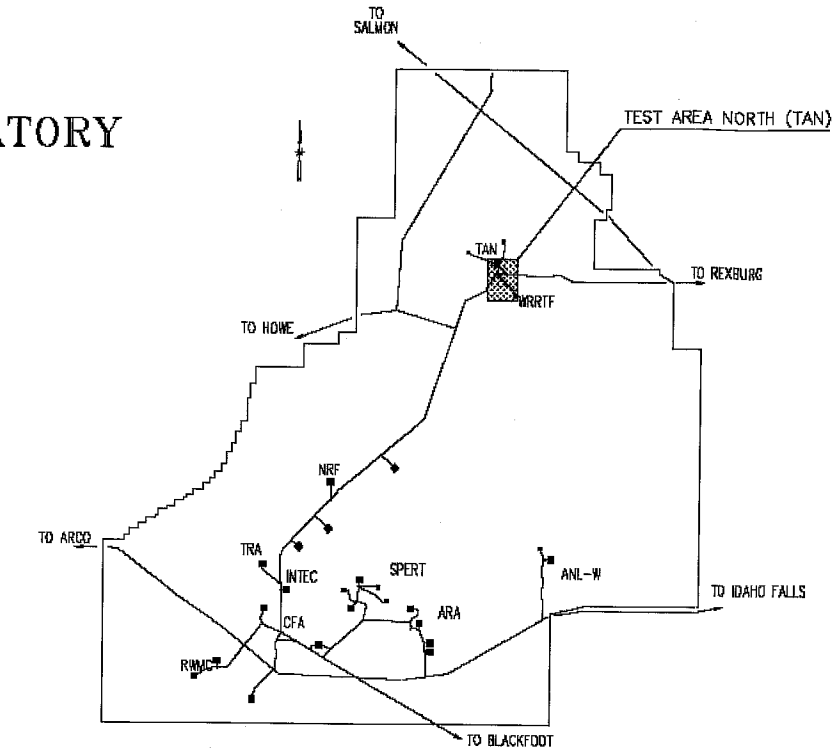
U.S. DEPARTMENT OF ENERGY

IDAHO NATIONAL ENGINEERING & ENVIRONMENTAL LABORATORY

TEST AREA NORTH OU 1-10

TSF-26



VICINITY MAP
NOT TO SCALE

INDEX OF DRAWINGS

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10353	G-3	0	SITE LAYOUT
10354	G-4	0	PROJECT PHOTOS
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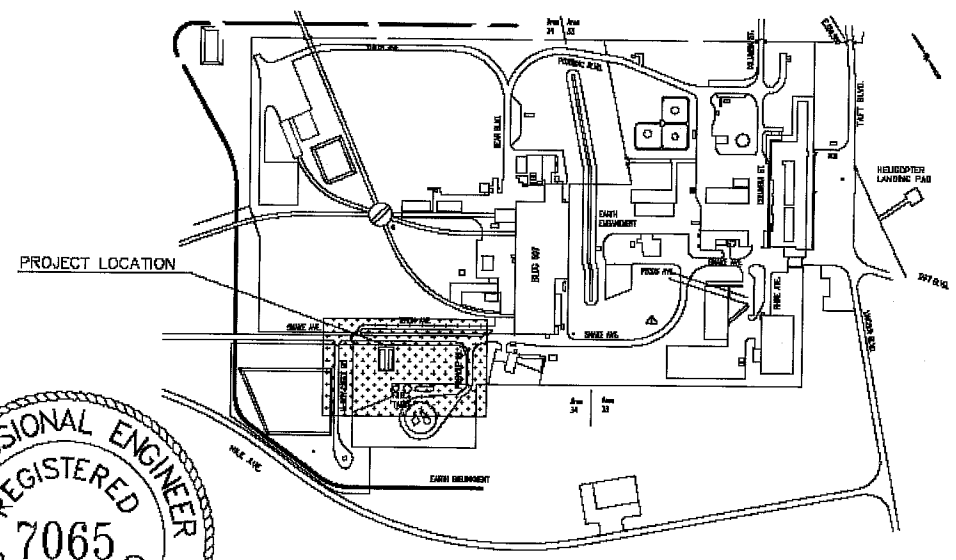
10373	M-7	0	EQUIPMENT SETUP DETAILS
10374	M-8	0	TANK COVER AND AIR FLOW SYSTEM
10375	M-9	0	HEPA FILTERS
10376	M-10	0	KNOCKDOWN HOPPER ISOMETRIC
10377	M-11	0	VACUUM SUPPORT FRAME
10378	M-12	0	WASTEBOX FRAME DETAILS
10379	M-13	0	COUPLING ADAPTERS
10380	M-14	0	WASTE BOX LID
10381	M-15	0	DE SYSTEM FEED SKID ISOMETRIC
10382	M-16	0	DE SYSTEM BIN VENT ISOMETRIC
10383	M-17	0	DE SYSTEM P&ID
10384	M-18	0	WASTE BOX STOPS DETAILS
10385	M-19	0	DE DIFFUSER NOZZLE DETAILS
10386	E-1	0	ELECTRICAL ONE-LINE DIAGRAM
10387	E-2	0	ELECTRICAL SITE LAYOUT



