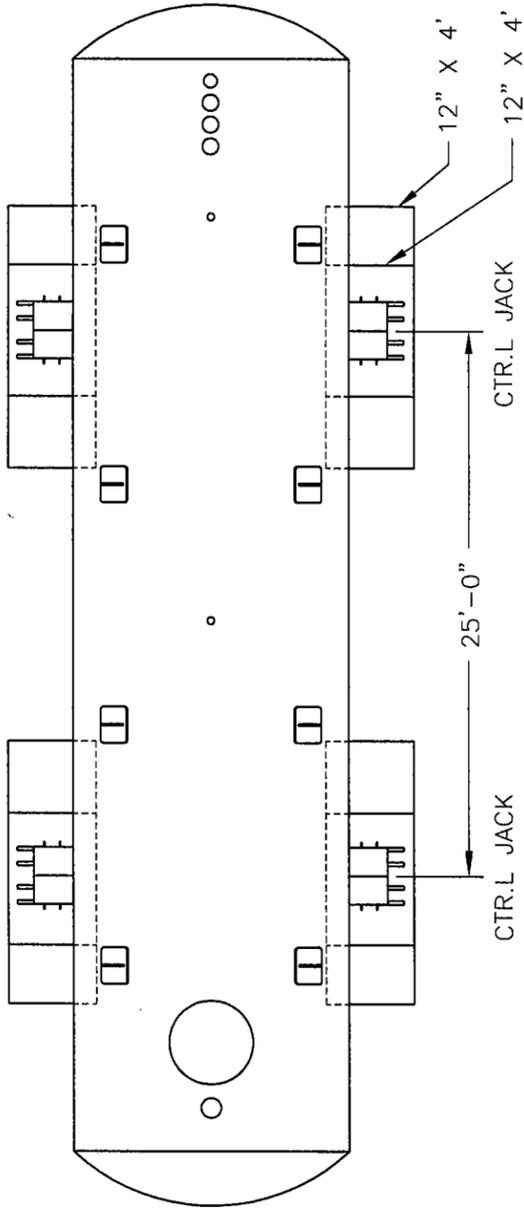


Attachment 1
PM-2A Tanks Design Drawings

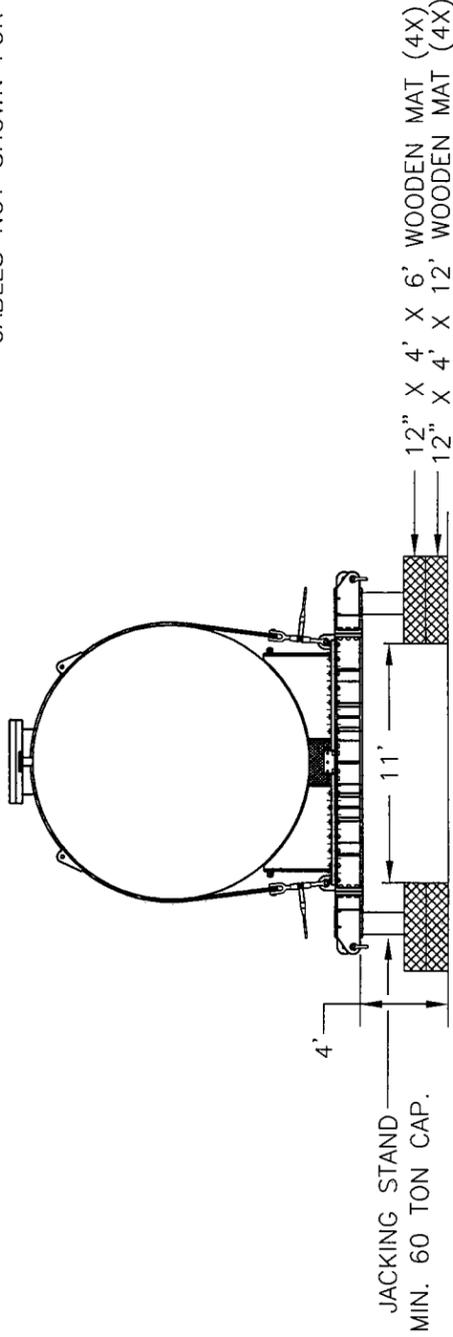
CONTENTS

C-067-RP0003-002	INEEL PM-2A Tank Site Cribbing
C-067-RP0003-003	INEEL PM-2A Tank Site Transportation and Hardware
C-067-RP0003-005	INEEL PM-2A Tank Saddle/Support Beam Assembly
C-067-RP0003-007	INEEL PM-2A Tank Cable Assembly
P-FFA/CO-PM2A-001	Tank Excavation Plan
P-FFA/CO-PM2A-004	Secondary Containment System
P-FFA/CO-PM2A-005	PM-2A Polyethylene Sheeting
P-FFA/CO-PM2A-006	Sand Pad Removal Plan, Section, and Isometric
P-FFA/CO-PM2A-008	Crane Pad Arrangement Plot Plan
P-FFA/CO-PM2A-009	Final Contour Plan
C-1	OU 1-10 TSF-26 Surface Demolition Plan
C-2	OU 1-10 TSF-26 Subsurface Demolition Plan



PLAN VIEW

CABLES NOT SHOWN FOR CLARITY



END VIEW

GENERAL NOTES:

- 1: ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY
- 2: THE DESIGN OF THE DURATEK SERVICES, INC. SUPPLIED EQUIPMENT RELIES ON INFORMATION SUPPLIED BY THIRD PARTIES PERTAINING TO THE CONDITION OF THE PM-2A TANKS AND THE LOCAL SITE CONDITIONS
- 3: SUPPORTING CALCULATIONS ARE PROVIDED IN DURATEK STRUCTURAL CALCULATIONS ST-464, ST-467 AND ST-468

Certification

I, Mirzo I. Baig, a licensed Professional Engineer in the state of New Jersey (License No. 24GE02674000), experienced in the design of structural components, certify that the design of the Duratek Services, Inc. supplied equipment is based on sound engineering practices that have been applied for numerous years in the nuclear waste industry. This equipment has been designed and analyzed by engineers proficient in structural engineering and have performed the work under my supervision.



<input type="checkbox"/> PROPRIETARY	TOLERANCES (UNLESS NOTED) HOLE DIA. & LOC. ±1/32 DEC. .X ±.1 DEC. .XX ±.01 DEC. .XXX ±.005 ANGLES ±1' FRACTIONS ±1/8 DOES NOT APPLY TO REFERENCE DIMENSIONS
<input checked="" type="checkbox"/> NON-PROPRIETARY	THIS DRAWING IS THE PROPERTY OF DURATEK IT IS LOANED UPON THE CONDITION THAT IT IS NOT TO BE REPRODUCED, COPIED OR LOANED TO OTHERS WITHOUT WRITTEN PERMISSION OF DURATEK AND IS TO BE RETURNED UPON REQUEST.

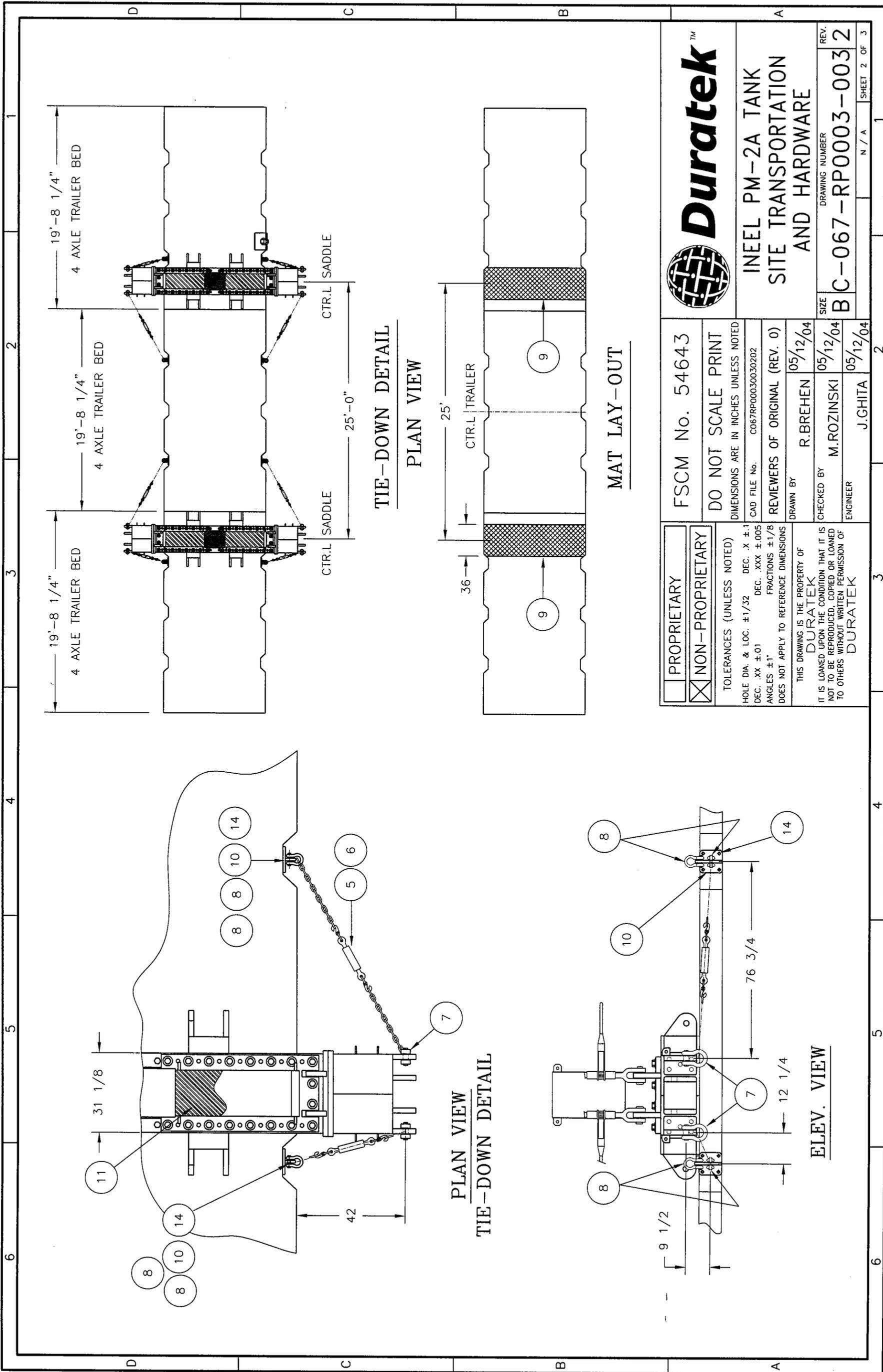
FSCM No. 54643	CAD FILE No. C067RP00030020102
DO NOT SCALE PRINT DIMENSIONS ARE IN INCHES UNLESS NOTED	REVIEWERS OF ORIGINAL (REV. 0)
DRAWN BY R.BREHEN	CHECKED BY M.ROZINSKI
05/12/04	05/12/04
ENGINEER J.GHITA	ENGINEER



