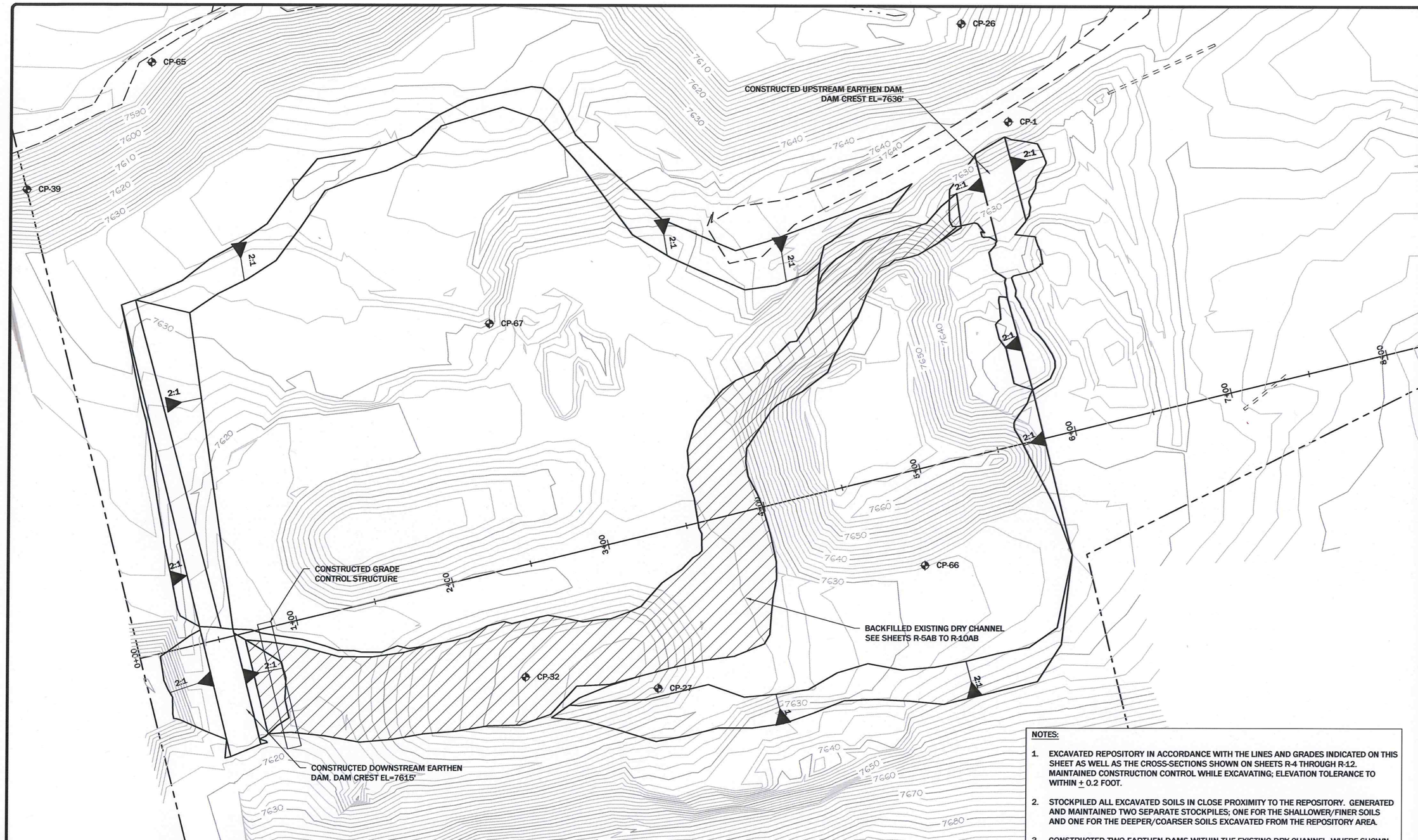
0 30 60

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

REPOSITORY AREA CLEARING LIMITS

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
R-1AB



SURVEY CONTROL POINT DATA

NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	281099.68	1858148.91	7640.03	CP 1" RPC
26	281161.01	1858119.18	7616.58	FND 3 1/4" BRASS CAP
27	280744.62	1857932.36	7627.11	CP 1" RPC
32	280751.43	1857849.42	7608.97	CP NAIL & WHISKER
39	281056.05	1857536.69	7599.91	FND 3 1/4" AL. CAP
65	281135.78	1857613.87	7584.01	CP NAIL & WHISKER
66	280821.96	1858098.59	7631.48	CP NAIL & WHISKER
67	280972.59	1857825.54	7645.04	CP NAIL & WHISKER
	280762.60	1857609.56	7601.06	STA. 0+00
	280834.52	1857900.81	7632.00	STA. 3+00
	280906.43	1858192.07	7641.52	STA. 6+00

NOTES:

1. EXCAVATED REPOSITORY IN ACCORDANCE WITH THE LINES AND GRADES INDICATED ON THIS SHEET AS WELL AS THE CROSS-SECTIONS SHOWN ON SHEETS R-4 THROUGH R-12. MAINTAINED CONSTRUCTION CONTROL WHILE EXCAVATING; ELEVATION TOLERANCE TO WITHIN ± 0.2 FOOT.
2. STOCKPILED ALL EXCAVATED SOILS IN CLOSE PROXIMITY TO THE REPOSITORY. GENERATED AND MAINTAINED TWO SEPARATE STOCKPILES; ONE FOR THE SHALLOWER/FINER SOILS AND ONE FOR THE DEEPER/COARSER SOILS EXCAVATED FROM THE REPOSITORY AREA.
3. CONSTRUCTED TWO EARTHEN DAMS WITHIN THE EXISTING DRY CHANNEL, WHERE SHOWN, USING THE DEEPER/COARSER SOILS (STRUCTURAL FILL) EXCAVATED FROM THE REPOSITORY. MAINTAINED CONSTRUCTION CONTROL WHILE CONSTRUCTING THE EARTHEN DAMS; ELEVATION TOLERANCE TO WITHIN ± 0.2 FOOT.
4. PARTIALLY BACKFILLED AND COMPACTED THE EXISTING DRY CHANNEL, USING THE DEEPER/COARSER SOILS (STRUCTURAL FILL) EXCAVATED FROM THE REPOSITORY. MAINTAINED CONSTRUCTION CONTROL WHILE BACKFILLING THE DRY CHANNEL; ELEVATION TOLERANCE SHALL BE WITHIN ± 0.2 FOOT.
5. CONTRACTOR PROTECTED SURVEY CONTROL POINTS FROM DAMAGE.

REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: SDB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

N

SCALE IN FEET
0 30 60

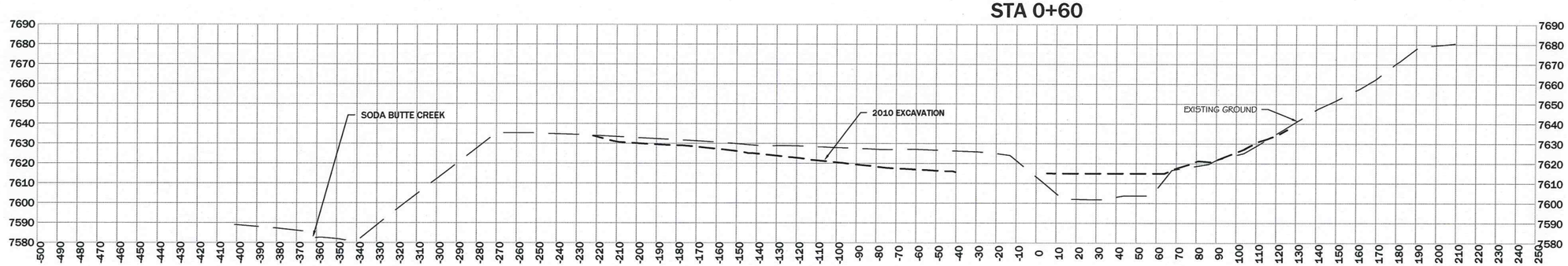
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

REPOSITORY FINAL EXCAVATION PLAN

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
R-2AB

STA 0+60



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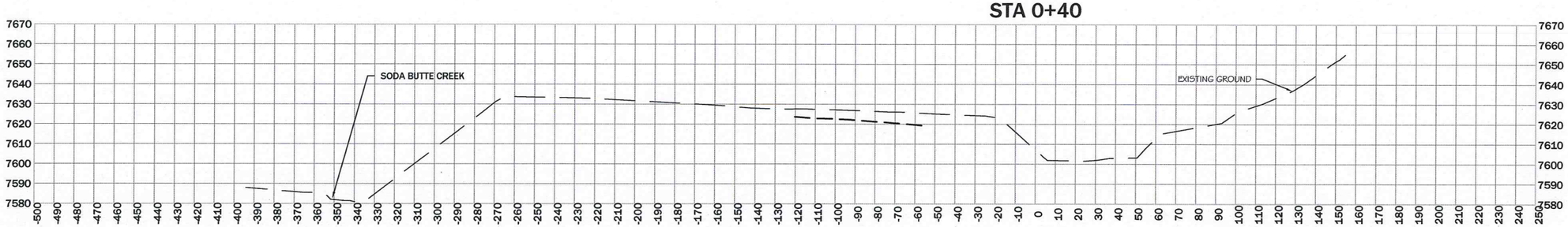

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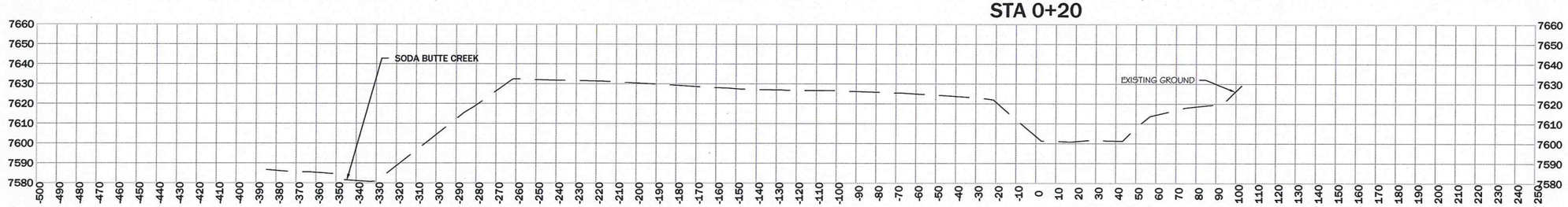

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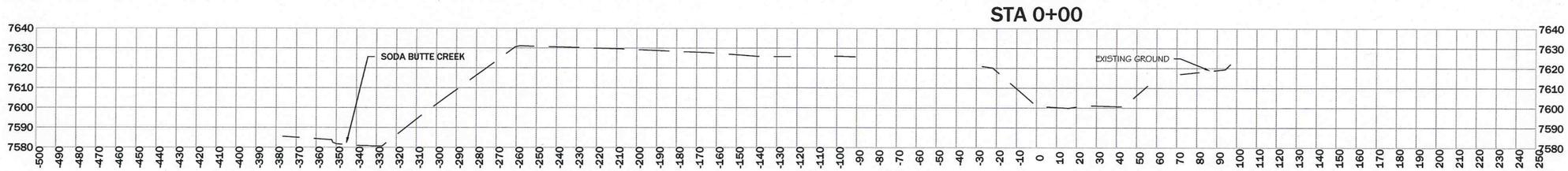


REVISION: DATE:	BY:	DESC:
1/6/10	JSM	MODIFIED REPOSITORY FLOOR

DRAWN BY: CLA
DESIGNED BY: SDB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 30 60

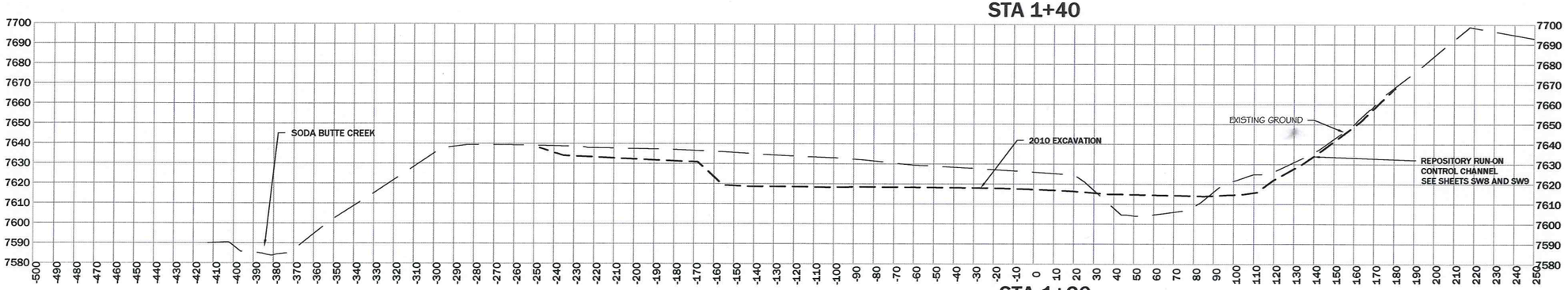
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

REPOSITORY
CROSS
SECTIONS
STA 0+00 TO 0+60

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
R-4AB

STA 1+40



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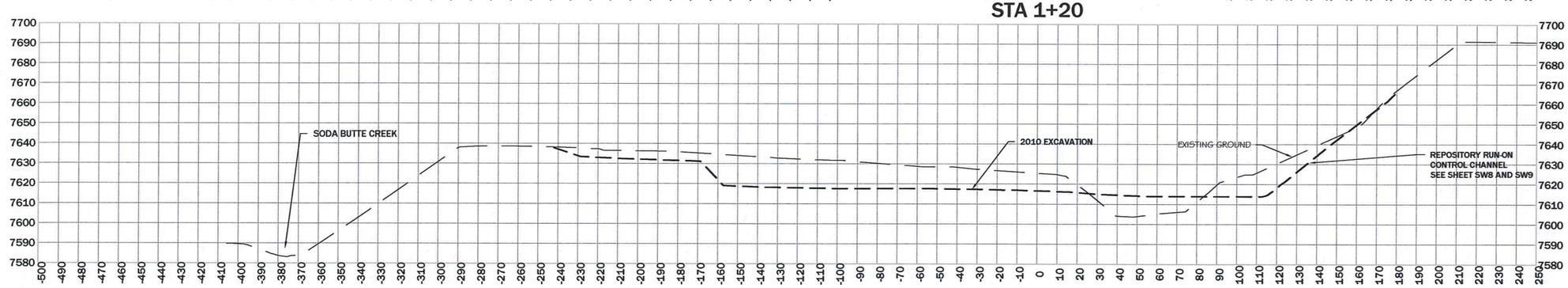

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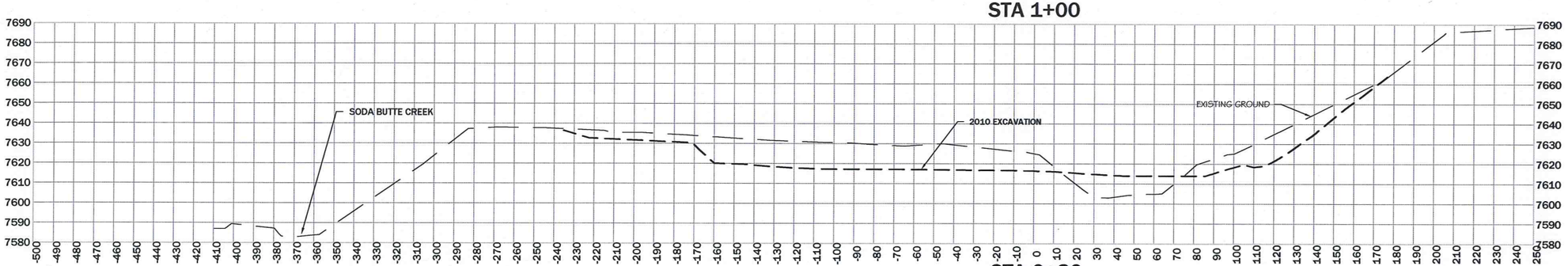

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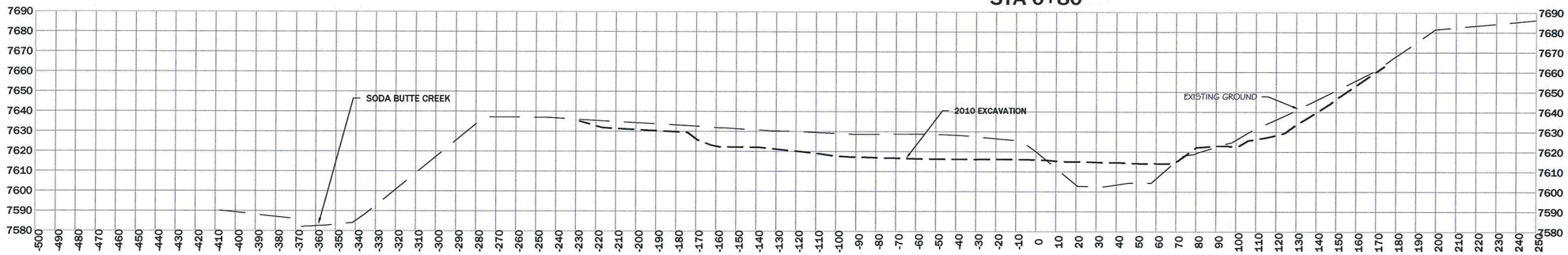


REVISION: DATE:	BY:	DESC:
1/6/10	JSM	MODIFIED REPOSITORY FLOOR

DRAWN BY: CLA
DESIGNED BY: SDB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 30 60

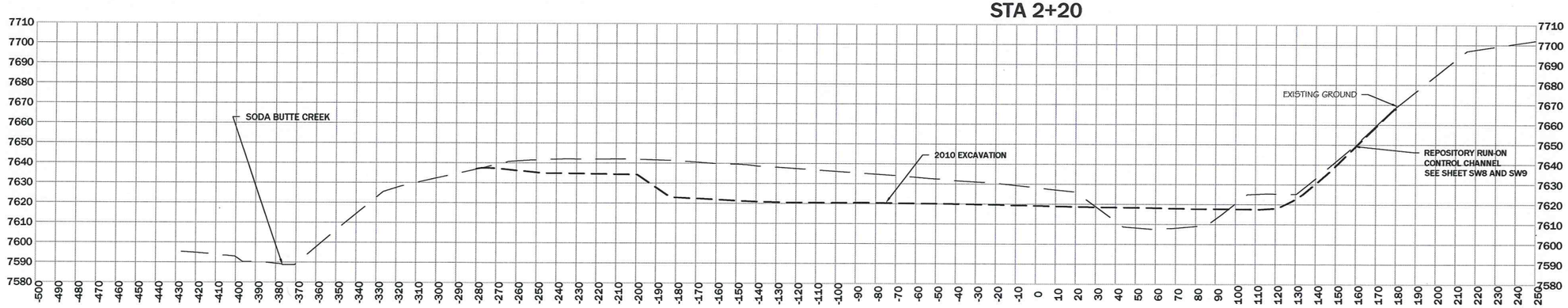
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

REPOSITORY
CROSS
SECTIONS
STA 0+80 TO 1+40

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
R-5AB

STA 2+20



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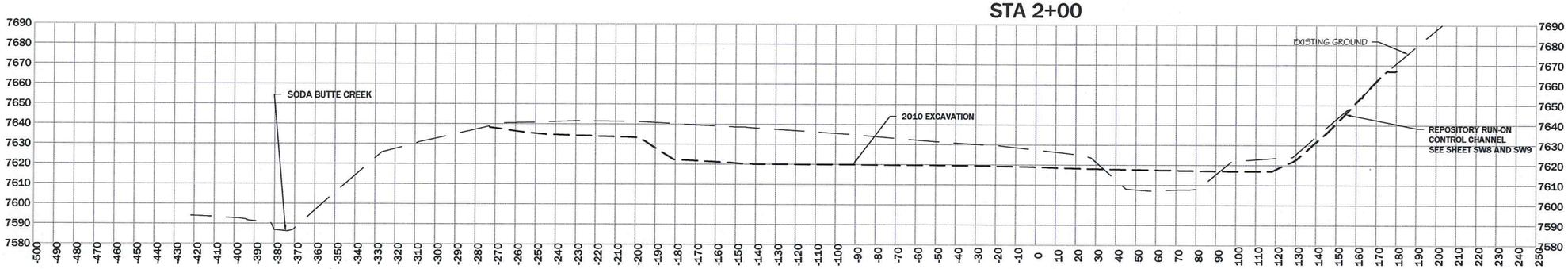

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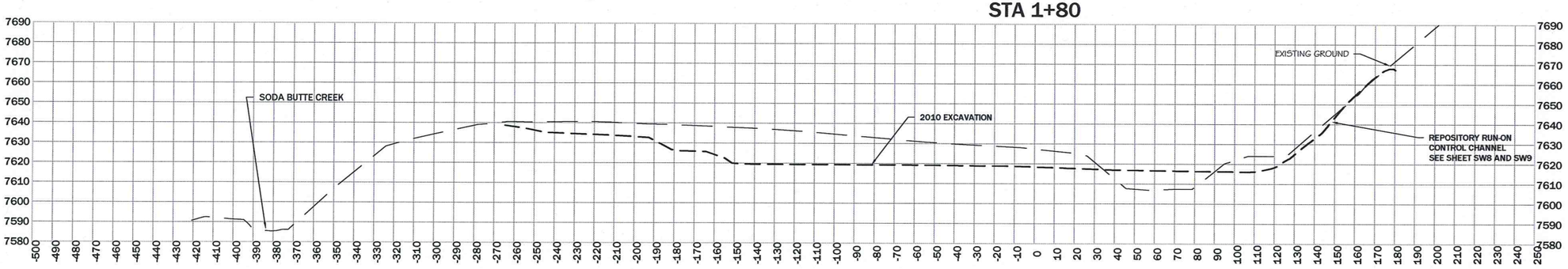

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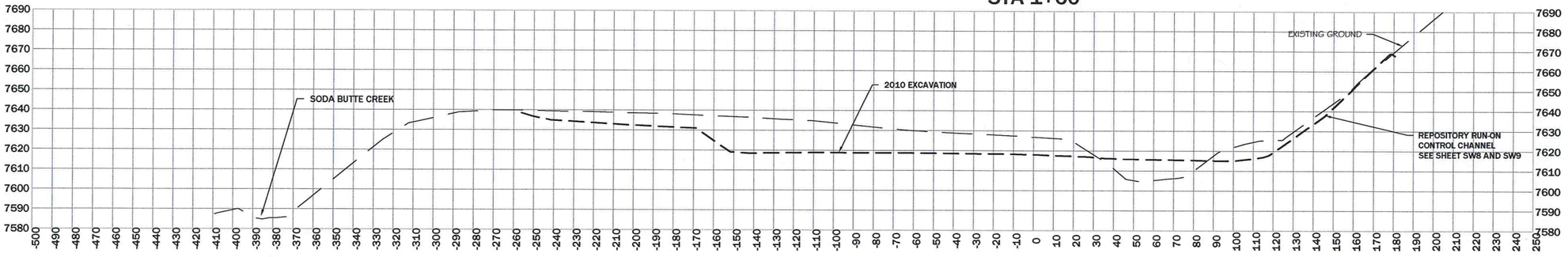


REVISION:

DATE:	BY:	DESC:
1/6/10	JSM	MODIFIED REPOSITORY FLOOR

DRAWN BY: CLA
DESIGNED BY: SDB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 30 60

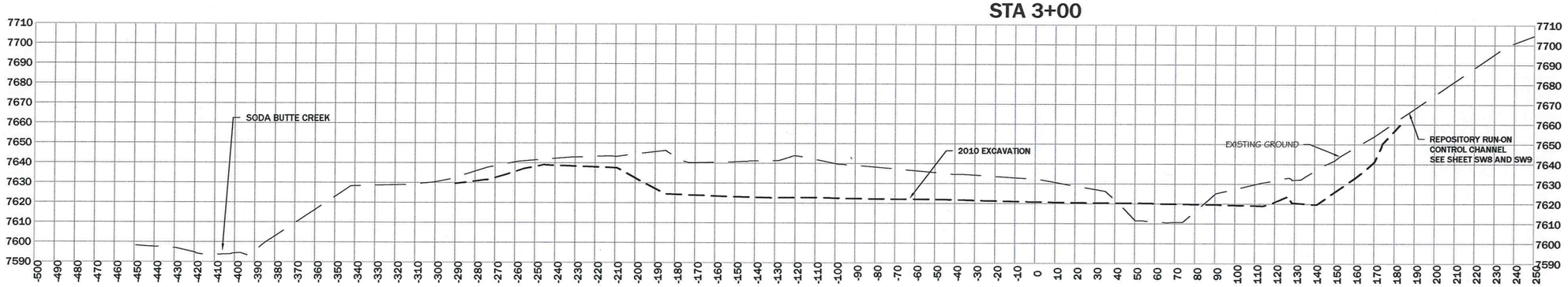
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

REPOSITORY
CROSS
SECTIONS
STA 1+60 TO 2+20

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
R-6AB

STA 3+00



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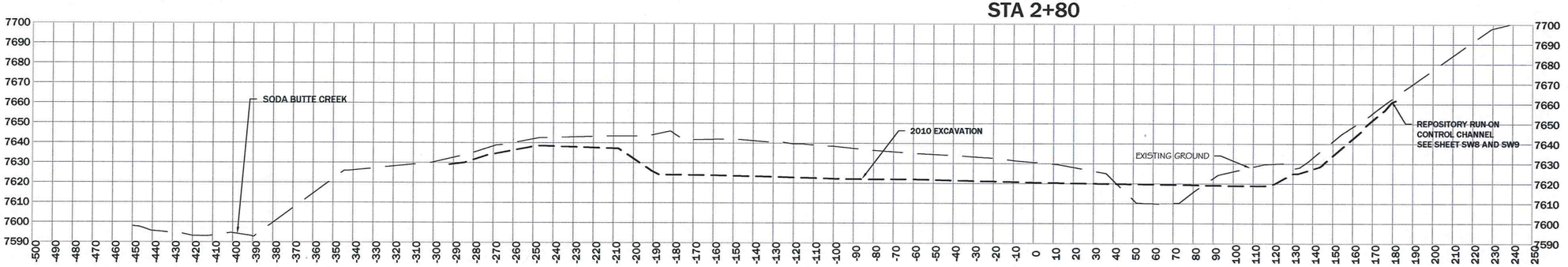

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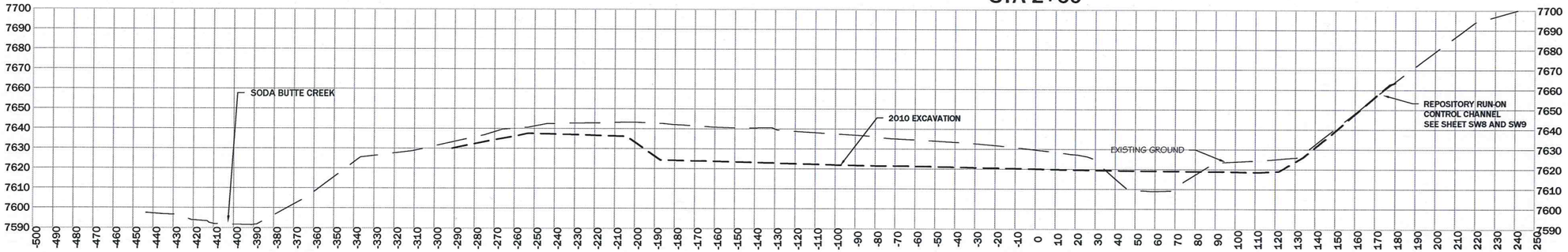

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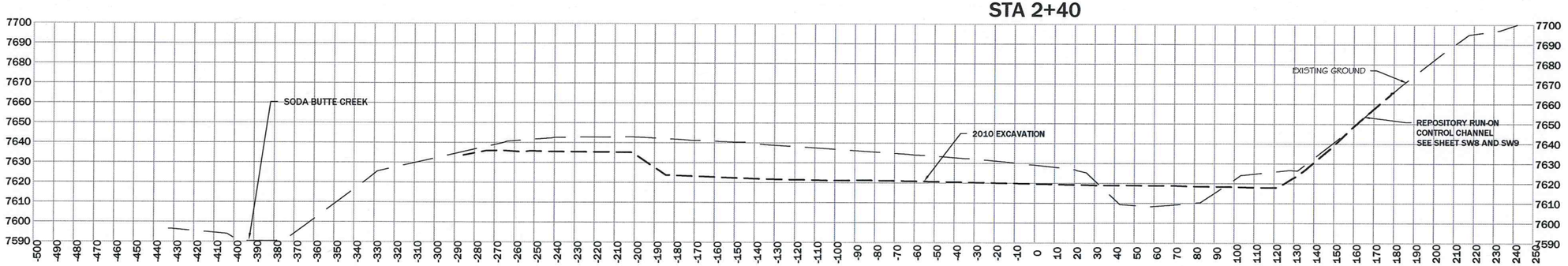


REVISION: DATE:	BY:	DESC:
1/6/10	JSM	MODIFIED REPOSITORY FLOOR

DRAWN BY: CLA
DESIGNED BY: SDB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 30 60

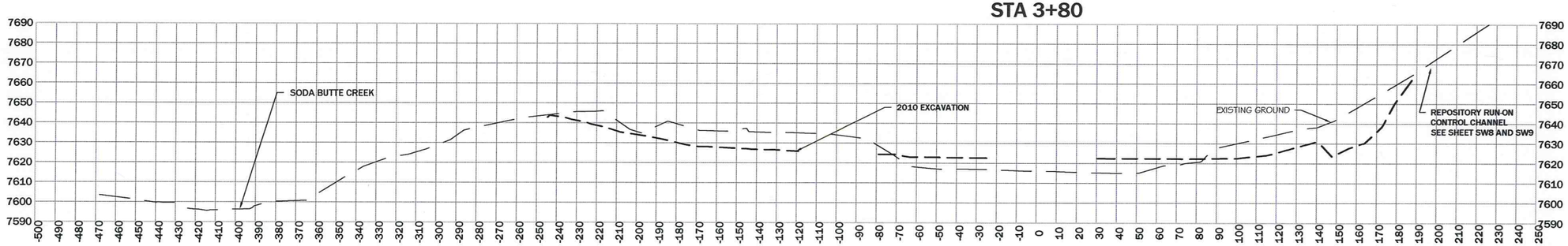
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

REPOSITORY
CROSS
SECTIONS
STA 2+40 TO 3+00

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
R-7AB

STA 3+80



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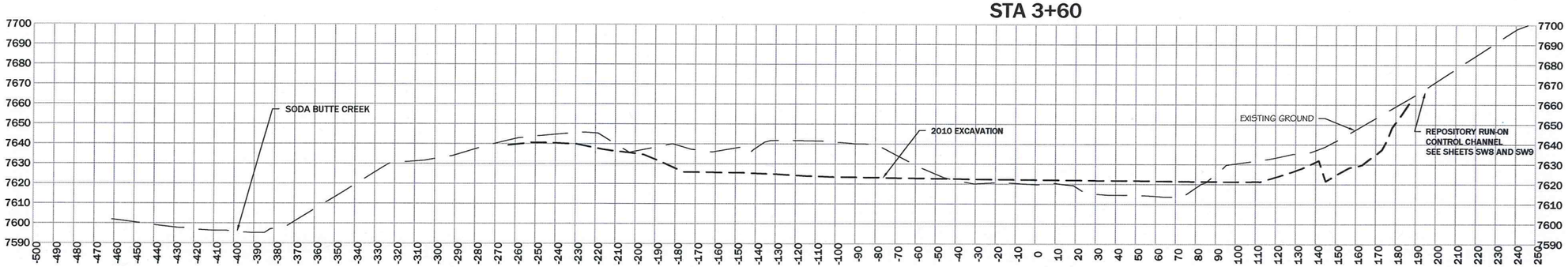

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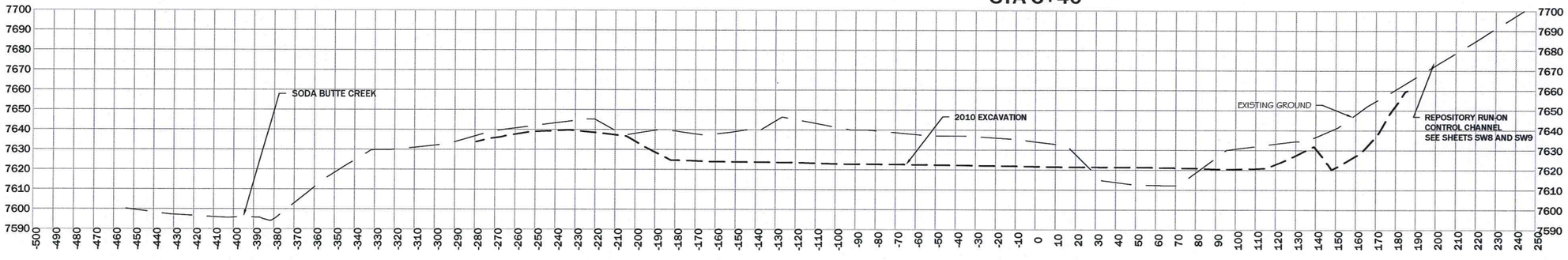

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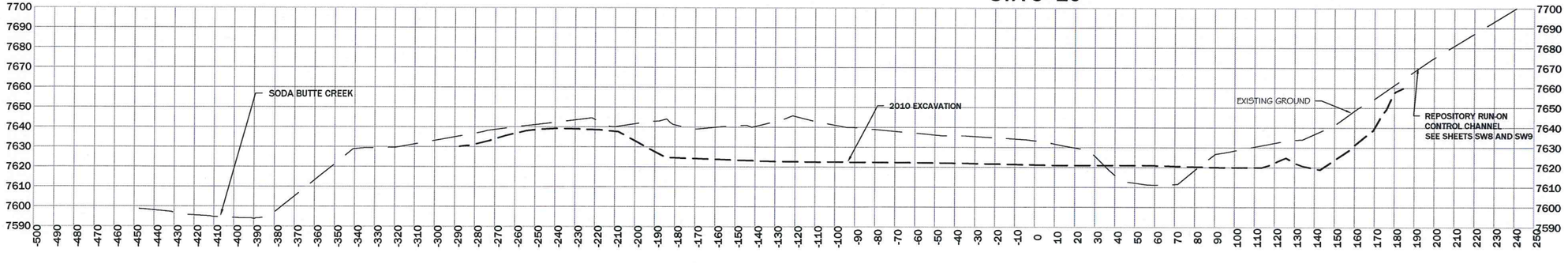