TECHNICAL SUPPORT FACILITY
NOT TO SCALE

REVISION: 0
ORIGINAL SIGNED BY: Gary Mecham
SEAL NUMBER: 7065
DATE ORIGINAL SIGNED: 12/3/2003
ORIGINAL STORED AT: Intrepid Technology & Resources

PROFESSIONAL ENGINEER REGISTERED 7065 STATE OF IDAHO GARY D. MECHAM

REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

SCALE:

OU 1-10 TSF-26
TITLE SHEET & INDEX

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

G-1

DRAWN: KEM	12/3/03	TASK ORDER NUMBER 200-096	
DESIGNED: KEM	12/3/03	QA LEVEL: QG	DWG SIZE: D
CHECKED: GDM	12/3/03		
APPROVED: GDM	12/3/03	DRAWING NUMBER 10351	REV 0
CADD FILE: 10351_G.DWG			

PIPING SYMBOLS

- GLOBE VALVE
- BALL VALVE
- GATE VALVE
- THREE WAY VALVE
- CHECK VALVE
- MOTOR OPERATED VALVE
- REDUCER
- FLOW ELEMENT
- HOSE CONNECTION
- VACUUM BREAKER
- EYE WASH
- PROCESS FLOW ARROW
- FLEXIBLE HOSE
- SP-X SAMPLE POINT
- CAMLOCK JOINT
- PRESSURE RELEASE VALVE

WELLHEAD SYMBOLS

- WELL LOCATION
- WATER SURFACE ELEVATON

ELECTRICAL

- LEVEL SWITCH
- CLOSED CONTACT (BREAK)
- OPEN CONTACT (MAKE)
- THERMAL ELEMENT
- CIRCUIT BREAKER
- FUSE
- TRANSFORMER
- GROUND

EQUIPMENT SYMBOLS

- SPECIALTY ITEM
- CHECKVALVE
- PUMP

INSTRUMENT DEVICE TAG TYPES

- IN-LINE TAG WITH LEADER LINE
- LOCAL MOUNTED DEVICE
- FRONT OF PANEL MOUNTED DEVICE
- HS 100 HOA — SPECIAL DESIGNATION; LETTERS OF INSTRUMENT DESIGNATION; LOOP NUMBER

INSTRUMENT SIGNAL LINES

- CONNECT TO PROCESS
- ELECTRIC INSTRUMENT SIGNAL
- SOFTWARE LINK

UTILITY LINE SYMBOLS

- UNDERGROUND ELECTRICAL
- ELECTRICAL
- FENCE
- CATHODIC PROTECTION
- TELECOMUNICATIONS
- FIRE ALARM
- POTABLE WATER
- FIRE WATER
- HOT WASTE DRAIN
- PROCESS DRAIN
- SANITARY SEWER
- ABANDONED AIR LINES
- HYDRANT
- GUY LINE/ANCHOR
- POST INDICATOR VALVE
- POWER POLE
- OBJECT SCHEDULED FOR DEMOLITION