Duratek™

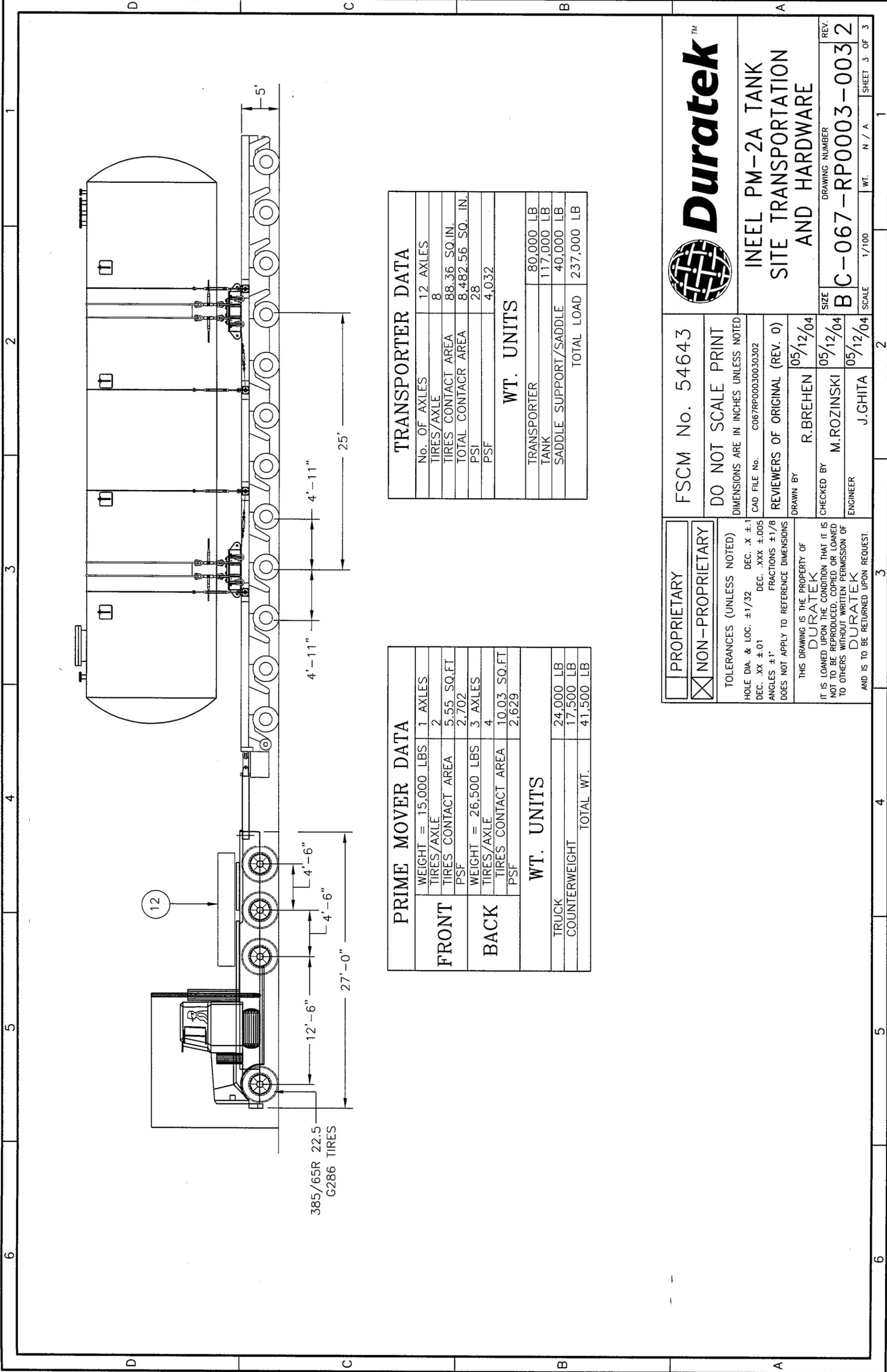
**INEEL PM-2A TANK
SITE CRIBBING**

SCALE 1/100	WT. N / A	SHEET 1 OF 1
DRAWING NUMBER	REV.	
BC-067-RP0003-002	2	



**INEEL PM-2A TANK
SITE TRANSPORTATION
AND HARDWARE**

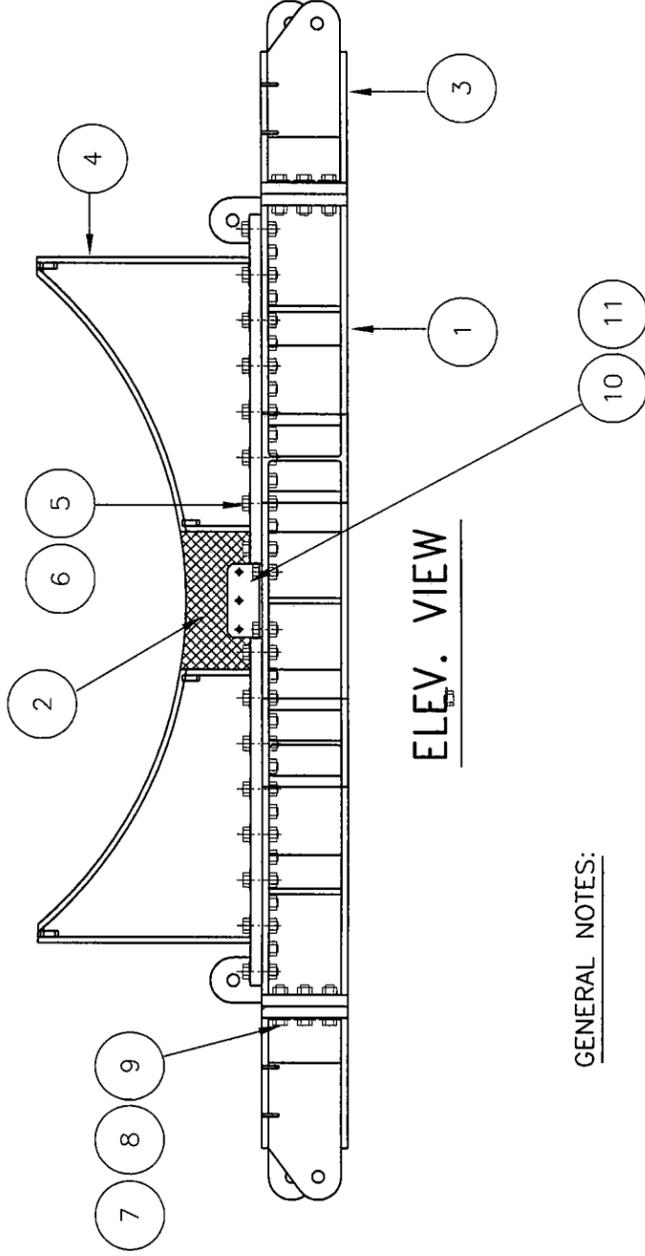
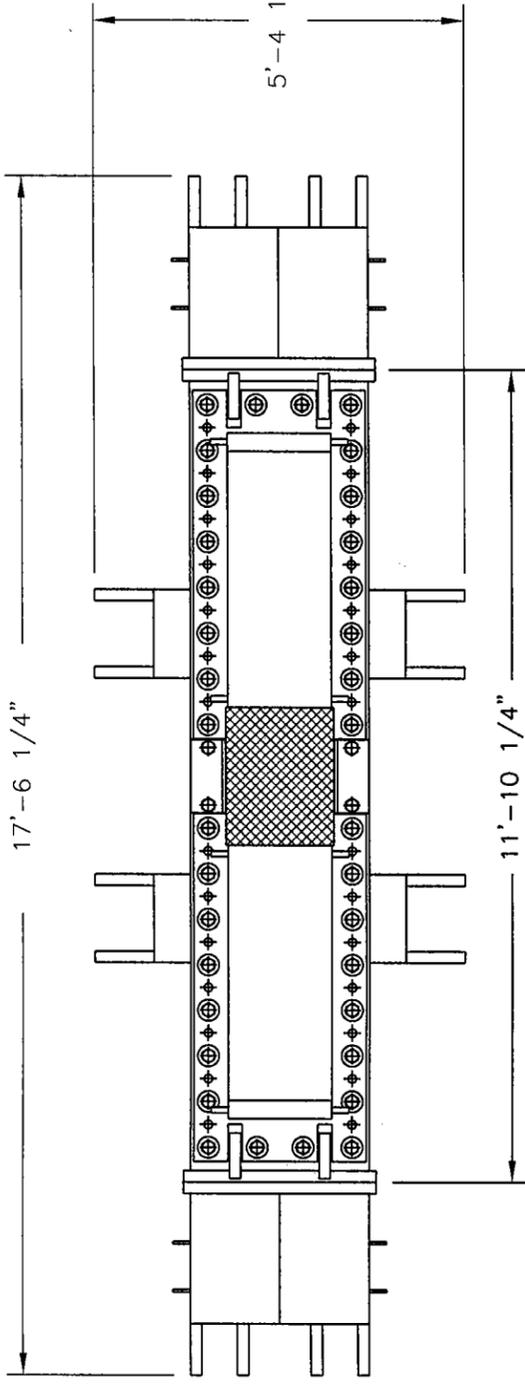
<input type="checkbox"/> PROPRIETARY	FSCM No. 54643
<input checked="" type="checkbox"/> NON-PROPRIETARY	DO NOT SCALE PRINT
TOLERANCES (UNLESS NOTED) HOLE DIA. & LOC. ±1/32 DEC. .X ±.1 DEC. .XX ±.01 DEC. .XXX ±.005 ANGLES ±1° FRACTIONS ±1/8 DOES NOT APPLY TO REFERENCE DIMENSIONS	
THIS DRAWING IS THE PROPERTY OF DURATEK IT IS LOANED UPON THE CONDITION THAT IT IS NOT TO BE REPRODUCED, COPIED OR LOANED TO OTHERS WITHOUT WRITTEN PERMISSION OF DURATEK	
DIMENSIONS ARE IN INCHES UNLESS NOTED CAD FILE No. C067RP00030030202 REVIEWERS OF ORIGINAL (REV. 0) DRAWN BY R.BREHEN 05/12/04 CHECKED BY M.ROZINSKI 05/12/04 ENGINEER J.GHITA 05/12/04	REV. REV. DRAWING NUMBER B C-067-RP0003-003 2
SIZE	N / A
SHEET 2 OF 3	



PRIME MOVER DATA	
WEIGHT = 15,000 LBS	1 AXLES
TIRES/AXLE	2
TIRES CONTACT AREA	5.55 SQ.FT
PSF	2,702
WEIGHT = 26,500 LBS	3 AXLES
TIRES/AXLE	4
TIRES CONTACT AREA	10.03 SQ.FT
PSF	2,629
WT. UNITS	
TRUCK	24,000 LB
COUNTERWEIGHT	17,500 LB
TOTAL WT.	41,500 LB

TRANSPORTER DATA	
No. OF AXLES	12 AXLES
TIRES/AXLE	8
TIRES CONTACT AREA	88.36 SQ.IN.
TOTAL CONTACT AREA	8,482.56 SQ. IN.
PSI	28
PSF	4,032
WT. UNITS	
TRANSPORTER	80,000 LB
TANK	117,000 LB
SADDLE SUPPORT/SADDLE	40,000 LB
TOTAL LOAD	237,000 LB

<input type="checkbox"/> PROPRIETARY <input checked="" type="checkbox"/> NON-PROPRIETARY		FSCM No. 54643 DO NOT SCALE PRINT DIMENSIONS ARE IN INCHES UNLESS NOTED CAD FILE NO. C067RP00030030302		 Duratek™ INEEL PM-2A TANK SITE TRANSPORTATION AND HARDWARE	
TOLERANCES (UNLESS NOTED) HOLE DIA. & LOC. ±1/32 DEC. X ±.1 DEC. .XX ±.01 DEC. .XXX ±.005 ANGLES ±1° FRACTIONS ±1/8 DOES NOT APPLY TO REFERENCE DIMENSIONS		REVIEWERS OF ORIGINAL (REV. 0) DRAWN BY R.BREHEN 05/12/04 CHECKED BY M.ROZINSKI 05/12/04 ENGINEER J.GHITA 05/12/04		DRAWING NUMBER B C-067-RP0003-003 2	
THIS DRAWING IS THE PROPERTY OF DURATEK IT IS LOANED UPON THE CONDITION THAT IT IS NOT TO BE REPRODUCED, COPIED OR LOANED TO OTHERS WITHOUT WRITTEN PERMISSION OF DURATEK AND IS TO BE RETURNED UPON REQUEST.		SCALE 1/100 WT. N / A SHEET 3 OF 3		REV.	

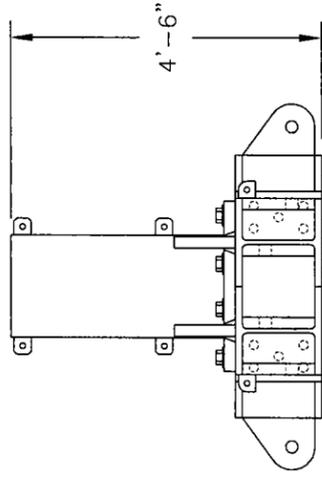


ELEV. VIEW

GENERAL NOTES:

GENERAL NOTES:

- 1: QTY. IN PARTS LIST ARE FOR ONE (1) UNIT ONLY
- 2: TOTAL ASSEMBLY WEIGHT 18,000 LB
- 3: ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY
- 4: THE DESIGN OF THE DURATEK SERVICES, INC. SUPPLIED EQUIPMENT RELIES ON INFORMATION SUPPLIED BY THIRD PARTIES PERTAINING TO THE CONDITION OF THE PM-2A TANKS AND THE LOCAL SITE CONDITIONS
- 5: SUPPORTING CALCULATIONS ARE PROVIDED IN DURATEK STRUCTURAL CALCULATIONS ST-464, ST-467 AND ST-468



END VIEW

ITEM	QTY	DESCRIPTION	SPEC. AND / OR PART NO.
11	6	LAG SCREW, 1/2" DIA. X 3" LG, GALVANIZED	COML.
10	2	ANGLE, SEE DWG. C-067-RP0003-010 ITEM -2	
9	20	FLAT WASHER, 1 1/2" I.D NOM.	ASTM F436
8	20	HEX NUT, 1 1/2"-6 UNC THR'D	ASTM A194-2H
7	20	HEX HEAD BOLT, 1 1/2-6 UNC THR'D X 6" LG.	ASTM A325
6	40	FLAT WASHER, 1 3/8" I.D NOM.	ASTM F436
5	40	HEX HEAD BOLT, 1 3/8-6 UNC THR'D X 5" LG.	ASTM A325
4	2	SADDLE DETAIL, SEE DWG. C-067-RP0003-006	
3	2	SADDLE SUPPORT BEAM EXTENSION, SEE DWG. C-110-D-44010-121	
2	1	WOODEN SPACER BLOCK, SEE DWG. C-067-RP0003-011	
1	1	SUPPORT BEAM ASSEMBLY, SEE DWG. C-110-B-44010-120	

BILL OF MATERIALS

PROPRIETARY
 NON-PROPRIETARY

TOLERANCES (UNLESS NOTED)
 HOLE DIA. & LOC. ±1/32 DEC. X ±.1
 DEC. .XX ±.01 DEC. .XXX ±.005
 ANGLES ±1' FRACTIONS ±1/8
 DOES NOT APPLY TO REFERENCE DIMENSIONS

THIS DRAWING IS THE PROPERTY OF DURATEK
 IT IS LOANED UPON THE CONDITION THAT IT IS NOT TO BE REPRODUCED, COPIED OR LOANED TO OTHERS WITHOUT WRITTEN PERMISSION OF DURATEK
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FSCM No. 54643

DO NOT SCALE PRINT
 DIMENSIONS ARE IN INCHES UNLESS NOTED

CAD FILE No. C067RP00030050102

REVIEWERS OF ORIGINAL (REV. 0)