REVISION: DATE:	BY:	DESC:
1/6/10	JSM	MODIFIED REPOSITORY FLOOR

DRAWN BY: CLA
DESIGNED BY: SDB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 30 60

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

REPOSITORY CROSS SECTIONS STA 3+20 TO 3+80

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
R-8AB

2/2/2011 10:06:26 AM \\SRVW2K\CLIENTDATA1$\DEO\MCLAREN\2010\DRAWINGS\AS-BUILTS-2010\CONSTRUCTION\MC-FBID-AB-10-XSF-004-09.DWG

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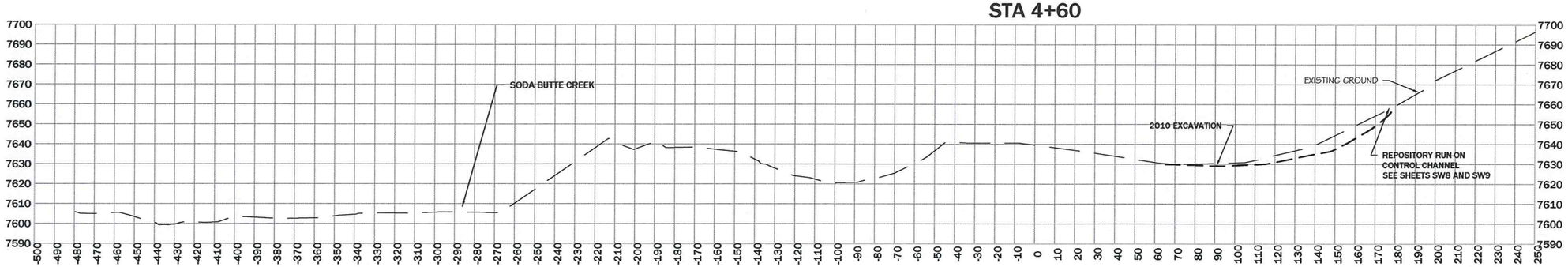

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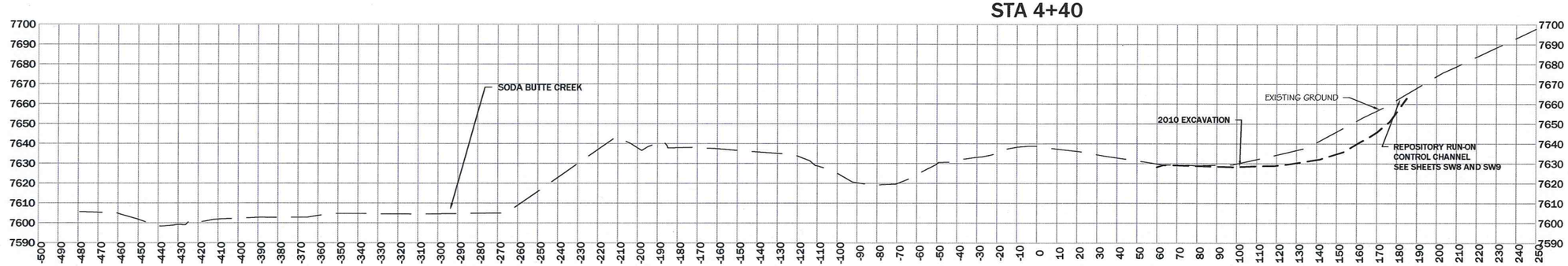

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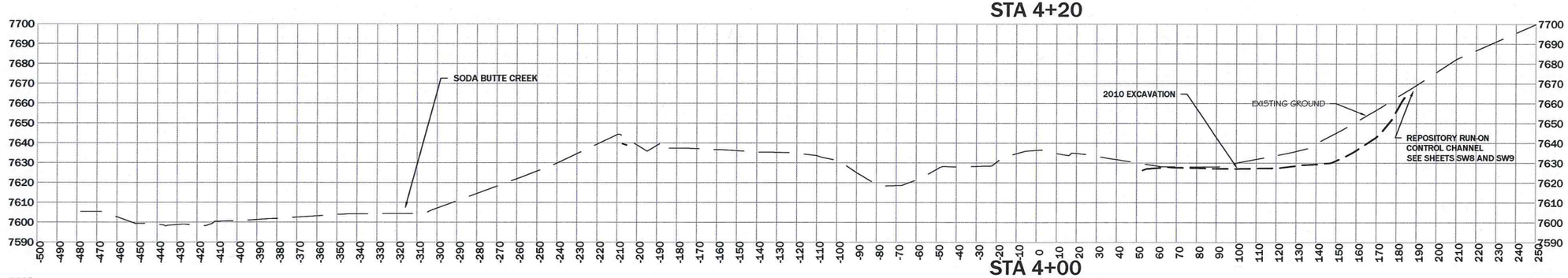
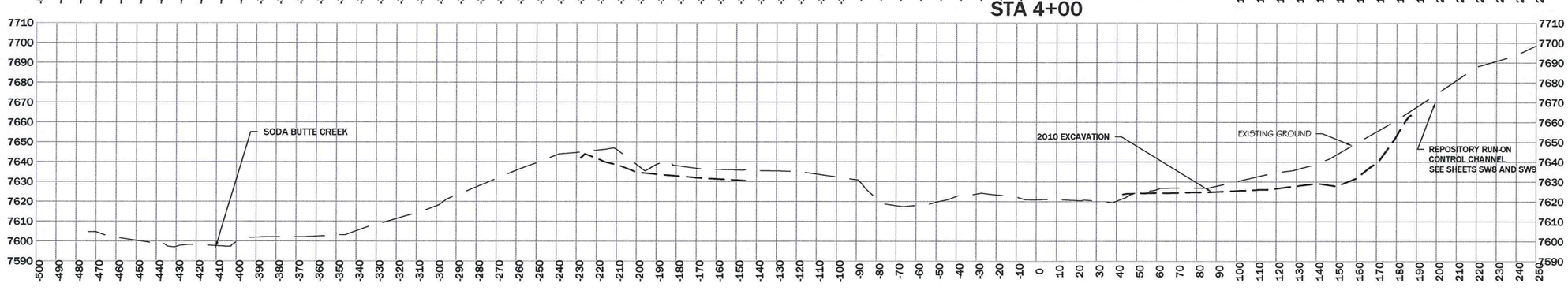


STA 4+00



REVISION: DATE:	BY:	DESC:
1/6/10	JSM	MODIFIED REPOSITORY FLOOR

DRAWN BY: CLA
DESIGNED BY: SDB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 30 60

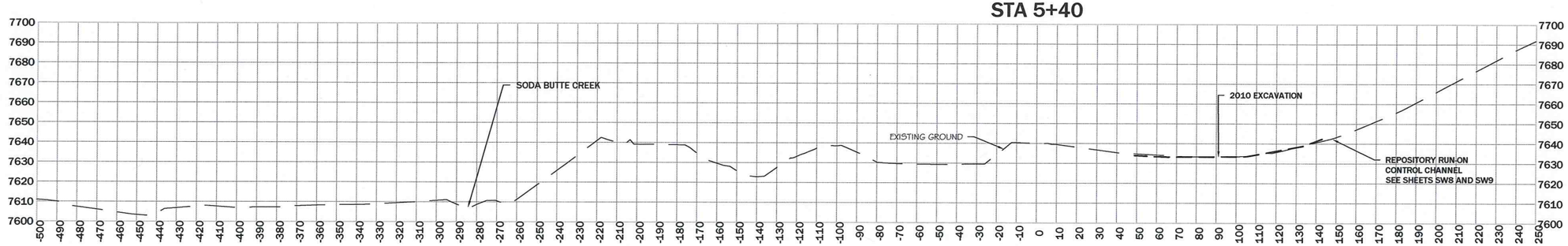
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

REPOSITORY
CROSS
SECTIONS
STA 4+00 TO 4+60

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
R-9AB

STA 5+40



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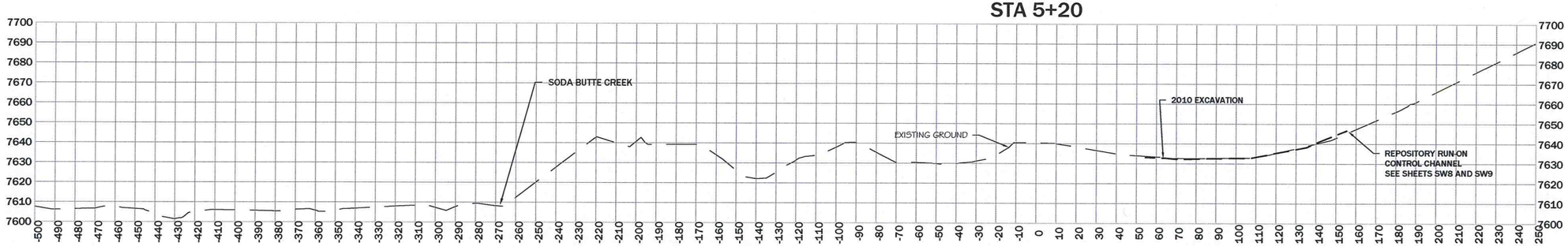

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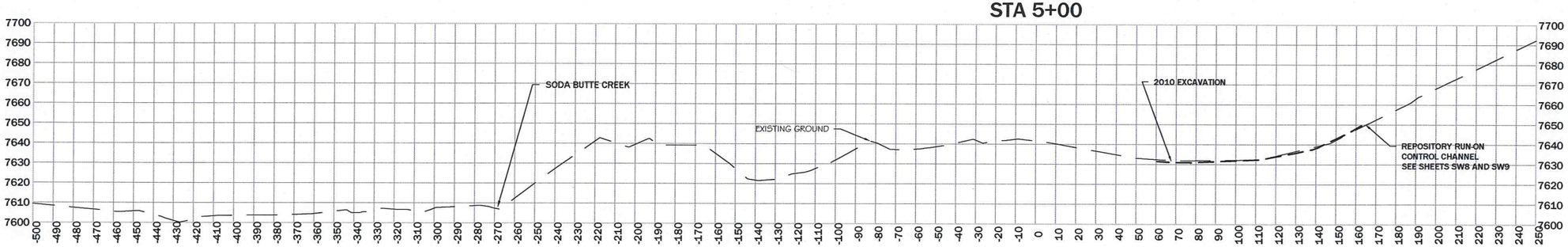

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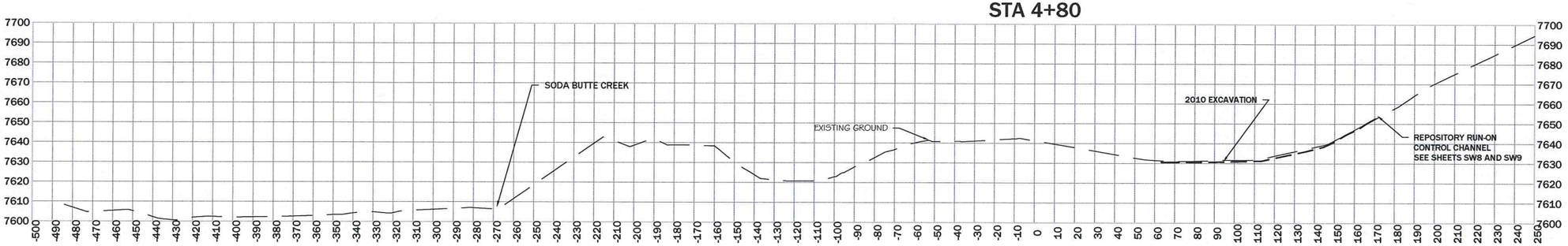


REVISION: DATE:	BY:	DESC:
1/6/10	JSM	MODIFIED REPOSITORY FLOOR

DRAWN BY: CLA
DESIGNED BY: SDB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 30 60

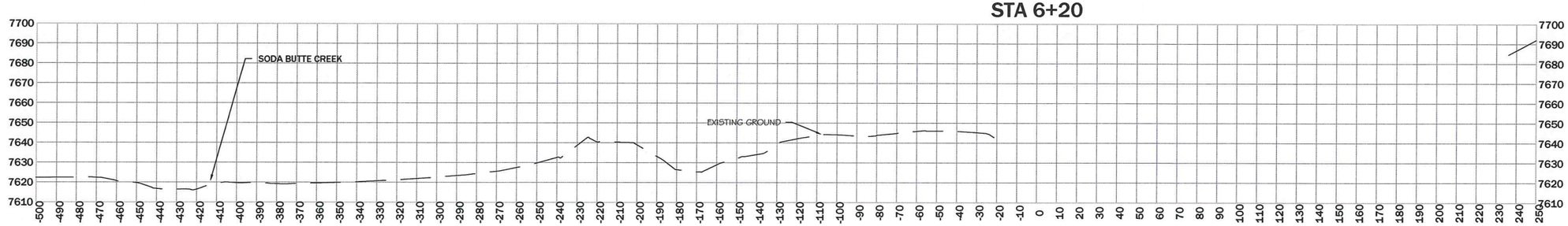
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

REPOSITORY
CROSS
SECTIONS
STA 4+80 TO 5+40

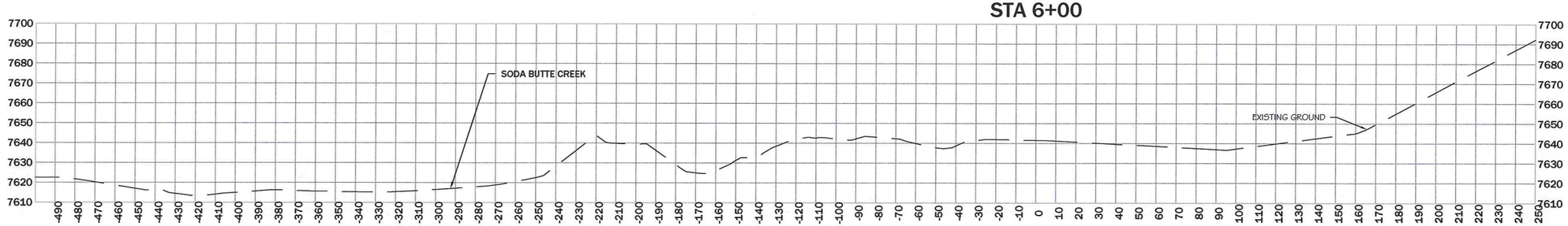
PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
R-10AB

STA 6+20



STA 6+00



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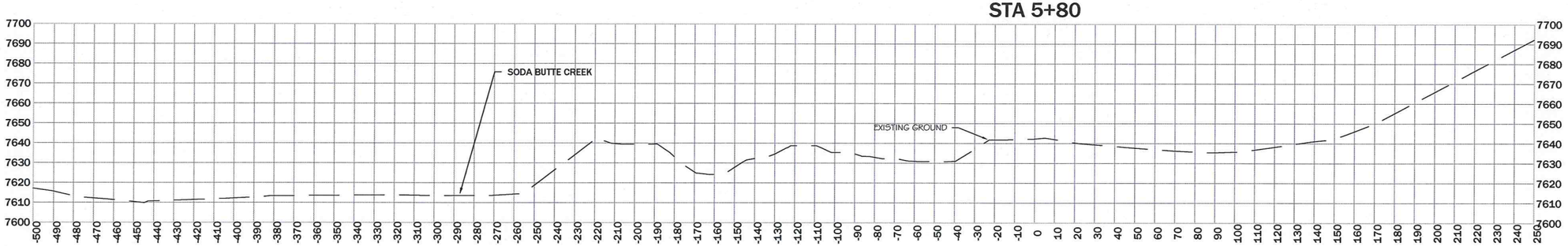

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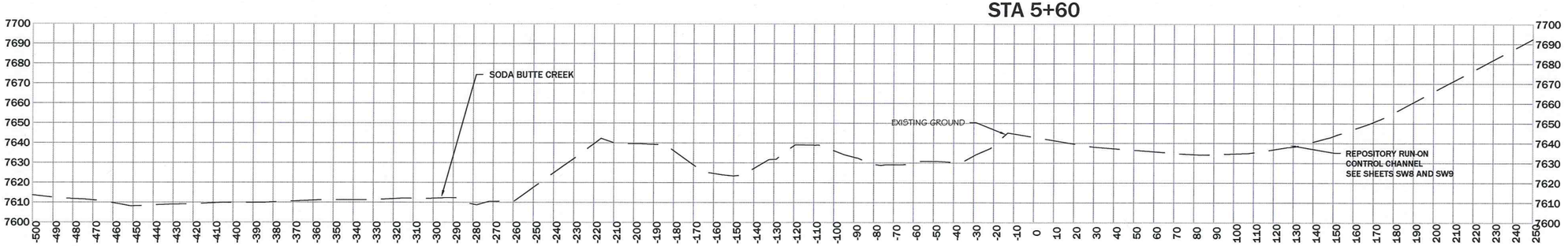


REVISION: DATE:	BY:	DESC:
1/6/10	JSM	MODIFIED REPOSITORY FLOOR

DRAWN BY: CLA
DESIGNED BY: SDB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 30 60

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

REPOSITORY
CROSS
SECTIONS
STA 5+60 TO 6+20

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)782-5177

SHEET
R-11AB

REPOSITORY EXCAVATION (bcy)			
Station	Cut Area	Cut Volume	Cumulative Cut Vol
0+00.00	0.00	0.00	0.00
0+20.00	0.00	0.00	0.00
0+40.00	306.86	113.65	113.65
0+60.00	1013.08	488.87	602.52
0+80.00	1885.52	1073.56	1676.07
1+00.00	2587.39	1656.63	3332.71
1+20.00	2917.91	2039.00	5371.70
1+40.00	2965.67	2179.10	7550.81
1+60.00	3136.42	2260.03	9810.84
1+80.00	3259.02	2368.68	12179.52
2+00.00	3633.32	2552.72	14732.24
2+20.00	4060.72	2849.65	17581.89
2+40.00	4323.74	3105.36	20687.24
2+60.00	4492.43	3265.25	23952.49
2+80.00	4678.18	3396.52	27349.01
3+00.00	5230.43	3669.86	31018.87
3+20.00	5280.20	3892.83	34911.70
3+40.00	5111.84	3848.90	38760.60
3+60.00	3440.85	3167.66	41928.26
3+80.00	2015.63	2020.92	43949.18
4+00.00	1374.14	1255.47	45204.65
4+20.00	831.17	816.78	46021.44
4+40.00	650.38	548.72	46570.16
4+60.00	391.50	485.88	47056.04
4+80.00	60.45	415.8	47471.84
5+00.00	42.00	37.95	47509.79
5+20.00	29.32	26.42	47574.16
5+40.00	20.23	18.35	47592.51
5+60.00	0.00	7.49	47600.00
5+80.00	0.00	0.00	47600.00
6+00.00	0.00	0.00	47600.00
6+20.00	0.00	0.00	47600.00
6+40.00	0.00	0.00	47600.00

REVISION:

DATE:	BY:	DESC:
1/6/10	JSM	MODIFIED REPOSITORY FLOOR

DRAWN BY: CLA
DESIGNED BY: SDB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

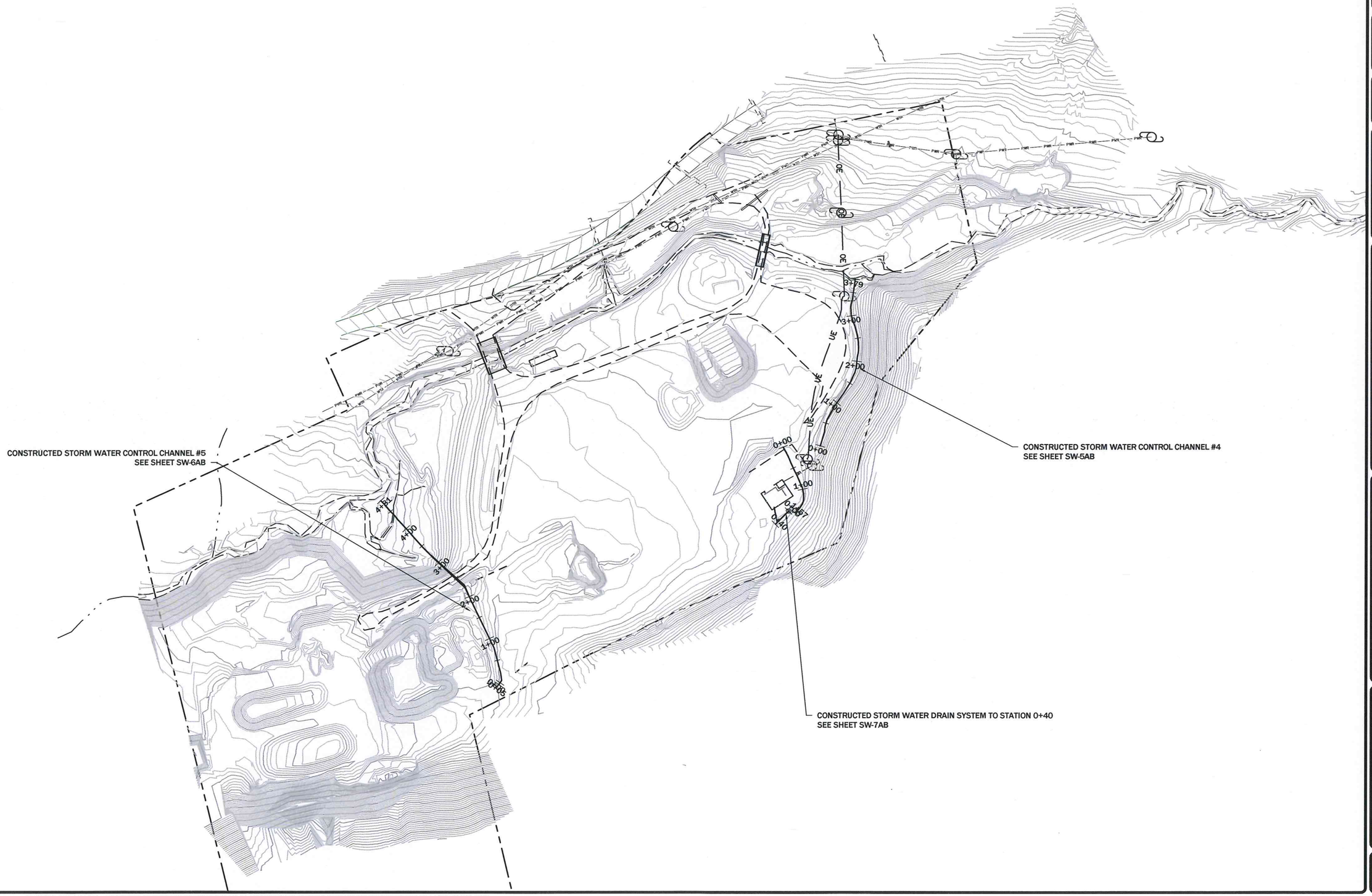
SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

REPOSITORY
CROSS
SECTION
VOLUME TABLE

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
R-12AB



REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

N

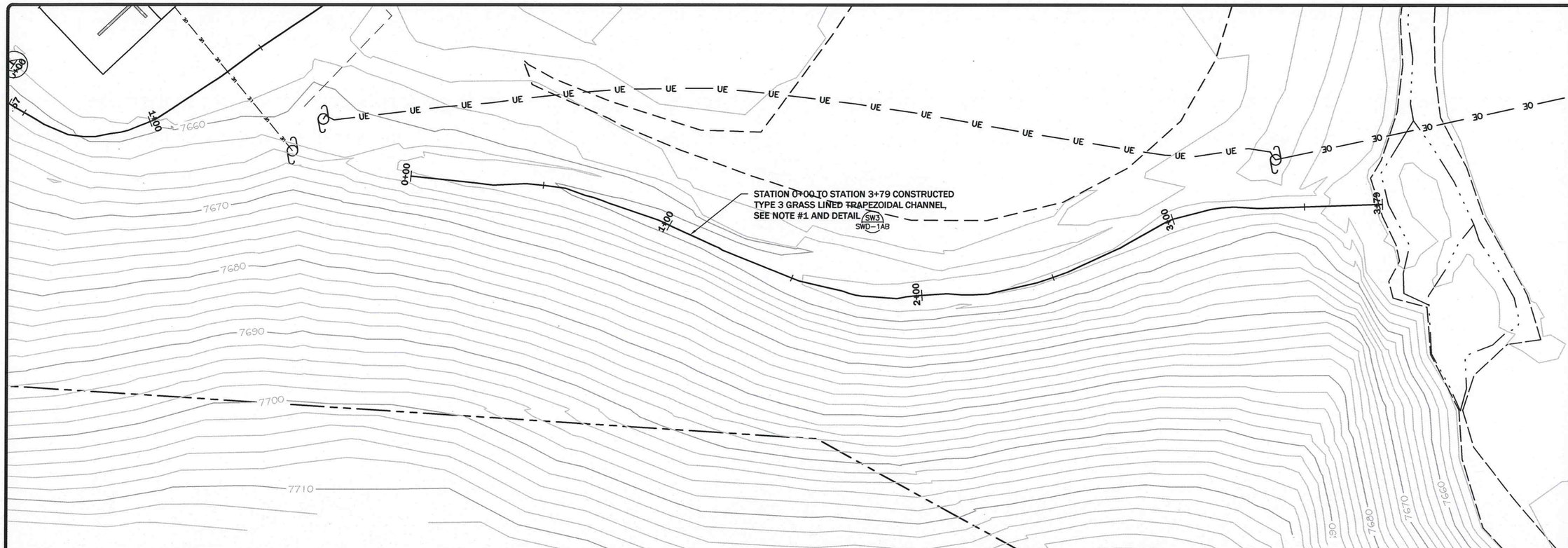
SCALE IN FEET
0 100 200

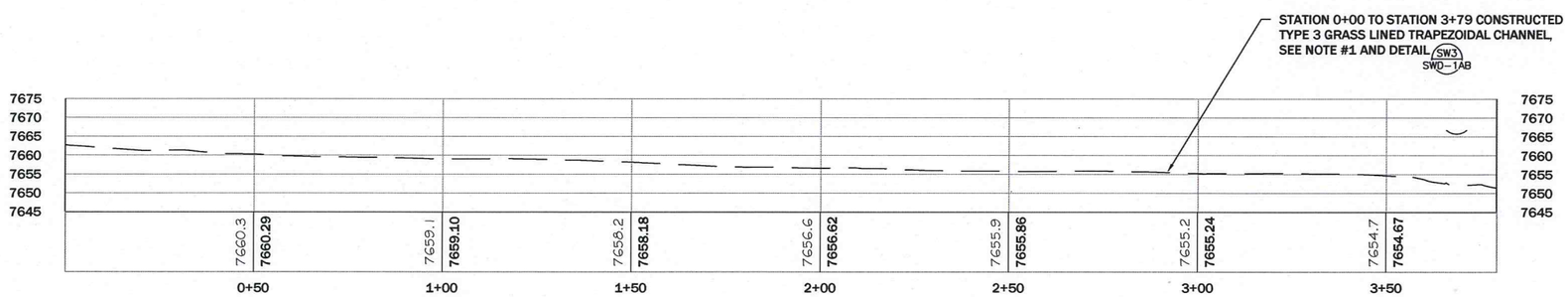
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

STORM WATER
CONTROLS
PLAN
VIEW

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
SW-1AB





REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

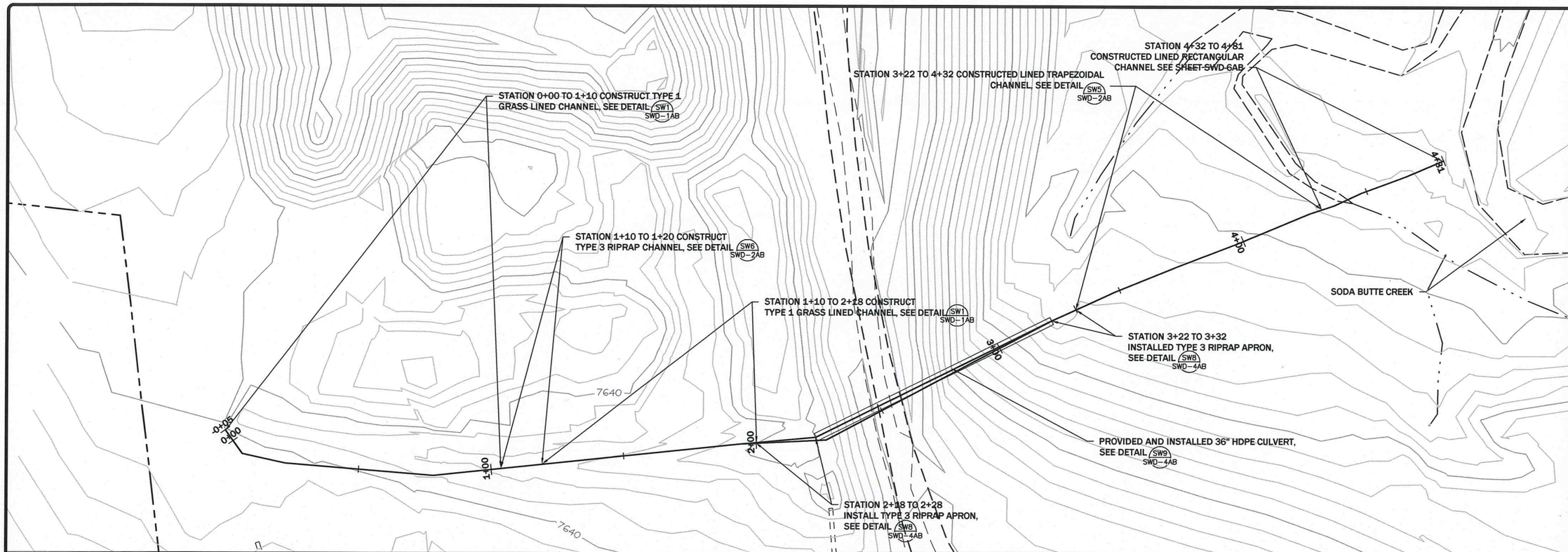
SCALE IN FEET
0 20 40

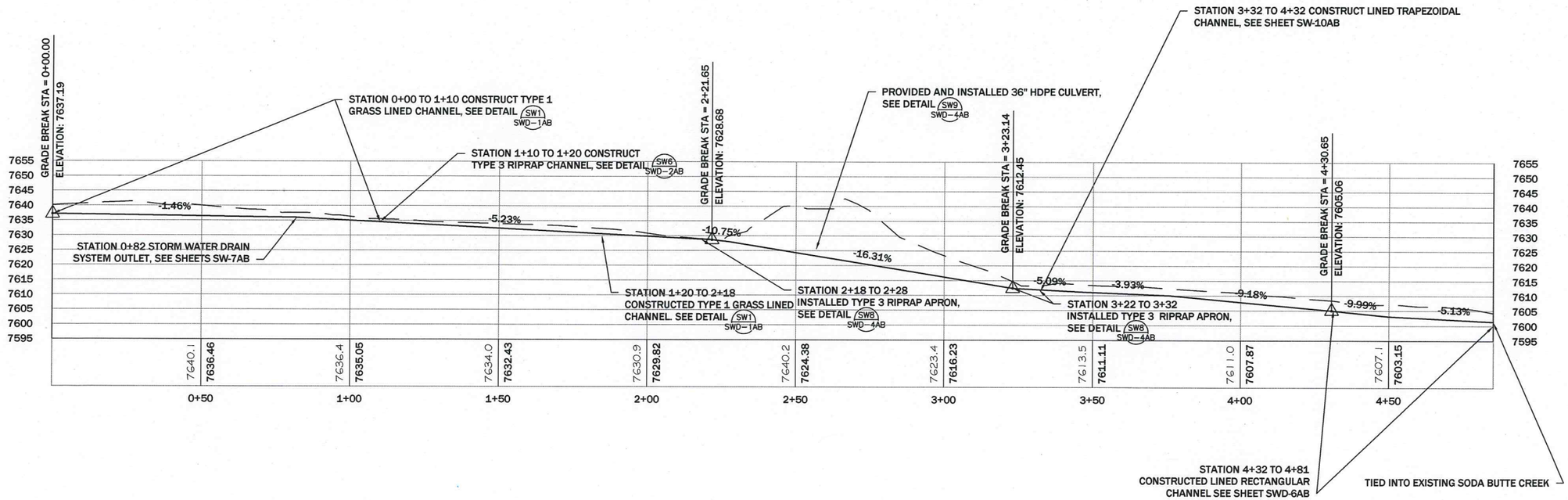
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

CHANNEL #4
PLAN AND
PROFILE

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
SW-5AB





REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

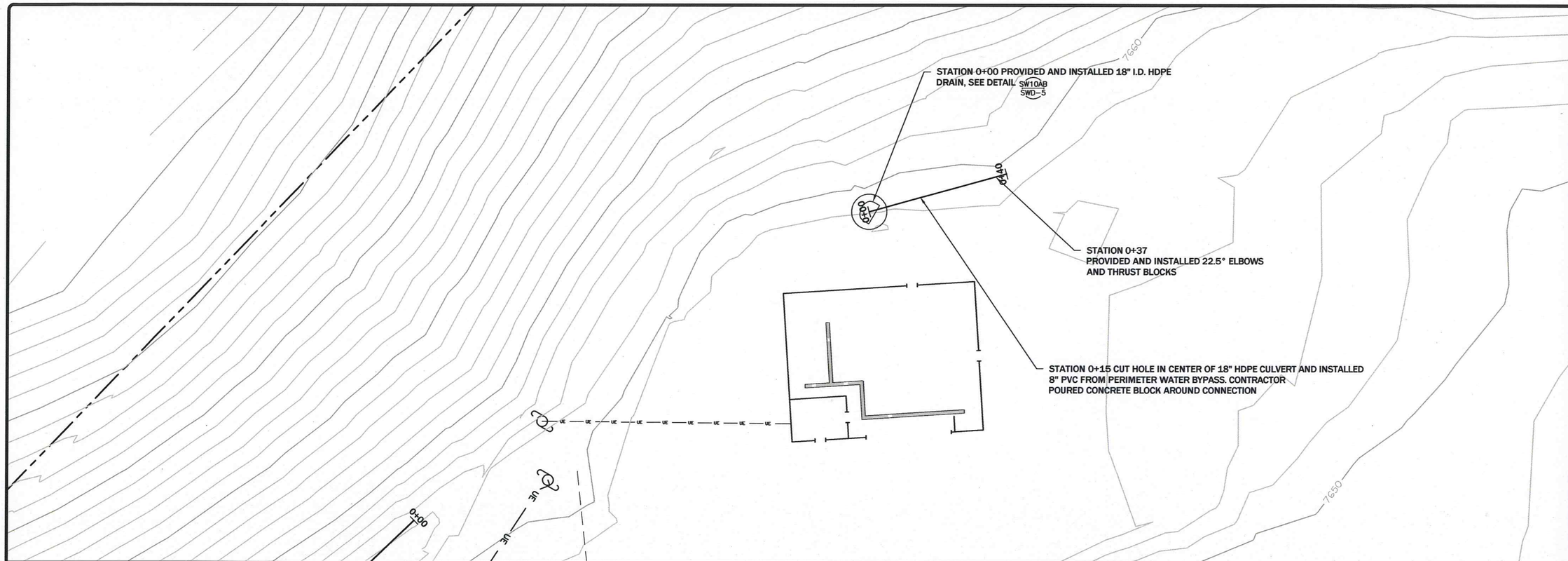
SCALE IN FEET
0 20 40

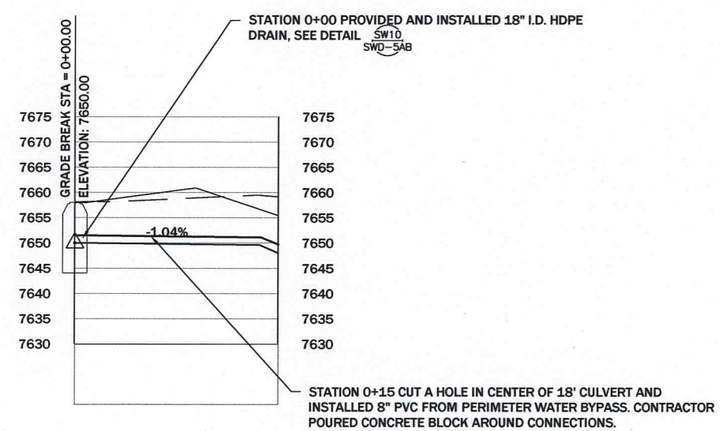
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

CHANNEL #5
PLAN AND
PROFIE

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
SW-6AB





NOTES:

1. 18" HDPE CULVERT HAS CORRUGATED EXTERIOR AND SMOOTH INTERIOR.
2. CONTRACTOR INSTALLED 18" I.D. HDPE PER MANUFACTURERS SPECIFICATIONS.
3. CONTRACTOR COMPACTED BACKFILL AROUND 18" HDPE CULVERT AND DRAINS TO 95% STANDARD PROCTOR (ASTM 698) AND ±4% MOISTURE CONTENT.

REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD 83
UNITS: FEET
SOURCE: PIONEER

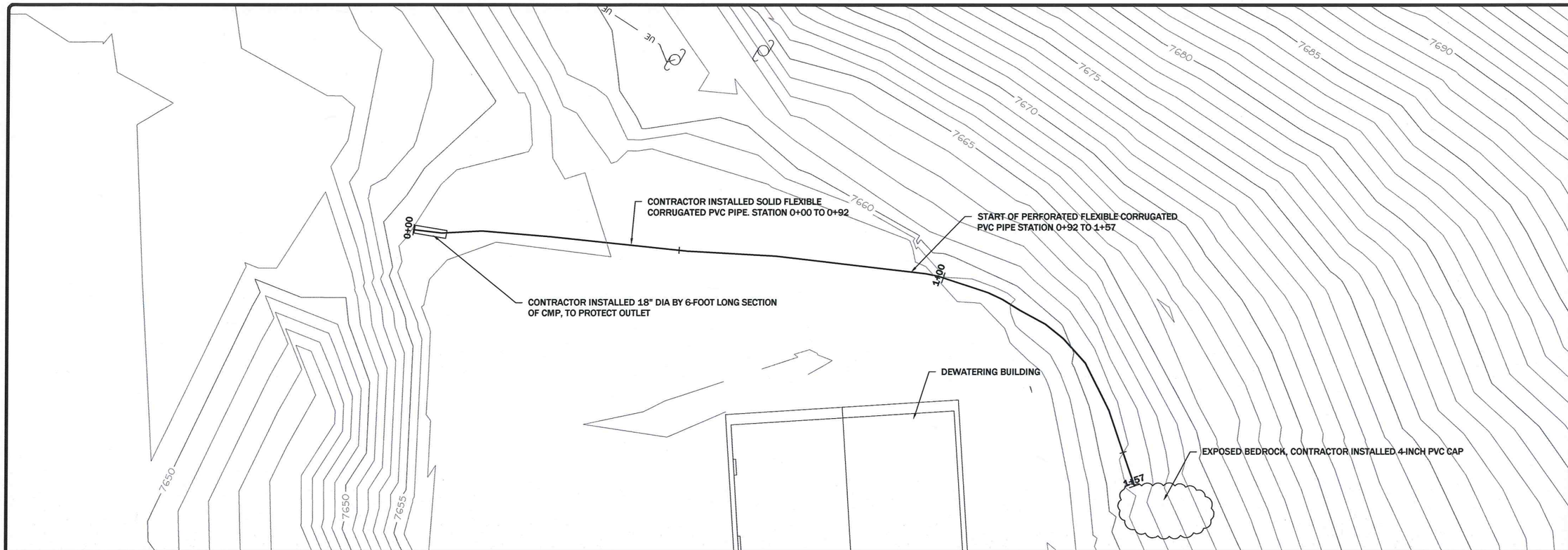
SCALE IN FEET
0 15 30

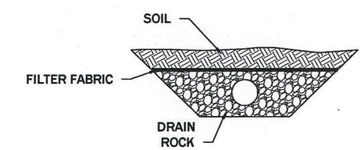
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

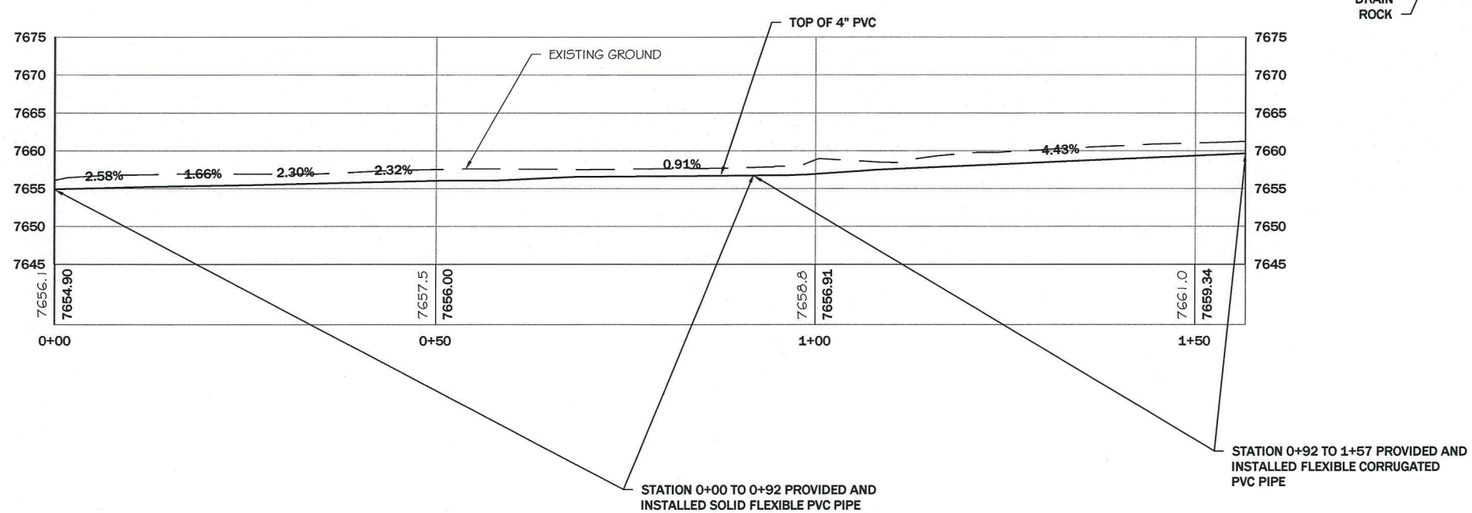
STORM WATER DRAIN PLAN AND PROFILE

PIONEER TECHNICAL SERVICES, INC.
63 - 1/2 WEST BROADWAY
BUTTE, MT 59702
(406)-782-5177

SHEET
SW-7AB







REVISION:		
DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 10 20

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

4 INCH FRENCH DRAIN PLAN AND PROFILE

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET SW-10AB

REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

N

SCALE IN FEET
0 100 200

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

REVEGETATION PLAN

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
C-1AB

NOTES:

1. CONTRACTOR PROVIDED, INSTALLED, AND MAINTAINED ALL SPECIFIED BMP'S THROUGHOUT THE COURSE OF WORK.
2. CONTRACTOR INSTALLED SPECIFIED BMP'S PRIOR TO COMMENCING ANY EARTHWORK.
3. ALL STRAW BALES WERE CERTIFIED WEED FREE.
4. ROAD GRADING WAS COMPLETED TO DIRECT RUN OFF AWAY FROM SODA BUTTE AND MILLER CREEK.

REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: MCB
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD83
UNITS: FEET
SOURCE: PIONEER

N

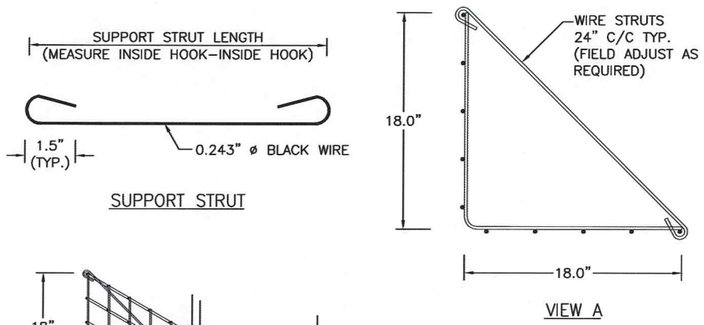
SCALE IN FEET
0 100 200

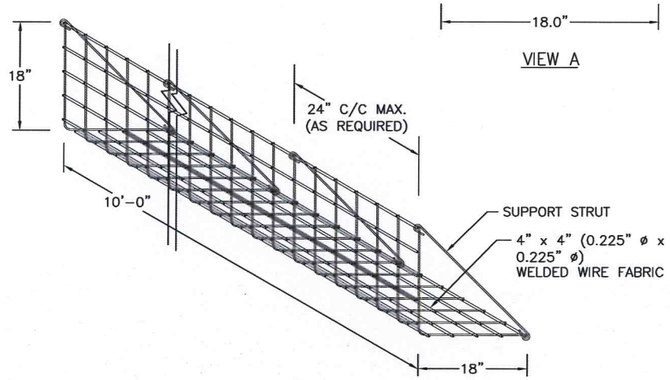
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

CONSTRUCTION
BMP'S
PLAN
VIEW

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

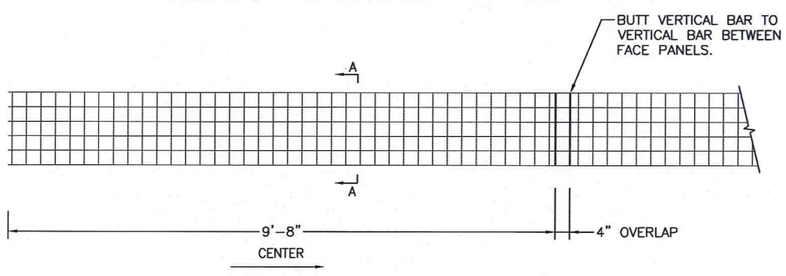
SHEET
BMP-1AB





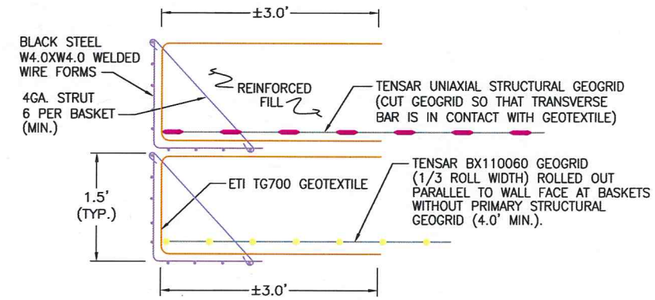
NOTES:

1. FACING TO CONSIST OF PREFABRICATED WWF 4" x 4" (0.225" ø x 0.225" ø) FORMS.
2. ALL FORMS AND STRUTS WILL BE FABRICATED WITH BLACK WIRE.
3. OVERALL LENGTH OF WIRE FORMS IS 10'–0". EFFECTIVE CONSTRUCTED WIDTH IS 9'–8" WITH 4" OVER LAPPING AT ENDS.



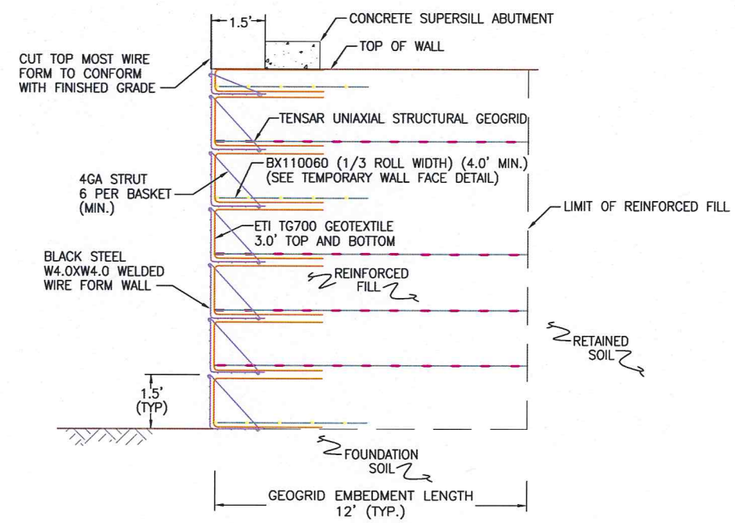
WELDED WIRE FORM FACING UNIT

NOT TO SCALE



TEMPORARY WALL FACE DETAIL

NOT TO SCALE



TYPICAL TEMPORARY WALL CROSS-SECTION

Tensar

REVISION:		
DATE:	BY:	DESC:

DRAWN BY:	TENSAR®
DESIGNED BY:	WGC
CHECKED BY:	JSM
APPROVED BY:	WGC
PROJECT NO:	10140
DATE:	2/18/11

DISPLAYED AS:	
COORD SYS/ZONE:	NA
DATUM:	NA
UNITS:	NA
SOURCE:	TENSAR®

SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

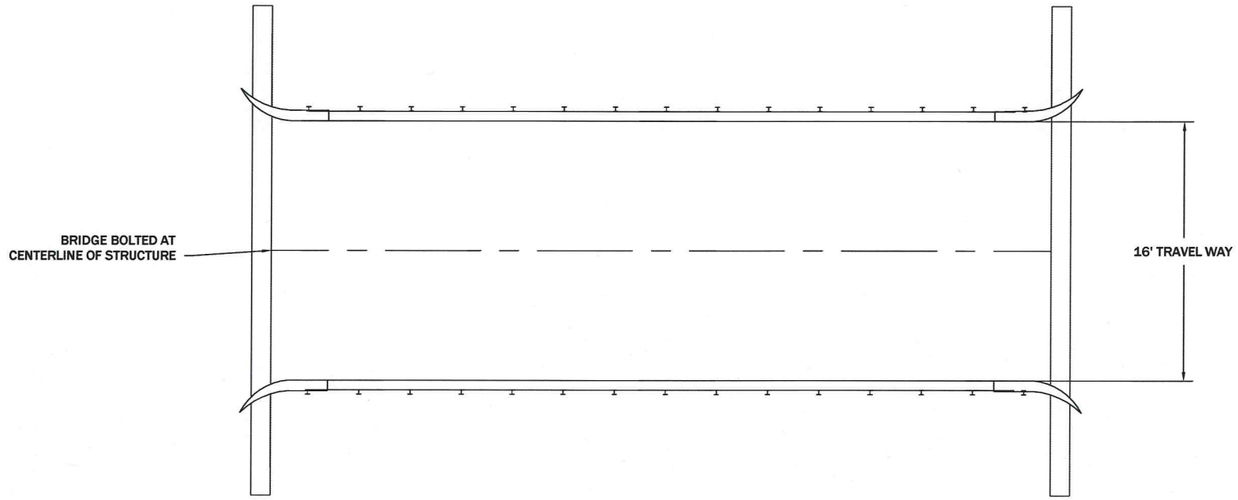
STRUCTURAL
REINFORCED
EMBANKMENT
DETAILS

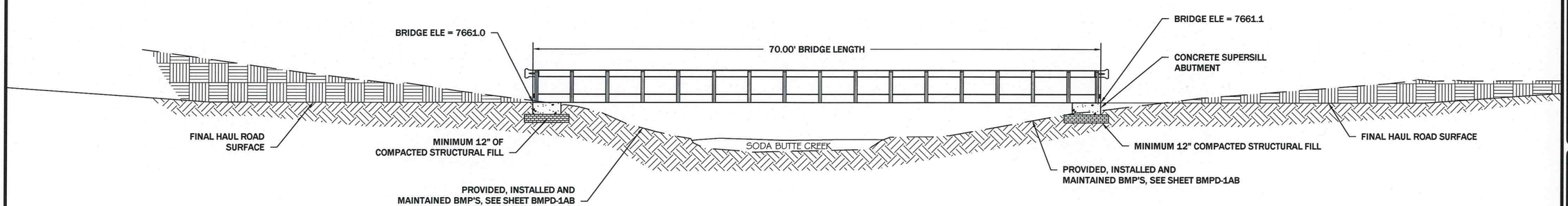
PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
FD-2AB

NOTES:

1. COORDINATED BRIDGE INSTALLATION WITH OTHER CONSTRUCTION ACTIVITIES.
2. PROVIDED AND INSTALLED MODULAR STEEL BRIDGE AT LOCATION SHOWN ON SHEET F-1AB PER MANUFACTURES RECOMMENDATIONS AND SPECIAL PROVISIONS.
3. THE ABUTMENT AND BACKWALLS WERE DESIGNED AND SUPPLIED BY BRIDGE MANUFACTURER TO ENSURE CONFORMANCE WITH DESIGN PARAMETERS, LOAD-RATING, AND APPROPRIATE FIT-UP. IN ALL CASES, ABUTMENTS AND BACKWALLS WERE DESIGNED AND STAMPED BY A REGISTERED MONTANA PROFESSIONAL ENGINEER.
4. ALL FILL, SUBGRADE AND ROADWAY SURFACES WERE COMPACTED TO 95% OF STANDARD PROCTOR MAXIMUM DRY DENSITY [ASTM D698/ASSHTO T99] AT ±4% OPTIMUM MOISTURE.
5. CONTRACTOR PROVIDED, INSTALLED AND MAINTAINED BMP'S THROUGHOUT THE COURSE OF WORK





REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: WGC
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

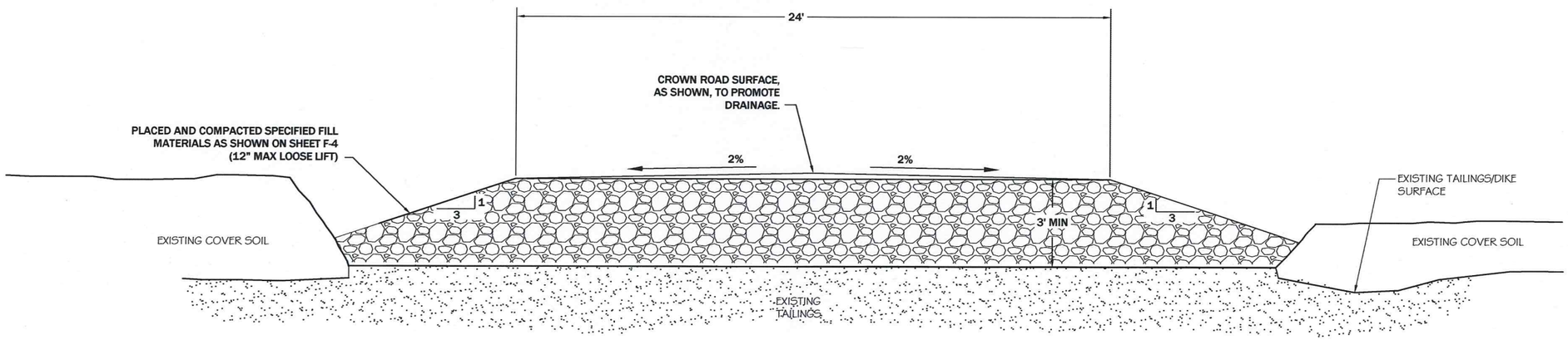
EAST BRIDGE ABUTMENT DETAILS

PIONEER TECHNICAL SERVICES, INC
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
FD-3AB

NOTES:

1. HAUL ROADS WERE CONSTRUCTED ON THE ALIGNMENTS SHOWN ON SHEET F4AB.
2. HAUL ROADS WERE CONSTRUCTED WITH SPECIFIED MATERIAL OBTAINED FROM THE WASTE ROCK AREA AND OR REPOSITORY. HAUL ROADS WERE CONSTRUCTED TO ADEQUATELY AND SAFELY SUPPORT EQUIPMENT OVER TAILINGS SUBGRADE.
3. CONTRACTOR SALVAGED EXCAVATED COVER SOIL AND STOCKPILE PRIOR TO PLACEMENT OF SPECIFIED FILL MATERIALS AS DIRECTED BY ENGINEERS
4. ALL FILL MATERIALS WERE COMPACTED TO 95% OF STANDARD PROCTOR MAXIMUM DRY DENSITY [ASTM D698/AASHTO T99] AT A ± 4% OPTIMUM MOISTURE.



HAUL ROAD DETAIL (F1 / --)

REVISION:

DATE:	BY:	DESC:

DRAWN BY: SKL
DESIGNED BY: MCB
CHECKED BY: JSM
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

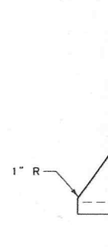
SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINESITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

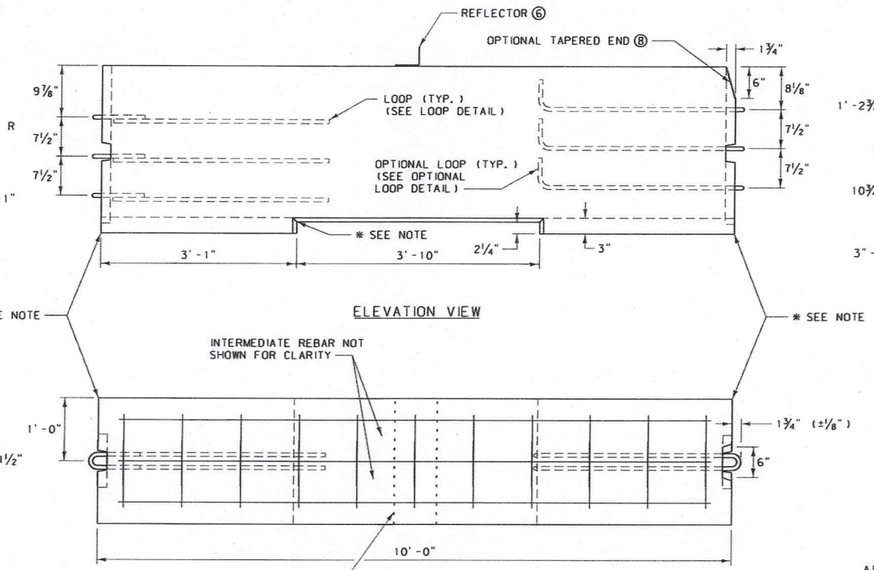
HAUL ROAD DETAIL

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET FD-4AB

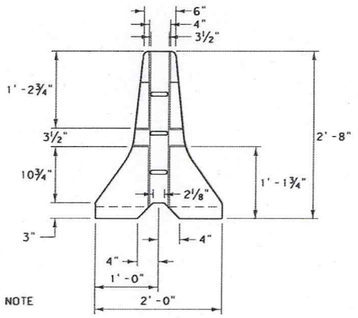


END VIEW

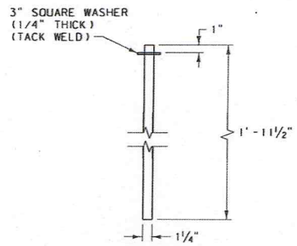


ELEVATION VIEW

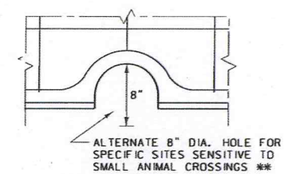
PLAN VIEW



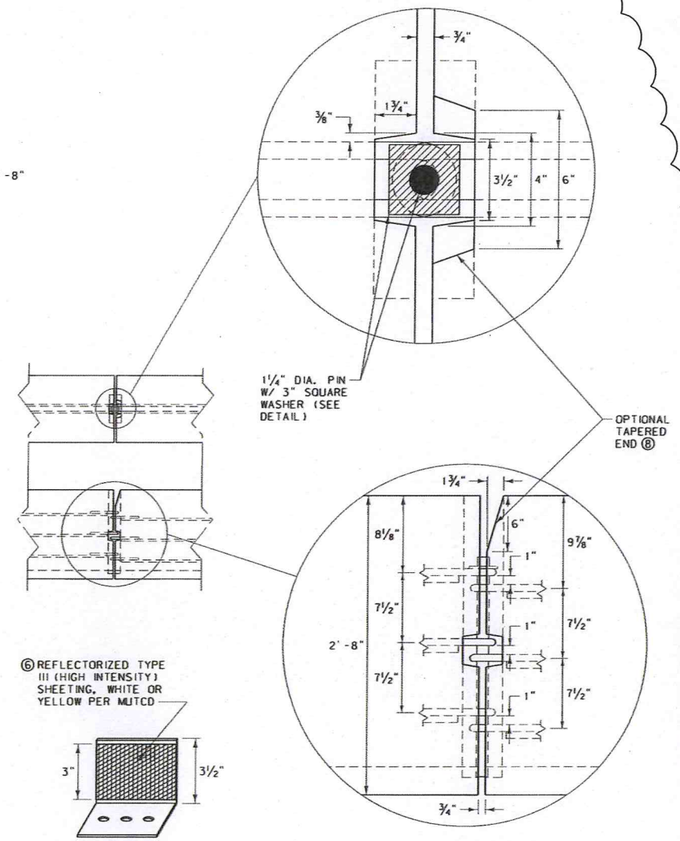
END VIEW

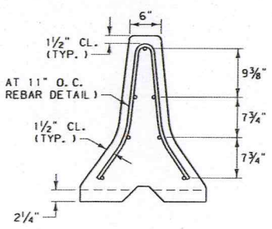


CONNECTING PIN DETAIL

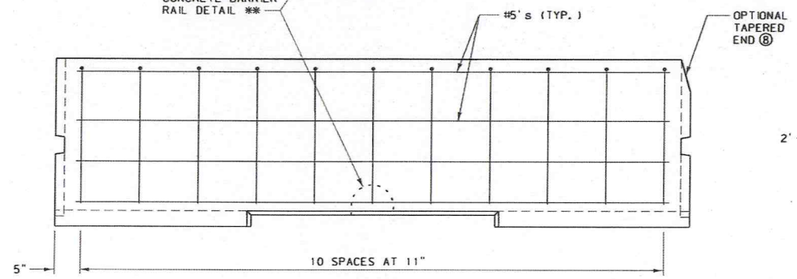


ALTERNATE CONCRETE BARRIER
RAIL DETAIL

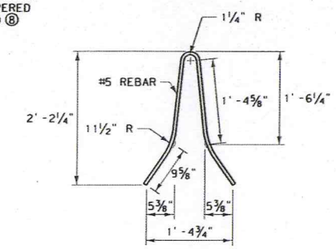




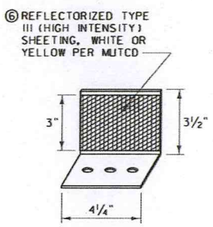
END VIEW



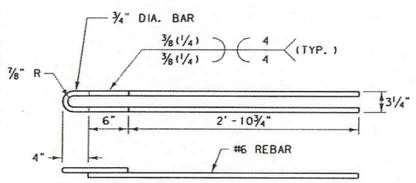
ELEVATION VIEW



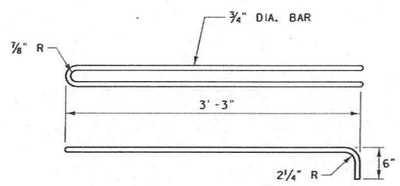
REBAR DETAIL



REFLECTOR
(SEE NOTES)



LOOP DETAIL



OPTIONAL LOOP DETAIL

LOOP FABRICATION REQUIREMENTS:

1. USE REINFORCING STEEL CONFORMING TO ASTM A 706, GRADE 60 FOR REBAR BEING WELDED TO LOOPS.
2. LOOP ENDS CONSIST OF SMOOTH ROUND BARS CONFORMING TO AASHTO M 270, GRADE 36.
3. COLD BEND THE LOOPS BY USING A JIG THAT WILL PRODUCE AN ACCURATE RADIUS WITHOUT MARRING THE BAR. DO NOT HEAT THE BAR TO FACILITATE BENDING.
4. WELD REBAR TO LOOPS USING ⅛" DIA. E8018 ROD. DO NOT TACK WELD THE PIECES TOGETHER PRIOR TO WELDING.
5. USE A CERTIFIED WELDER IN ACCORDANCE WITH THE CURRENT EDITION OF AWS D1.4. DO NOT PLACE THE WELDED ASSEMBLY IN THE FORM UNTIL IT HAS BEEN INSPECTED.
6. NO ADDITIONAL WELDING IS PERMITTED ON THE SMOOTH ROUND BARS OR REINFORCING STEEL.

OPTIONAL LOOP FABRICATION REQUIREMENTS:

1. USE CONTINUOUS SMOOTH ROUND BARS CONFORMING TO AASHTO M 270, GRADE 36 TO FABRICATE THE OPTIONAL LOOPS.
2. COLD BEND THE LOOPS BY USING A JIG THAT WILL PRODUCE AN ACCURATE RADIUS WITHOUT MARRING THE BAR. DO NOT HEAT THE BAR TO FACILITATE BENDING.
3. NO WELDING IS PERMITTED ON THE SMOOTH ROUND BARS OR REINFORCING STEEL.

NOTES:

① USE CLASS "DD" CONCRETE OR EQUIVALENT.

② REINFORCING STEEL CONSISTS OF DEFORMED BARS CONFORMING TO AASHTO M 31, GRADE 60.

③ CONNECT EACH 10' SECTION WITH CONNECTING PINS AS DETAILED AND CONFORMING TO AASHTO M 270, GRADE 36 OR BETTER. CONNECTING PINS NEED NOT BE PAINTED.

④ CUTOUTS ON ENDS OF EACH SECTION ARE SHOWN WITH SLIGHT TAPER TO FACILITATE FORM REMOVAL. RECTANGULAR CUTOUTS ARE ACCEPTABLE.

⑤ THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER FIT-UP OF THE PRECAST CONCRETE BARRIER RAIL. ASSEMBLE AND PIN SUFFICIENT NUMBER OF PRECAST SECTIONS IN THE FABRICATIONS PLANT TO DETERMINE THAT PROPER FIT-UP CAN BE MAINTAINED ON ALL ROADWAY ALIGNMENT, CURVES AS WELL AS ON TANGENT. THIS IS TO BE DETERMINED EARLY IN FABRICATION.

⑥ ATTACH REFLECTORS TO RAIL EVERY 30'. FOLLOW THE MANUFACTURER'S SPECIFICATIONS FOR ADHESIVE MOUNTING. IN NARROW PAVED (FLUSH) MEDIAN APPLICATIONS, REFLECTORIZE BOTH SIDES.

⑦ DO NOT INSTALL UN-ANCHORED CONCRETE BARRIER RAIL FOR OBSTACLES WITHIN 6.5' OF THE BASE (TRAFFIC SIDE) OF THE RAIL. SEE DTL. DWG. NO. 606-62 FOR CONCRETE BARRIER RAIL ANCHORS.

⑧ THE OPTIONAL TAPERED END SHOWN IS AN ACCEPTABLE ALTERNATE TO THE VERTICAL END FOR ALL CONCRETE BARRIER RAIL ENDS.

* ¾" CHAMFER ENTIRE OPENING (OR SUFFICIENTLY ROUNDED SO THAT A SMOOTH EDGE RESULTS.) ½" CHAMFER IS ACCEPTABLE.