IDENTIFICATION LETTERS

	FIRST-LETTER		SUCCEEDING-LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	USER'S CHOICE (1)			CONTROL	
D	USER'S CHOICE (1)	DIFFERENTIAL (4)			
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION) (4)			
G	USER'S CHOICE (1)		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN (7)			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE (4,21)		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	USER'S CHOICE (1)	MOMENTARY (4)			MIDDLE, INTERMEDIATE
N	USER'S CHOICE (1)		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE (1)		ORIFICE (RESTRICTION)		
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD	RELIEF	REGULATOR
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y AXIS			
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

INSTRUMENT SPECIAL DESIGNATION	
DESIGNATION	FUNCTION / ABBREVIATION
HOA	HAND-OFF-AUTO
S/S	START-STOP
ESD	EMERGENCY SHUTDOWN

NOTE: THIS TABLE APPLIES ONLY TO THE FUNCTIONAL IDENTIFICATION OF INSTRUMENTS. NUMBERS IN PARENTHESES REFER TO EXPLANATORY NOTES ON PAGES 15 AND 16 OF THE INSTRUMENT SOCIETY OF AMERICA AMERICAN NATIONAL STANDARD INSTRUMENTATION SYMBOLS AND IDENTIFICATION.

REVISION: 0
ORIGINAL SIGNED BY: Gary Mecham
SEAL NUMBER: 7065
DATE ORIGINAL SIGNED: 12/3/2003
ORIGINAL STORED AT: Intrepid Technology & Resources

PROFESSIONAL ENGINEER REGISTERED 7065 STATE OF IDAHO GARY D. MECHAM

REV	DATE	DESCRIPTION

NOTES

SCALE: AS NOTED

OU 1-10 TSF-26 GENERAL LEGEND

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

G-2

DRAWN: KEM	12/3/03	TASK ORDER NUMBER	
DESIGNED: KEM	12/3/03		2000-096
CHECKED: GDM	12/3/03	QA LEVEL: GG	DWG SIZE: D
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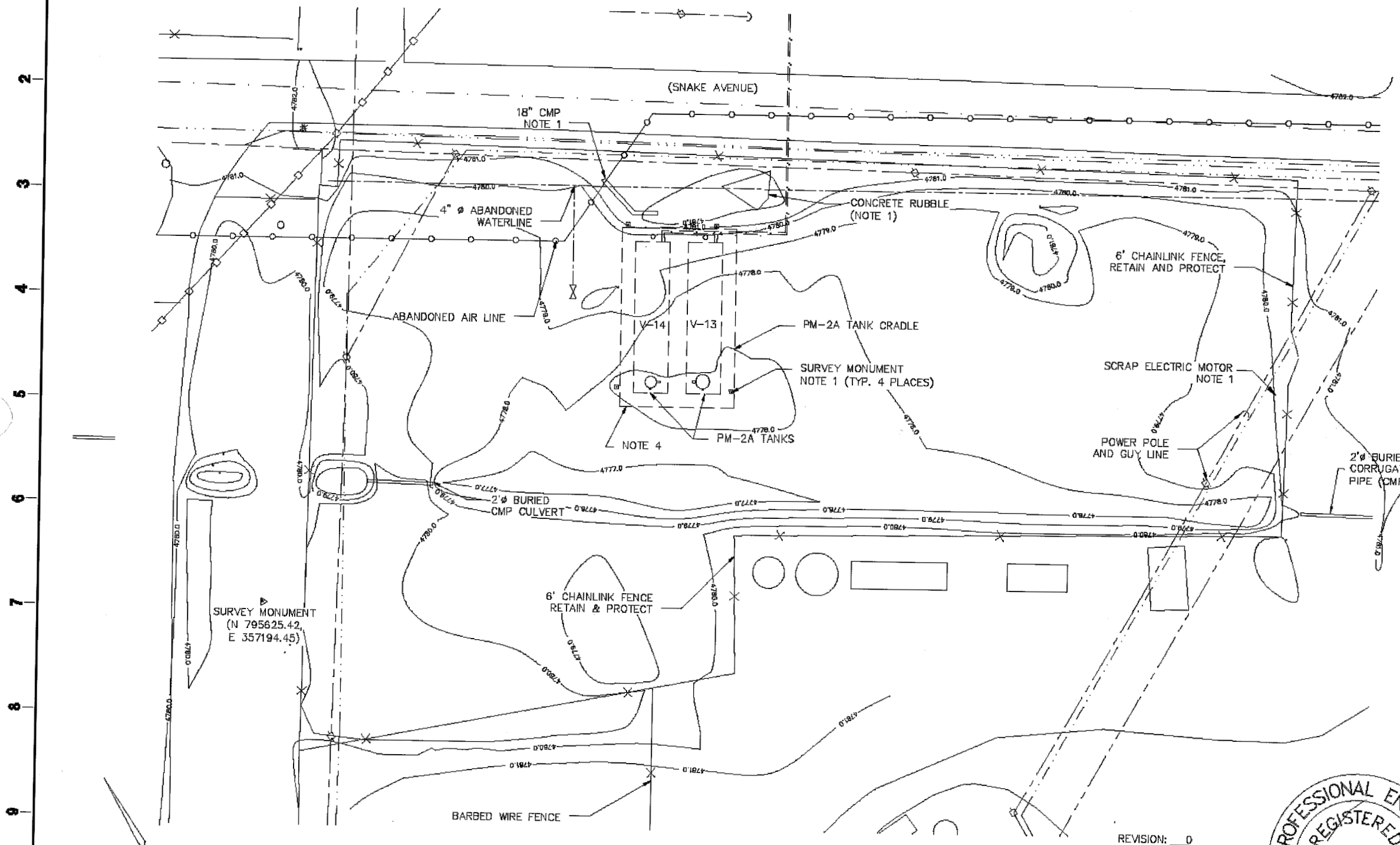