DRAWN BY R.BREHEN 05/12/04
 CHECKED BY M.ROZINSKI 05/12/04
 ENGINEER J.GHITA 05/12/04

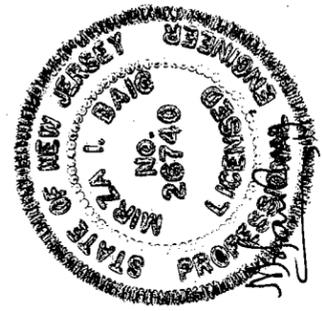


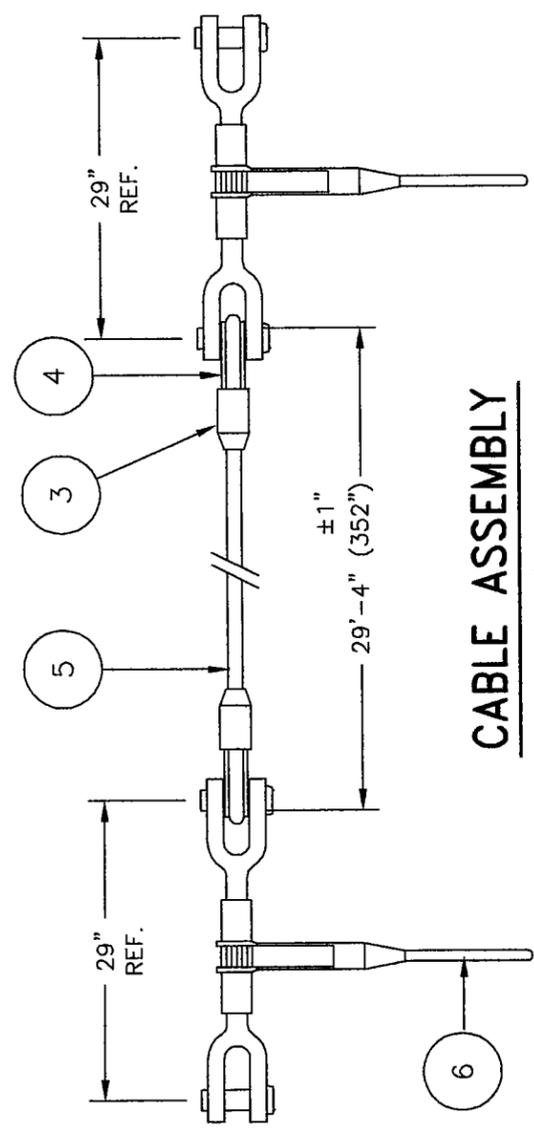
INEEL PM-2A TANK
 SADDLE/SUPPORT BEAM
 ASSEMBLY

SIZE	DRAWING NUMBER	REV.
B	C-067-RP0003-005	2
SCALE	WT.	N / A
1/32		
		SHEET 1 OF 1

Certification

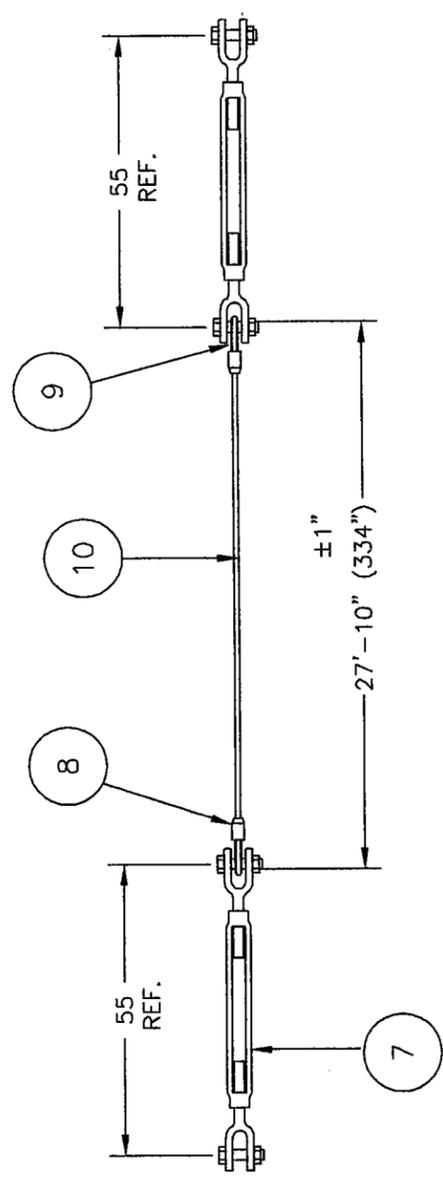
I, Mirzo I. Baig, a licensed Professional Engineer in the state of New Jersey (License No. 24GE02674000), experienced in the design of structural components, certify that the design of the Duratek Services, Inc. supplied equipment is based on sound engineering practices that have been applied for numerous years in the nuclear waste industry. This equipment has been designed and analyzed by engineers proficient in structural engineering and have performed the work under my supervision.





CABLE ASSEMBLY

1



CABLE ASSEMBLY

2

PROPRIETARY
 NON-PROPRIETARY

TOLERANCES (UNLESS NOTED)
HOLE DIA. & LOC. ±1/32 DEC. X ±.1
DEC. .XX ±.01 DEC. .XXX ±.005
ANGLES ±1° FRACTIONS ±1/8
DOES NOT APPLY TO REFERENCE DIMENSIONS

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TO OTHERS WITHOUT WRITTEN PERMISSION OF
DURATEK
AND IS TO BE RETURNED UPON REQUEST.

FSCM No. 54643

DO NOT SCALE PRINT
DIMENSIONS ARE IN INCHES UNLESS NOTED

CAD FILE No. C067RP00030070202

REVIEWERS OF ORIGINAL (REV. 0)

DRAWN BY R.BREHEN 05/12/04
CHECKED BY M.ROSINSKI 05/12/04
ENGINEER J.GHITA 05/12/04

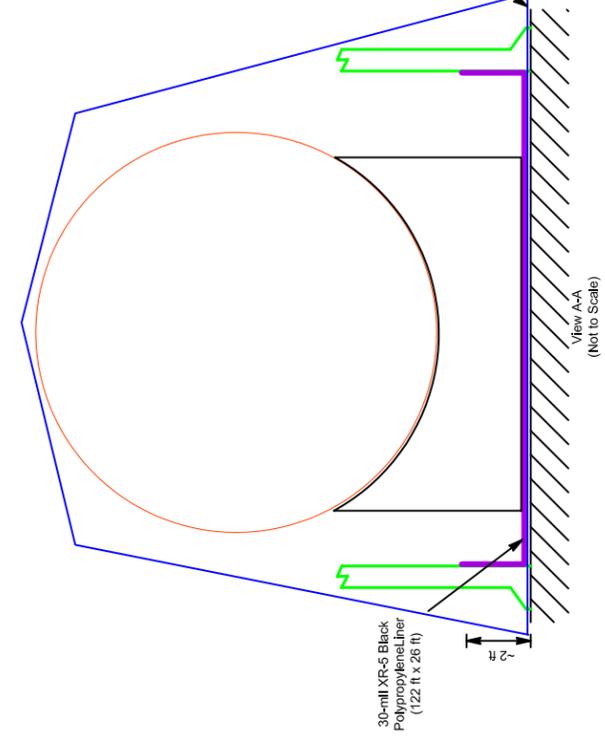
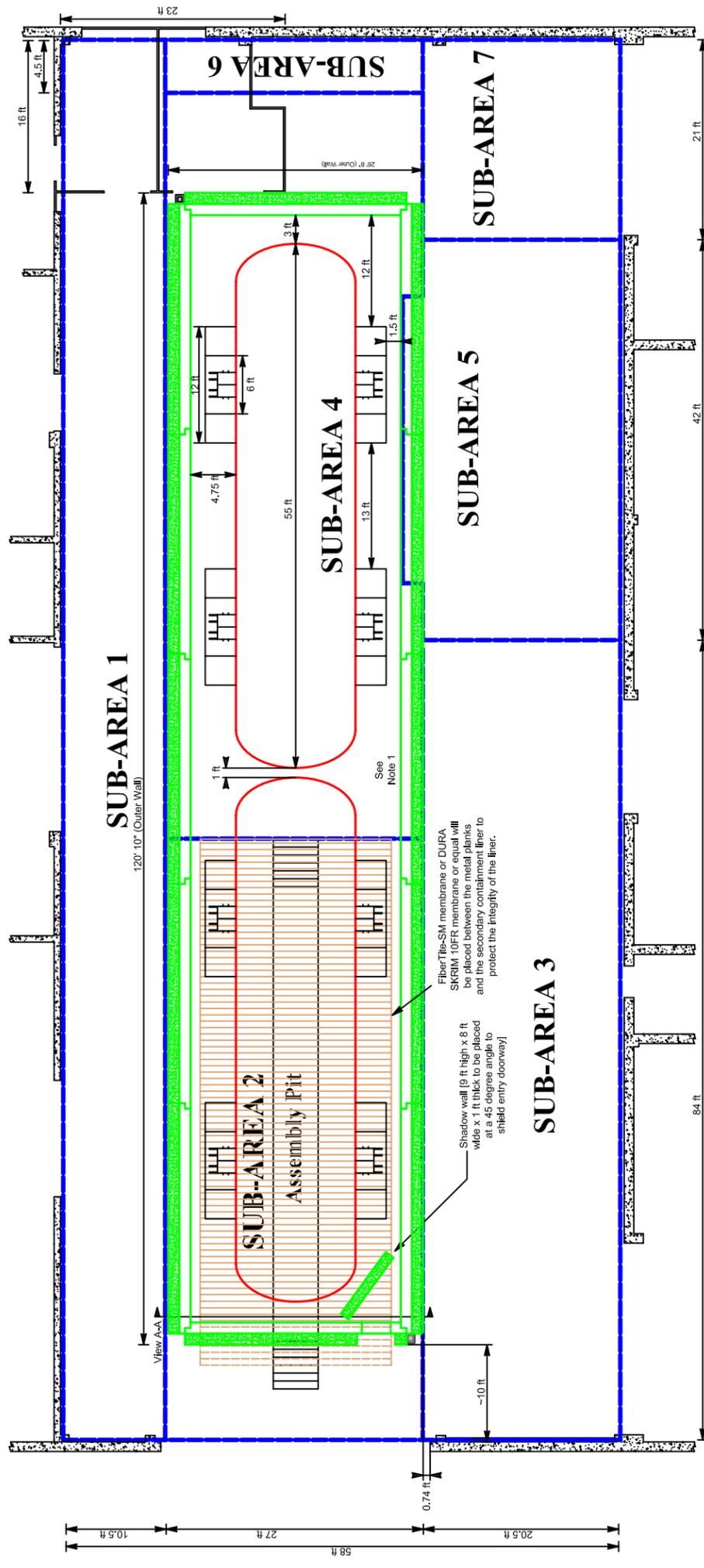
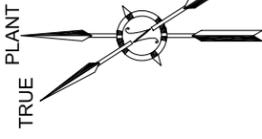


DuratekTM

INEEL PM-2A TANK
CABLE ASSEMBLY

SIZE	DRAWING NUMBER	REV.
B	C-067-RP0003-007	2

SCALE	WT.	N / A	SHEET 2 OF 2
1/50			



REVISION: 1
 ORIGINAL SIGNED BY:
 Brady J. O'Connell, P.E.
 SEAL NUMBER: 10393
 DATE ORIGINAL SIGNED:
 8/21/04
 ORIGINAL STORED AT:
 Idaho Department of Health, 144, 14, B



REV.	DESCRIPTION	EFFECTIVE DATE
1	UPDATED TO INCLUDE WALL PANEL DESCRIPTION	08/09/04

- LEGEND**
- BUILDINGS AND STRUCTURES
 - SUB-AREA BOUNDARY (CONCRETE FLOOR LOADING)
 - 30-MIL XR-5 BLACK POLYPROPYLENE LINER
 - TITE-SM MEMBRANE
 - TANK TRANSFER PRIOR TO SHIELD PLACEMENT
 - LINEAR TANKS
 - REMOTE ACCESS CAMERA
 - SHIELDING (4" THICK x 9' HEIGHT)

NOTES

- SEE PREDEF-1005 FOR SHIELDING DETAILS

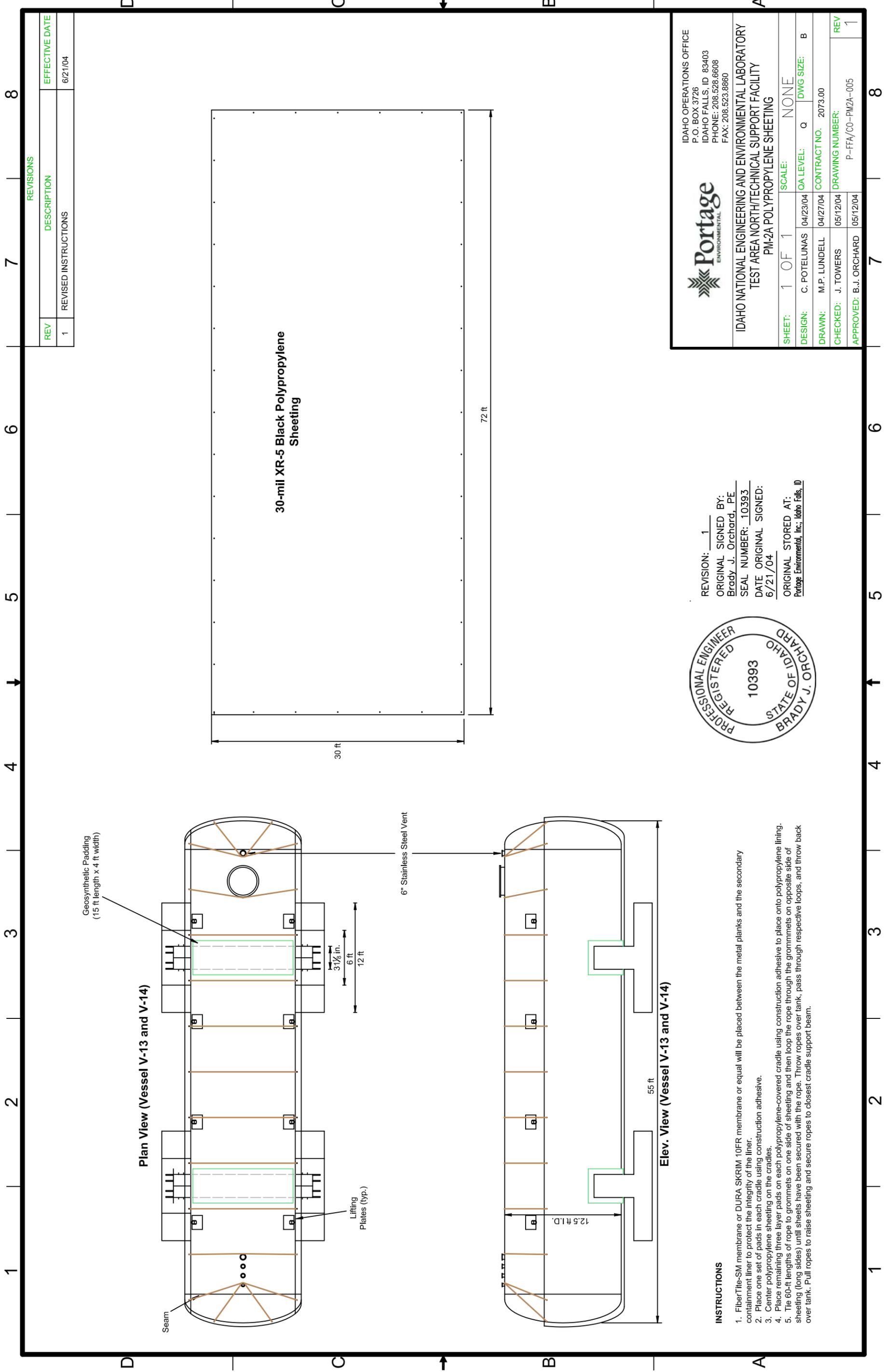
Portage
 ENVIRONMENTAL SERVICES

IDAHO OPERATIONS OFFICE
 P.O. BOX 3726
 IDAHO FALLS, ID 83403
 TEL: 208.746.8800
 FAX: 208.746.8800

IDAHO COMPLETION PROJECT
 TEST AREA NORTH/TECHNICAL SUPPORT FACILITY
 PM-2A REMEDIATION PROJECT
 SECONDARY CONTAMINATION SYSTEM