** USE THE ALTERNATE 8" DIA. HOLE IN THIS RAIL ON A CASE-BY-CASE BASIS AS SPECIFIED IN THE PLANS.

DETAILED DRAWING	
REFERENCE STANDARD SPEC. SECTION 554.606	DWG. NO. 606-60
CONCRETE BARRIER RAIL	
--REVISED-- January 2008	EFFECTIVE: APRIL 2006

MDT serving you with pride — MONTANA DEPARTMENT OF TRANSPORTATION

REVISION: DATE:	BY:	DESC:
7/10	JSM	NEW MDT JERSY BARRIER

DRAWN BY: MDT
DESIGNED BY: MDT
CHECKED BY: MDT
APPROVED BY: MDT
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: MDT

SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

JERSEY
BARRIER
DETAILS

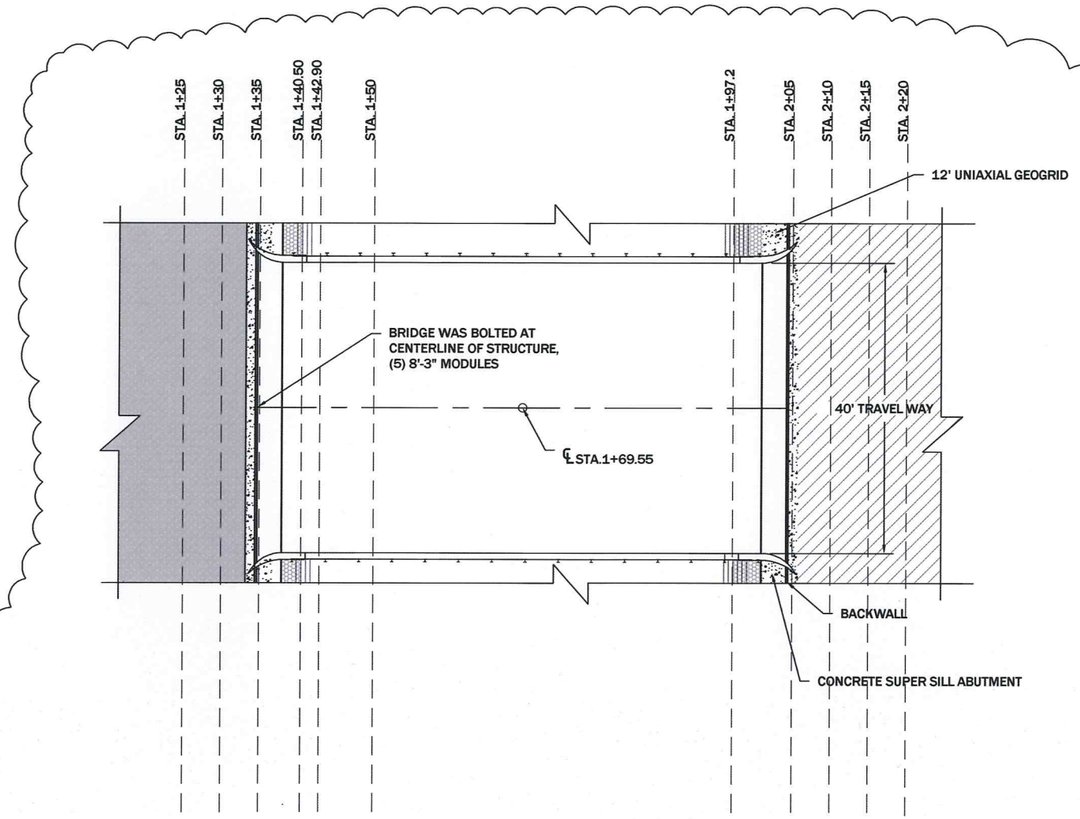
PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)782-5177

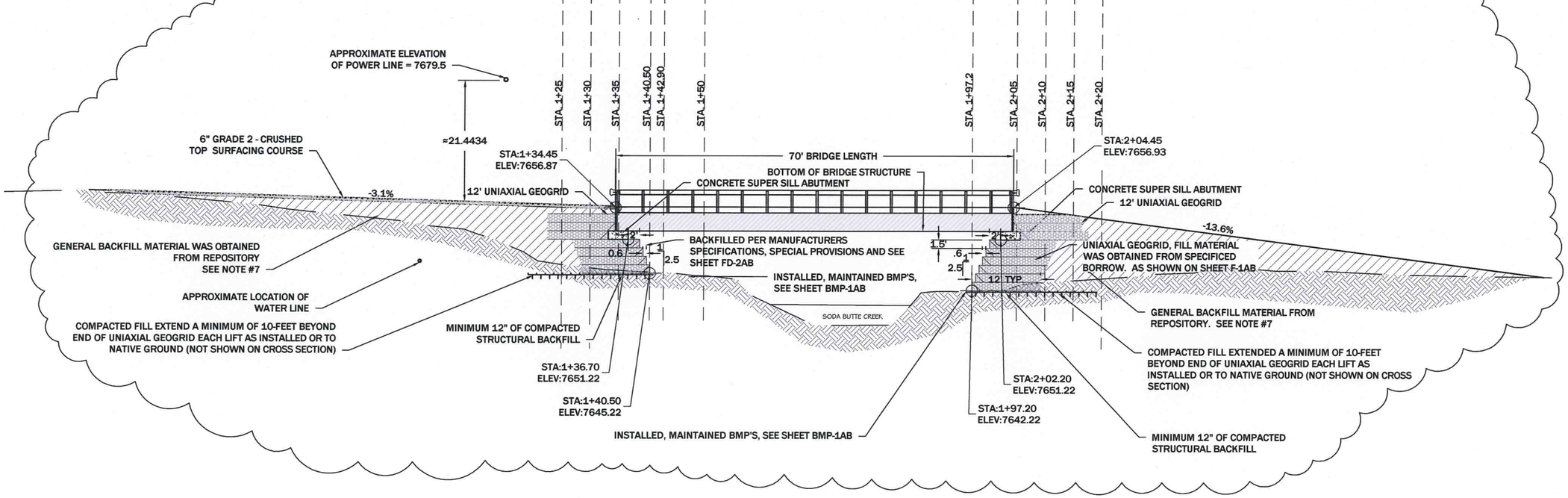
SHEET
FD-5AB

2/3/2011 11:14:05 AM \\SRVW2K\CLIENTDATA1$\DEQ\MCLAREN\2010\DRAWINGS\AS-BUILTS-2010\CONSTRUCTION\MC-FBID-AB-10-DET-008-09.DWG

NOTES:

1. COORDINATED BRIDGE INSTALLATION WITH OTHER CONSTRUCTION ACTIVITIES.
2. INSTALLED MODULAR STEEL BRIDGE AT LOCATION SHOWN ON SHEET F-1AB PER MANUFACTURES RECOMMENDATIONS.
3. THE ABUTMENT AND BACKWALLS WERE DESIGNED AND SUPPLIED BY BRIDGE MANUFACTURER TO ENSURE CONFORMANCE WITH DESIGN PARAMETERS, LOAD-RATING, AND APPROPRIATE FIT-UP. IN ALL CASES, ABUTMENTS AND BACKWALLS WERE DESIGNED AND STAMPED BY A MONTANA REGISTERED PROFESSIONAL ENGINEER.
4. CONTRACTOR WAS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES THROUGHOUT THE COURSE OF WORK.
5. UTILITY LOCATIONS AND ELEVATIONS SHOWN ARE APPROXIMATE. CONTRACTOR COORDINATED WITH UTILITIES PRIOR TO BEGINNING ANY EARTHWORK.
6. CONTRACTOR CONSTRUCTED EMBANKMENT USING MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALL USING A UNIAXIAL TENSAR GEOGRID AND SOIL RETENTION FABRIC. BACKFILL FOR UNIAXIAL GEOGRID WAS OBTAINED FROM THE SPECIFIED BORROW AREA, SEE SHEET F-1AB.
7. ALL FILL MATERIALS WERE COMPACTED TO 95% OF STANDARD PROCTOR MAXIMUM DRY DENSITY [ASTM D698/AASHTO T99] AT ±2% OPTIMUM MOISTURE.
8. CONTRACTOR PROVIDED, INSTALLED AND MAINTAINED BMP'S THROUGHOUT COURSE OF WORK.





REVISION: DATE	BY:	DESC:
6/18/10	JSM	MODIFIED EMBANKMENT

DRAWN BY: JGB
DESIGNED BY: MCB
CHECKED BY: JSM
APPROVED BY: WCB
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD 83
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 10 20

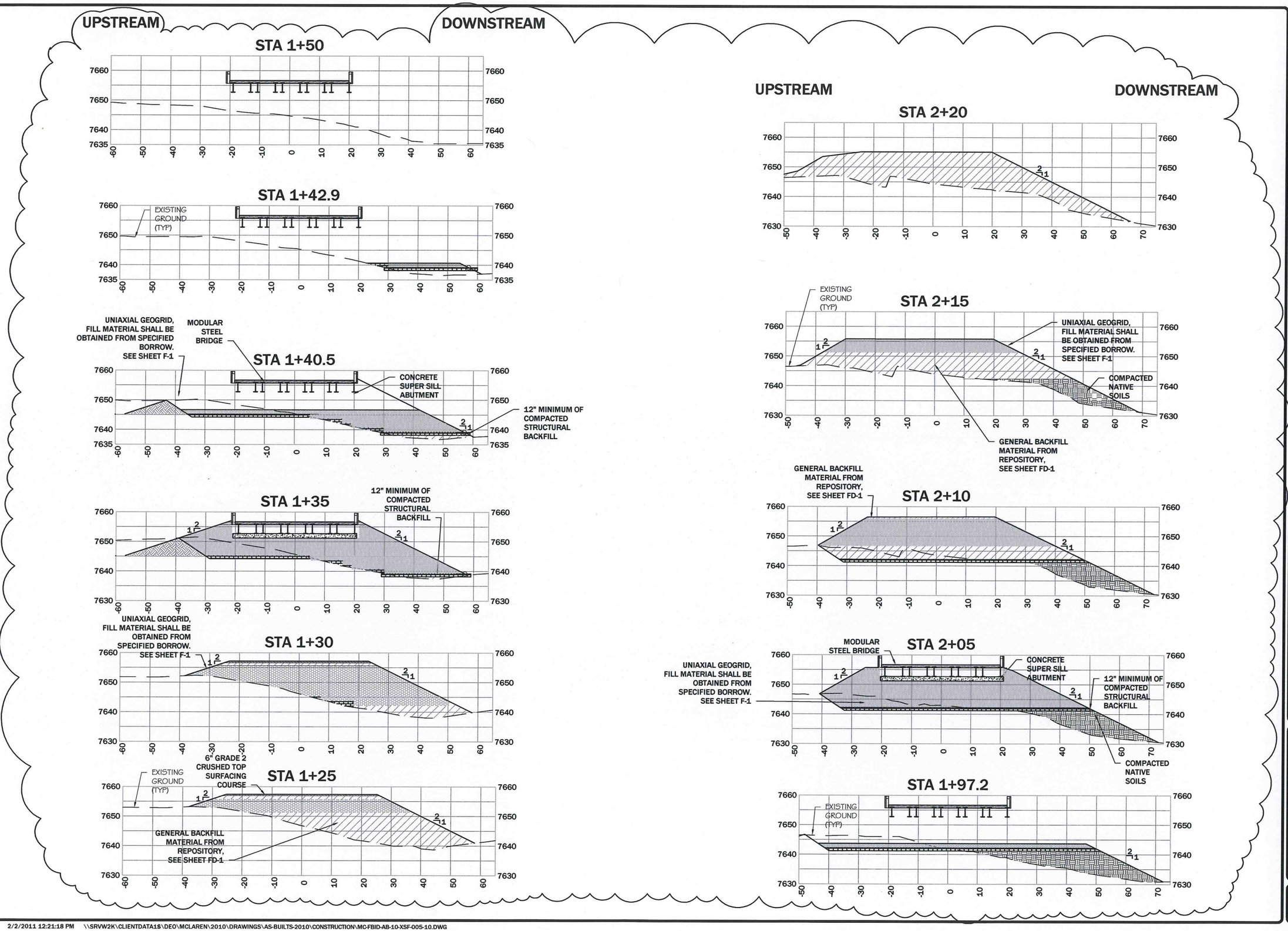
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAIMATION PROJECT
2010 AS-BUILT DRAWINGS

WEST BRIDGE PROFILE SECTION VIEW

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET FD-8AB

2/2/2011 1:23:46 PM \\SRVW2K\CLIENTDATA1$\DEQ\MCLAREN\2010\DRAWINGS\AS-BUILTS-2010\CONSTRUCTION\MC-FBID-AB-10-XSF-005-10.DWG



REVISION: DATE	BY:	DESC:
6/18/10	JSM	MODIFIED EMBANKMENT

DRAWN BY: JGB
DESIGNED BY: MCB
CHECKED BY: JSM
APPROVED BY: WCB
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: MSP
DATUM: NAD 83
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 15 30

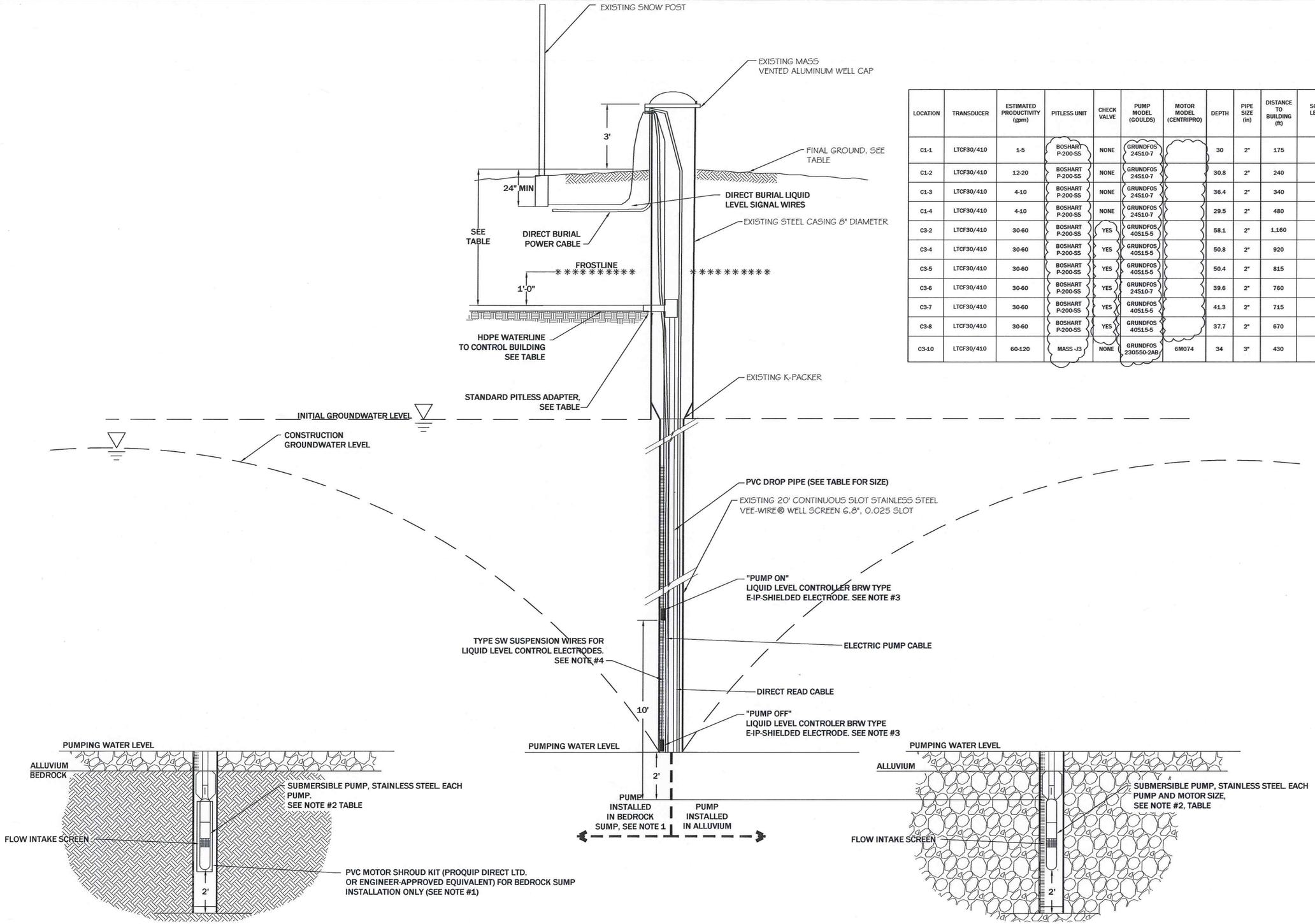
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAIMATION PROJECT
2010 AS-BUILT DRAWINGS

WEST BRIDGE
CROSS SECTIONS
STA 1+25 TO 2+20

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
FD-9AB

2/2/2011 12:21:18 PM \\SRVW2K\CLIENTDATA1$\DEQ\MCLAREN\2010\DRAWINGS\AS-BUILTS-2010\CONSTRUCTION\MC-FBID-AB-10-XSF-005-10.DWG



LOCATION	TRANSDUCER	ESTIMATED PRODUCTIVITY (gpm)	PITLESS UNIT	CHECK VALVE	PUMP MODEL (GOULDS)	MOTOR MODEL (CENTRIPRO)	DEPTH	PIPE SIZE (in)	DISTANCE TO BUILDING (ft)	SCREEN LENGTH (ft)	DEPTH TO PITLESS FROM FINAL GROUND (ft)
C1-1	LTCF30/410	1-5	BOSHART P-200-SS	NONE	GRUNDFOS 24S10-7		30	2"	175	20	6
C1-2	LTCF30/410	12-20	BOSHART P-200-SS	NONE	GRUNDFOS 24S10-7		30.8	2"	240	20	6
C1-3	LTCF30/410	4-10	BOSHART P-200-SS	NONE	GRUNDFOS 24S10-7		36.4	2"	340	20	6
C1-4	LTCF30/410	4-10	BOSHART P-200-SS	NONE	GRUNDFOS 24S10-7		29.5	2"	480	20	6
C3-2	LTCF30/410	30-60	BOSHART P-200-SS	YES	GRUNDFOS 40S15-5		58.1	2"	1,160	20	6
C3-4	LTCF30/410	30-60	BOSHART P-200-SS	YES	GRUNDFOS 40S15-5		50.8	2"	920	20	6
C3-5	LTCF30/410	30-60	BOSHART P-200-SS	YES	GRUNDFOS 40S15-5		50.4	2"	815	20	6
C3-6	LTCF30/410	30-60	BOSHART P-200-SS	YES	GRUNDFOS 24S10-7		39.6	2"	760	20	6
C3-7	LTCF30/410	30-60	BOSHART P-200-SS	YES	GRUNDFOS 40S15-5		41.3	2"	715	20	6
C3-8	LTCF30/410	30-60	BOSHART P-200-SS	YES	GRUNDFOS 40S15-5		37.7	2"	670	20	6
C3-10	LTCF30/410	60-120	MASS -J3	NONE	GRUNDFOS 230550-2AB	6M074	34	3"	430	20	6

30 TO 120 GPM WELL INSTALLATION DETAIL

GW1 / --

N.T.S.

REVISION:

DATE:	BY:	DESC:
8/3/10	JSM	PIPE SIZE C3-10

DRAWN BY: SKL
DESIGNED BY: MWB
CHECKED BY: JSM
APPROVED BY: MWB
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

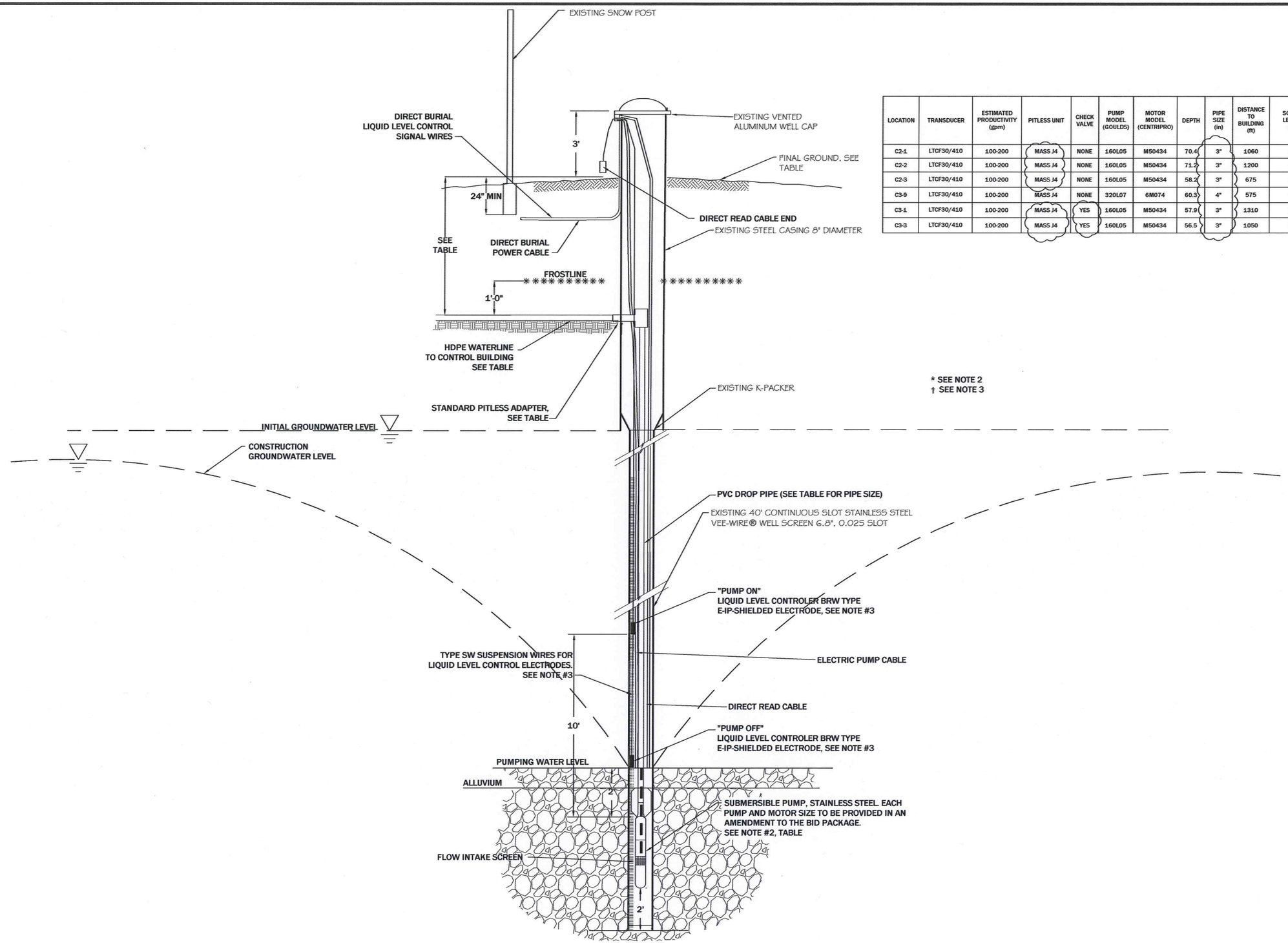
SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

TYPICAL 5 TO 120 GPM PUMPING WELL DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET GWD-1AB



LOCATION	TRANSDUCER	ESTIMATED PRODUCTIVITY (gpm)	PITLESS UNIT	CHECK VALVE	PUMP MODEL (GOULDS)	MOTOR MODEL (CENTRIPRO)	DEPTH	PIPE SIZE (in)	DISTANCE TO BUILDING (ft)	SCREEN LENGTH (ft)	DEPTH TO PITLESS FROM FINAL GROUND (ft)
C2-1	LTCF30/410	100-200	MASS J4	NONE	160L05	M50434	70.4	3"	1060	40	6
C2-2	LTCF30/410	100-200	MASS J4	NONE	160L05	M50434	71.2	3"	1200	40	6
C2-3	LTCF30/410	100-200	MASS J4	NONE	160L05	M50434	58.2	3"	675	40	6
C3-9	LTCF30/410	100-200	MASS J4	NONE	320L07	6M074	60.3	4"	575	40	6
C3-1	LTCF30/410	100-200	MASS J4	YES	160L05	M50434	57.9	3"	1310	20	6
C3-3	LTCF30/410	100-200	MASS J4	YES	160L05	M50434	56.5	3"	1050	20	6

* SEE NOTE 2
† SEE NOTE 3

100 TO 300 GPM WELL INSTALLATION DETAIL

GW2

N.T.S.

REVISION:

DATE:	BY:	DESC:

DRAWN BY: SKL
DESIGNED BY: MWB
CHECKED BY: JSM
APPROVED BY: MWB
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

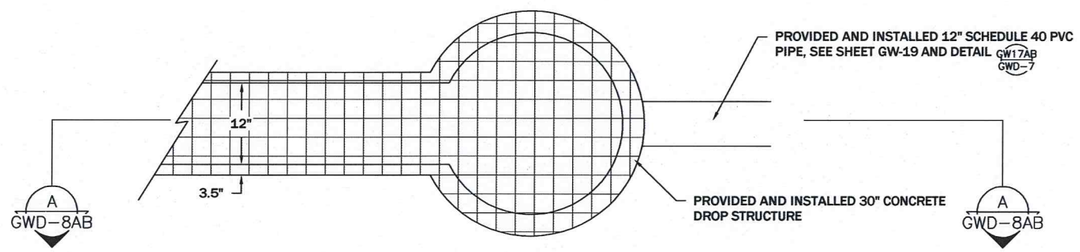
SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

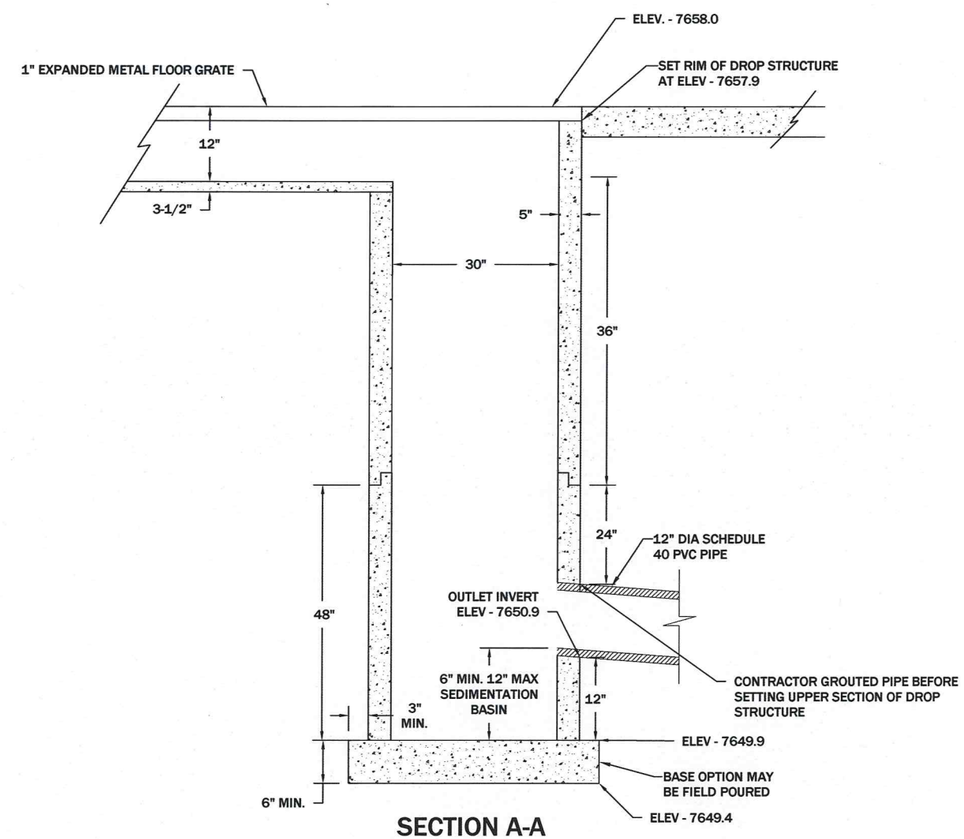
TYPICAL 100 TO 300 GPM PUMPING WELL DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-2AB



PLAN



SECTION A-A

30" STANDARD DROP STRUCTURE

GW19 / --

N.T.S.

REVISION: DATE:	BY:	DESC:
7/30/10	JSM	30" DROP REVISED

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: PIONEER

SCALE IN FEET
0 NTS NTS

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

30" DROP STRUCTURE DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET GWD-8AB

HERITAGE
BUILDING SYSTEMS
Established 1979

MEMBER

MBMA
METAL BUILDING MANUFACTURERS ASSOCIATION

BUILDING SPECIFICATIONS

THE STRUCTURE UNDER THIS CONTRACT HAS BEEN DESIGNED AND DETAILED FOR THE LOADS AND CONDITIONS STIPULATED IN THE CONTRACT AND SHOWN ON THESE DRAWINGS. ANY ALTERATIONS TO THE STRUCTURAL SYSTEM OR REMOVAL OF ANY COMPONENT PARTS, OR THE ADDITION OF OTHER CONSTRUCTION MATERIALS OR LOADS MUST BE DONE UNDER THE ADVICE OF A REGISTERED ARCHITECT, CIVIL OR STRUCTURAL ENGINEER. HERITAGE BUILDING SYSTEMS WILL ASSUME NO RESPONSIBILITY FOR ANY LOADS NOT INDICATED.

THIS HERITAGE BUILDING SYSTEMS METAL BUILDING IS DESIGNED USING STANDARD DESIGN PRACTICES BASED ON PERTINENT PROCEDURES AND RECOMMENDATIONS OF THE FOLLOWING ORGANIZATIONS AND CODES.

AMERICAN INSTITUTE OF STEEL CONSTRUCTION: "SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", 13TH EDITION.

AMERICAN IRON AND STEEL INSTITUTE: "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS", 2001 EDITION (W/ 2004 SUPPLEMENT).

AMERICAN WELDING SOCIETY: "STRUCTURAL WELDING CODE"
AWS D1.1-2006 :STEEL
AWS D1.3-98 :SHEET STEEL

MBMA METAL BUILDING SYSTEMS MANUAL, 2002 ED. WITH 2004 UPDATE

MATERIAL PROPERTIES OF STEEL PLATE USED IN THE FABRICATION OF PRIMARY RIGID FRAMES AND OTHER PRIMARY STRUCTURAL, EXCLUSIVE OF COLD-FORMED SECTIONS, CONFORM TO ASTM A529 OR A572. FLANGES WITH THICKNESS OF 1" OR LESS AND WIDTH OF 12" OR LESS CONFORM TO ASTM A529-05 GRADE 55. FLANGES GREATER THAN 1" IN THICKNESS OR 12" IN WIDTH CONFORM TO ASTM A 572-06 GRADE 50. WEBS OF 3/16" OR LESS CONFORM TO ASTM A1011-06b GRADE 50 AND WEBS GREATER THAN 3/16" CONFORM TO ASTM A1018-06c GRADE 50 OR ASTM A572-06 GRADE 50.

MATERIAL PROPERTIES OF HOT ROLLED SECTIONS W8X10 THROUGH W24X76 CONFORM TO ASTM A572-06 GRADE 50 OR ASTM A992-04A GRADE 50. HOT ROLLED SECTIONS LARGER THAN W24X76 CONFORM TO ASTM A36-05.

MATERIAL PROPERTIES OF PIPE SECTIONS CONFORM TO ASTM A53-06a TYPE "E" GRADE "B", MINIMUM YIELD OF 35,000 PSI.

MATERIAL PROPERTIES OF HOLLOW STRUCTURAL SECTIONS CONFORM TO ASTM A500-03A GRADE "B", MINIMUM YIELD OF 42,000 PSI.

MATERIAL PROPERTIES OF COLD FORMED LIGHT GAGE STEEL MEMBERS CONFORM TO THE REQUIREMENTS OF ASTM A1011-06b GRADE 55 WITH A MINIMUM YIELD OF 55,000 PSI.

MATERIAL PROPERTIES OF CABLE BRACING CONFORM TO ASTM A475-03, CLASS A 7-STRAND WIRE. ROD BRACING CONFORMS TO ASTM A36-05.

HIGH STRENGTH BOLTS AND THEIR INSTALLATION SHALL CONFORM TO ASTM SPECIFICATIONS A-325 AND ARE DESIGNED AS BEARING TYPE CONNECTIONS WITH THREADS INCLUDED IN THE SHEAR PLANE. TIGHTENING OF THESE BOLTS IS RECOMMENDED BY THE "SNUG-TIGHTENED JOINTS" METHOD, PER 2002 RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR 490 BOLTS."

ALL STEEL MEMBERS EXCEPT BOLTS, FASTENERS, AND CABLE SHALL RECEIVE ONE SHOP COAT OF INHIBITIVE PRIMER, SSPC SPEC. #15, UNLESS STATED OTHERWISE IN THE CONTRACT.

SHOP AND FIELD INSPECTIONS AND ASSOCIATED FEES ARE THE RESPONSIBILITY OF THE OWNER, UNLESS STIPULATED OTHERWISE.

BUILDERS RESPONSIBILITIES

THE BUILDER MUST SECURE ALL REQUIRED APPROVALS AND PERMITS FROM THE APPROPRIATE AGENCY AS REQUIRED.

APPROVAL OF HERITAGE BUILDING SYSTEMS DRAWINGS AND CALCULATIONS INDICATES THAT HERITAGE HAS CORRECTLY INTERPRETED AND APPLIED THE REQUIREMENTS OF THE CONTRACT DRAWINGS AND SPECIFICATIONS. (SECT. 4.4.1 AISC CODE OF STANDARD PRACTICE, 13TH EDITION.)

WHERE DISCREPANCIES EXIST BETWEEN THE HERITAGE STRUCTURAL STEEL PLANS AND THE PLANS FOR OTHER TRADES, THE STRUCTURAL STEEL PLANS WILL GOVERN. (SECT. 3.3 AISC CODE OF STANDARD PRACTICE, 13TH EDITION.)

DESIGN CONSIDERATIONS OF ANY MATERIALS IN THE STRUCTURE WHICH ARE NOT FURNISHED BY HERITAGE ARE THE RESPONSIBILITY OF THE BUILDER AND ENGINEERS OTHER THAN HERITAGE ENGINEERING UNLESS SPECIFICALLY INDICATED.

THE BUILDER IS RESPONSIBLE FOR ALL ERECTION OF STEEL AND ASSOCIATED WORK IN COMPLIANCE WITH HERITAGE CONSTRUCTION DRAWINGS.

TEMPORARY SUPPORTS, SUCH AS TEMPORARY GUYS, BRACES, FALSEWORK OR OTHER ELEMENTS REQUIRED FOR ERECTION WILL BE DETERMINED, FURNISHED, AND INSTALLED BY THE BUILDER, (SECT 7.10 AISC CODE OF STANDARD PRACTICE, 13TH EDITION.)

IT IS THE BUILDERS RESPONSIBILITY TO APPLY AND OBSERVE ALL PERTINENT SAFETY RULES AND REGULATIONS, AND PER OSHA STANDARDS AS APPLICABLE.

THE BUILDER IS RESPONSIBLE FOR THE VERIFICATION OF ALL SHIPMENTS RECEIVED, AND MUST INVENTORY BUILDING AT TIME OF DELIVERY.

GENERAL NOTES

NO CHANGES SHOULD BE MADE TO THIS BUILDING SYSTEM UNLESS APPROVED IN WRITING BY THE MANUFACTURERS ENGINEERING DEPARTMENT.