EXISTING SITE LAYOUT
1"=20'

REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

1) TO BE REMOVED BY OTHERS PRIOR TO START OF REMEDIATION ACTIVITIES.

2) UTILITY LOCATIONS SHOWN ARE APPROXIMATE. THE SUBCONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO EXCAVATION, AND MAINTAIN UTILITY MARKINGS THROUGHOUT REMEDIATION.

3) EXISTING SURFACE ELEVATIONS SUBJECT TO CHANGE DUE TO SCHEDULED OWNER SOIL REMOVAL ACTION PRIOR TO START OF REMEDIATION.

4) CONCRETE CRADLES USED AS SECONDARY CONTAINMENT FOR THE PM-2A TANKS WILL BE LEFT IN PLACE.

SCALE: AS NOTED

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

PROFESSIONAL ENGINEER
REGISTERED
10712
STATE OF IDAHO
J. SHAUN DUSTIN

OU 1-10 TSF-26 SITE LAYOUT

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G-3

DRAWN: JSD	12/3/03	TASK ORDER NUMBER 2000-096
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CHECKED: GDM	12/3/03	
APPROVED: GDM	12/3/03	DRAWING NUMBER 10353 / REV 0
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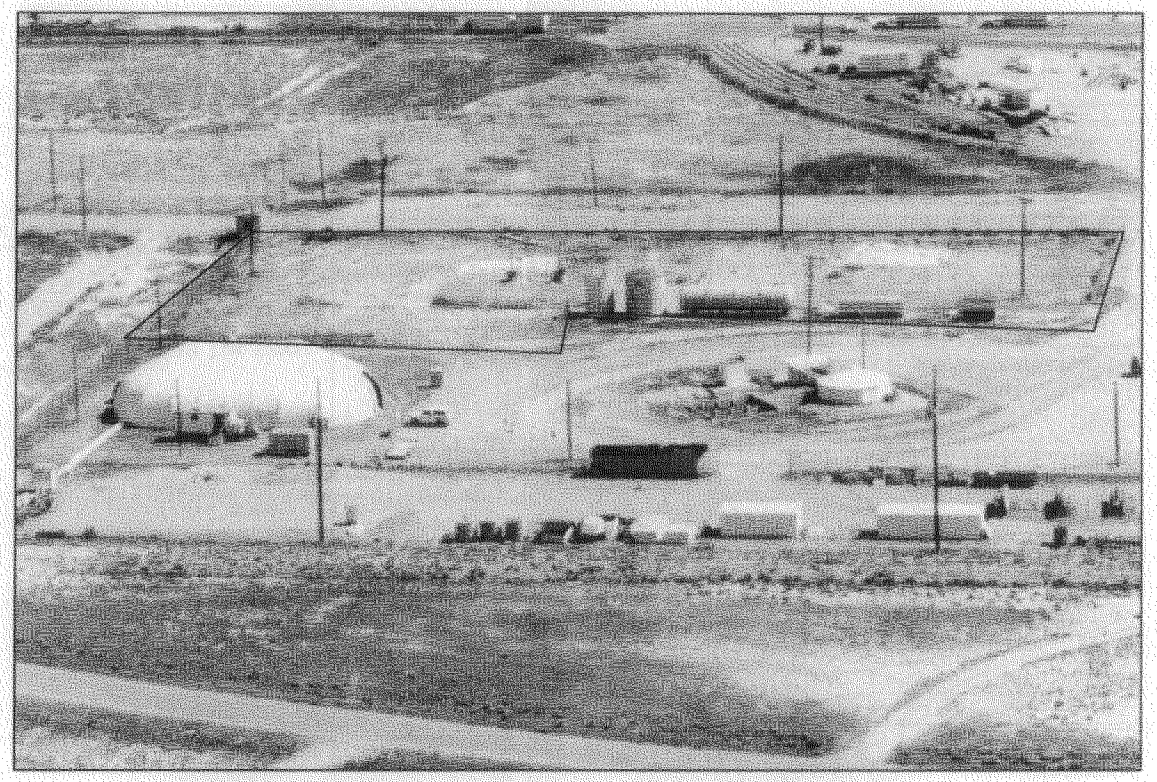
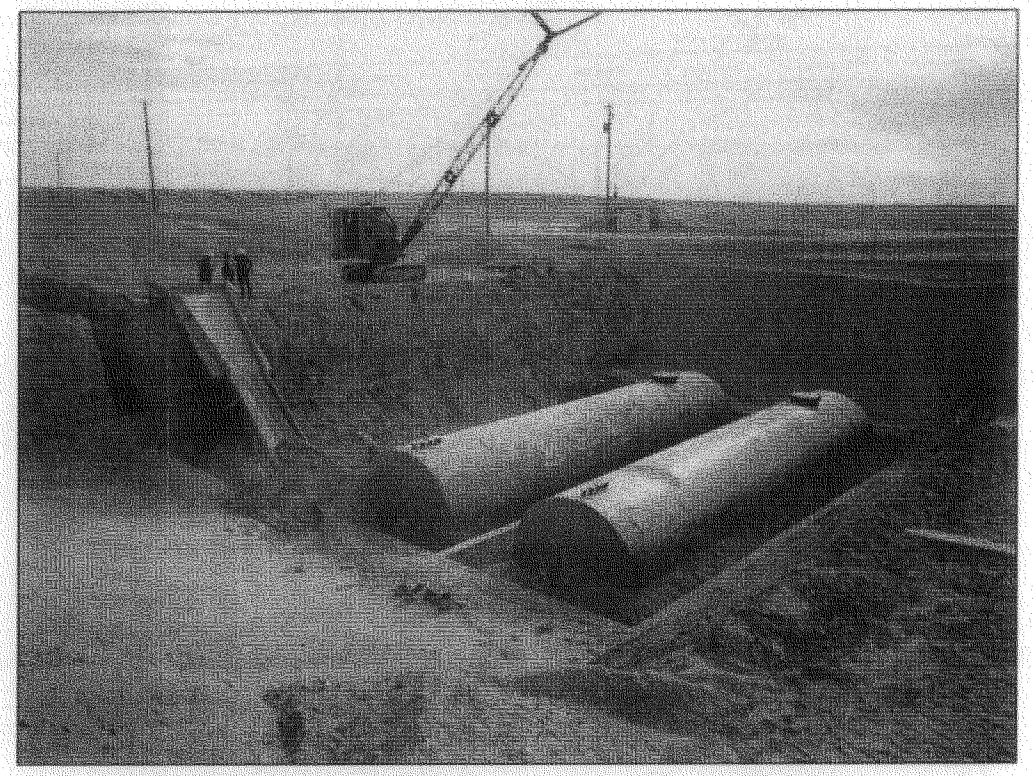
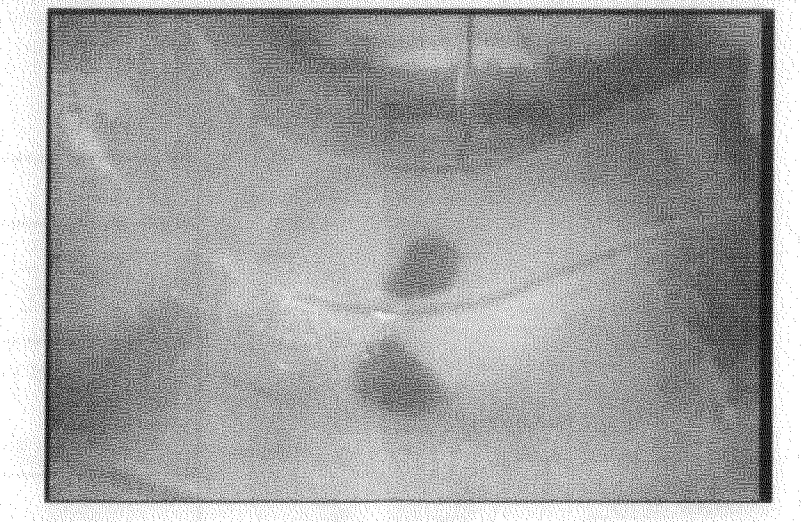
TSF-26/ PM2A TANK AREA