SHEET: 1 OF 1
 SCALE: SHOWN
 DESIGN: C. POTELUNAS
 DRAWN: M.P. LURSELL
 CHECKED: J. TOMERS
 APPROVED: B.J. O'CONNOR

CONTRACT NO.: 2002.00
 DRAWING NUMBER:
 P-FFACO-PM2A-004



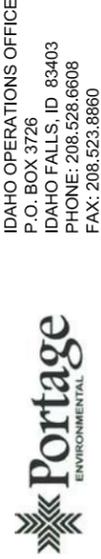
Plan View (Vessel V-13 and V-14)

Elev. View (Vessel V-13 and V-14)

30-mil XR-5 Black Polypropylene Sheeting

REVISIONS	
REV	EFFECTIVE DATE
1	6/21/04

REVISED INSTRUCTIONS



IDAHO OPERATIONS OFFICE
P.O. BOX 3726
IDAHO FALLS, ID 83403
PHONE: 208.528.6608
FAX: 208.523.8860

IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LABORATORY
TEST AREA NORTH/TECHNICAL SUPPORT FACILITY
PM-2A POLYPROPYLENE SHEETING

SHEET: 1 OF 1	SCALE: NONE
DESIGN: C. POTELUNAS	QA LEVEL: Q
DRAWN: M.P. LUNDELL	CONTRACT NO. 2073.00
CHECKED: J. TOWERS	DRAWING NUMBER:
APPROVED: B.J. ORCHARD	P-FFA/CO-PM2A-005
	REV 1

REVISION: 1
ORIGINAL SIGNED BY: Brady J. Orchard, PE
SEAL NUMBER: 10393
DATE ORIGINAL SIGNED: 6/21/04
ORIGINAL STORED AT: Portage Environmental, Inc., Idaho Falls, ID



INSTRUCTIONS

1. FiberTie-SM membrane or DURA SKRIM 10FR membrane or equal will be placed between the metal planks and the secondary containment liner to protect the integrity of the liner.
2. Place one set of pads in each cradle using construction adhesive.
3. Center polypropylene sheeting on the cradles.
4. Place remaining three layer pads on each polypropylene-covered cradle using construction adhesive to place onto polypropylene lining.
5. Tie 60-ft lengths of rope to grommets on one side of sheeting and then loop the rope through the grommets on opposite side of sheeting (long sides) until sheets have been secured with the rope. Throw ropes over tank, pass through respective loops, and throw back over tank. Pull ropes to raise sheeting and secure ropes to closest cradle support beam.

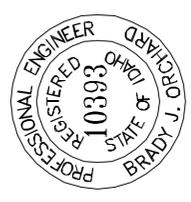
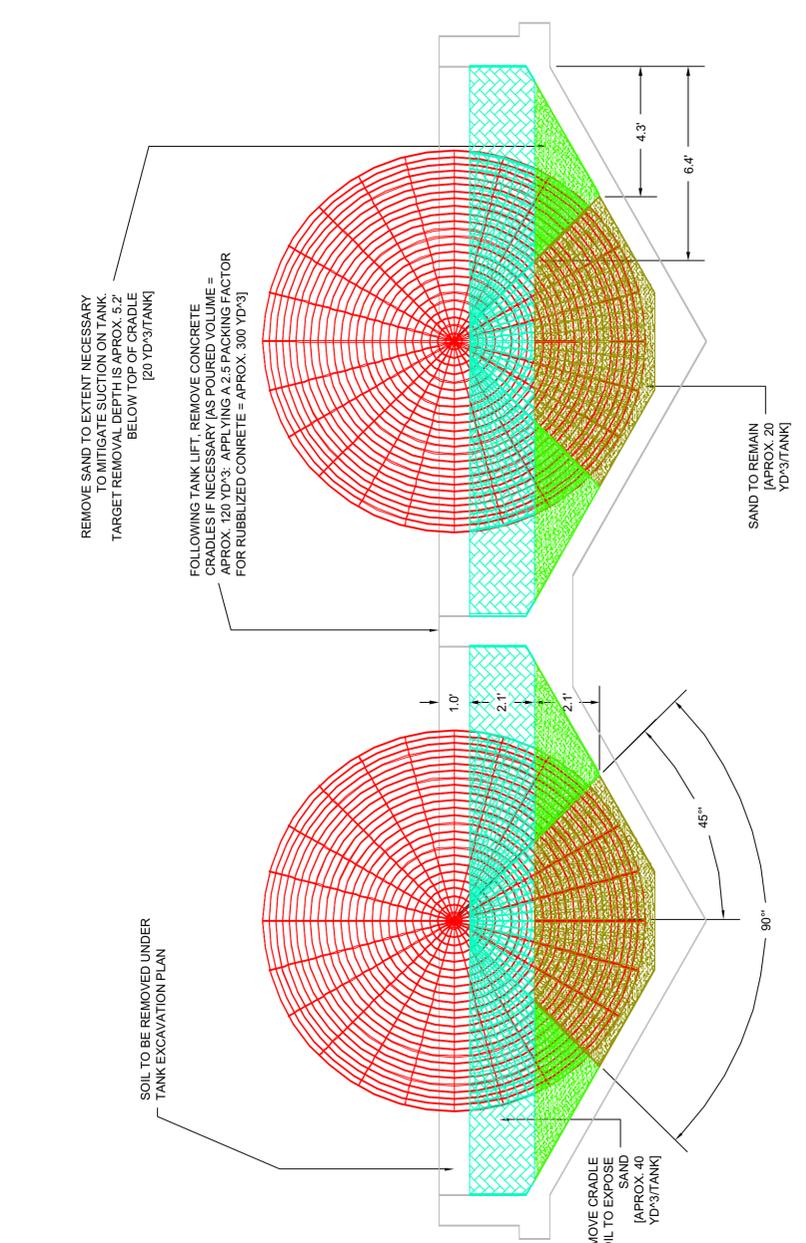
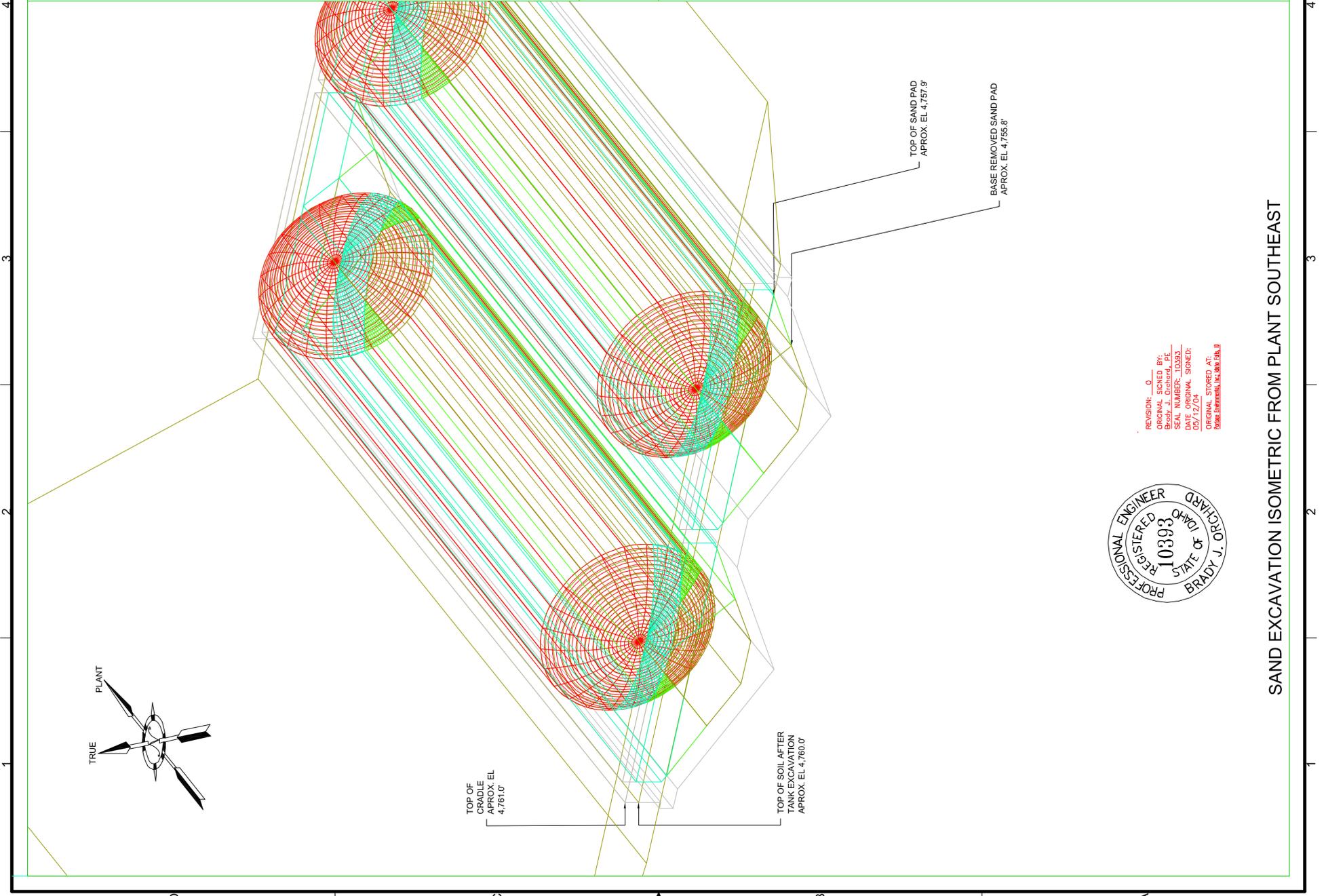
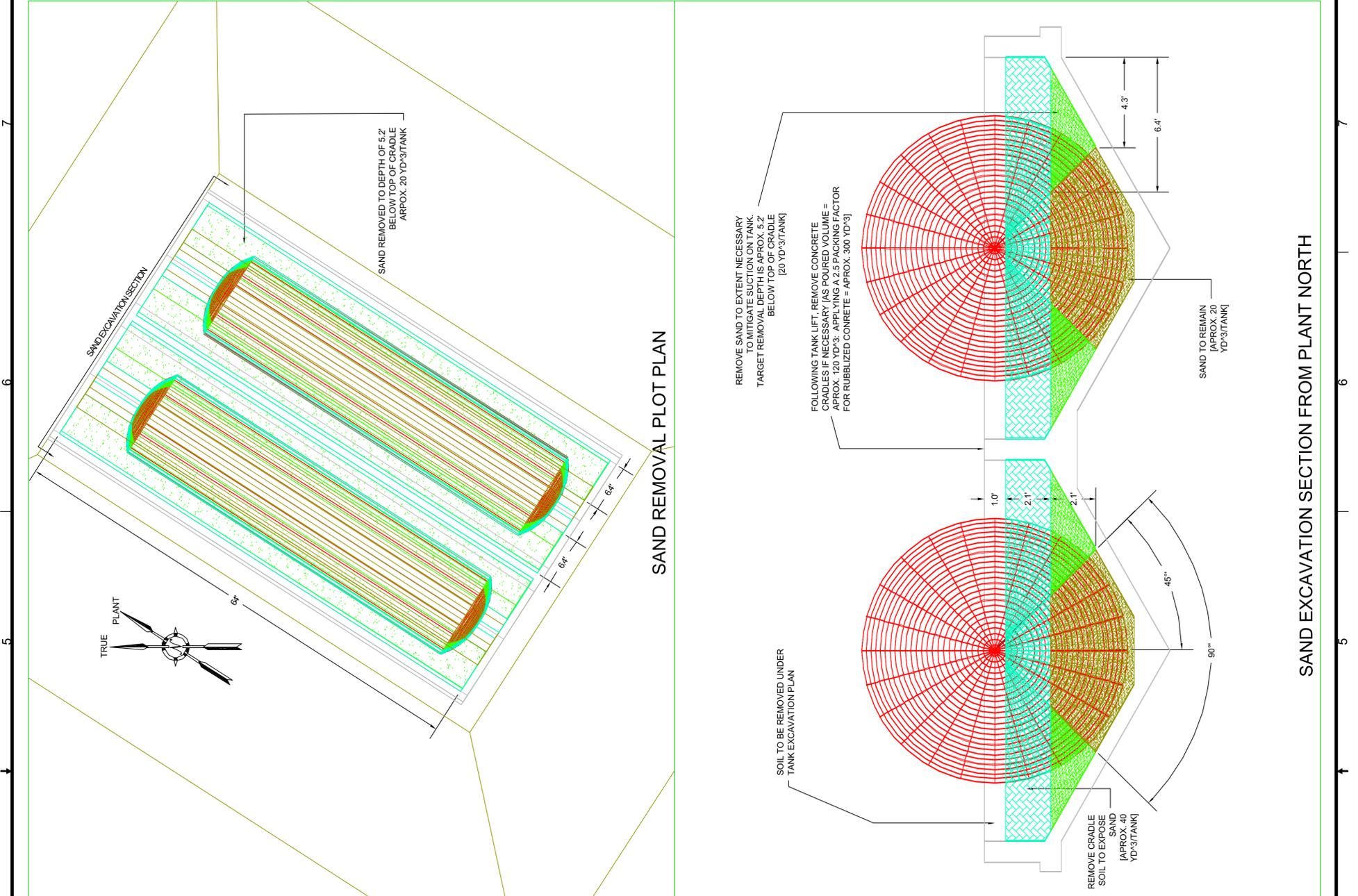
REV	DESCRIPTION	EFFECTIVE DATE

NOTES
 1. DIMENSIONS ARE APPROXIMATE AND WILL BE VERIFIED DURING FIELD ACTIVITIES.