UNAPPROVED CHANGES COULD RESULT IN AN UNSAFE BUILDING DESIGN AND COULD ENDANGER PUBLIC SAFETY.

THIS BUILDINGS ANCHOR BOLTS ARE BY OTHERS. HERITAGE BUILDING SYSTEMS DOES NOT PROVIDE ANCHOR BOLTS.

ENGINEERING SEAL

THIS CERTIFICATION COVERS PARTS MANUFACTURED AND DELIVERED BY THE MANUFACTURER ONLY, AND EXCLUDES PARTS SUCH AS DOORS, WINDOWS, FOUNDATION DESIGN AND ERECTION OF THE BUILDING.

THESE DRAWINGS AND THE METAL BUILDING SYSTEM THEY REPRESENT ARE THE PRODUCT OF AN AFFILIATE OF NCI GROUP, INC. - 10943 N. SAM HOUSTON PARKWAY W., HOUSTON, TX 77064. THE PROFESSIONAL ENGINEER WHOSE SEAL APPEARS HEREON IS EMPLOYED BY AN AFFILIATE OF NCI GROUP, INC. AND IS NOT THE ENGINEER-OF-RECORD FOR THE OVERALL PROJECT.

MONTANA
JERRY L. LEATHERWOOD, JR.
NO. 08777PE
LICENSED
PROFESSIONAL ENGINEER
9/17/09

DESIGN LOADING

THIS STRUCTURE IS DESIGNED UTILIZING THE LOADS INDICATED AND APPLIED AS REQUIRED BY:

IBC 06

THE BUILDER IS TO CONFIRM THAT THESE LOADS COMPLY WITH THE REQUIREMENTS OF THE LOCAL BUILDING DEPARTMENT.

FRAME / ROOF DEAD LOAD		
SUPERIMPOSED	2.000	PSF
COLLATERAL (LIGHTS)	1	PSF
FRAME / ROOF LIVE LOAD	20 /20.00	PSF
SNOW LOAD		
GROUND SNOW LOAD (Pg)	178.0000	PSF
FLAT ROOF SNOW LOAD (Pf)	124.6	PSF
SNOW EXPOSURE FACTOR (Ce)	1.0	
SNOW LOAD IMPORTANCE FACTOR (Is)	1.0000	
THERMAL FACTOR (Ct)	1.00	
WIND LOAD		
BASIC WIND SPEED	90	MPH
WIND IMPORTANCE FACTOR (Iw)	1.00	
WIND EXPOSURE CATEGORY	C	
TOPOGRAPHICAL FACTOR	1.0	
SEISMIC LOAD		
OCCUPANCY CATEGORY	II - Normal	
S_{DS}	0.5154	
S_{D1}	0.2431	
Ss	0.5780	
S1	0.1730	
SITE CLASS	D	
SEISMIC DESIGN CATEGORY	D	
SEISMIC IMPORTANCE FACTOR (Ie)	1.00	
DESIGN BASE SHEAR (V)	12.06	KIPS
RAIN INTENSITY		
5-MINUTE DURATION, 5-YEAR RECURRENCE (I1)	4.0000	IN/HOUR
5-MINUTE DURATION, 25-YEAR RECURRENCE (I2)	6.0000	IN/HOUR

BASIC STRUCTURAL SYSTEM AND SEISMIC RESISTING SYSTEM = ORDINARY MOMENT FRAME OF STEEL.
R = 3.2500
ANALYSIS PROCEDURE IS EQUIVALENT LATERAL FORCE PROCEDURE.

DRAWING INDEX

ISSUE	PAGE	DESCRIPTION
A	L1 of 1	COVER SHEET
A	AB1	ANCHOR BOLT PLAN
A	AB2	ANCHOR BOLT REACTIONS
A	RFP	ROOF FRAMING PLAN
A	FCS	FRAME CROSS SECTION
A	LEW	LEFT ENDWALL
A	REW	RIGHT ENDWALL
A	FSW	FRONT SIDEWALL
A	BSW	BACK SIDEWALL
A	DET	GENERAL DETAILS

DRAWING STATUS

☐ FOR APPROVAL
THESE DRAWINGS, BEING FOR APPROVAL, ARE BY DEFINITION NOT FINAL, AND ARE FOR CONCEPTUAL REPRESENTATION ONLY. THEIR PURPOSE IS TO CONFIRM PROPER INTERPRETATION OF THE PROJECT DOCUMENTS. ONLY DRAWINGS ISSUED "FOR CONSTRUCTION" CAN BE CONSIDERED AS COMPLETE.

☐ FOR PERMITS ONLY
THESE DRAWINGS, BEING FOR PERMIT, ARE BY DEFINITION NOT FINAL. ONLY DRAWINGS ISSUED "FOR CONSTRUCTION" CAN BE CONSIDERED AS COMPLETE.

☒ FOR CONSTRUCTION
FINAL DRAWINGS.

FOR QUESTIONS OR ASSISTANCE CONCERNING ERECTION OF HERITAGE BUILDINGS, CALL:
1.800.643.5555
MONDAY - FRIDAY 7:30AM TO 5:00PM CENTRAL STANDARD TIME.

DRAWN	DATE	HERITAGE BUILDING SYSTEMS	JOB NO.
AKT	9/17/09	2612 GRIBBLE STREET NORTH LITTLE ROCK, AR 72114 800-643-5555	3319-245937
CHECKED CM	DATE	CUSTOMER: S BAR S COOKE CITY, MT 59020	
APPROVED	DATE	BUILDING: 54'-0" x 42'-0" x 16'-0" 4.0:12	REV. NO. 0 / SHEET NO. L1 of 1
SCALE N.T.S.			

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING FROM HERITAGE BUILDING SYSTEMS

REVISION:

DATE:	BY:	DESC:

DRAWN BY: HERITAGE BUILDING
DESIGNED BY: HERITAGE BUILDING
CHECKED BY: HERITAGE BUILDING
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: HERITAGE BUILDING

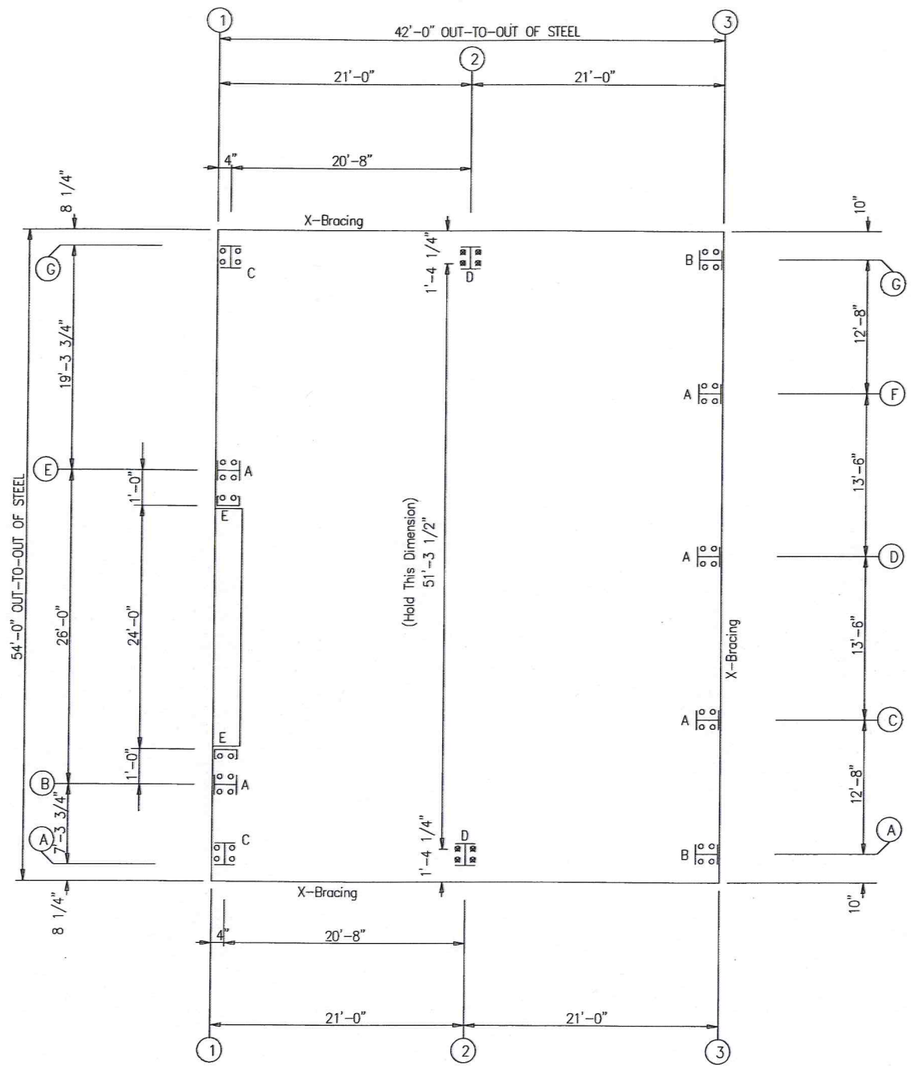
SCALE IN FEET
0 N.T.S

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

DEWATERING CONTROL BUILDING DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET GWD-9AB



ANCHOR BOLT PLAN

NOTE: ALL BASE PLATES @ 100.0' (U.N.)
ASSUMED FINISH FLOOR @ 100.0' (U.N.)

○ Dia= 5/8"

⊠ Dia=1 1/4"

NOTE: ALL WALKDOORS ARE FIELD LOCATED, UNLESS NOTED.

NOTE:
Anchor Bolts By Others!
HERITAGE BUILDING SYSTEMS
Does Not Provide Anchor Bolts.

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING FROM HERITAGE BUILDING SYSTEMS

HERITAGE BUILDING SYSTEMS
Established 1979
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5555

DESCRIPTION: ANCHOR BOLT PLAN			
CUSTOMER: S BAR S			
LOCATION: COOKE CITY, MT 59020			
HERITAGE JOB # 3319-245937			
DRAWING BY AKT	DATE 9/17/09	LOADS SEE COVER	SCALE N.T.S.
CHECK BY CM	TIME 7:41am	DRAWING # AB1	REV # 0

REVISION:

DATE:	BY:	DESC:

DRAWN BY: HERITAGE BUILDING
DESIGNED BY: HERITAGE BUILDING
CHECKED BY: HERITAGE BUILDING
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: HERITAGE BUILDING

SCALE IN FEET
0 N.T.S

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

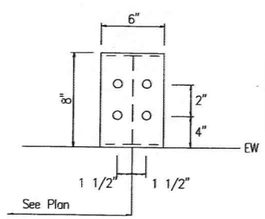
DEWATERING CONTROL BUILDING DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-10AB

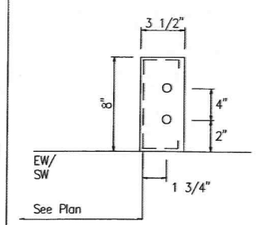
2/2/2011 9:33:16 AM \\SRVW2K\CLIENTDATA1$\DEQ\MCLAREN\2010\DRAWINGS\AS-BUILTS-2010\CONSTRUCTION\MC-FBID-AB-10-DET-041-09.DWG

Dia= 5/8"



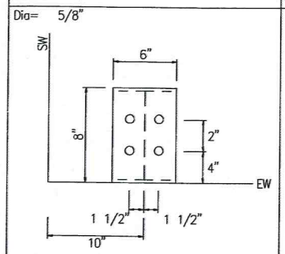
DETAIL A

Dia= 5/8"



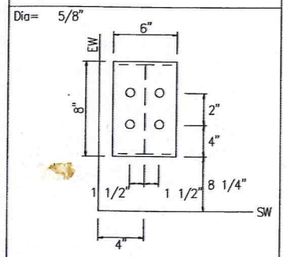
DETAIL E

Dia= 5/8"



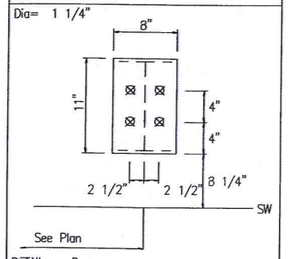
DETAIL B

Dia= 5/8"



DETAIL C

Dia= 1 1/4"



DETAIL D

BRACING REACTIONS, PANEL SHEAR

Wall Loc	Wall Line	Col Line	± Reactions (k) Wind Horz	Wind Vert	Seismic Horz	Seismic Vert	Panel Shear (lb/ft)
L_EW	1	Bracing In Roof To Rigid Frame					
F_SW	A	1 ,2	3.4	2.2	5.7	3.7	
R_EW	3	C ,D	2.3	3.7	3.0	4.8	
B_SW	G	2 ,1	3.5	2.2	5.7	3.7	

NOTES FOR REACTIONS

Building reactions are based on the following building data:

Width (ft)	= 54
Length (ft)	= 42
Eave Height (ft)	= 16 / 16
Roof Slope (rise/12)	= 4.0:12 / 4.0:12
Dead Load (psf)	= 2.000
Collateral Load (psf)	= 1
Roof Live Load (psf)	= 20.00
Frame Live Load (psf)	= 20
Roof Snow Load (psf)	= 124.6
Ground Snow Load (psf)	= 178.0000
Wind Speed (mph)	= 90
Wind Code	= IBC 06
Exposure	= C
Closed/Open	= Closed
Importance – Wind	= 1.00
Importance – Seismic	= 1.00
Seismic Zone	= D
Seismic coeff (Cs)	= 0.773

ID	Description
1	DL+CL+SL
2	DL+CL+SL+Slide
3	0.60DL+WL1
4	0.60DL+WR1
5	0.60DL+LnWnd1+LWIND1_L2E
6	0.60DL+LnWnd1+LWIND1_R2E
7	0.53DL–0.70SeisL
8	DL+CL+F1UNB_SL_L
9	DL+CL+F1UNB_SL_R
10	0.60DL+WL2+WS
11	DL+CL+E1UNB_SL_R
12	0.60DL+WR+LnWnd1
13	DL+CL+E1UNB_SL_L
14	0.60DL+WR2+WS
15	DL+CL+0.75SL+0.75WR2+0.75WS+0.75Slide
16	DL+CL+E2UNB_SL_L
17	DL+CL+E2UNB_SL_R

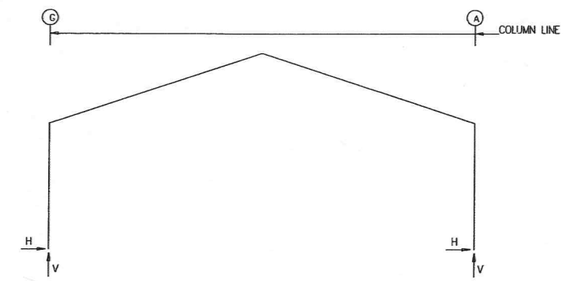
ANCHOR BOLT SUMMARY

Qnt	Loc	Dia (in)	Type	Proj (in)
○ 4	DJ	5/8"		
○ 36	EW	5/8"		
⊠ 8	RF	1 1/4"	A307	3.50

GENERAL NOTES

1. THE METAL BUILDING MANUFACTURER IS RESPONSIBLE FOR THE DESIGN OF THE ANCHOR BOLT DIAMETER ONLY TO PERMIT THE TRANSFER OF FORCES BETWEEN THE BASE PLATE AND THE ANCHOR BOLT IN SHEAR, BEARING AND TENSION, BUT IS NOT RESPONSIBLE FOR THE ANCHOR BOLT EMBEDMENT FOR TRANSFER OF FORCES TO THE FOUNDATION.
   THE METAL BUILDING MANUFACTURER DOES NOT DESIGN AND IS NOT RESPONSIBLE FOR THE DESIGN, MATERIAL AND CONSTRUCTION OF THE FOUNDATION EMBEDMENTS. THE END USE CUSTOMER SHOULD ASSURE HIMSELF THAT ADEQUATE PROVISIONS ARE MADE IN THE FOUNDATION DESIGN FOR LOADS IMPOSED BY COLUMN REACTIONS OF THE BUILDING, OTHER IMPOSED LOADS, AND BEARING CAPACITY OF THE SOIL AND OTHER CONDITIONS OF THE BUILDING SITE. IT IS RECOMMENDED THAT THE ANCHORAGE AND FOUNDATION OF THE BUILDING BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER EXPERIENCED IN THE DESIGN OF SUCH STRUCTURES. (SECTION A3 MBMA 2006 METAL BUILDING SYSTEMS MANUAL)
2. BOTTOM OF ALL BASE PLATES ARE AT THE SAME ELEVATION. (UNLESS NOTED)

FRAME LINES: 2



RIGID FRAME:

MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin	Anc. Bolt No	Anc. Bolt D(in)	Base Plate (in) Wid	Base Plate (in) Len	Thk	Grout (in)
		Column Reactions (k)											
2	G	1	48.1	92.3	3	–7.1	–8.6	4	1.250	8.000	11.00	0.625	0.0
		8	41.7	92.9	5	–1.2	–11.1						
2	A	4	7.1	–8.6	1	–48.1	92.6	4	1.250	8.000	11.00	0.625	0.0
		9	–41.7	92.9	6	1.2	–11.1						

ENDWALL COLUMN:

MAXIMUM REACTIONS, ANCHOR BOLTS, & BASE PLATES

Frm Line	Col Line	Load Id	Hmax H	V Vmax	Load Id	Hmin H	V Vmin	Anc. Bolt No	Anc. Bolt D(in)	Base Plate (in) Wid	Base Plate (in) Len	Thk	Grout (in)
		Column Reactions (k)											
1	G	10	0.0	–1.4	10	0.0	–1.4	4	0.625	6.000	8.000	0.250	0.0
		11	0.0	14.8									
1	E	10	3.9	–3.2	12	–3.5	–2.7	4	0.625	6.000	8.000	0.375	0.0
		13	0.0	38.5	10	3.9	–3.2						
1	B	14	2.3	–3.1	12	–2.1	–2.5	4	0.625	6.000	8.000	0.375	0.0
		11	0.0	42.8	14	2.3	–3.1						
1	A	2	0.0	–3.1	2	0.0	–3.1	4	0.625	6.000	8.000	0.250	0.0
		15	0.0	4.8									
3	A	10.	0.0	–0.9	10	0.0	–0.9	4	0.625	6.000	8.000	0.250	0.0
		2	0.0	7.6									
3	C	10	2.0	–6.4	12	–1.8	–2.0	4	0.625	6.000	8.000	0.375	0.0
		16	0.0	27.4	10	2.0	–6.4						
3	D	14	2.6	–4.7	12	–2.3	–0.8	4	0.625	6.000	8.000	0.250	0.0
		2	0.0	18.7	7	0.0	–4.9						
3	F	14	2.0	–2.7	12	–1.8	–2.0	4	0.625	6.000	8.000	0.375	0.0
		17	0.0	27.4	14	2.0	–2.7						
3	G	14	0.0	–0.9	14	0.0	–0.9	4	0.625	6.000	8.000	0.250	0.0
		2	0.0	7.6									

NOTE:
Anchor Bolts By Others!
HERITAGE BUILDING SYSTEMS
Does Not Provide Anchor Bolts.

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING FROM HERITAGE BUILDING SYSTEMS

HERITAGE BUILDING SYSTEMS
Established 1979
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5555

DESCRIPTION: ANCHOR BOLT REACTIONS
CUSTOMER: S BAR S
LOCATION: COOKE CITY, MT 59020
HERITAGE JOB # 3319-245937

DRAWING BY	DATE	LOADS	SCALE
AKT	9/17/09	SEE COVER	N.T.S.
CHECK BY	TIME	DRAWING #	REV #
CM	7:41am	AB2	0

REVISION:

DATE:	BY:	DESC:

DRAWN BY: HERITAGE BUILDING
DESIGNED BY: HERITAGE BUILDING
CHECKED BY: HERITAGE BUILDING
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: HERITAGE BUILDING

SCALE IN FEET
0 N.T.S

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

DEWATERING CONTROL BUILDING DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

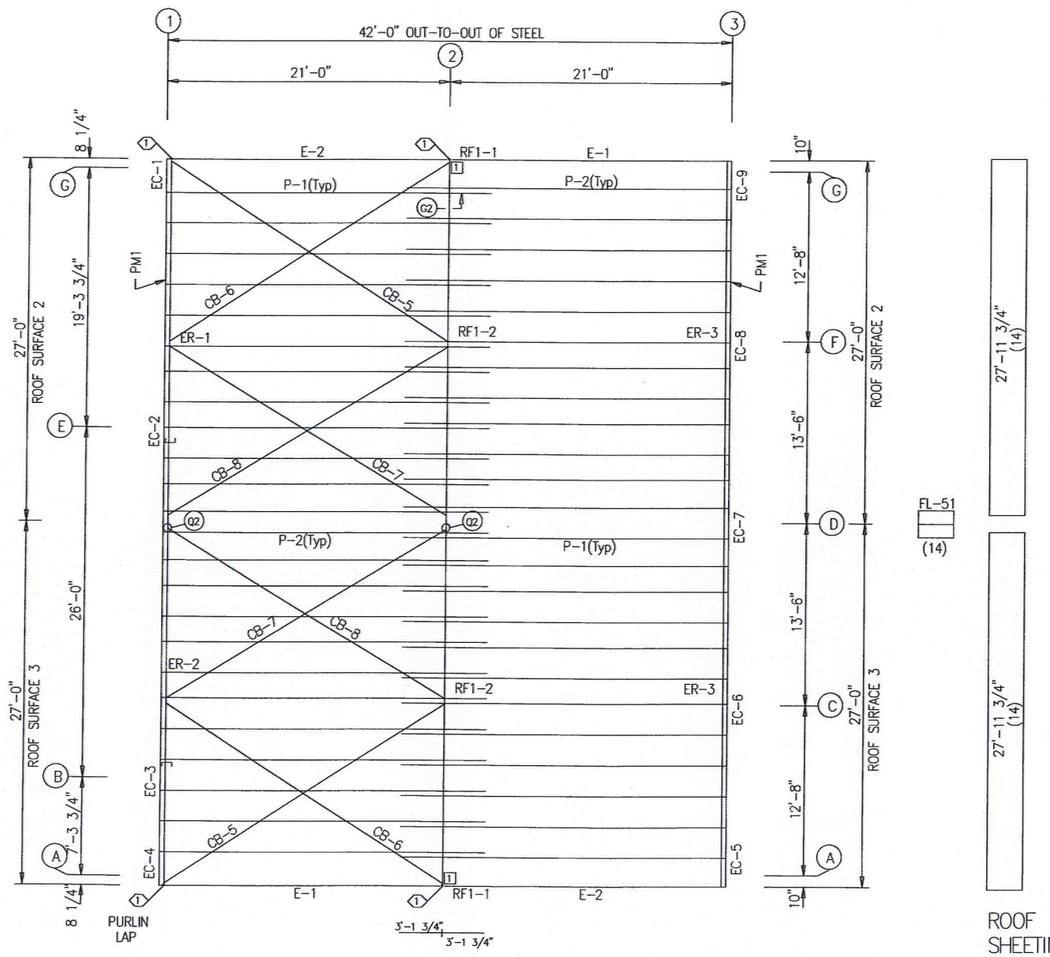
SHEET
GWD-11AB

SPECIAL BOLTS ROOF PLAN					
○ ID	QUAN	TYPE	DIA	LENGTH	WASH
1	4	A325	1/2"	1 1/4"	2

MEMBER TABLE ROOF PLAN		
MARK	PART	LENGTH
P-1	10X25Z12	24'-1 1/2"
P-2	10X25Z12	24'-1 1/2"
E-1	10ES4L14	20'-11 1/2"
E-2	10ES4L14	20'-11 1/2"
CB-5	5/16" Dia.	25'-2"
CB-6	5/16" Dia.	25'-3"
CB-7	1/4" Dia.	25'-1"
CB-8	1/4" Dia.	25'-0"

TRIM TABLE FRAME LINE	
PART	DETAIL
FL-51	TRIM_80

CONNECTION PLATES ROOF PLAN	
□ ID	MARK/PART
1	SC17A



ROOF FRAMING PLAN

ROOF SHEETING

PANELS: 26 Ga. PR – Galvalume

GENERAL NOTES:

1. INSTALL ALL PURLIN AND FLANGE BRACES (FB) AS SHOWN.
2. ROOF PANEL PROVIDES STRUCTURAL STABILITY TO THE BUILDING.
3. STRUT PURLINS, IF PROVIDED, MUST BE INSTALLED AND FASTENED TO ROOF SHEETING PER "PBR" PANEL ROOF DETAIL.
4. DO NOT ADD ANY ADDITIONAL ROOF OPENINGS WITHOUT BUILDING MANUFACTURER APPROVAL OR PROFESSIONAL ENGINEER APPROVAL.
5. DO NOT STACK SHEET BUNDLES ON ROOF. ONLY RAISE INDIVIDUAL SHEETS AS NEEDED.
6. AFTER INSTALLATION, WIPE ALL PANELS CLEAN OF METAL SHAVINGS CAUSED BY DRILLING.

NOTE:
Alternate Arrows ▽-△ Up And Down From Bay To Bay For Purlins To Lap.

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING FROM HERITAGE BUILDING SYSTEMS.

HERITAGE BUILDING SYSTEMS
Established 1979
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5555

DESCRIPTION:	ROOF FRAMING PLAN
CUSTOMER:	S BAR S
LOCATION:	COOKE CITY, MT 59020
HERITAGE JOB #	3319-245937

DRAWING BY	DATE	LOADS	SCALE
AKT	9/17/09	SEE COVER	N.T.S.
CHECK BY	TIME	DRAWING #	REV #
CM	7:41am	RFP	0

REVISION:

DATE:	BY:	DESC:

DRAWN BY:	HERITAGE BUILDING
DESIGNED BY:	HERITAGE BUILDING
CHECKED BY:	HERITAGE BUILDING
APPROVED BY:	JSM
PROJECT NO:	10140
DATE:	2/18/11

DISPLAYED AS:	
COORD SYS/ZONE:	NA
DATUM:	NA
UNITS:	FEET
SOURCE:	HERITAGE BUILDING

SCALE IN FEET
0 N.T.S

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

DEWATERING CONTROL BUILDING DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

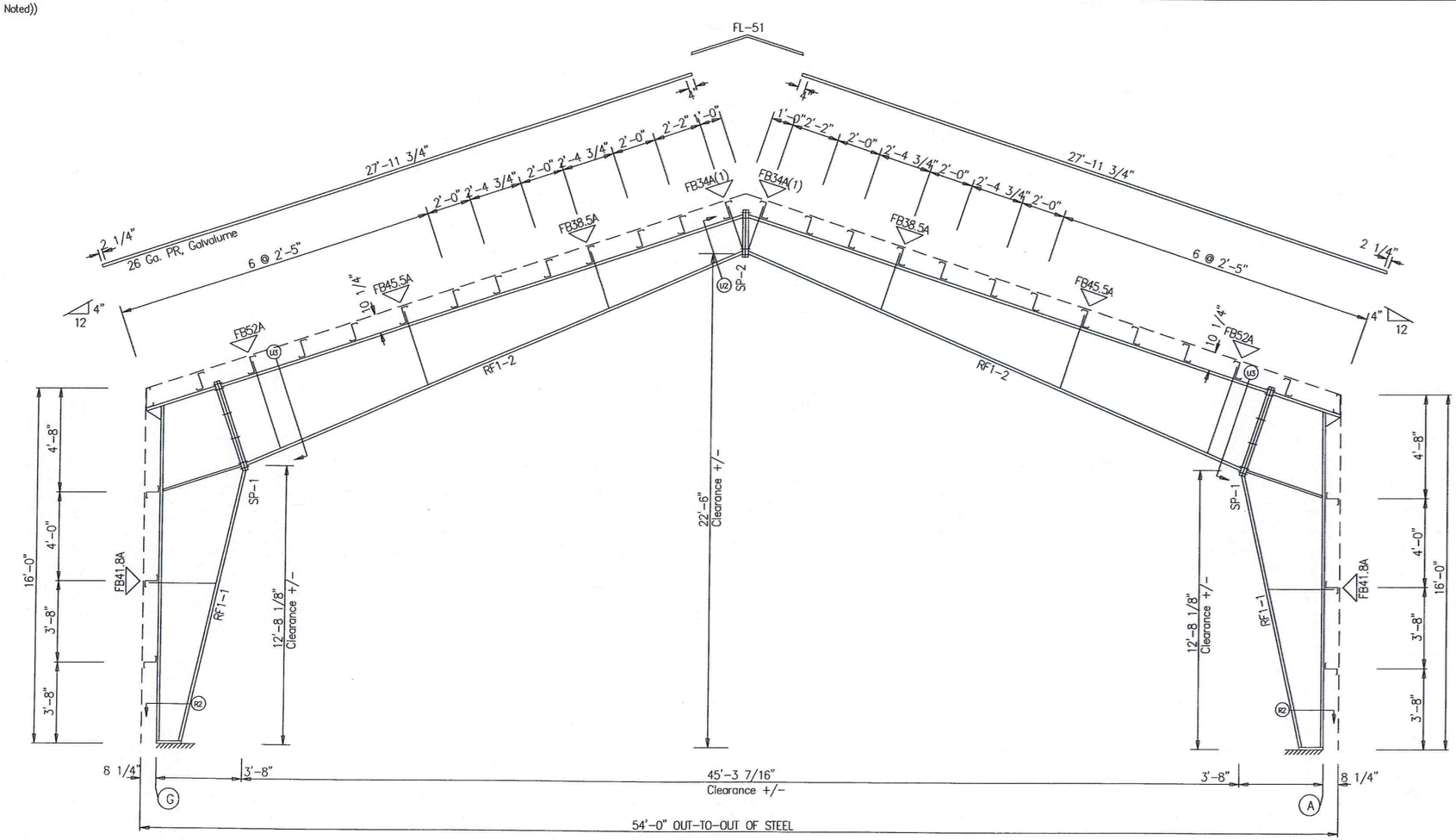
SHEET
GWD-12AB

2/2/2011 9:39:47 AM \\SRVW2K\CLIENTDATA1$\DEQ\MCLAREN\2010\DRAWINGS\AS-BUILTS-2010\CONSTRUCTION\MC-FBID-AB-10-DET-043-09.DWG

SPLICE BOLTS						
Splice Mark	Quan Top/	Bot/	Int	-----Bolt----- Type	Dia	Length
SP-1	4	4	4	A325	1"	3 1/4"
SP-2	4	4	0	A325	3/4"	2"

FLANGE BRACES: Both Sides(Unless Noted))
FBxxA(1): xx=length(in)
A - L2X2X14G

MEMBER SIZE TABLE (in)					
MARK	WEB DEPTH START/END	WEB PLATE THICK	WEB PLATE LENGTH	OUTSIDE FLANGE W x T x LENGTH	INSIDE FLANGE W x T x LENGTH
RF1-1	10.0/43.1	0.313	192.0	6 x 5/16" x 182.5 6 x 3/4" x 38.4	6 x 5/8" x 150.6
RF1-2	43.0/37.7 37.7/17.0	0.375 0.313	60.3 240.0	6 x 3/8" x 60.3 6 x 5/16" x 240.0	6 x 3/8" x 60.6 6 x 5/16" x 235.1



FRAME CROSS SECTION

FOR FRAME LINE 2

GENERAL NOTES:

1. ALL FIELD CONNECTIONS OF PRIMARY FRAMING MEMBERS SHALL BE BOLTED. WITH A325 H. S. BOLTS AND INSTALLED BY THE 'SNUG-TIGHTENED JOINTS' METHOD.
2. ALL FIELD CONNECTIONS OF SECONDARY FRAMING SHALL BE BOLTED WITH A307 MACHINE BOLTS.
3. INSTALL ALL FLANGE BRACES ON COLUMN AND RAFTER AS SHOWN.

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING FROM HERITAGE BUILDING SYSTEMS.