 IDAHO OPERATIONS OFFICE
 P.O. BOX 3726 • 63403
 208.228.8608
 208.228.8608

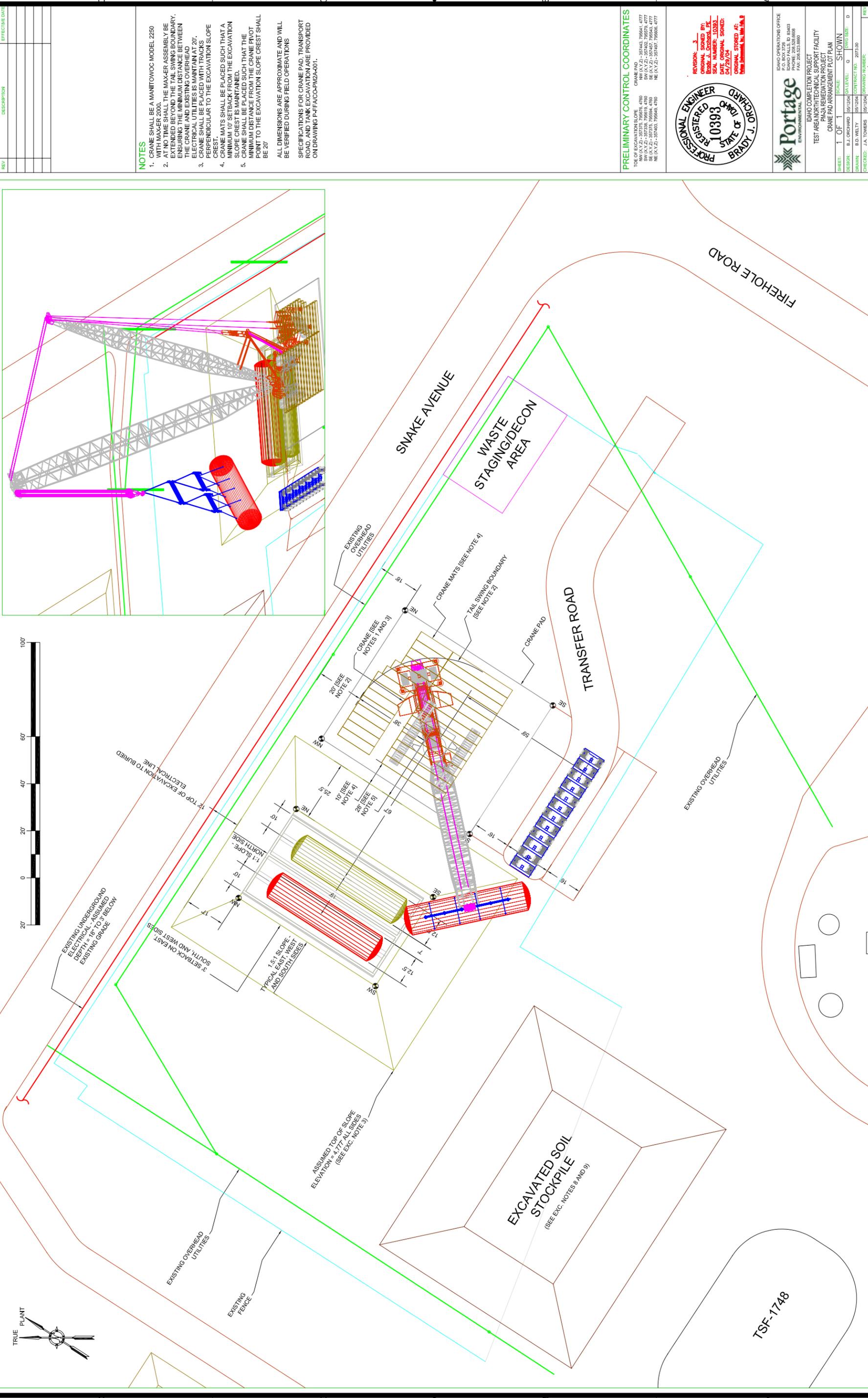
IDAHO COMPLETION PROJECT
TEST AREA NORTH TECHNICAL SUPPORT FACILITY
PLAZA REMEDIATION PROJECT
SAND PAD REMOVAL PLAN, SECTION, AND ISOMETRIC

SHEET: 1 OF 1 SCALE: SHOWN
 DESIGN: B.J. ORCHARD DATE: 10/11/04 CONTRACT NO.: 207300
 DRAWN: B.D. WELLY DATE: 10/11/04 DRAWING NUMBER: 207300
 CHECKED: J.A. TOWERS DATE: 10/11/04
 APPROVED: B.J. ORCHARD DATE: 10/11/04 P-FFA/CO-PM2A-006



REVISION: 0
 ORIGINAL SIGNED BY: Brady J. Orchard, PE
 SEAL NUMBER: 10393
 DATE ORIGINAL SIGNED: 02/12/04
 ORIGINAL STORED AT: [www.portageenvironmental.com](#)

8
7
6
5
4
3
2
1



- NOTES**
1. CRANE SHALL BE A MANITOWOC MODEL 2250 WITH MAX-R 2000.
 2. AT NO TIME SHALL THE MAX-R ASSEMBLY BE EXTENDED BEYOND THE TAIL SWING BOUNDARY. ENSURING THE MINIMUM DISTANCE BETWEEN THE CRANE AND EXISTING OVERHEAD ELECTRICAL UTILITIES IS MAINTAINED AT 20'.
 3. CRANE SHALL BE PLACED WITH TRACKS PERPENDICULAR TO THE EXCAVATION SLOPE.
 4. CRANE MATS SHALL BE PLACED SUCH THAT A MINIMUM 10' SETBACK FROM THE EXCAVATION SLOPE CREST IS MAINTAINED.
 5. CRANE SHALL BE PLACED SUCH THAT THE MINIMUM DISTANCE FROM THE CRANE PIVOT POINT TO THE EXCAVATION SLOPE CREST SHALL BE 20'.
- ALL DIMENSIONS ARE APPROXIMATE AND WILL BE VERIFIED DURING FIELD OPERATIONS. SPECIFICATIONS FOR CRANE PAD, TRANSPORT ROAD, AND TANK EXCAVATION ARE PROVIDED ON DRAWING P-FFA/CO-PM2A-001.

PRELIMINARY CONTROL COORDINATES

CRANE PAD
 TIDE OF EXCAVATION SLOPE
 NW (X,Y,Z) = 357443, 795641, 4777
 SW (X,Y,Z) = 357376, 795676, 4780
 SE (X,Y,Z) = 357487, 795643, 4777
 NE (X,Y,Z) = 357403, 795649, 4780
 NW (X,Y,Z) = 357443, 795641, 4777
 SW (X,Y,Z) = 357376, 795676, 4780
 SE (X,Y,Z) = 357487, 795643, 4777
 NE (X,Y,Z) = 357403, 795649, 4780



IDAHO OPERATIONS OFFICE
 P.O. BOX 3726
 IDAHO FALLS, ID 83403
 PHONE: 208.343.8800
 FAX: 208.343.8800

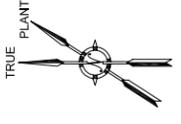
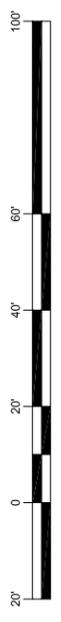
Portage
 ENVIRONMENTAL

IDAHO COMPLETION PROJECT
 TEST AREA/NORTH TECHNICAL SUPPORT FACILITY
 PM2A REMEDIATION PROJECT
 CRANE PAD ARRANGEMENT PLOT PLAN

SHEET: 1 OF 1 SCALE: SHOWN DIMENSIONS
 DESIGN: B.J. ORCHARD
 CONTRACT NO.: 2021.00
 CHECKED: J.A. TOMERS
 DRAWING NUMBER: P-FFA/CO-PM2A-008

8
7
6
5
4
3
2
1

REV	DESCRIPTION	EFFECTIVE DATE



NOTES

ALL EARTHWORK AND REVEGETATION TO BE COMPLETED IN ACCORDANCE WITH CONSTRUCTION SPECIFICATION SPC-47R, SECTIONS 10200 AND 10400, RESPECTIVELY.
 FINAL CONTOUR SPECIFICATION: FINAL CONTOURS TO BE SLOPED FROM 10:00 TO 1:00 ON THE EAST TO 1:00 TO 1:00 ON THE WEST. SHOWN ELEVATION WILL RANGE FROM 4.781 FT ON THE EAST TO 4.780 FT ON THE WEST.



REASON: 0
 ORIGINAL SIGNED BY: Eli Orchard, PE
 SEAL NUMBER: 10393
 DATE ORIGINAL SIGNED: 07/27/24
 ORIGINAL SIGNED AS: Professional Engineer

Portage
 ENVIRONMENTAL

IDAHO OPERATIONS OFFICE
 P.O. BOX 3726
 IDAHO FALLS, ID 83403
 TEL: 208.343.8800
 FAX: 208.343.8800

IDAHO COMPLETION PROJECT
 TEST AREA/NORTH TECHNICAL SUPPORT FACILITY
 PIMA REMEDIATION PROJECT
 FINAL CONTOUR PLOT PLAN

SHEET: 1 OF 1
 SCALE: SHOWN
 DRAWN: B.J. ORCHARD
 CHECKED: J.A. TOMERS

CONTRACT NO.: 2021-00
 DRAWING NUMBER:
 P-FFA/CO-PM2A-009

A B C D E F G H J K L M N P

REV	DATE	DESCRIPTION	DESIGN BY

NOTES

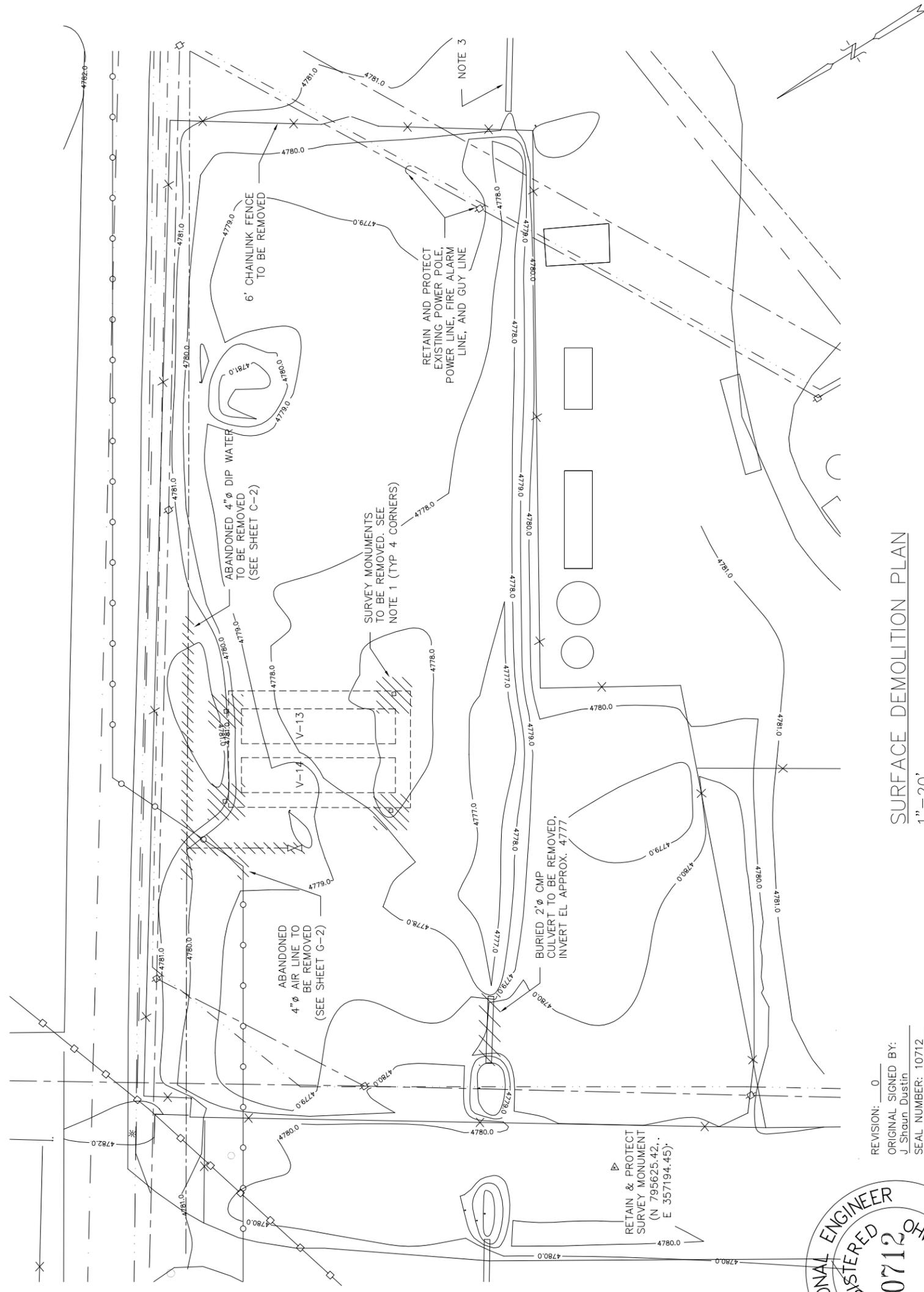
- 1) WHERE SURVEY MONUMENTS ARE SCHEDULED FOR DEMOLITION MAINTAIN REFERENCE STAKING TO PERMIT REESTABLISHMENT OF MONUMENTS.
- 2) RETAIN AND PROTECT ALL EXISTING INFRASTRUCTURE NOT SPECIFICALLY SLATED FOR DEMOLITION.
- 3) PLUG UPSTREAM SIDE OF CULVERT TO PREVENT OFFSITE STORMWATER RUNOFF FROM ENTERING WORK AREA DURING CONSTRUCTION.