HERITAGE BUILDING SYSTEMS
Established 1979
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5555

DESCRIPTION: FRAME CROSS SECTION			
CUSTOMER: S BAR S			
LOCATION: COOKE CITY, MT 59020			
HERITAGE JOB # 3319-245937			
DRAWING BY AKT	DATE 9/17/09	LOADS SEE COVER	SCALE N.T.S.
CHECK BY CM	TIME 7:41am	DRAWING # FCS1	REV # 0

REVISION:

DATE:	BY:	DESC:

DRAWN BY: HERITAGE BUILDING
DESIGNED BY: HERITAGE BUILDING
CHECKED BY: HERITAGE BUILDING
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: HERITAGE BUILDING

SCALE IN FEET
0 N.T.S

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

DEWATERING CONTROL BUILDING DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-13AB

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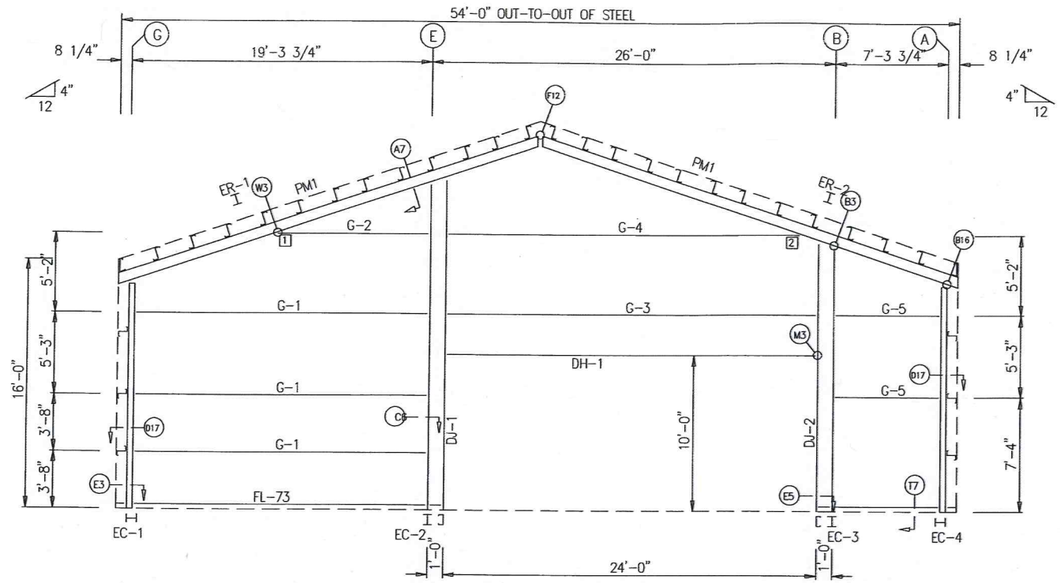
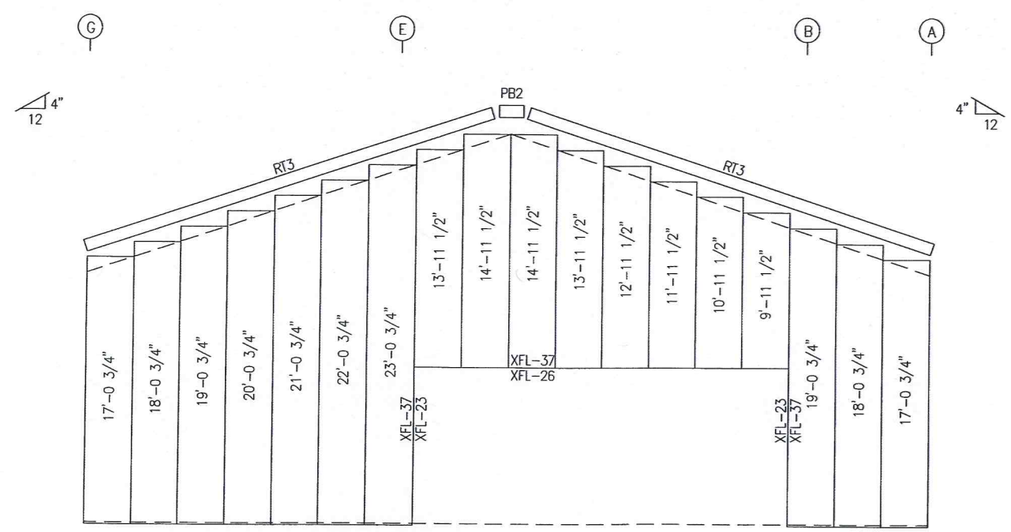


ENDWALL FRAMING: FRAME LINE 1



ENDWALL SHEETING & TRIM: FRAME LINE 1

PANELS: 26 Ga. PR - NEED COLOR

BOLT TABLE
FRAME LINE 1

LOCATION	QUAN	TYPE	DIA	LENGTH
ER-1/ER-2	8	A325	5/8"	1 3/4"
Columns/Raf	4	A325	1/2"	1 1/4"
Jamb	2	A325	1/2"	1 1/4"

MEMBER TABLE
FRAME LINE 1

MARK	PART	LENGTH
EC-1	W8X10	14'-4 1/16"
EC-2	W8X13	20'-7 3/8"
EC-3	W8X13	16'-7 3/8"
EC-4	W8X10	14'-4 1/16"
ER-1	W14X22	28'-5 1/4"
ER-2	W14X22	28'-5 1/4"
DJ-1	8F25C16	20'-9 3/4"
DJ-2	8F25C16	16'-9 3/4"
DH-1	8F25C16	24'-0"
G-1	8X35Z16	18'-3 3/8"
G-2	8X35Z16	8'-1 1/8"
G-3	8X35Z12	23'-11 1/2"
G-4	8X35Z12	21'-4 7/8"
G-5	8X25Z16	6'-3 3/8"

TRIM TABLE
FRAME LINE 1

PART	DETAIL
XFL-23	TRIM_5
XFL-26	TRIM_7
XFL-37	TRIM_5
XFL-37	TRIM_7
RT3	TRIM_4
PB2	

CONNECTION PLATES
FRAME LINE 1

☐ ID	MARK/PART
1	b1
2	c1

GENERAL NOTES:

1. INSTALL ALL GIRTS AND FLANGE BRACES (FB) AS SHOWN.
2. WALL PANEL PROVIDES STRUCTURAL STABILITY TO THE BUILDING.
3. OTHER THAN FOR WALK DOORS AND WINDOWS SHOWN ON THE CONTRACT, DO NOT ADD ADDITIONAL WALL OPENINGS WITHOUT APPROVAL OF BUILDING MANUFACTURER OR PROFESSIONAL ENGINEER.
4. AFTER INSTALLATION, WIPE ALL PANELS CLEAN OF METAL SHAVINGS CAUSED BY DRILLING.

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING FROM HERITAGE BUILDING SYSTEMS.

HERITAGE BUILDING SYSTEMS
Established 1979
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5555

DESCRIPTION: LEFT ENDWALL
CUSTOMER: S BAR S
LOCATION: COOKE CITY, MT 59020
HERITAGE JOB # 3319-245937

DRAWING BY	DATE	LOADS	SCALE
AKT	9/17/09	SEE COVER	N.T.S.
CHECK BY	TIME	DRAWING #	REV #
CM	7:41am	LEW	0

REVISION:

DATE:	BY:	DESC:

DRAWN BY: HERITAGE BUILDING
DESIGNED BY: HERITAGE BUILDING
CHECKED BY: HERITAGE BUILDING
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: HERITAGE BUILDING

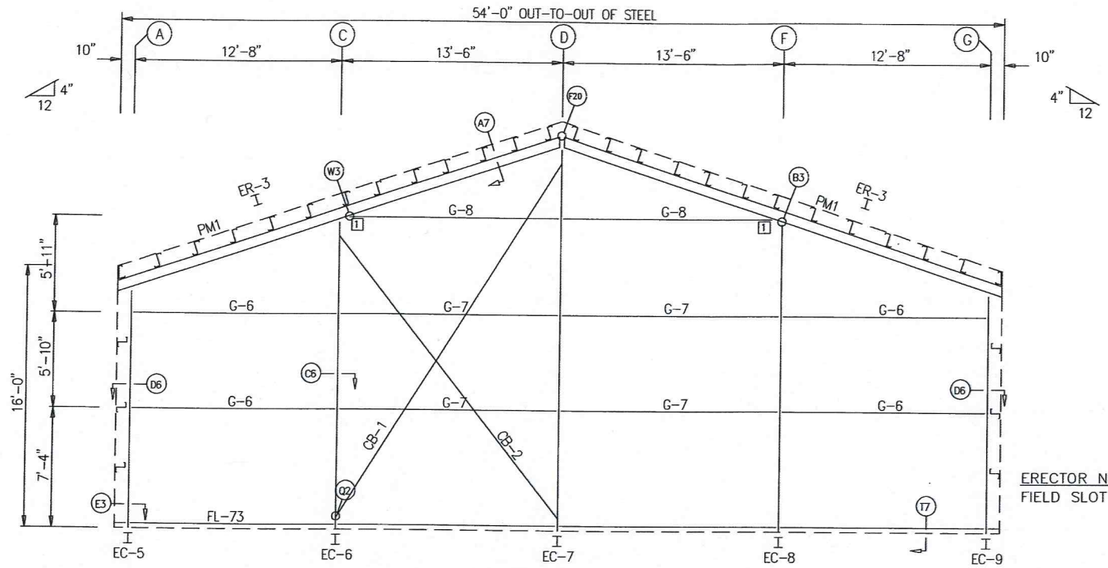
SCALE IN FEET
0 N.T.S

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

DEWATERING CONTROL BUILDING DETAILS

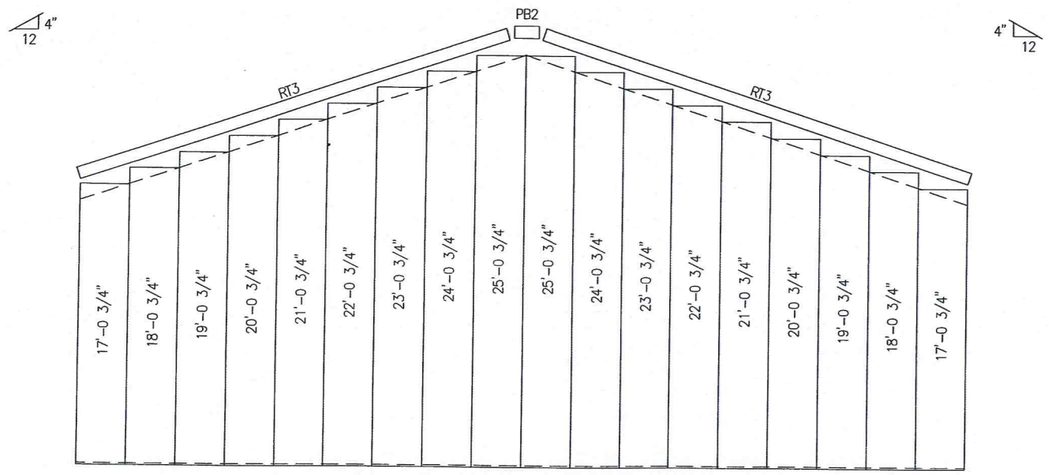
PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-14AB



ENDWALL FRAMING: FRAME LINE 3

ERECTOR NOTE:
FIELD SLOT GIRT FOR CABLE PASSAGE



ENDWALL SHEETING & TRIM: FRAME LINE 3

PANELS: 26 Ga. PR – NEED COLOR

BOLT TABLE
FRAME LINE 3

LOCATION	QUAN	TYPE	DIA	LENGTH
ER-3/ER-3	6	A325	5/8"	1 3/4"
Columns/Raf	4	A325	1/2"	1 1/4"

MEMBER TABLE
FRAME LINE 3

MARK	PART	LENGTH
EC-5	W8X10	14'-4 5/8"
EC-6	W8X10	18'-7 5/16"
EC-7	W8X13	23'-0 5/8"
EC-8	W8X10	18'-7 5/16"
EC-9	W8X10	14'-4 5/8"
ER-3	W12X14	28'-5 1/4"
G-6	8X25Z16	12'-0"
G-7	8X25Z16	12'-10"
G-8	8X25Z16	11'-6 15/16"
CB-1	1/2" Dia.	26'-6"
CB-2	1/2" Dia.	22'-11"

TRIM TABLE
FRAME LINE 3

PART	DETAIL
RT3 PB2	TRIM_4

CONNECTION PLATES
FRAME LINE 3

☐ ID	MARK/PART
1	b1

GENERAL NOTES:

1. INSTALL ALL GIRTS AND FLANGE BRACES (FB) AS SHOWN.
2. WALL PANEL PROVIDES STRUCTURAL STABILITY TO THE BUILDING.
3. OTHER THAN FOR WALK DOORS AND WINDOWS SHOWN ON THE CONTRACT, DO NOT ADD ADDITIONAL WALL OPENINGS WITHOUT APPROVAL OF BUILDING MANUFACTURER OR PROFESSIONAL ENGINEER.
4. AFTER INSTALLATION, WIPE ALL PANELS CLEAN OF METAL SHAVINGS CAUSED BY DRILLING.

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING FROM HERITAGE BUILDING SYSTEMS.

HERITAGE BUILDING SYSTEMS
Established 1979
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5555

DESCRIPTION: RIGHT ENDWALL
CUSTOMER: S BAR S
LOCATION: COOKE CITY, MT 59020
HERITAGE JOB # 3319-245937

DRAWING BY	DATE	LOADS	SCALE
AKT	9/17/09	SEE COVER	N.T.S.
CHECK BY	TIME	DRAWING #	REV #
CM	7:41am	REW	0

REVISION:

DATE:	BY:	DESC:

DRAWN BY: HERITAGE BUILDING
DESIGNED BY: HERITAGE BUILDING
CHECKED BY: HERITAGE BUILDING
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: HERITAGE BUILDING

SCALE IN FEET
0 N.T.S

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

DEWATERING CONTROL BUILDING DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-15AB

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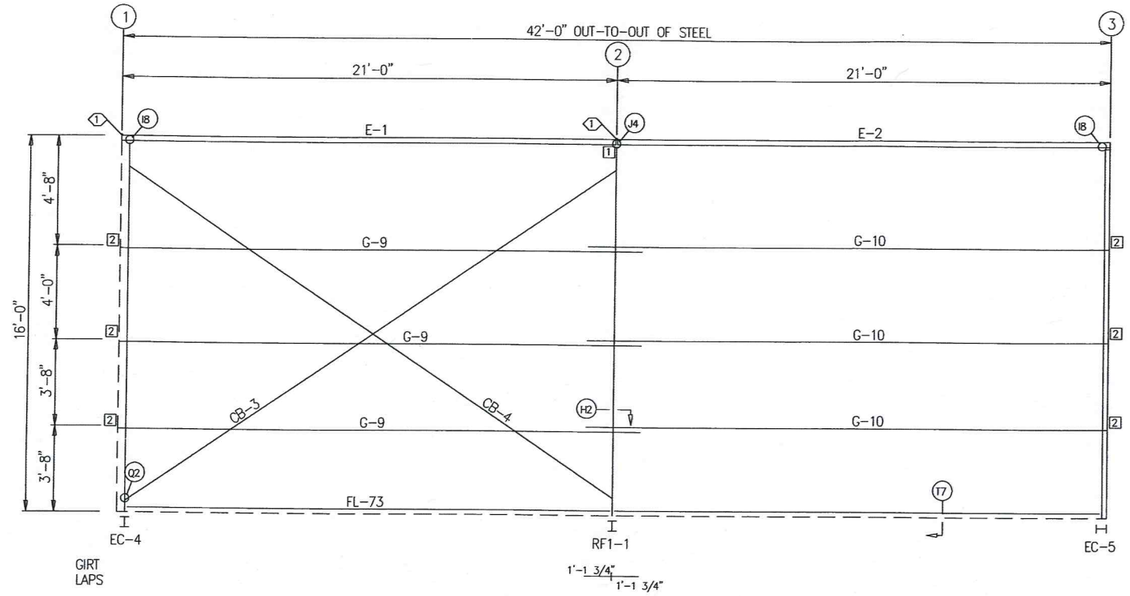
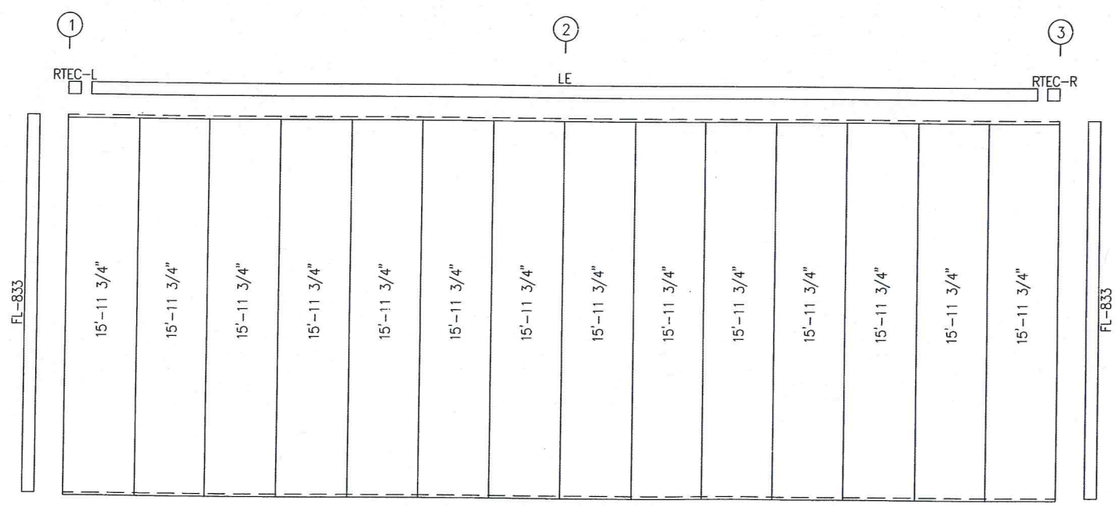


SIDEWALL FRAMING: FRAME LINE A



SIDEWALL SHEETING & TRIM: FRAME LINE A

PANELS: 26 Ga. PR – NEED COLOR

SPECIAL BOLTS					
○ ID	QUAN	TYPE	DIA	LENGTH	WASH
1	4	A325	1/2"	1 1/4"	2

MEMBER TABLE
FRAME LINE A

MARK	PART	LENGTH
E-1	10ES4L14	20'-11 1/2"
E-2	10ES4L14	20'-11 1/2"
G-9	8X25Z16	22'-1 1/2"
G-10	8X25Z16	22'-1 1/2"
CB-3	1/2" Dia.	25'-11"
CB-4	1/2" Dia.	25'-4"

TRIM TABLE
FRAME LINE A

PART	DETAIL
LE RTEC-L RTEC-R	TRIM_3
FL-833	TRIM_9

CONNECTION PLATES
FRAME LINE A

□ ID	MARK/PART
1	SC17A
2	SC-5

GENERAL NOTES:

1. INSTALL ALL GIRTS AND FLANGE BRACES (FB) AS SHOWN.
2. WALL PANEL PROVIDES STRUCTURAL STABILITY TO THE BUILDING.
3. OTHER THAN FOR WALK DOORS AND WINDOWS SHOWN ON THE CONTRACT, DO NOT ADD ADDITIONAL WALL OPENINGS WITHOUT APPROVAL OF BUILDING MANUFACTURER OR PROFESSIONAL ENGINEER.
4. AFTER INSTALLATION, WIPE ALL PANELS CLEAN OF METAL SHAVINGS CAUSED BY DRILLING.

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING FROM HERITAGE BUILDING SYSTEMS.

HERITAGE BUILDING SYSTEMS
Established 1979
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5555

DESCRIPTION: FRONT SIDEWALL			
CUSTOMER: S BAR S			
LOCATION: COOKE CITY, MT 59020			
HERITAGE JOB # 3319-245937			
DRAWING BY AKT	DATE 9/17/09	LOADS SEE COVER	SCALE N.T.S.
CHECK BY CM	TIME 7:41am	DRAWING # FSW	REV # 0

REVISION:

DATE:	BY:	DESC:

DRAWN BY: HERITAGE BUILDING
DESIGNED BY: HERITAGE BUILDING
CHECKED BY: HERITAGE BUILDING
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: HERITAGE BUILDING

SCALE IN FEET
0 N.T.S

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

DEWATERING CONTROL BUILDING DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-16AB

SPECIAL BOLTS					
ID	QUAN	TYPE	DIA	LENGTH	WASH
1	4	A325	1/2"	1 1/4"	2

MEMBER TABLE
FRAME LINE G

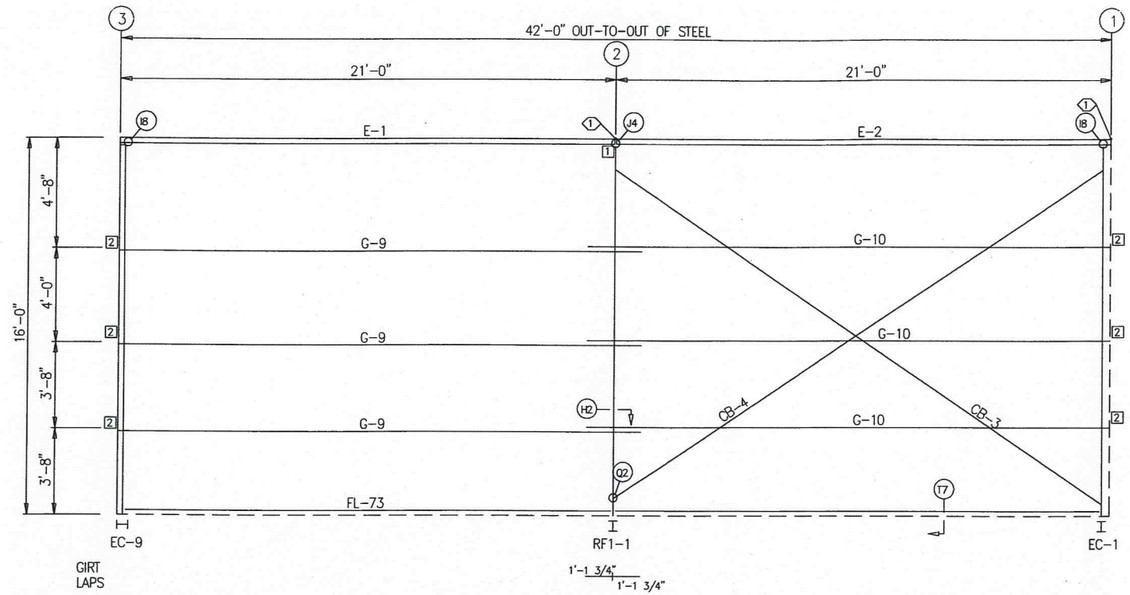
MARK	PART	LENGTH
E-1	10ES4L14	20'-11 1/2"
E-2	10ES4L14	20'-11 1/2"
G-9	8X25Z16	22'-1 1/2"
G-10	8X25Z16	22'-1 1/2"
CB-3	1/2" Dia.	25'-11"
CB-4	1/2" Dia.	25'-4"

TRIM TABLE
FRAME LINE G

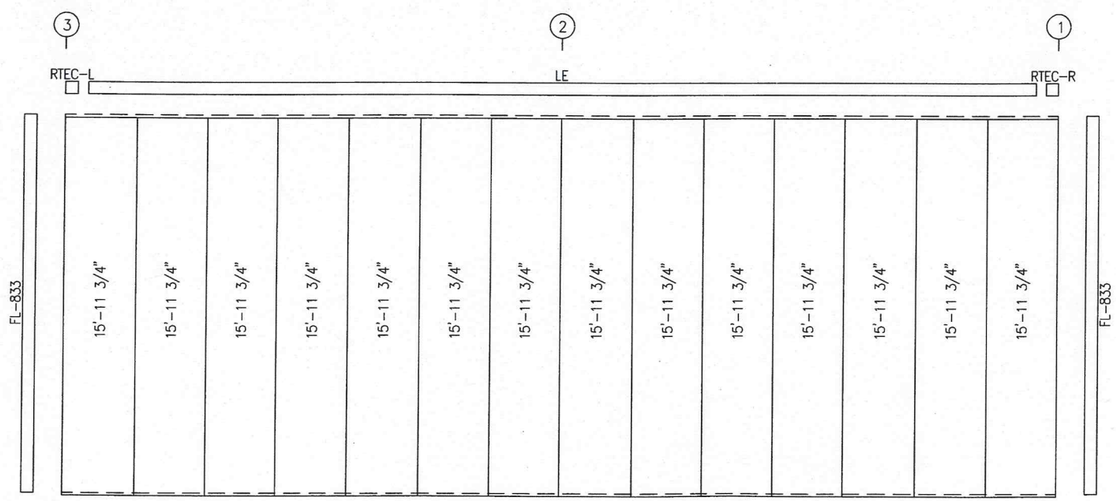
PART	DETAIL
LE	TRIM_3
RTEC-L	
RTEC-R	
FL-833	TRIM_9

CONNECTION PLATES
FRAME LINE G

ID	MARK/PART
1	SC17A
2	SC-5



SIDEWALL FRAMING: FRAME LINE G



SIDEWALL SHEETING & TRIM: FRAME LINE G

PANELS: 26 Ga. PR – NEED COLOR

GENERAL NOTES:

1. INSTALL ALL GIRTS AND FLANGE BRACES (FB) AS SHOWN.
2. WALL PANEL PROVIDES STRUCTURAL STABILITY TO THE BUILDING.
3. OTHER THAN FOR WALK DOORS AND WINDOWS SHOWN ON THE CONTRACT, DO NOT ADD ADDITIONAL WALL OPENINGS WITHOUT APPROVAL OF BUILDING MANUFACTURER OR PROFESSIONAL ENGINEER.
4. AFTER INSTALLATION, WIPE ALL PANELS CLEAN OF METAL SHAVINGS CAUSED BY DRILLING.

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING FROM HERITAGE BUILDING SYSTEMS.

HERITAGE BUILDING SYSTEMS
Established 1979
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5555

DESCRIPTION: BACK SIDEWALL
CUSTOMER: S BAR S
LOCATION: COOKE CITY, MT 59020
HERITAGE JOB # 3319-245937

DRAWING BY	DATE	LOADS	SCALE
AKT	9/17/09	SEE COVER	N.T.S.
CHECK BY	TIME	DRAWING #	REV #
CM	7:41am	BSW	0

REVISION:

DATE:	BY:	DESC:

DRAWN BY: HERITAGE BUILDING
DESIGNED BY: HERITAGE BUILDING
CHECKED BY: HERITAGE BUILDING
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: HERITAGE BUILDING

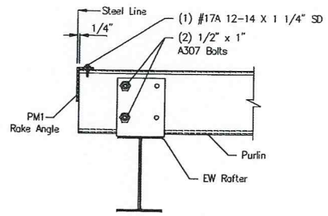
SCALE IN FEET
0 N.T.S

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

DEWATERING CONTROL BUILDING DETAILS

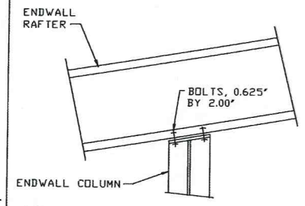
PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-17AB

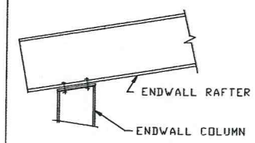


1/2" x 1" A307 Bolts (Typ.) (U.N.)

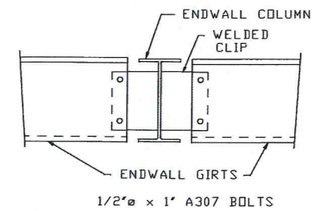
A7 SECTION THRU HOT ROLLED RAFTER



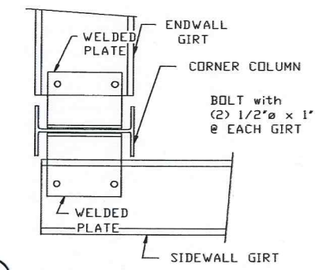
B3 ENDWALL RAFTER TO COLUMN



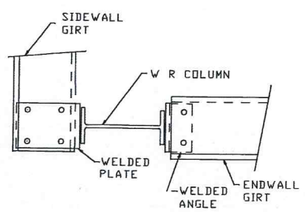
B16 CORNER COLUMN TO ENDWALL RAFTER



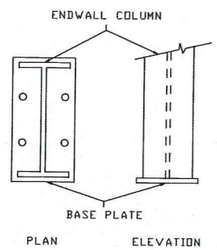
C6 ENDWALL COLUMN TO WALL GIRT



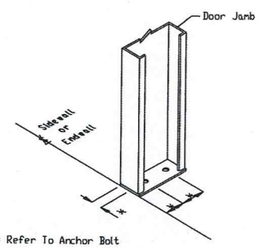
D6 CORNER COLUMN TO WALL GIRT



D17 CORNER COLUMN TO WALL GIRT

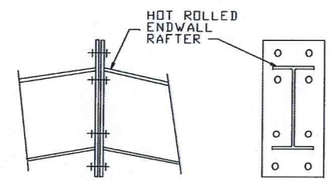


E3 BASE PLATE FOR ENDWALL COLUMN



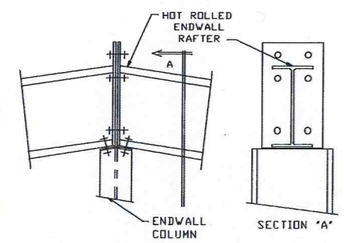
(x) = Refer To Anchor Bolt Plan

E5 BASE PLATE FOR DOOR JAMB



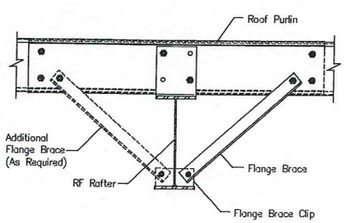
SEE ENDWALL DRAWING FOR BOLT DIA AND TYPE.

F12 RAFTER SPLICE AT SURFACE CHANGE



SEE ENDWALL DRAWING FOR BOLT DIA AND TYPE.

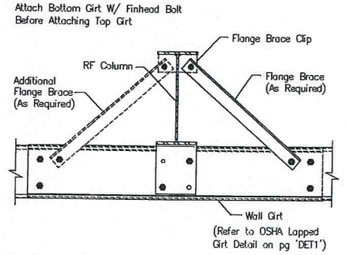
F20 RAFTER SPLICE AT SURFACE CHANGE



1/2" x 1" A307 Bolts (Typ.) (U.N.)

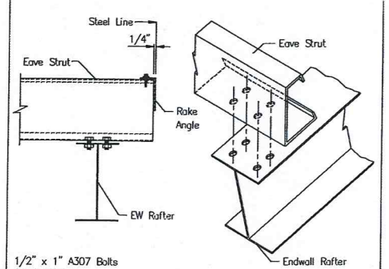
G2 ROOF PURLIN TO INTERIOR FRAME RAFTER

NOTE:
Attach Bottom Girt W/ Finhead Bolt Before Attaching Top Girt



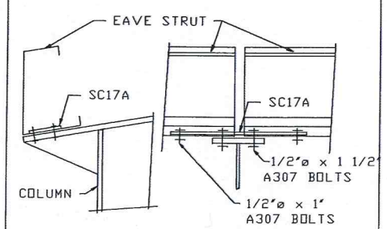
1/2" x 1" A307 Bolts (Typ.) (U.N.)

H2 WALL GIRT TO RIGID FRAME COLUMN



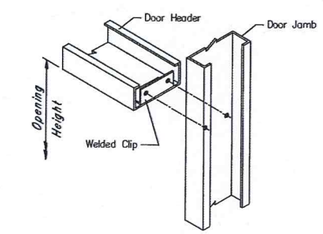
1/2" x 1" A307 Bolts (Typ.) (U.N.)

I8 LOW SIDE EAVE STRUT TO HOT ROLLED RAFTER



SECTION ELEVATION

J4 EAVE STRUT TO RIGID FRAME



1/2" x 1" A307 Bolts (Typ.) (U.N.)

M3 DOOR HEADER TO DOOR JAMB

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING FROM HERITAGE BUILDING SYSTEMS.

HERITAGE BUILDING SYSTEMS
Established 1973
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5555

DESCRIPTION: DETAIL DRAWINGS			
CUSTOMER: S BAR S			
LOCATION: COOKE CITY, MT 59020			
HERITAGE JOB # 3319-245937			
DRAWING BY AKT	DATE 9/17/09	LOADS SEE COVER	SCALE N.T.S.
CHECK BY CM	TIME 7:41am	DRAWING # DET1	REV # 0

REVISION:

DATE:	BY:	DESC:

DRAWN BY: HERITAGE BUILDING
DESIGNED BY: HERITAGE BUILDING
CHECKED BY: HERITAGE BUILDING
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: HERITAGE BUILDING

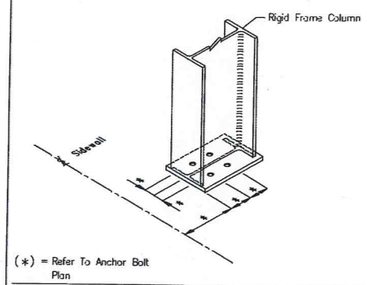
SCALE IN FEET
0 N.T.S

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

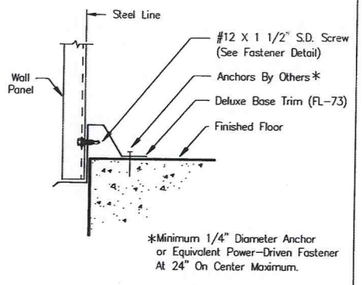
DEWATERING CONTROL BUILDING DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

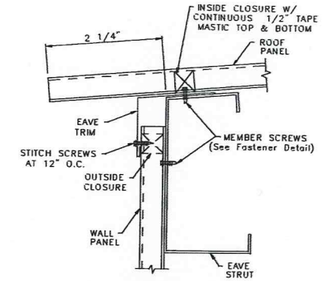
SHEET GWD-18AB



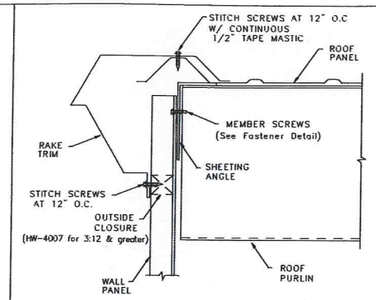
R2 ANCHOR BOLTS AT SIDEWALL COLUMNS



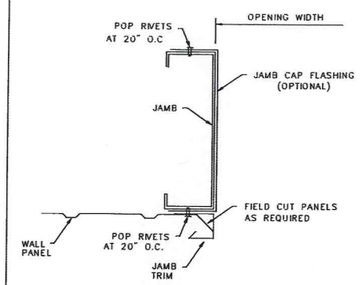
T7 SECTION THRU WALL PANEL AND CONCRETE FOUNDATION WITH DELUXE BASE TRIM



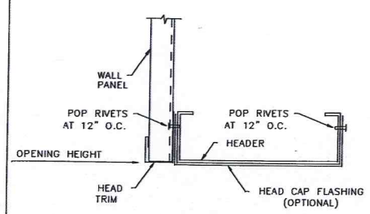
EAVE DETAIL WITH SIMPLE EAVE TRIM AND SHEETED WALL
TRIM_3.DXF



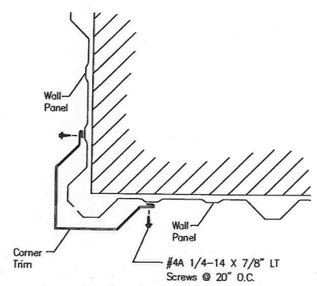
RAKE DETAIL WITH SHEETED WALL
TRIM_4.DXF



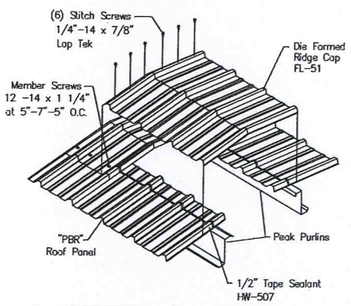
JAMB TRIM DETAIL FOR "R" PANEL
TRIM_5



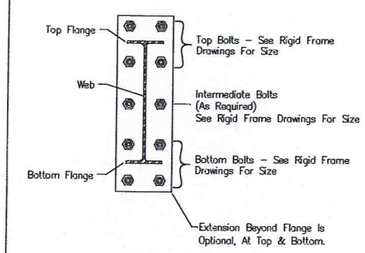
HEAD TRIM DETAIL FOR "R" & "A" PANEL
TRIM_7



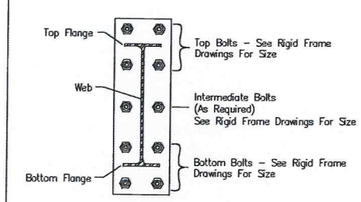
CORNER TRIM DETAIL FOR "R" PANEL
Trim_9



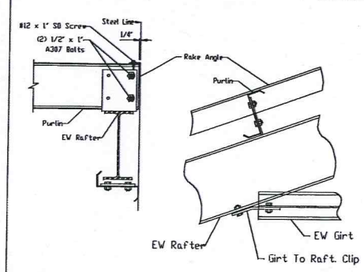
"PBR" ROOF FIXED RIDGE DETAIL
Trim_80



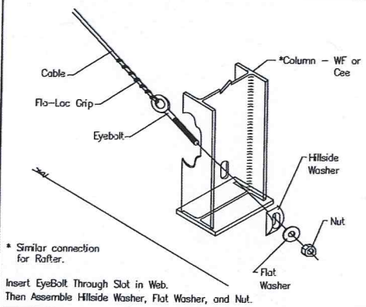
U2 BOLTS FOR RIGID FRAME RAFTER AT BUILDING PEAK



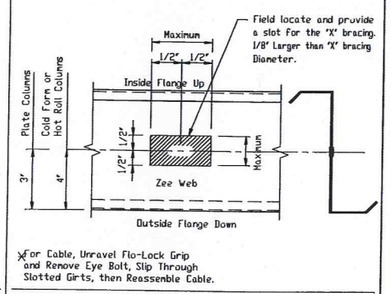
U3 BOLTS FOR RIGID FRAME RAFTER TO COLUMN CONNECTION



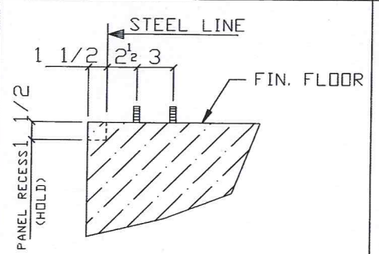
W3 ENDWALL GIRT TO HOT ROLLED RAFTER CONNECTION



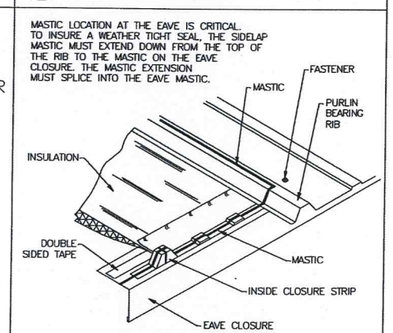
Q2 DIAGONAL CABLE, EYEBOLT END



CABLE AT FLUSH WALL GIRT



CONCRETE DETAIL FOR WALKDOOR



SEALING THE EAVE

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING FROM HERITAGE BUILDING SYSTEMS.