SCALE: AS NOTED

OU 1-10 TSF-26
SURFACE
DEMOLITION PLAN

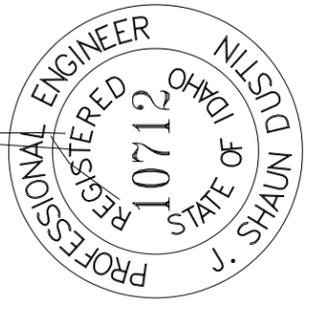
intrepid technology & resources
501 W. BROADWAY, SUITE 200, IDAHO FALLS, ID 83402
(208)529-5337 FAX: (208)529-1014

C-1	
DRAWN: JSD	TASK ORDER NUMBER: 2000-096
DESIGNED: JSD	QA LEVEL: D
CHECKED: GDM	CG
APPROVED: GDM	DRAWING NUMBER: 10355
CADD FILE: 10355_0.DWG	REV: 0



SURFACE DEMOLITION PLAN
1" = 20'

REVISION: 0
ORIGINAL SIGNED BY: J. Shaun Dustin
SEAL NUMBER: 10712
DATE ORIGINAL SIGNED: 12/3/2003
ORIGINAL STORED AT: Intrepid Technology & Resources

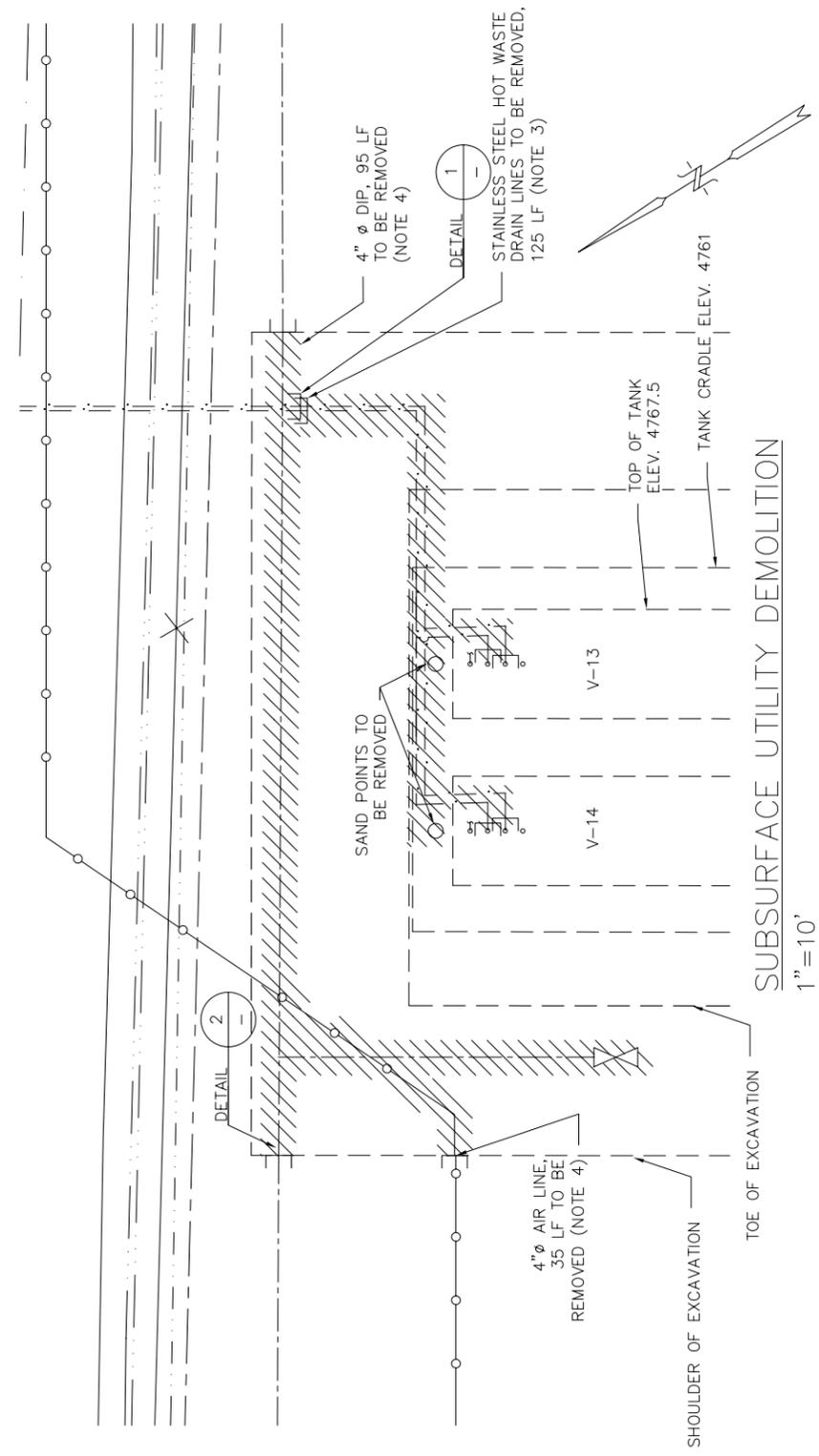


REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

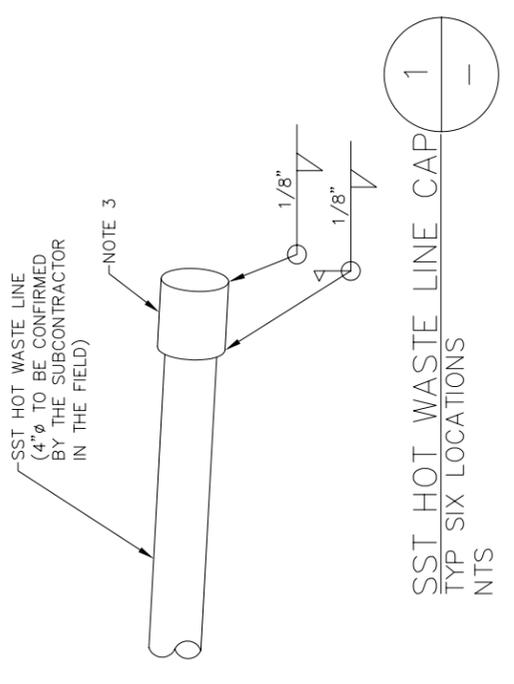
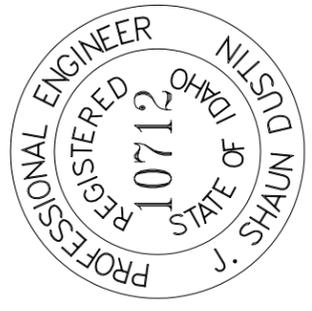
NOTES

- WHERE SURVEY MONUMENTS ARE SCHEDULED FOR DEMOLITION MAINTAIN STAKING TO PERMIT LOCATION OF ASSUMED TANK CRADLE CORNERS UNTIL CORNERS ARE EXPOSED.
- RETAIN AND PROTECT ALL EXISTING INFRASTRUCTURE NOT SPECIFICALLY SLATED FOR DEMOLITION ON THIS SHEET.
- CUT, PLUG AND CAP HOT WASTE LINES AT EDGE OF FINAL EXCAVATION WALL AS SHOWN. CAPS SHALL BE FABRICATED FROM 3/16" WALL STAINLESS STEEL. EXACT HOT WASTE LINE DIAMETER AND LOCATION ARE UNKNOWN. HAND OR VACUUM EXCAVATE TEST PITS FROM ELEVATION 4773 TO EXPOSE AND POSITIVELY LOCATE HOT WASTE LINES. WHEN HOT WASTE LINE LOCATION AND DEPTH ARE ESTABLISHED MARK LOCATION AND MAINTAIN MARKINGS UNTIL CUTTING, CAPPING, AND REMOVAL OPERATIONS ARE COMPLETE. HAND EXCAVATE WITHIN 3 FEET OF ESTABLISHED HOT WASTE LINE LOCATIONS TO COMPLETELY EXPOSED PORTIONS SCHEDULED FOR DEMOLITION.
- REMOVE WATER AND AIR LINES AS REQUIRED TO COMPLETE TANK EXCAVATION. ACTUAL PIPE SECTIONS TO BE REMOVED ARE TO BE DETERMINED IN THE FIELD BY PIPE LOCATION AND EXCAVATION FOOTPRINT. CUT AND CAP LINES AT EDGE OF FINAL EXCAVATION. BOTH AIR AND WATER LINES ARE ABANDONED, AND NO SPECIAL PRECAUTIONS NEED TO BE TAKEN WITH REGARD TO EXPOSING THE LINES. PLUG ABANDONED WATER AND AIR LINES BY CUTTING THEM CLEANLY WITH A HOT SAW, THEN INSTALLING MECHANICALLY EXPANDED RUBBER PLUGS PER PLUG MFG. INSTRUCTIONS. ASSUMED WATER LINE ELEVATION: 4775; ASSUMED AIR LINE ELEVATION: 4777.

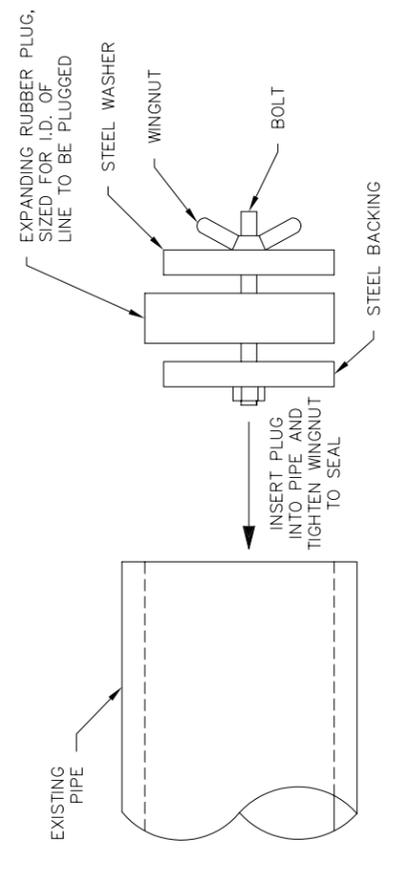


SUBSURFACE UTILITY DEMOLITION
1" = 10'

REVISION: 0
 ORIGINAL SIGNED BY:
 J. Shaun Dustin
 SEAL NUMBER: 10712
 DATE ORIGINAL SIGNED:
 12/3/2003
 ORIGINAL STORED AT:
 Intrepid Technology & Resources



SST HOT WASTE LINE CAP
 TYP SIX LOCATIONS
 NTS



RUBBER PIPE PLUG 2
 TYP 4 LOCATIONS
 NTS

SCALE: AS NOTED

OU 1-10 TSF-26
 SUBSURFACE
 DEMOLITION PLAN



C-2

DRAWN:	DESIGNED:	CHECKED:	APPROVED:	TASK ORDER NUMBER	QA LEVEL:	DWG SIZE:	REV
JSD	JSD	GDM	GDM	2000-096	CG	D	0
CADD FILE: 10356_0.DWG				DRAWING NUMBER		10356	



Attachment 2
PM-2A Tanks Design Specifications

CONTENTS

SPC 475	Construction Specifications
Subdivision 01051	Construction Surveying and Staking
Subdivision 02140	Temporary Diversion and Control of Water During Construction
Subdivision 02200	Earthwork
Subdivision 02486	Revegetation

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1 SECTION 01051--CONSTRUCTION SURVEYING AND STAKING

2
3 PART 1--GENERAL

4
5 SUMMARY:

6 Section Includes: Work includes, but is not limited to:

7
8 The subcontractor will furnish all materials, labor, tools, and equipment to perform surveying.
9 The subcontractor will perform surveying to ensure that the proper grades, lines, and levels are
10 established as set forth in these specifications and as shown on the design drawings. The
11 construction survey will be completed under the supervision of a Registered Professional Land
12 Surveyor licensed in the State of Idaho.

13
14 Related Sections:

- 15 a) Section 02140, Temporary Diversion and Control of Water During Construction
16 b) Section 02200, Earthwork
17 c) Section 02430, Storm Drain
18 d) Section 02486, Revegetation
19

20 Work to be Performed by Others:

21 The Contractor will:

- 22 a) Review and approve data submittals as required by this specification
23 b) Provide INEEL survey grid information
24 c) Provide benchmarks, strategically located, as shown on design drawings
25 d) Inspect work for compliance with this specification, in addition to inspection by the
26 subcontractor.
27 e) Perform final inspection and acceptance of water diversion and control work.
28

29 SUBMITTALS:

30 Procedures:

- 31 a) The subcontractor will submit within eight work days after notice to proceed, a plan for the
32 work, including descriptions of survey equipment, procedures used to establish temporary or
33 permanent benchmarks or measurements, field notes, calculations, reductions, closures, and
34 documentation for any benchmarks or monuments to the contractor for approval.
35 b) Data will be reduced and plotted by the subcontractor in a form acceptable to the contractor.
36 Legible notes, drawings, and reproducible documentation will be submitted to the contractor
37 for approval. Contour intervals will be 0.5 feet. In addition to the above notes submittals, all
38 plans will also be submitted in ASCII (data) and AutoCAD 2002 (drawings) formats on CD-
39 ROM.
40

41 Certifications:

- 42 a) Provide evidence of surveyor's current registration in the State of Idaho.
43 b) Prior to grading or placing fill at the site, the subcontractor will perform a survey of the
44 existing subgrade, if necessary, to confirm to his satisfaction the adequacy of the existing
45 topography as shown on the drawings. The Subcontractor will submit a letter to the contractor
46 stating acceptance of the accuracy of the existing topography shown on the contract
47 drawings, or will otherwise advise of discrepancies or omissions for further resolution.
48 Construction work in each respective area will not begin until agreement is reached on the
49 adequacy of the existing topographic information.