HERITAGE BUILDING SYSTEMS
Established 1979
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5555

DESCRIPTION:	DETAIL DRAWINGS
CUSTOMER:	S BAR S
LOCATION:	COOKE CITY, MT 59020
HERITAGE JOB #	3319-245937

DRAWING BY	DATE	LOADS	SCALE
AKT	9/17/09	SEE COVER	N.T.S.
CHECK BY	TIME	DRAWING #	REV #
CM	7:41am	DET2	0

REVISION:

DATE:	BY:	DESC:

DRAWN BY:	HERITAGE BUILDING
DESIGNED BY:	HERITAGE BUILDING
CHECKED BY:	HERITAGE BUILDING
APPROVED BY:	JSM
PROJECT NO:	10140
DATE:	2/18/11

DISPLAYED AS:

COORD SYS/ZONE:	NA
DATUM:	NA
UNITS:	FEET
SOURCE:	HERITAGE BUILDING

SCALE IN FEET
0 N.T.S

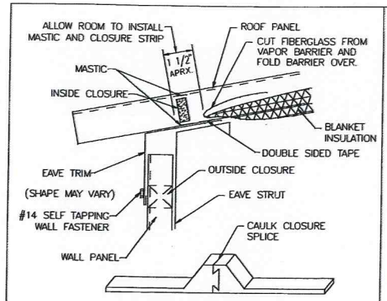
MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

DEWATERING CONTROL BUILDING DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-19AB

2/2/2011 9:59:34 AM \\SRVW2K\CLIENTDATA1$\DEO\MCLAREN\2010\DRAWINGS\AS-BUILTS-2010\CONSTRUCTION\MC-FBID-AB-10-DET-071-09.DWG

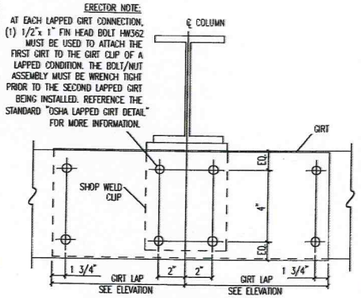


NOTE: INSULATION MUST BE INSTALLED AS SHOWN OR ROOF WILL LEAK.

SEALING THE EAVE

ERECTOR NOTE:

AT EACH LAPPED GIRT CONNECTION, (1) 1/2"x 1" FIN HEAD BOLT HW362 MUST BE USED TO ATTACH THE FIRST GIRT TO THE GIRT CLIP OF A LAPPED CONDITION. THE BOLT/NUT ASSEMBLY MUST BE WRENCH TIGHT PRIOR TO THE SECOND LAPPED GIRT BEING INSTALLED. REFERENCE THE STANDARD "OSHA LAPPED GIRT DETAIL" FOR MORE INFORMATION.



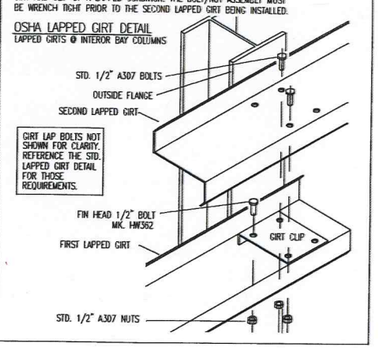
SW OR EW GIRT DETAIL

LAPPED GIRTS @ INTERIOR BAY COLUMNS
NOTE: USE (2) 1/2"x1" A307 BOLTS
REFERENCE ERECTOR NOTE FOR TYPICAL WASHER REQUIREMENTS

*** THE FIN HEAD 1/2" A307 BOLT MUST BE INSTALLED INTO THE FIRST GIRT AND CLIP OF A LAPPED CONDITION. THE BOLT/NUT ASSEMBLY MUST BE WRENCH TIGHT PRIOR TO THE SECOND LAPPED GIRT BEING INSTALLED.

OSHA LAPPED GIRT DETAIL

LAPPED GIRTS @ INTERIOR BAY COLUMNS



NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING FROM HERITAGE BUILDING SYSTEMS.

HERITAGE BUILDING SYSTEMS
Established 1979
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5555

DESCRIPTION: DETAIL DRAWINGS			
CUSTOMER: S BAR S			
LOCATION: COOKE CITY, MT 59020			
HERITAGE JOB # 3319-245937			
DRAWING BY AKT	DATE 9/17/09	LOADS SEE COVER	SCALE N.T.S.
CHECK BY CM	TIME 7:41am	DRAWING # DET3	REV # 0

REVISION:

DATE:	BY:	DESC:

DRAWN BY: HERITAGE BUILDING
DESIGNED BY: HERITAGE BUILDING
CHECKED BY: HERITAGE BUILDING
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: HERITAGE BUILDING

SCALE IN FEET
0 N.T.S

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

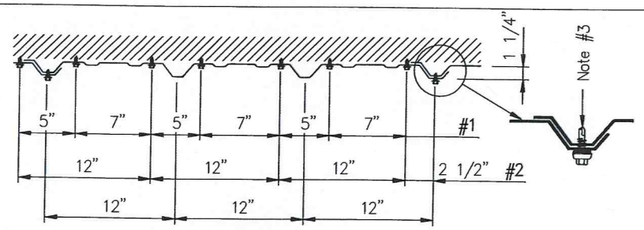
DEWATERING CONTROL BUILDING DETAILS

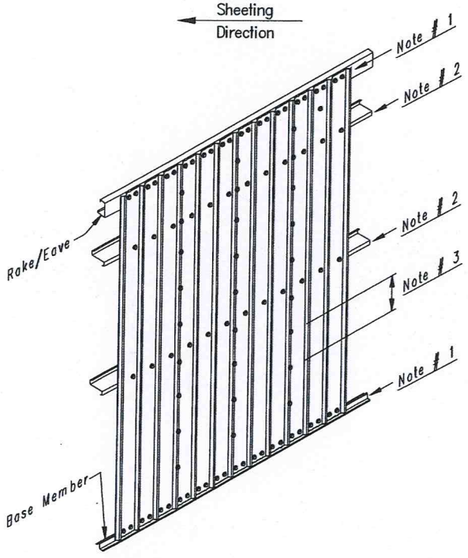
PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-20AB

2/2/2011 10:01:43 AM \\SRVW2K\CLIENTDATA1$\DEQ\MCLAREN\2010\DRAWINGS\AS-BUILTS-2010\CONSTRUCTION\MC-FBID-AB-10-DET-072-09.DWG

NOTE: These drawings are intended to depict general installation of item(s) described below. Some item(s) may have been omitted for clarity of presentation. Consult your erection manual or additional Details for further guidelines and/or clarifications.





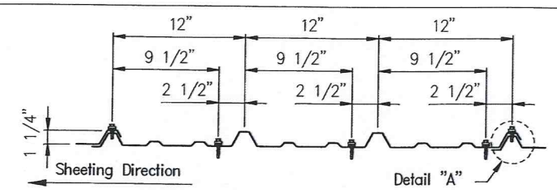
Note # 1
Member Fastener
12–14 x 1 1/4" at 5", 7", 5" pattern

Note # 2
Member Fastener
12–14 x 1 1/4" at 12" O.C.

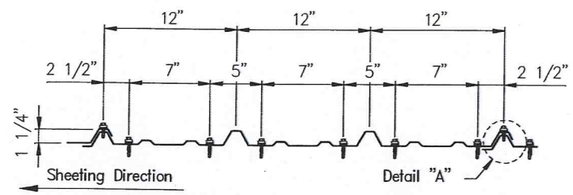
Note # 3
Stitch Fastener
1/4–14 x 7/8" at 20" O.C.

Fastener Location "PBR" Panel At Wall

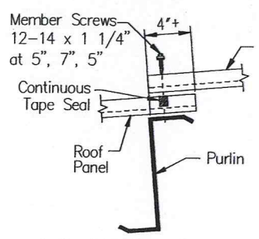
DRAWING NO.
9/28/07 NS1
Created On: 09/15/02



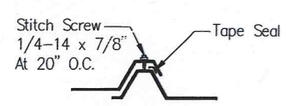
All Roof Members Except As Noted Below



At Eave Strut, Panel End Lap, and Peak Purlin



Section Thru Panel End Laps

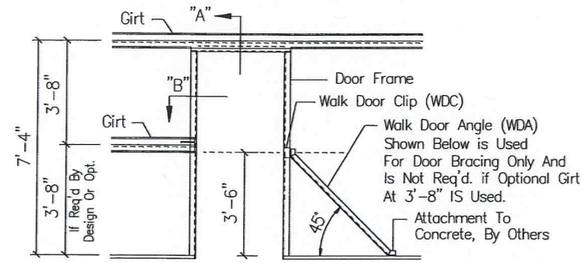


Detail "A"

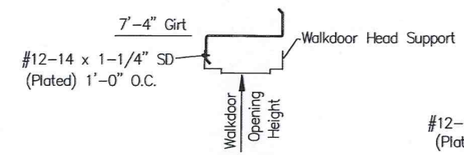
Note:
Screw Patterns Shown Satisfy U.L. 90 Requirements For Roof

Fastener Location For "PBR" Roof Panel

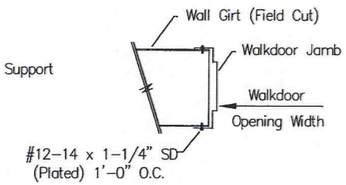
DRAWING NO.
7–17–07 NS2
Created On: 04/15/01



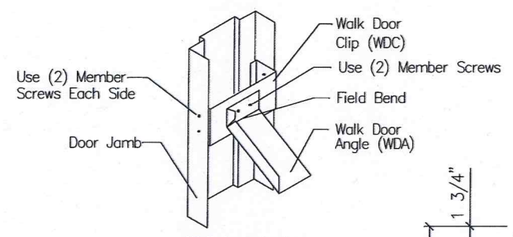
Walkdoor Detail



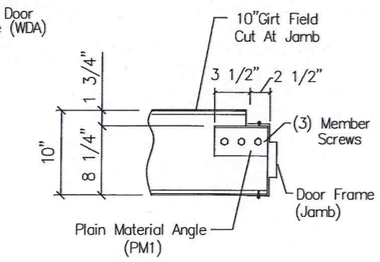
Section "A"



Section "B"



Walkdoor Angle
At Brace (Typ. Both Jambs)



Section "B" @ 10" Girt

ERECTOR NOTE: Field Cut Girts Below 7'–4" to Attach to the Walkdoor Jambs with #12–14 x 1–1/4" Self Driller Screws (2) Each Side as Per Section "B" above.

For Walkdoor with Framed Openings: First Install Walkdoor then Install F.O. Jambs and Header

Walkdoor Details

HERITAGE BUILDING SYSTEMS
Established 1979
2612 GRIBBLE STREET
NORTH LITTLE ROCK, AR 72114
1-800-643-5555

DESCRIPTION: DETAIL DRAWINGS			
CUSTOMER: S BAR S			
LOCATION: COOKE CITY, MT 59020			
HERITAGE JOB # 3319-245937			
DRAWING BY AKT	DATE 9/17/09	LOADS SEE COVER	SCALE N.T.S.
CHECK BY CM	TIME 7:41am	DRAWING # DET4	REV # 0

NOTE:

PROVIDED AND INSTALLED 42'x54' STEEL FRAMED BUILDING FROM HERITAGE BUILDING SYSTEMS.

REVISION:

DATE:	BY:	DESC:

DRAWN BY: HERITAGE BUILDING
DESIGNED BY: HERITAGE BUILDING
CHECKED BY: HERITAGE BUILDING
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: HERITAGE BUILDING

SCALE IN FEET
0 N.T.S

MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

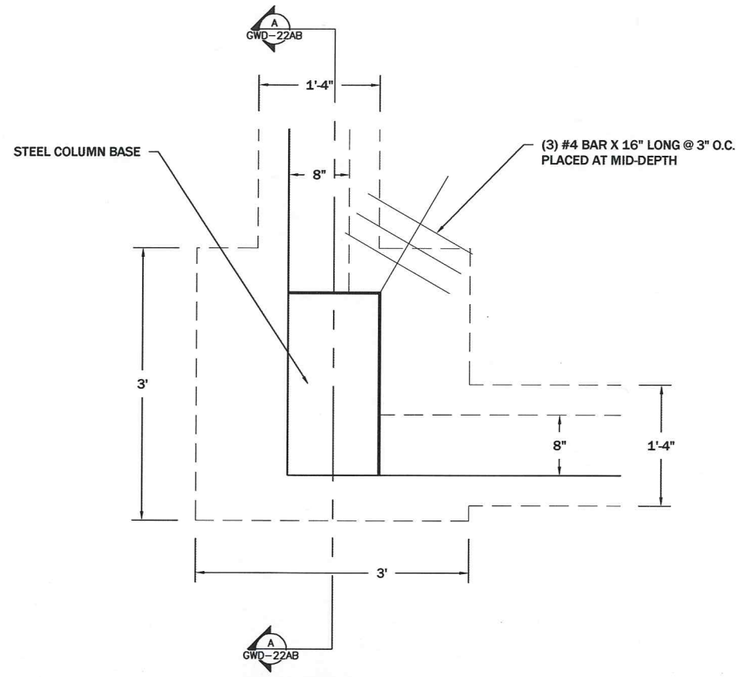
MDEQ/MWCB

DEWATERING CONTROL BUILDING DETAILS

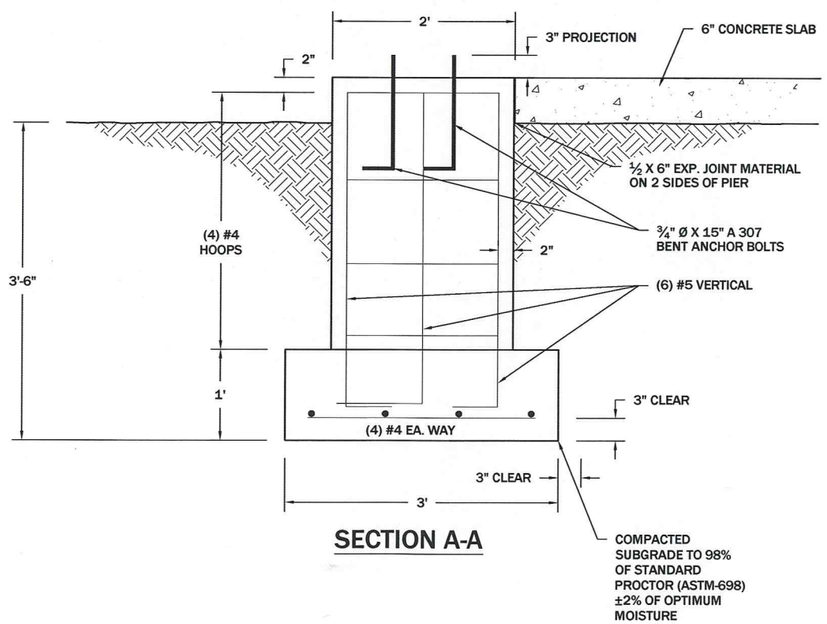
PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
GWD-21AB

2/2/2011 10:03:44 AM \\SRVW2K\CLIENTDATA1$\DEO\MCLAREN\2010\DRAWINGS\AS-BUILTS-2010\CONSTRUCTION\MC-FBID-AB-10-DET-073-09.DWG



PLAN VIEW



SECTION A-A

REVISION:

DATE:	BY:	DESC:

DRAWN BY: JB
DESIGNED BY: TL
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: PIONEER

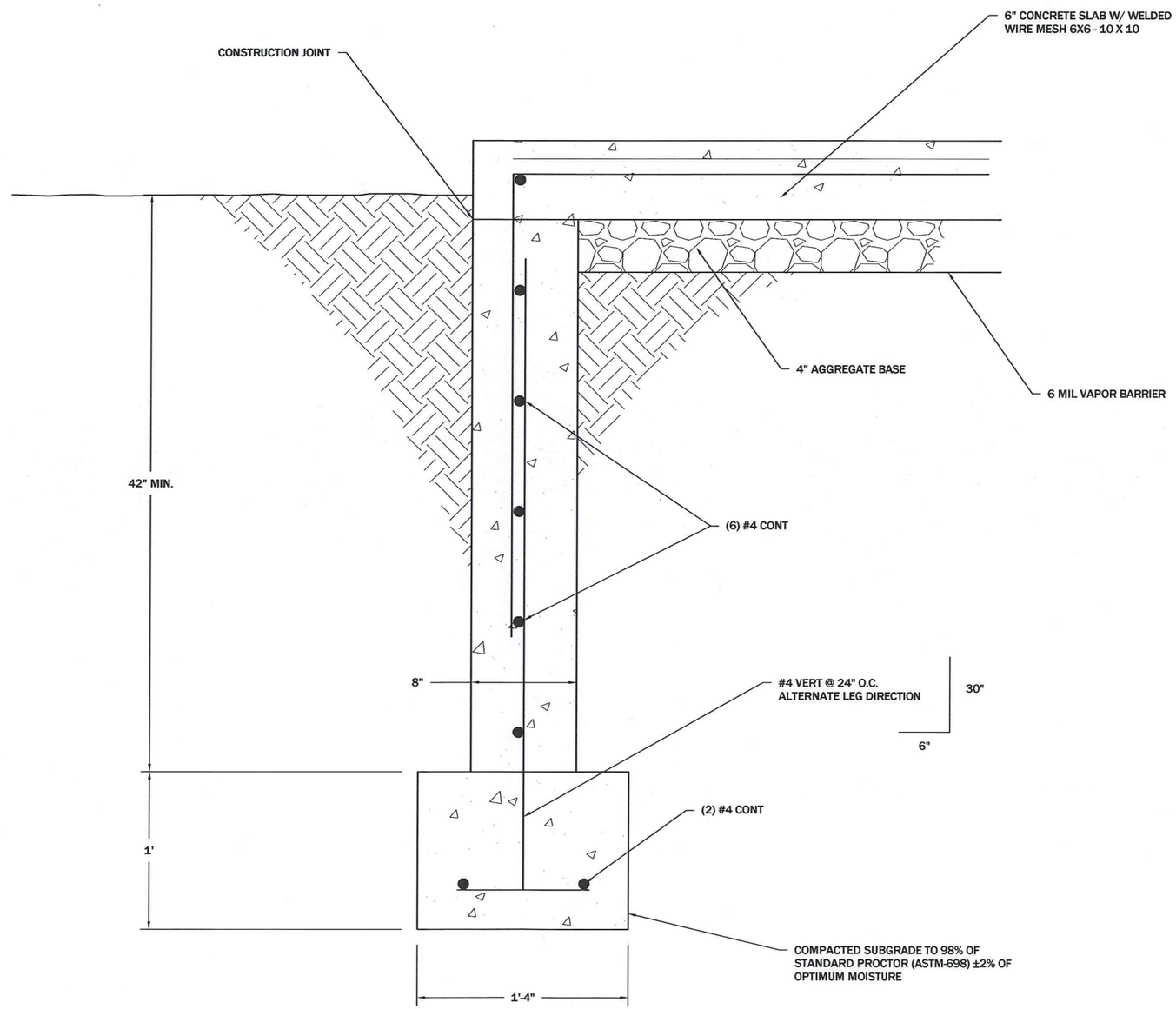
SCALE IN FEET
0 NTS NTS

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

DEWATERING CONTROL
BUILDING
FOOTING
DETAIL

PIONEER TECHNICAL SERVICES, INC.
63 - 1/2 WEST BROADWAY
BUTTE, MONTANA 59702
(406) 782-5177

SHEET
GWD-22AB



REVISION: DATE:	BY:	DESC:

DRAWN BY: JB
DESIGNED BY: TL
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: PIONEER

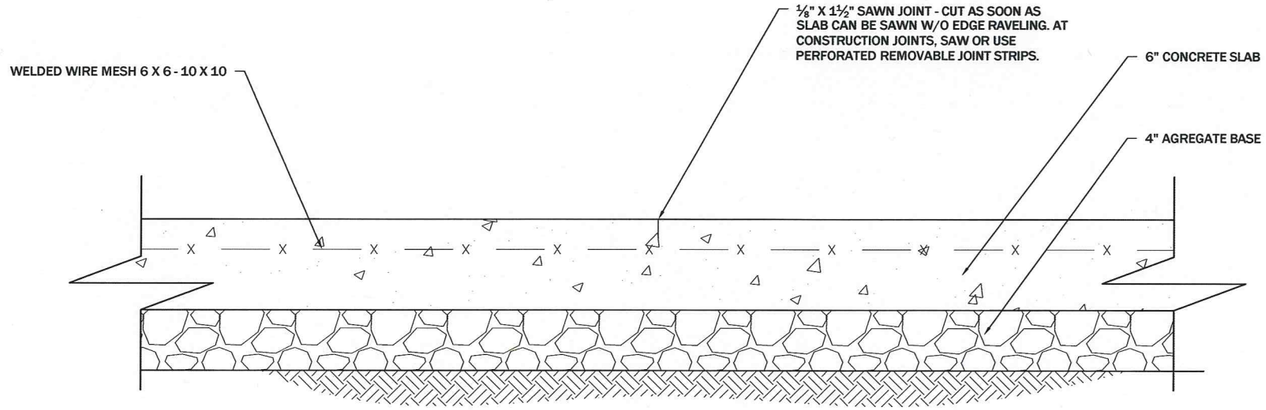
SCALE IN FEET
0 NTS NTS

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

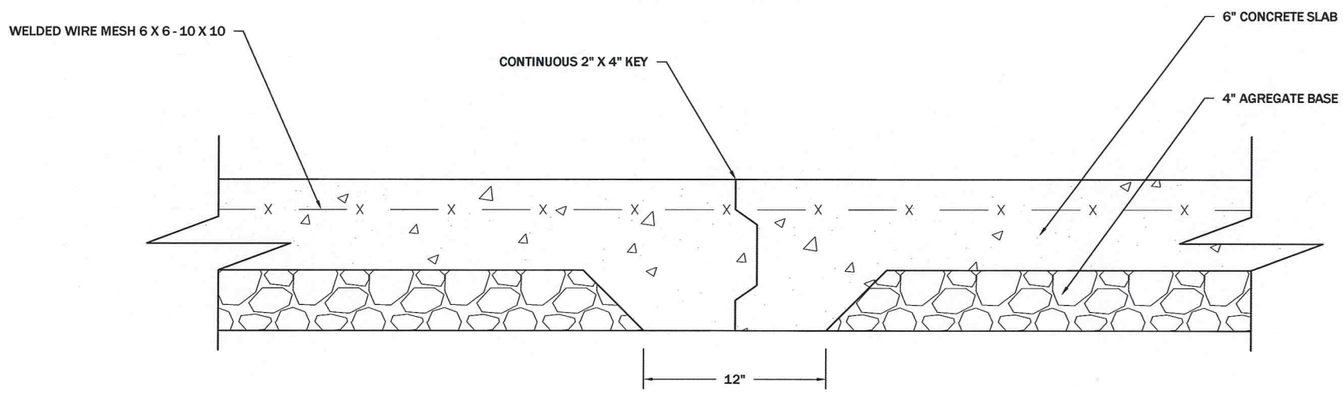
DEWATERING CONTROL BUILDING FOUNDATION WALL DETAIL

PIONEER TECHNICAL SERVICES, INC.
63 - 1/2 WEST BROADWAY
BUTTE, MONTANA 59702
(406) 782-5177

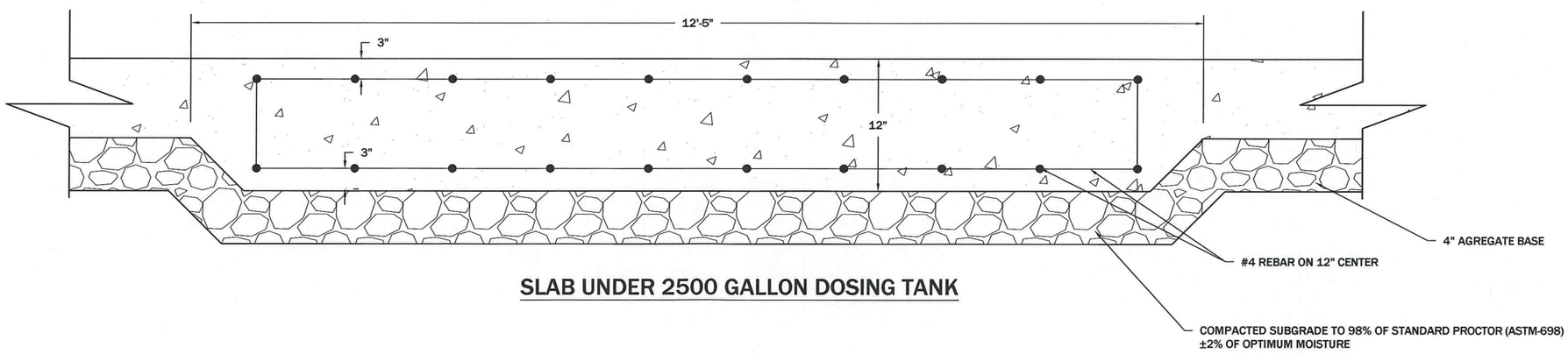
SHEET
GWD-23AB



SLAB SAWN JOINT



SLAB CONTROL JOINT



SLAB UNDER 2500 GALLON DOSING TANK

REVISION:

DATE:	BY:	DESC:

DRAWN BY: JB
DESIGNED BY: TL
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: PIONEER

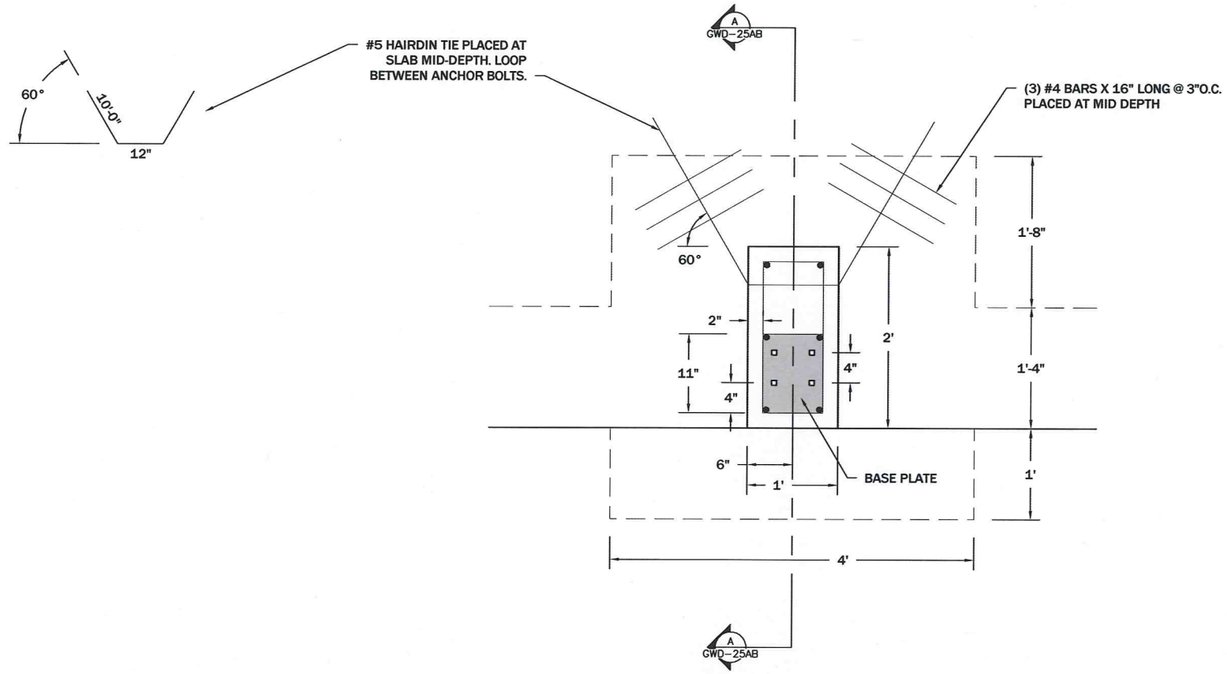
SCALE IN FEET
0 NTS NTS

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

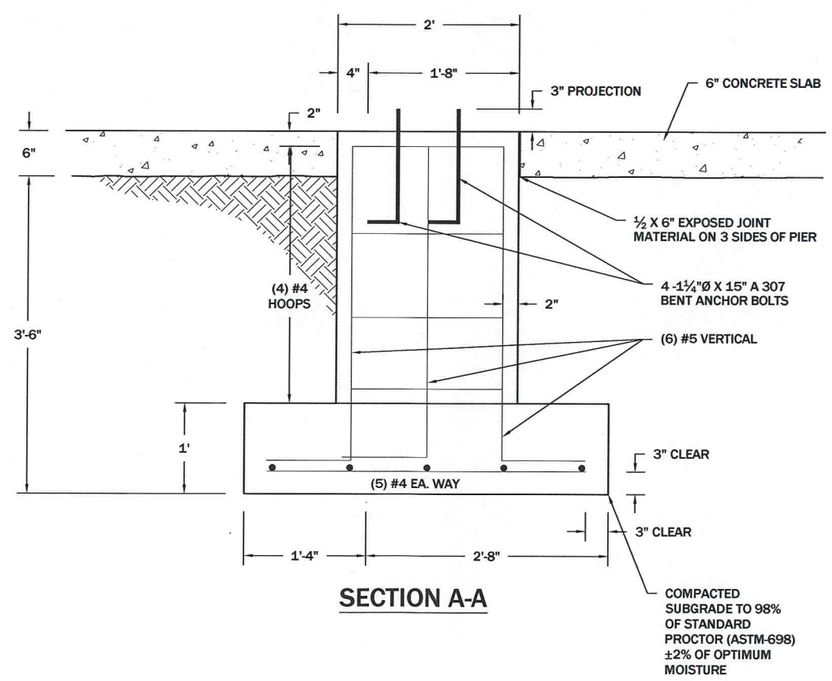
DEWATERING CONTROL BUILDING
SLAB CONTROL JOINTS DETAIL

PIONEER TECHNICAL SERVICES, INC.
63 - 1/2 WEST BROADWAY
BUTTE, MONTANA 59702
(406) 782-5177

SHEET
GWD-24AB



PLAN VIEW



SECTION A-A

REVISION:

DATE:	BY:	DESC:

DRAWN BY: JB
DESIGNED BY: TL
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: PIONEER