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1
2 Records: The subcontractor will submit to the contractor for information, all field notes from surveying
3 and layout activities within four work days after completion of each stage of these activities at each
4 respective site.

5
6 QUALITY CONTROL:

7 Qualifications: Construction surveying and staking shall be accomplished under the direction of a
8 registered professional land surveyor licensed in the State of Idaho.

9
10 PART 2--PRODUCTS

11
12 Stakes: Identification stakes and hubs shall be of sufficient length, width and depth to provide a solid set
13 in the ground and to provide space for marking above ground when applicable. The top 2-in. of all slope,
14 guard, reference, clearing, and structure stakes shall be painted or marked with plastic flagging.

15
16 Monuments: Permanent monuments shall be supplied and placed in accordance with applicable INEEL,
17 State and Federal standards as shown in the drawings.

18
19 PART 3--EXECUTION

20
21 SURVEY REQUIREMENT:

22 Precision: Precision and accuracy requirements are contained in Table 1. Precision B shall be used.

23
24 Control: Prior to commencement of construction work, the subcontractor will establish survey control
25 points inside the work areas. Survey control points will be established so that any point within the job site
26 can be accurately reestablished and elevations be obtained to the required tolerances at any time during
27 the construction. The subcontractor will verify all baselines, and horizontal and vertical control
28 benchmarks stipulated in the information provided by the contractor.

29
30 Slope Stakes, Clearing Limits and Reference Stakes: Slope catch-points, clearing limits, and slope
31 reference stakes shall be established. The position of these stakes shall be determined by methods that
32 will produce on the ground the precisions shown in the Table 1.

33
34 Clearing limits shall be set within the tolerance shown in the Table 1. The clearing limit shall be located
35 on the ground and marked with lath, flagging, or other methods approved by the Contractor's
36 Representative.

37
38 The elevation and location of slope reference stakes shall be verified for accuracy by a differential level
39 run over the reference stakes between benchmarks.

40
41 Monuments of Property Boundaries or Surveys of Other Agencies: If property boundary or survey
42 monuments, or survey markers of other agencies, are found within or adjacent to the construction limits,
43 the Subcontractor shall immediately notify the Contractor's Representative. These monuments shall not
44 be disturbed. If disturbance is necessary to complete the work, monuments shall be reestablished to the
45 original coordinates prior to final completion. The exception is the four known and previously disturbed
46 monuments over the PM-2A tank cradle. These monuments are to be surveyed to permit reestablishment
47 of the corners they mark for reference during excavation, and disposed of in accordance with section
48 02200 of these specifications.

1 Grade Finishing Stakes: Stakes shall be set on a 50-ft grid and at the shoulders. Subgrade finishing
2 stakes shall be red tops and finish grade stakes shall be blue tops.
3
4 Finishing stakes shall be set when subbase is within 0.2 ft, or topsoil is within 0.1 ft of final grade. The
5 stakes shall be set to the nearest 0.01 ft of the measured grade line.
6

TABLE 1. CROSS SECTION AND SLOPE-STAKE PRECISION

Item	Precision		
	A	B	C
Allowable deviation of cross section line projection from a true perpendicular to tangents, a true dissector of angle points, or a true radius of curves.	± 2 _	± 3 _	± 3 _
Cross section topography measurements shall be taken so that variations in ground from a straight line connecting the cross section points will not exceed:	0.5 ft	1.0 ft	2.0 ft
Horizontal and vertical accuracy for cross sections. In feet or percentage of horizontal distance measured from transverse line, whichever is greater.	.05 ft or 0.2%	0.15 ft or 0.6%	0.2 ft or 1.0%
Horizontal and vertical accuracy for slope stake, slope stake references, and clearing limits. In feet or percentage of horizontal distance measured from centerline or reference stake, whichever is greater.			
a. Slope reference stakes and slope stakes.	0.1 ft or 0.4%	0.15 ft or 0.6%	0.2 ft or 1.0%
b. Clearing limits.	1.0 ft	1.0 ft	1.0 ft

7
8 FIELD QUALITY CONTROL:
9 The subcontractor is responsible for controlling lift thickness to ensure conformance to the required
10 dimensions. The subcontractor will be responsible for establishing, recording, protecting, and maintaining
11 all permanent and temporary horizontal and vertical control benchmarks.
12

13 Surveillance will be performed by the Contractor's Representative to verify compliance of the work to the
14 drawings and specifications.
15

16 END OF SECTION 01051

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1 SECTION 02140—TEMPORARY DIVERSION AND CONTROL OF WATER DURING
2 CONSTRUCTION

3
4 PART 1--GENERAL

5
6 SUMMARY:

7 Section Includes: Work includes, but is not limited to:

8 Furnishing of all materials, labor, tools, and equipment for dewatering work areas and controlling
9 surface water prior to and throughout construction operations. Control measures implemented
10 may include berms, swales, ditches, temporary piles, portable pumps, silt fences, sediment traps,
11 or any other measure approved by the contractor in accordance with this specification and as
12 shown on the design drawings.

13
14 Related Sections:

- 15 a) Section 02200, Earthwork
16 b) Section 02430, Storm Drain

17
18 Work to be Performed by Others:

19 The Contractor will:

- 20 a) Review and approve data submittals as required by this specification
21 b) Inspect work for compliance with this specification and the design drawings, in addition to
22 inspection by the subcontractor. The contractor will review pre-placement conditions,
23 placement of controls, and other job conditions during performance of the work.
24 c) Perform final inspection and acceptance of water diversion and control work.

25
26 REFERENCES:

27 The following documents, including others referenced therein, form part of this Section to the extent
28 designated herein.

- 29 a) Health and Safety Plan (HASP) for the Remedial Action Waste Group 3, Operable Unit 1-10
30 b) Comprehensive Remedial Design/Remedial Action Work Plan for the Test Area North
31 Operable Unit 1-10, Selected Sites

32
33 SUBMITTALS:

34 Procedures: Storm water control procedure and dust control procedures shall be submitted for approval
35 prior to the start of the work detailing the subcontractor's proposed storm water control measures. The
36 procedures must meet the requirements specified in the project Environmental Checklist and shall be
37 approved by the contractor and implemented as approved before excavation may begin, and shall comply
38 with the preliminary grading plan shown in the drawings.

39
40 Records: The Subcontractor will submit all records of inspection to the contractor within four work days
41 after completion of the inspection.

42
43 PART 2--PRODUCTS

44
45 EQUIPMENT:

- 46 a) All equipment and tools will conform to the safety requirements of the Project Health and
47 Safety Plan (HASP)
48 b) All equipment and tools used by the subcontractor to perform the work will be subject to
49 inspection by the contractor before the work is started and will be maintained in satisfactory

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- 1 working condition at all times.
2 c) The subcontractor's equipment and work will be adequate and capable of controlling water
3 prior to and throughout construction as required by this specification and the design
4 drawings.
5

6 **MATERIALS:**

- 7 a) All materials will be furnished by the subcontractor and will be subject to approval by the
8 contractor
9 b) Selection of materials used for controlling storm water are the responsibility of the
10 subcontractor, but will follow the intent of the Storm Water Pollution Prevention Plan and be
11 approved by the contractor.
12

13 **PART 3--EXECUTION**

14
15 **GENERAL:**

- 16 a) All standing water outside the construction boundary may be left to infiltrate the soil.
17 b) The subcontractor will perform all construction work in areas free of standing water. Suitable
18 water control measures will be constructed at all locations where construction work may be
19 affected by ponded storm water at the time of work.
20 c) The subcontractor will divert surface water around the periphery of all construction areas by
21 applying the preliminary grading plan as outlined in the drawings.
22 d) The subcontractor will be solely responsible for the protection of work against damage, delay,
23 or environmental impact by water flow.
24 e) The subcontractor will direct and control water in a manner that protects adjacent structures
25 and facilities.
26 f) The subcontractor will ensure that existing storm drain entering the site from the east is
27 plugged during construction activities until the new storm drain is complete and accepted.
28 g) The Subcontractor will at all times minimize the creation and emission of dust. The
29 subcontractor will employ means such as water spray and visual observation to control and
30 minimize dust. The source of water for dust suppression will be the TAN fire water system.
31 The Subcontractor shall supply appropriate equipment for water delivery, storage, and
32 application.
33

34 **WORK IN EXTREME WEATHER:**

35 In the event of extreme storm activity, the subcontractor will provide protective measures to prevent
36 damage to the work by run-on and maintain control of the run-off from the constructed areas. During
37 extreme storm events, the subcontractor will protect slopes by methods approved by the contractor. Prior
38 to re-starting work after an extreme storm event, the subcontractor will inspect and clean out all
39 temporary control structures of debris and sediment buildup, and repair or replace any damaged areas
40 either in the temporary control structures or in the permanent work areas as approved by the contractor.
41

42 **INSPECTIONS AND REPAIRS:**

- 43 a) The subcontractor will inspect temporary water control structures and materials on a daily basis
44 and will record inspection findings in the daily work log. The inspection records will be
45 submitted weekly to the contractor.
46 b) The subcontractor will remove debris and sediment build-up from the temporary control
47 structures as required to maintain the intended flow path.
48 c) Should overflow or breach conditions be encountered or any other damage observed at the
49 temporary structures, repair and/or replacement of the damaged area will be promptly performed

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- 1 by the subcontractor.
2 d) Acceptance criteria for repaired and/or replaced temporary water control structures will be in
3 accordance with the requirements of this specification.
4

5 REMOVAL OF TEMPORARY CONTROL MEASURES:

6 Temporary storm water control measures will be removed once the work has been completed and as
7 directed by the contractor. The subcontractor will properly dispose of the materials removed as directed
8 by the contractor. All areas where temporary control structures are removed will be regraded and
9 revegetated in accordance with Sections 02200 and 02930 of these specifications.

10

11 ACCEPTANCE:

12 The subcontractor will submit a description of any repair or replacement work required to the contractor
13 prior to implementation. Acceptance criteria for repaired or replaced water control measures will be in
14 accordance with the original requirements of this specification.

15

16

END OF SECTION 02140

1 SECTION 02200--EARTHWORK

2
3 PART 1--GENERAL

4
5 SUMMARY:

6 Section Includes: Work includes, but is not limited to:

- 7 1. Clearing and grubbing as required.
- 8 2. Excavating all materials encountered, of every description, for completion of the Subcontract as
- 9 shown on the drawings and as specified herein.
- 10 3. Backfilling of all excavation for TSF-26, and for footings, foundations, pipe and utility trenches,
- 11 etc.
- 12 4. Compacting all backfill and sub-grade as specified herein.
- 13 5. Finish grading and grading for surface drainage.

14 Related Sections:

- 15 a) Section 01051 – Construction Surveying and Staking
- 16 b) Section 02140 – Temporary Diversion and Control of Water during Construction
- 17 c) Section 02430 – Storm Drain
- 18 d) Section 02486 – Revegetation

19
20 REFERENCES:

21 The following documents, including others referenced therein, form part of this Section to the extent
22 designated herein.

23
24 **AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIALS (AASHTO)**

25	AASHTO	Standard Specifications for Transportation Materials and Methods of Sampling
26		and Testing
27	AASHTO M145	Recommended Practice for the Classification of Soils and Soil-Aggregate
28		Mixtures for Highway Construction Purposes
29	AASHTO M288	Standard Specification for Geotextile Specification for Highway Applications
30	AASHTO T11	Standard Method of Test for Materials Finer Than 75 Micrometer (No. 200)
31		Sieve in Mineral Aggregates by Washing
32	AASHTO T27	Standard Method of Test for Sieve Analysis of Fine and Coarse Aggregates
33	AASHTO T99	Standard Method of Test for the Moisture-Density Relations of Soils Using a 5.5
34		lb Rammer and a 12 in. Drop
35	AASHTO T238	Standard Method of Test for Density of Soil and Soil-Aggregate in Place by
36		Nuclear Methods (Shallow Depth)

37
38 **CODE OF FEDERAL REGULATIONS**

39	29 CFR 1926	OSHA Safety and Health Regulations for Construction, Subpart P
40	49 CFR 173	DOT Shippers-General Requirements for Shipments and Packagings

41
42 **US DEPARTMENT OF ENERGY**

43	DOE/ID-01-10381	Idaho National Engineering and Environmental Laboratory Waste Acceptance
44		Criteria
45	DOE/ID-10865	Waste Acceptance Criteria for ICDF Landfill
46	DOE/ID-10881	ICDF Complex Waste Acceptance Criteria

47
48 **IDAHO TRANSPORTATION DEPARTMENT (ITD)**

49	SSHC	Standard Specification for Highway Construction
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SUBMITTALS:

For approval prior to purchase:

Proposed waste packaging materials, including manufacturer or supplier certification of compliance with the performance requirements of this specification for the following:

1. Liner system
2. Roll-off containers

For approval prior to mobilization:

Excavation plan and schedule, including proposed equipment, excavation sequencing, and schedule.

Work by Others:

The Contractor shall be responsible for handling of all listed wastes once the subcontractor has completed packaging in accordance with the terms of this specification.

PART 2--PRODUCTS

MATERIALS:

Waste Packaging Materials: Waste-packaging materials and procedures shall meet the requirements of DOE/ID 10881 and DOT 49 CFR for IP-1 containers transporting Class 7 materials. Packaging will be supplied by the subcontractor. Appropriate packaging includes but is not limited to 20- and 40-cubic yard roll off containers with liner systems (polyethylene liners, “burrito bags”, or Super Sacks). The subcontractor shall ensure that all loads comply with applicable legal weight limits on county, state, INEEL, and Federal roads.