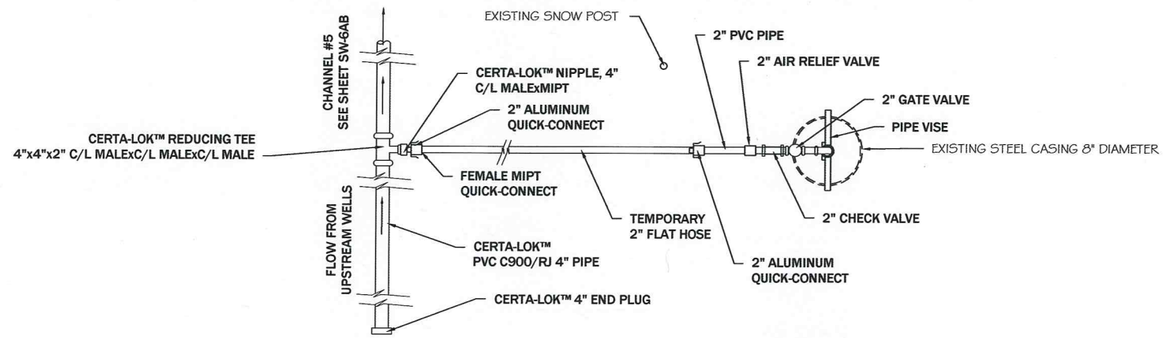
SCALE IN FEET
0 NTS NTS

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

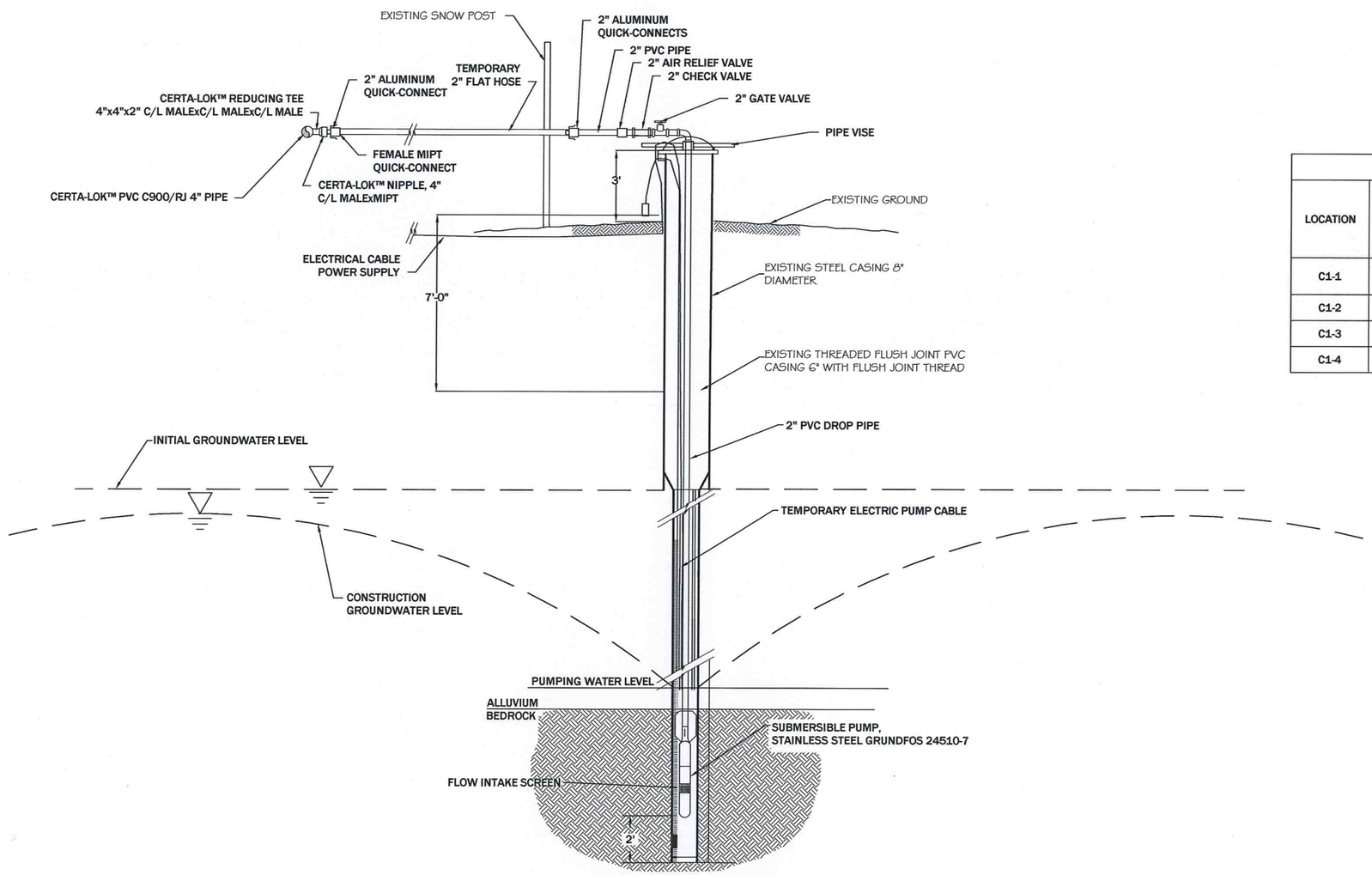
DEWATERING CONTROL
BUILDING
COLUMN FOOTING
DETAIL

PIONEER
TECHNICAL SERVICES, INC.
63 - 1/2 WEST BROADWAY
BUTTE, MONTANA 59702
(406) 782-5177

SHEET
GWD-25AB



PLAN VIEW



ELEVATION VIEW

TABLE GWD-1		
LOCATION	ESTIMATED PRODUCTIVITY* (gpm)	DEPTH FROM GROUND SURFACE (ft)*
C1-1	1-5	30
C1-2	12-20	30.8
C1-3	4-10	36.9
C1-4	4-10	29.5

TEMPORARY INSTALLATION OF 1.0 HP PUMP DETAIL

GW23

REVISION:

DATE:	BY:	DESC:

DRAWN BY: SKI
DESIGNED BY: MWB
CHECKED BY: JSM
APPROVED BY: MWB
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

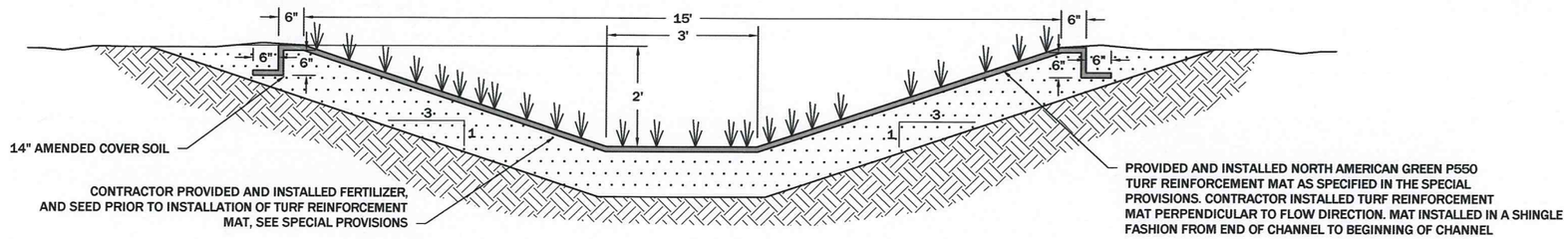
SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE
SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

INITIAL CONSTRUCTION
DEWATERING
DETAILS

PIONEER TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

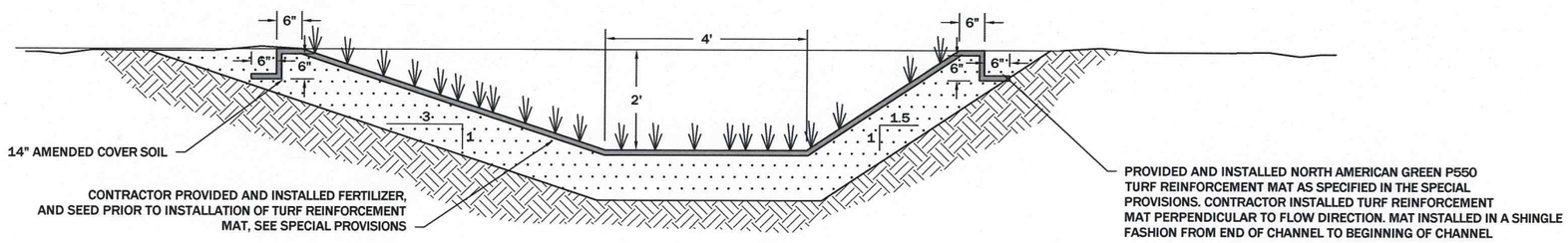
SHEET
GWD-27AB



TYPE 1 GRASS LINED TRAPEZOIDAL CHANNEL DETAIL

N.T.S.

SW1 / --



TYPE 3 GRASS LINED TRAPEZOIDAL CHANNEL DETAIL

N.T.S.

SW3 / --

REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: RWH
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: PIONEER

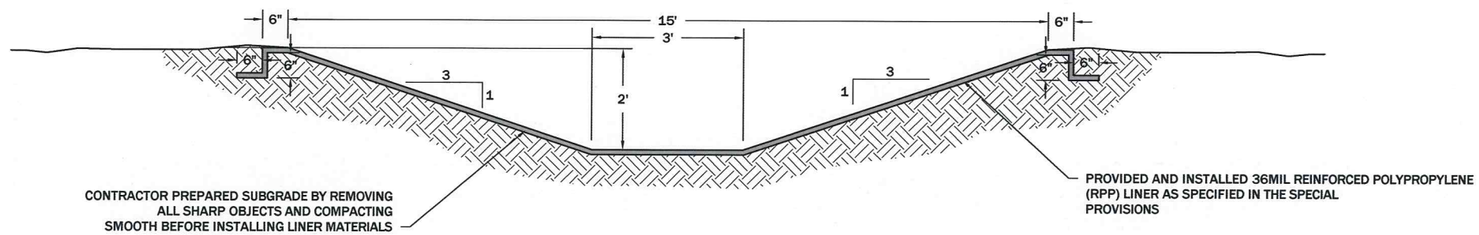
SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

STORM WATER
CHANNEL
DETAILS

PIONEER TECHNICAL SERVICES, INC.
63 1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

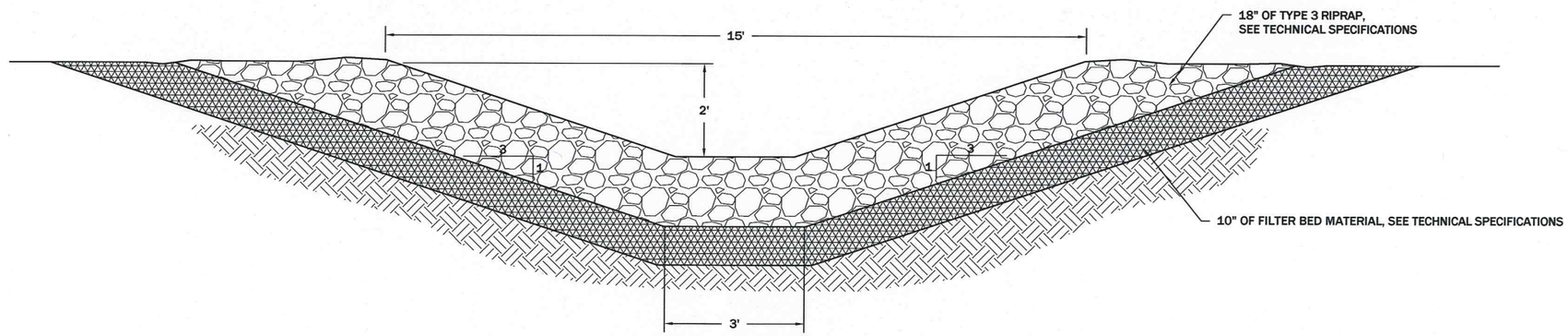
SHEET
SWD-1AB



POLYPROPYLENE LINED TRAPEZOIDAL CHANNEL DETAIL

N.T.S.

SW5 / --



TYPE 3 RIPRAP LINED TRAPEZOIDAL CHANNEL DETAIL

N.T.S.

SW6 / --

REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: RWH
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: NA
SOURCE: PIONEER

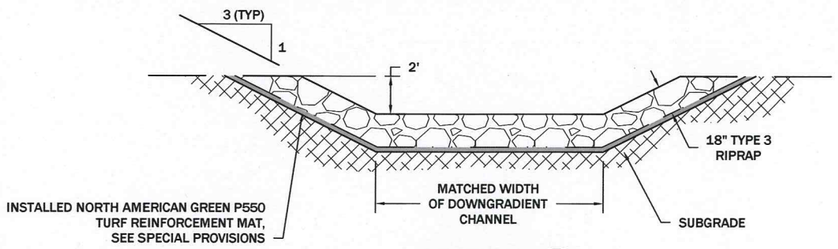
SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

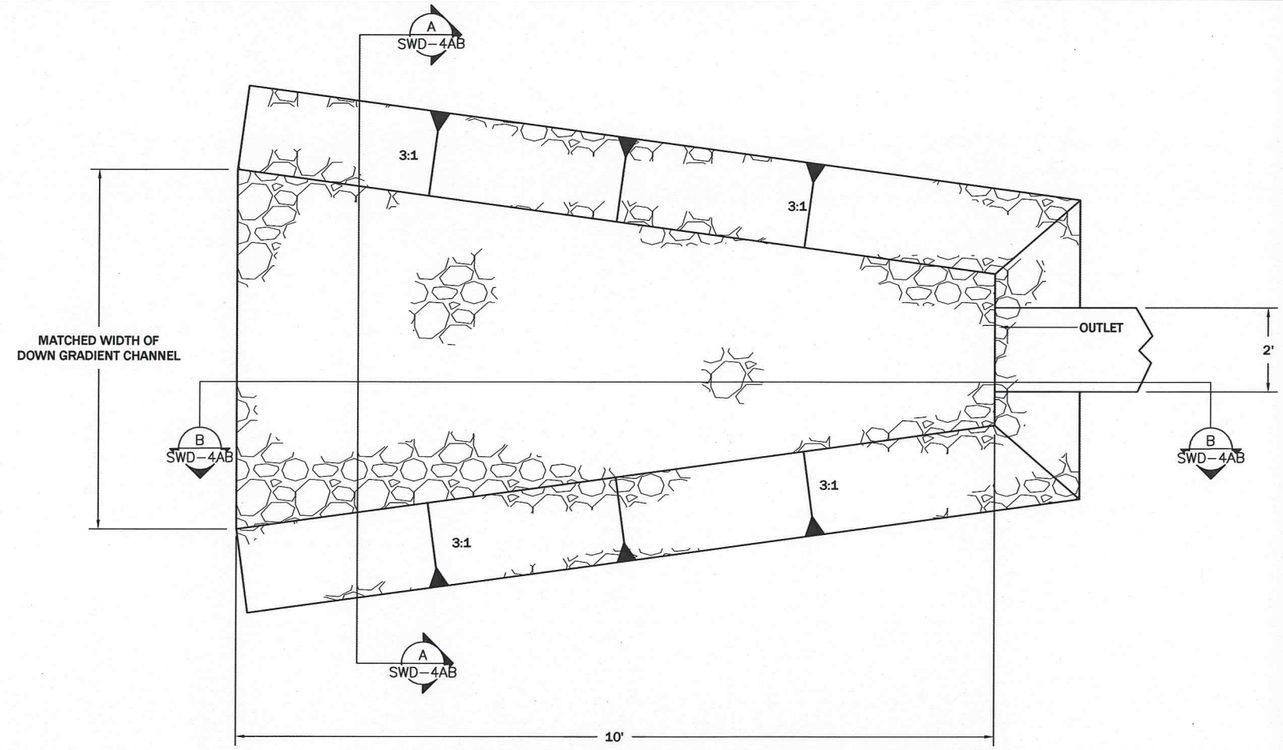
STORM WATER CHANNEL DETAILS

PIONEER TECHNICAL SERVICES, INC.
63 1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

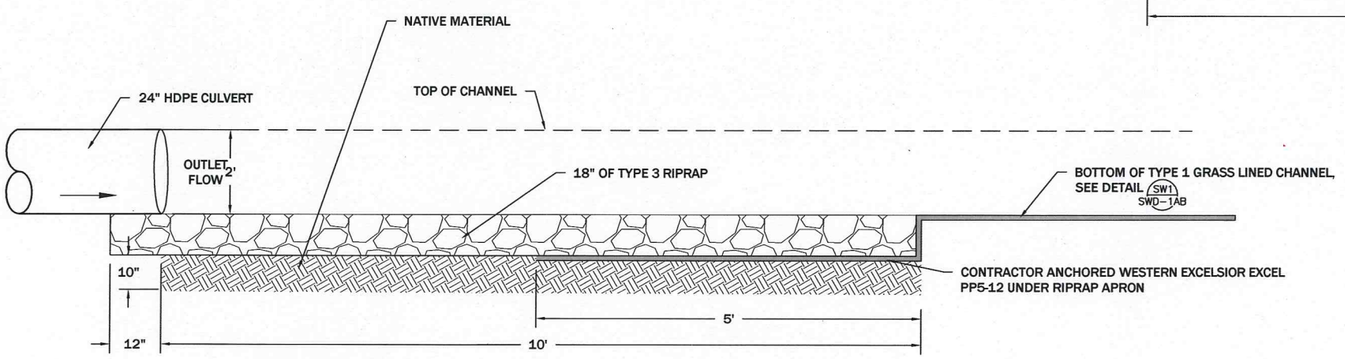
SHEET
SWD-2AB



SECTION A SWD-4AB
N.T.S.



RIPRAP APRON FOR CULVERT DETAIL SW8 --
N.T.S.

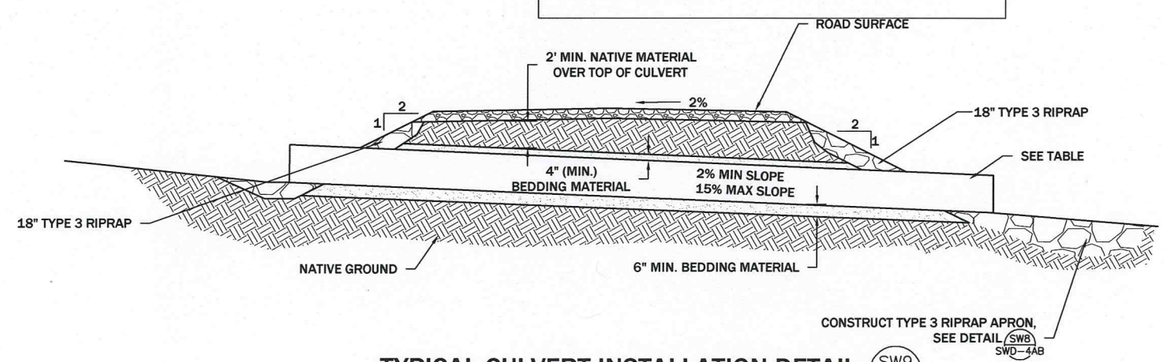


SECTION B SWD-4AB
N.T.S.

CULVERT TABLE					
CHANNEL #	SIZE	TYPE	LENGTH	LONG TERM	TEMPORARY
5	36"	HDPE	97	X	

NOTE:

1. INSTALLED CULVERT PER MANUFACTURER'S RECOMMENDATIONS.



TYPICAL CULVERT INSTALLATION DETAIL SW9 --
N.T.S.

REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: JSM
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE:
DATUM:
UNITS:
SOURCE: PIONEER

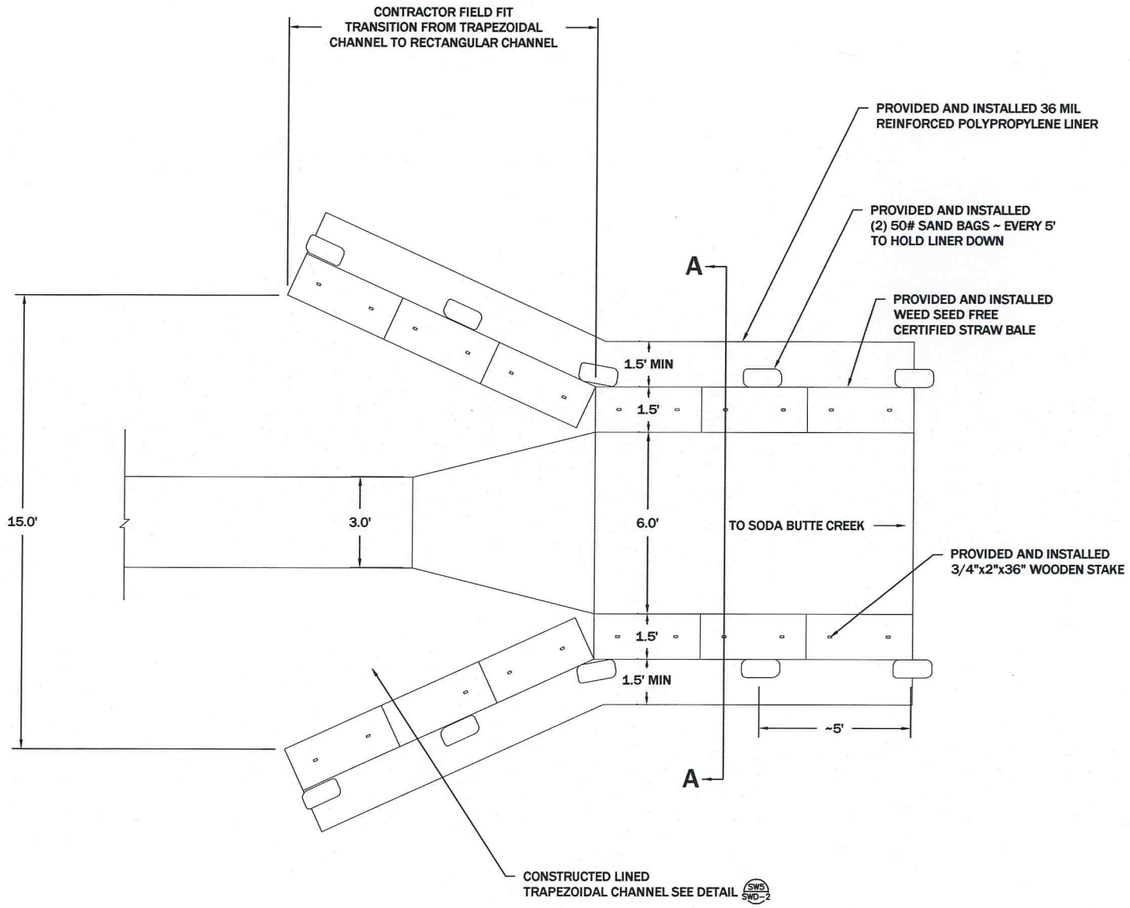
SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

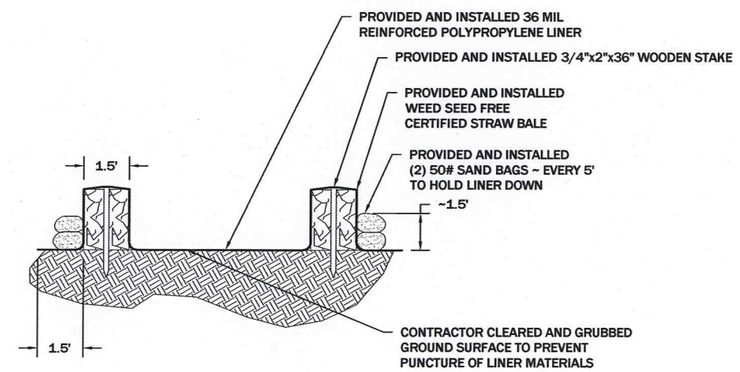
CULVERT AND RIPRAP APRON INSTALLATION DETAILS

PIONEER TECHNICAL SERVICES, INC.
63 1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
SWD-4AB



CHANNEL #5 STATION 3+22 TO 4+81 PLAN VIEW



SECTION A

REVISION:

DATE:	BY:	DESC:

DRAWN BY: CLA
DESIGNED BY: BS
CHECKED BY: MCB
APPROVED BY: JSM
PROJECT NO: 10152
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

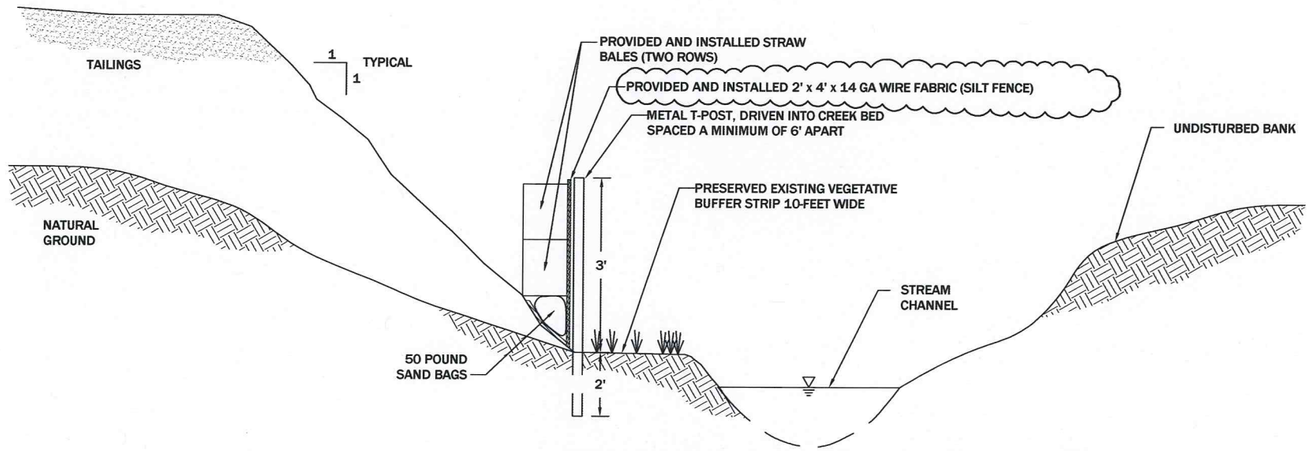
SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

CHANNEL #5
DETAILS
STATION
3+32 TO 4+81

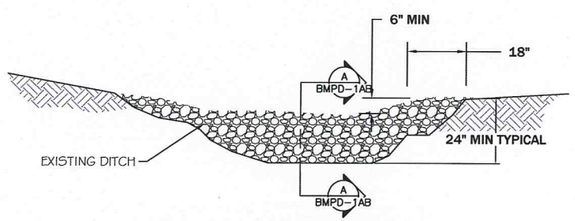
PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

SHEET
SWD-6AB

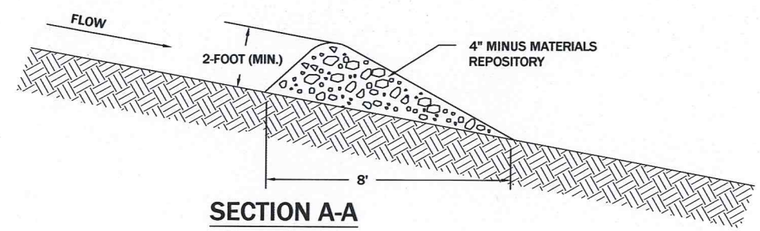


STREAM PROTECTION STRUCTURE DETAIL (BMP1)

N.T.S.

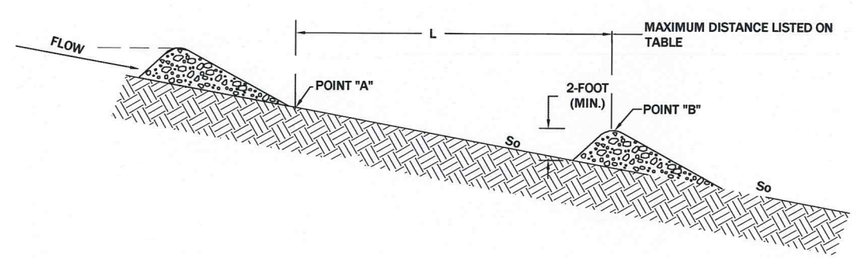


VIEW LOOKING UPSTREAM



SECTION A-A

SPACING BETWEEN CHECK DAMS		
Slope, So		Check Dam Spacing ("L")
%	ft/ft	L
1	0.01	667
2	0.02	333
3	0.03	222
4	0.04	167
5	0.05	133
6	0.06	111
7	0.07	95
8	0.08	83
9	0.09	74
10	0.10	40
11	0.11	36
12	0.12	33
13	0.13	31
14	0.14	29
15	0.15	27
>15	>0.15	25



STONE CHECK DAM DETAIL (BMP2)

REVISION: DATE:	BY:	DESC:
6/10/10	JSM	ADD 2'x4' x14 GAGE WIRE FABRIC

DRAWN BY: CLA
DESIGNED BY: MCB
CHECKED BY: JSM
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

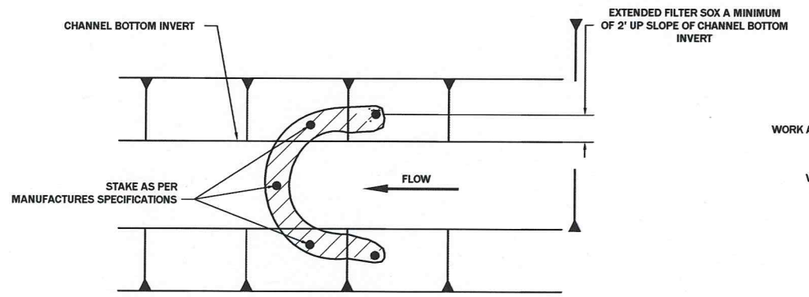
SCALE IN FEET
0 N.T.S.

MDEQ
MCLAREN TAILINGS ABANDONED MINESITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

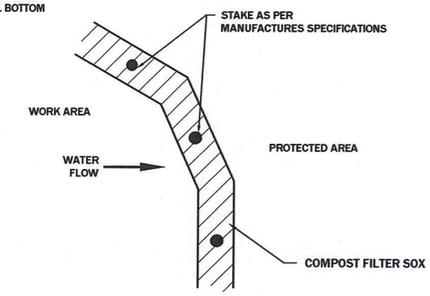
STREAM PROTECTION DETAILS

PIONEER TECHNICAL SERVICES, INC.
63 1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

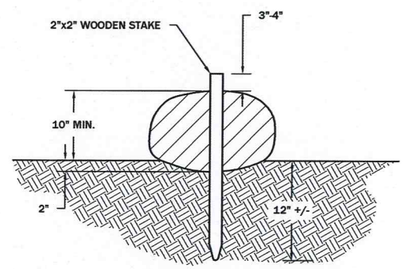
SHEET
BMPD-1AB



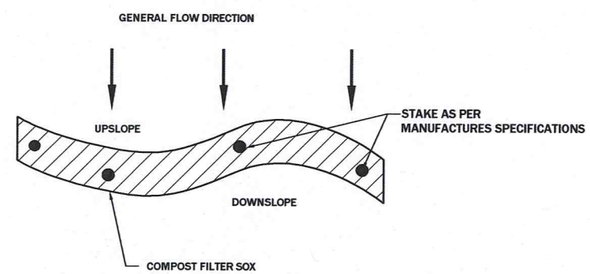
FILTER SOX CHECK DAM BMP3 / --



FILTER SOX PLAN VIEW BMP4 / --



FILTER SOX CROSS SECTION (TYPICAL) BMP5 / --



FILTER SOX ON SIDE SLOPE PLAN VIEW BMP6 / --

NOTES:

1. FILTER SOX FILLED WITH COMPOST AND UPLAND SEED MIX AS SPECIFIED IN SPECIAL PROVISIONS.
2. COMPOST MATERIAL DISPERSED ON SITE, AS DETERMINED BY ENGINEER AFTER RECLAMATION WORK IS COMPLETED.
3. ALL FILTER SOX TO BE KEYED INTO NATIVE SOILS A MINIMUM OF 2".

REVISION:

DATE:	BY:	DESC:

DRAWN BY: SKL
DESIGNED BY: MCB
CHECKED BY: JSM
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 N.T.S.

MDEQ/MWCB
MCLAREN TAILINGS ABANDONED
MIN ESITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

BMP'S DETAILS

PIONEER TECHNICAL SERVICES, INC.
63 1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
BMPD-2AB

NOTES:

1. CONTRACTOR OVERLAPPED ROLLS ON DOWNHILL SIDE AND DOWNSTREAM DIRECTION AS REQUIRED BY SITE-SPECIFIC CONDITIONS
2. CONTRACTOR INSTALLED EROSION-CONTROL MAT FLAT AGAINST AMENDED COVER SOIL AVOIDING ALL WRINKLES AND TENTING.
3. CONTRACTOR FERTILIZED AND SEEDED PRIOR TO INSTALLING EROSION CONTROL MAT.

NORTH AMERICAN GREEN

EROSION CONTROL *Products*
Guaranteed SOLUTIONS

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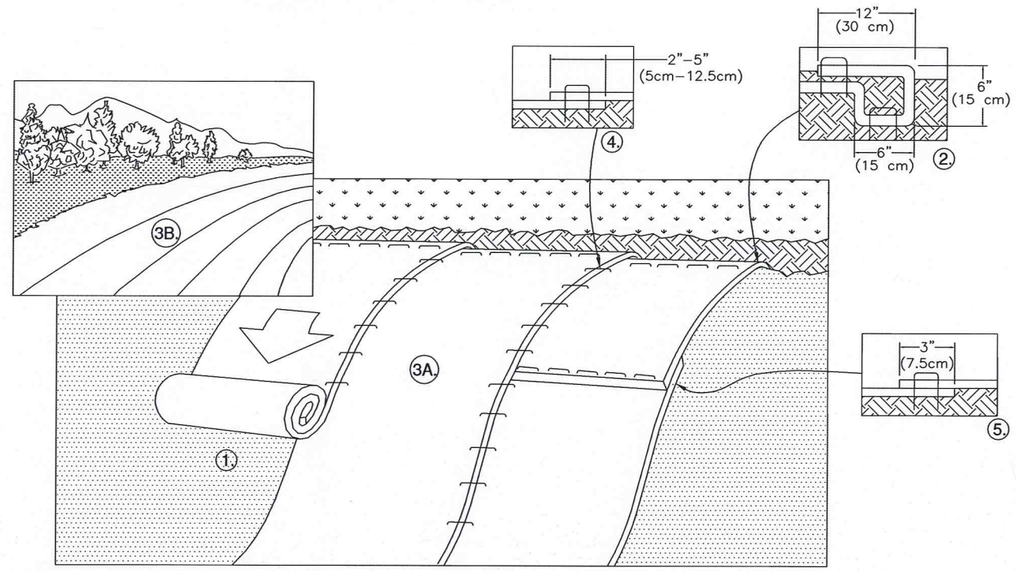
EVANSVILLE, IN 47725
800-772-2040
www.nagreen.com

SLOPE INSTALLATION

APLICACIONES PARA TALUDES



1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
   NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM™ , STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE STAPLED WITH APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) OVERLAP DEPENDING ON RECP's TYPE.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP's WIDTH.
   NOTE:
   *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.

REV. 01/05

REVISION: DATE:	BY:	DESC:

DRAWN BY: NAG
DESIGNED BY: NAG
CHECKED BY: JSM
APPROVED BY: JSM
PROJECT NO: 10140
DATE: 2/18/11

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: NAG

SCALE IN FEET
0 N.T.S.

MDEQ
MCLAREN TAILINGS ABANDONED MINE SITE RECLAMATION PROJECT
2010 AS-BUILT DRAWINGS

NORTH AMERICAN GREEN
SLOPE INSTALLATION DETAILS

PIONEER TECHNICAL SERVICES, INC.
63 1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406)-782-5177

SHEET
BMPD-3AB