Roll-off containers will be certified decontaminated or uncontaminated by the supplier, and have covers. Labeling materials and procedures shall be in accordance with DOE/ID 10881. All CERCLA waste shall be labeled with a “CERCLA Waste” label that includes an accumulation start date, waste description, applicable codes, and the generating site’s name.

General Backfill Satisfactory Soil Materials: Satisfactory soil materials are defined as those complying with AASHTO M145, soil classification Groups A-1, A-2-4, A-2-5.

General Backfill Unsatisfactory Soil Materials: Unsatisfactory soil materials are those defined in AASHTO M145 soil classification Groups A-2-6, A-2-7, A-4, A-5, A-6, and A-7; also peat and other highly organic soils.

General Backfill and Fill Material: "Satisfactory" soil materials free of rock, gravel larger than 3 in. in any dimension, debris, waste, frozen materials, vegetable and other deleterious matter. Select pit run gravel is available at the TAN gravel pits. Gravel pit material and use of the gravel pits shall be at no material cost to the Subcontractor. Upon completion of operations involving fill material removal, the Subcontractor shall grade and reshape the disturbed areas. Sloped surfaces shall meet the requirements of OSHA 29 CFR 1926. Coordinate gravel pit use with Mike Jackson-526-8872.

Aggregate Base or Leveling Course Material: Naturally or artificially graded mixture of 3/4 in. maximum size crushed gravel, crushed stone, natural and crushed sand. Material shall meet the requirements of ITD SSHC subsection 703.04.

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1 Topsoil: Natural, friable surface soil of organic character suitable for agricultural purposes. Topsoil shall
2 be free of objectionable quantities of subsoil, roots, stones, or other deleterious substances.
3

4 Sand Bedding: AASHTO M145, soil classification Group A-3.
5

6 Water: Water for use in obtaining optimum moisture content and dust control will be made available
7 from hydrants at TAN.
8

9 PART 3--EXECUTION
10

11 EXCAVATION:

12 Clearing and Grubbing: All areas to be excavated shall be stripped and cleared of all brush, weeds,
13 rubbish and organic matter as needed. All vegetable matter, roots, brush and debris encountered during
14 the stripping operations shall be removed from the cleared areas to a depth of at least 4-in. below the
15 subgrade. Stripped material shall be stockpiled or disposed of as specified hereinafter.
16

17 Earth Excavation: Earth excavation includes removal and disposal of all material within the limits of the
18 excavation including soil material of any classification, and other materials encountered that are not
19 classified as oversize debris excavation or unauthorized excavation.
20

21 Oversize Debris Excavation: Debris excavation consists of removal and disposal of materials
22 encountered requiring use of special equipment. Large tank sections shall be removed and packaged in
23 accordance with the RD/RAWP. Other debris, such as abandoned piping will be packaged for shipment
24 to the ICDF.
25

26 Unauthorized Excavation: Unauthorized excavation consists of removal of materials beyond indicated
27 elevations or dimensions without specific direction by the Contractor. Unauthorized excavation, as well
28 as remedial work directed by the Contractor, shall be at the Subcontractor's expense.
29

30 Stockpiling and Disposal: Excavated material that is suitable and required for backfilling, grading or
31 topsoil, shall be piled in an orderly manner a sufficient distance from the edge of the excavation, but in no
32 case closer than 2 ft, and so located that it will not interfere with normal vehicular or pedestrian traffic.
33 Excavated materials to be used for backfill shall be kept free from vegetation and other objectionable
34 materials. Topsoil to be used for finish grading shall be kept free from subsoil, vegetation and other
35 objectionable materials and stones larger than 1-in. Excavated materials requiring disposal shall be
36 packaged, labeled, and prepared for transport to ICDF for staging and disposal.
37

38 Unstable Soils: If wet or otherwise unsatisfactory soil is encountered in an excavation, at or below the
39 excavation line, it shall be brought to the attention of the Contractor and removed as directed in
40 accordance with Article 38, "Differing Site Conditions", of the General Provisions. The bottom of the
41 excavation shall then be brought to the required grade with concrete or compacted backfill as specified
42 hereinafter. Excavation of unstable soil resulting from the Subcontractor's neglect to keep the excavated
43 opening dry, and other over depth excavation not required to satisfactorily complete the work, shall be
44 brought up to the required grade with concrete or compacted backfill as specified hereinafter at the
45 Subcontractor's expense.
46

47 Shoring and Bracing: The sides of all excavations shall be sloped or securely shored and braced in
48 accordance with OSHA 29 CFR 1926, Subpart P. The slopes outlined in the drawings are based on the

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1 Contractor's sampling of two boreholes at the site. The Subcontractor shall be responsible for monitoring
2 conditions at the site and ensuring compliance with OSHA 29 CFR 1926, Subpart P at all times.
3

4 Control of Water: All excavations shall be kept free of standing water. The Subcontractor shall control
5 surface water in accordance with section 02140.
6

7 HAULING OF EXCAVATED MATERIAL

8 General: Material shall be loaded into appropriate containers (see Section 2 of this specification) by the
9 subcontractor. The Contractor shall be responsible for securing loads in accordance with the containment
10 manufacturer's written instructions and the project HASP, and transporting the loads to the ICDF. At the
11 ICDF, containers will be unloaded and staged for dumping by the Contractor.
12

13 BACKFILL OR FILL:

14 General: The excavations shall be cleared of all trash and debris prior to backfilling or filling. All
15 backfill or fill material shall be free from trash, organic matter and frozen particles. Backfilling or filling
16 shall be done only when approved by the Contractor. In excavations that are shored, shoring and
17 formwork shall be removed or raised as backfill or fill is placed.
18

19 Placement: Concentrated dumping of backfill or fill material into excavations will not be permitted. No
20 water shall be used for placing, settling or compacting backfill or fill except to obtain optimum moisture
21 content. All material must be placed in uniform layers not to exceed 12 in. loose measurement. Loose
22 backfill or fill may be compacted as specified hereinafter.
23

24 Compaction of Subgrade: Unless otherwise indicated on the drawings or specifications, compact all
25 backfill and fill material. Unless otherwise indicated, all "compacted" backfill or fill shall be compacted
26 to at least 90% of maximum density at optimum moisture content as determined by AASHTO T99.
27 Unless otherwise noted, loose measurement lifts shall be 12 inches maximum. Each lift shall be
28 compacted before the next lift is placed thereon. Compacted backfill or fill density and moisture content
29 may be measured by the Contractor at any location and depth. Sections of backfill or fill failing to meet
30 the minimum compaction requirements shall be corrected prior to placement of subsequent lifts.
31

32 Topsoil Placement: Before placing topsoil, scarify subgrade to a depth of two inches by use of disks or
33 spike tooth harrows. Spread topsoil uniformly and compact to a depth of 6 inches at 85% of maximum
34 density at optimum moisture content.
35

36 EQUIPMENT:

37 Watering Equipment: Provide water tank trucks capable of applying a uniform unbroken spread of water
38 over the surface. A suitable device for positive shut-off and regulation of flow shall be located to permit
39 operation by driver in cab.
40

41 FIELD QUALITY CONTROL:

42 Surveillance will be performed by the Contractor's Representative to verify compliance of the work to the
43 drawings and specifications.
44

45 END OF SECTION 02200

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Document Type: Construction Specifications **Project Number:** 23095
SPC Number: 475 **Revision Number:** 0

1 SECTION 02486--REVEGETATION

2
3 PART 1--GENERAL

4
5 SUMMARY:

6 Section Includes: Work includes, but is not limited to:

7
8 The subcontractor will furnish all labor, materials, labor, tools, and equipment, and place seed
9 and mulch in accordance with this specification and as indicated on the design drawings. This
10 section describes the subcontractor's requirements to provide a final vegetated surface in those
11 areas designated herein or as shown on the drawings. These designated areas will be seeded and
12 mulched as set forth in this section and on the design drawings.

13
14 Related Sections:

- 15 a) Section 01051 – Construction Surveying and Staking
16 b) Section 02220 – Earthwork

17
18 Work to be Performed by Others:

19 The contractor will:

- 20 a) Review and approve data submittals as required by this specification
21 b) Have the option to inspect equipment, work, and materials for compliance with the
22 requirements of this specification, in addition to inspection by the subcontractor
23 c) Have the option to review preseeding conditions and other related job conditions during
24 performance of the work
25 d) Perform inspection and acceptance of the final vegetated surfaces.

26
27 REFERENCES:

28 The following documents, including others referenced therein, form part of this Section to the extent
29 designated herein.

30
31 United States Department of Agriculture (USDA)
32 Federal Seed Act

33
34 STATE OF IDAHO
35 Idaho Pure Seed Law, Chapter 4, Title 22, Idaho Code

36
37 INEEL Health, Safety and Hazards Prevention Documents
38 Comprehensive RD/RA Work Plan for the Test Area North OU I-10, Selected Sites.

39
40 SUBMITTALS:

41 Procedures: The subcontractor will submit a Seeding and Mulching Plan to the contractor for written
42 approval within eight working days after notice to proceed. The plan will describe the methods of
43 placement and the equipment to be used during operations.

44
45 Certifications: The following certifications are required:

- 46 a) The subcontractor will submit eight working days prior to use, the seed vendor's certified
47 statement for the seed mixture required, stating scientific and common names, percentages by
48 weight, and percentages of purity and germination. The Subcontractor will submit a signed

- 1 statement certifying that the seed is from a lot that has been tested by a recognized laboratory
 2 for seed testing within six months prior to the date of delivery to the construction site.
 3 b) The subcontractor will submit a letter to the contractor verifying conformance to the
 4 requirements identified in this specification within four working days after completion of the
 5 work specified herein.
 6 c) The Subcontractor shall submit a written warrantee guaranteeing the work for one year from
 7 date of acceptance by the contractor.
 8

9 Records: The subcontractor will submit records of inspection to the contractor within four working days
 10 after completion of the inspection.
 11

12 PART 2--PRODUCTS

13 MATERIALS:

14 Seed Mix: Seed will be labeled in accordance with United States Department of Agriculture rules and
 15 regulations under the Federal Seed Act and Idaho Pure Seed Law. Seed will be furnished in sealed bags or
 16 containers clearly labeled to show the name and address of the supplier, the seed name, the lot number,
 17 net weight, origin, the percentage weed seed content, the guaranteed percentage of purity and
 18 germination, pounds of live seed (PLS) of each seed species, the total pounds of live seed in the container,
 19 and the date the of the last germination test that will be within a period of six months prior to
 20 commencement of planting operations. Seed will be from a current or previous year's crop. Each variety
 21 of seed will meet the requirements of the Idaho Pure Seed Law.
 22
 23

SPECIES	RATE OF APPLICATION (POUNDS PER ACRE PURE LIVE SEED)
“Critanna” Thickspike Wheatgrass, Elymus lanceolatus var critanna	3
“Sodar” Streambank Wheatgrass, Elymus lanceolatus var sodar	3
Rimrock Indian Ricegrass, Achnatharium hymenodes var rimrock	4
Wyoming Big Sagebrush, Artemisia tridentata ssp. Wyomingensis	1
Winterfat, Ceratoides lanata	2
Total	13

24
 25 Fertilizer: Fertilizer composition shall be as determined by soil testing the new graded topsoil in four
 26 locations as approved by the Contractor. Each component of the fertilizer may vary two percent.
 27

28 EQUIPMENT:

29 Seedbed Preparation: Disks, harrows, roller harrow-packers (culti-packers), tooth type harrows, shovels,
 30 or other similar equipment.
 31

32 Seeding and Fertilizing: Drills with double disc and agitator, ground driller hand seeder, culti-packer
 33 with seed boxes, Brillion seeder, or other similar equipment.
 34

35 PART 3--EXECUTION

Project Title: WAG 1, Operable Unit 1-10, Group 3, TSF-26 PM-2A Tanks Remedial Design
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1 Season of Work: Seeding shall be done between November 15 and December 15. Specific ideal seeding
2 times within these windows shall be as required for proper seedbed preparation.
3

4 Weed Control: Areas to be seeded shall be maintained reasonably free of weeds. The area will be sprayed
5 with an appropriate herbicide that will discourage growth of invasive and noxious weeds.
6

7 Seedbed Preparation: Soil shall be tilled a minimum depth of 4 inches. The seedbed shall be firm below
8 seeding depth and well-pulverized and loose on top. It shall be free of clods and weeds. Seedbed
9 preparation shall not be performed when soil conditions are not suitable for tilling: too dry, too wet,
10 frozen, etc. Tillage shall produce cross-slope furrows on slopes.
11

12 On areas subject to severe erosion, the extent of seedbed preparation shall not exceed that which can be
13 seeded in one day.
14

15 Fertilizing: Fertilizing shall closely follow seedbed preparation. Fertilizer shall not be mixed with seed.
16 Fertilizer may be drilled or broadcast. Fertilizer shall be applied as determined by the results of soil
17 testing.
18

19 Seeding: Seeding shall closely follow fertilizing. If the seedbed has been disturbed, then the
20 Subcontractor shall prepare the seedbed again. Seeding work shall not proceed until the seedbed has been
21 inspected. Seeds shall be thoroughly mixed prior to application. Seeds shall be uniformly applied at the
22 previously specified rate. Seeds shall be buried 0.25 to 0.75 inches. Seeding shall not be performed when
23 weather conditions are unfavorable: high wind, heavy rain, etc.
24

25 Protection: Traffic over seeded area shall be prohibited.
26

27 FIELD QUALITY CONTROL:

28 Seedbed Inspection: Seeding shall not proceed until the Contractor's Representative has inspected the
29 seedbed for conformance to these specifications.
30

31 Surveillance will be performed by the Contractor's Representative to verify compliance of the work to the
32 drawings and specifications.
33

34 END OF SECTION 02486