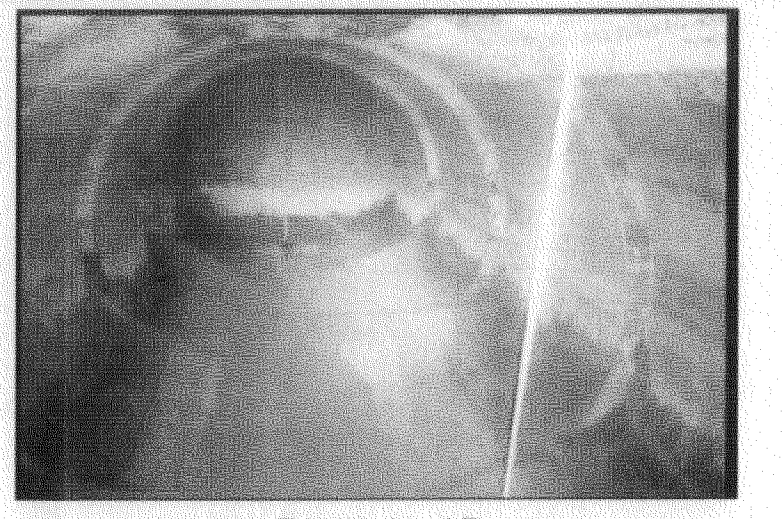


INSTALLATION OF PM2A TANKS (1958)





TANK V-14
(WEST TANK)



TANK V-13
(EAST TANK)

REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

REVISION: 0
ORIGINAL SIGNED BY:
Gary Mecham
SEAL NUMBER: 7065
DATE ORIGINAL SIGNED:
12/3/2003
ORIGINAL STORED AT:
Intrepid Technology & Resources

PROFESSIONAL ENGINEER
REGISTERED
7065
STATE OF IDAHO
GARY D. MECHAM

SCALE:

OU 1-10 TSF-26 PROJECT PHOTOS

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G-4

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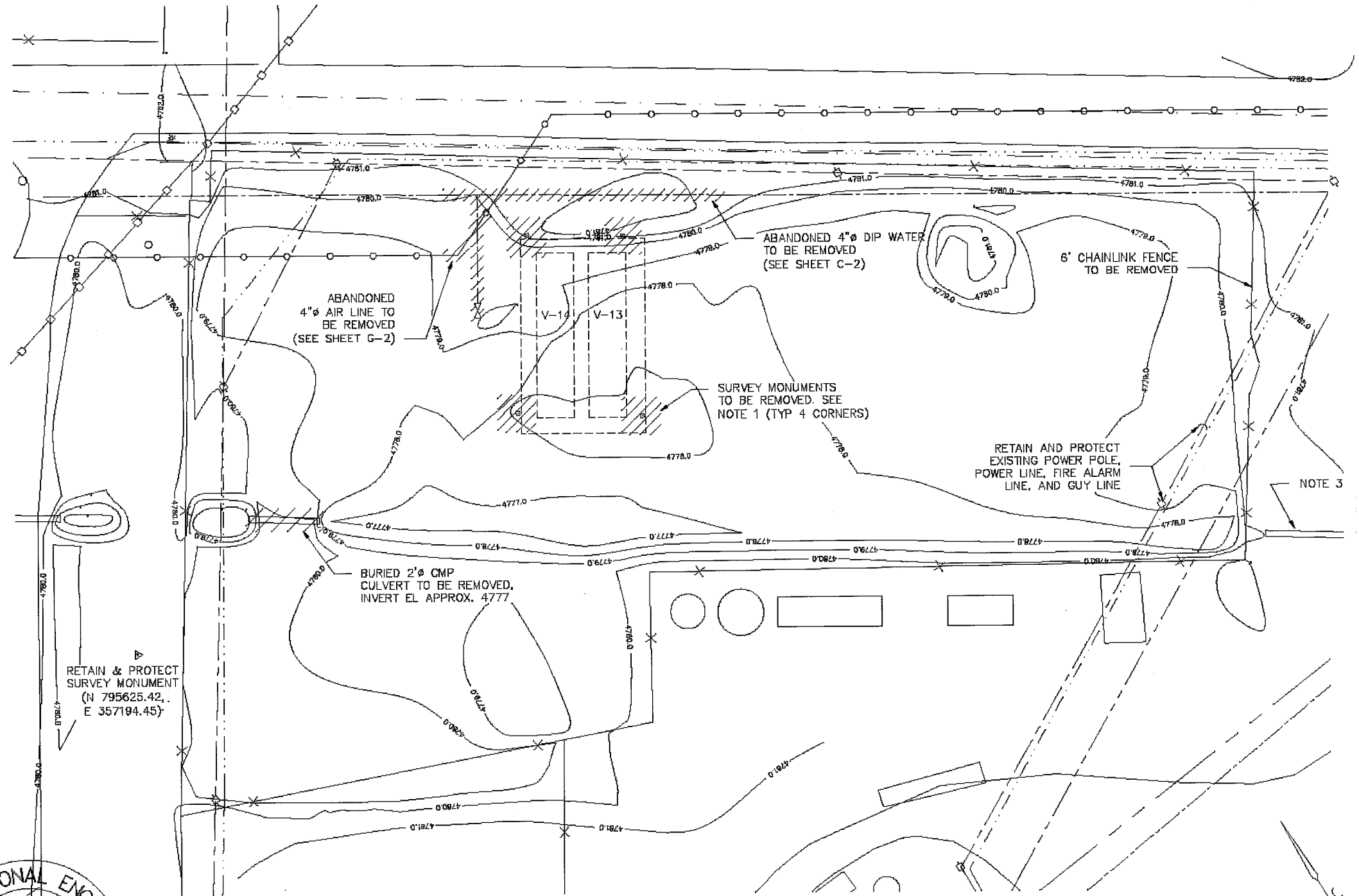

SURFACE DEMOLITION PLAN

1"=20'

REV	DATE	DESCRIPTION	DESIGN	APP'D 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

PROFESSIONAL ENGINEER REGISTERED 10712 STATE OF IDAHO J. SHAUN DUSTIN

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

OU 1-10 TSF-26 SURFACE DEMOLITION PLAN

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C-1

DRAWN: JSD	12/3/03	TASK ORDER NUMBER 2000-096	
DESIGNED: JSD	12/3/03	QA LEVEL: 03	DWG SIZE: D
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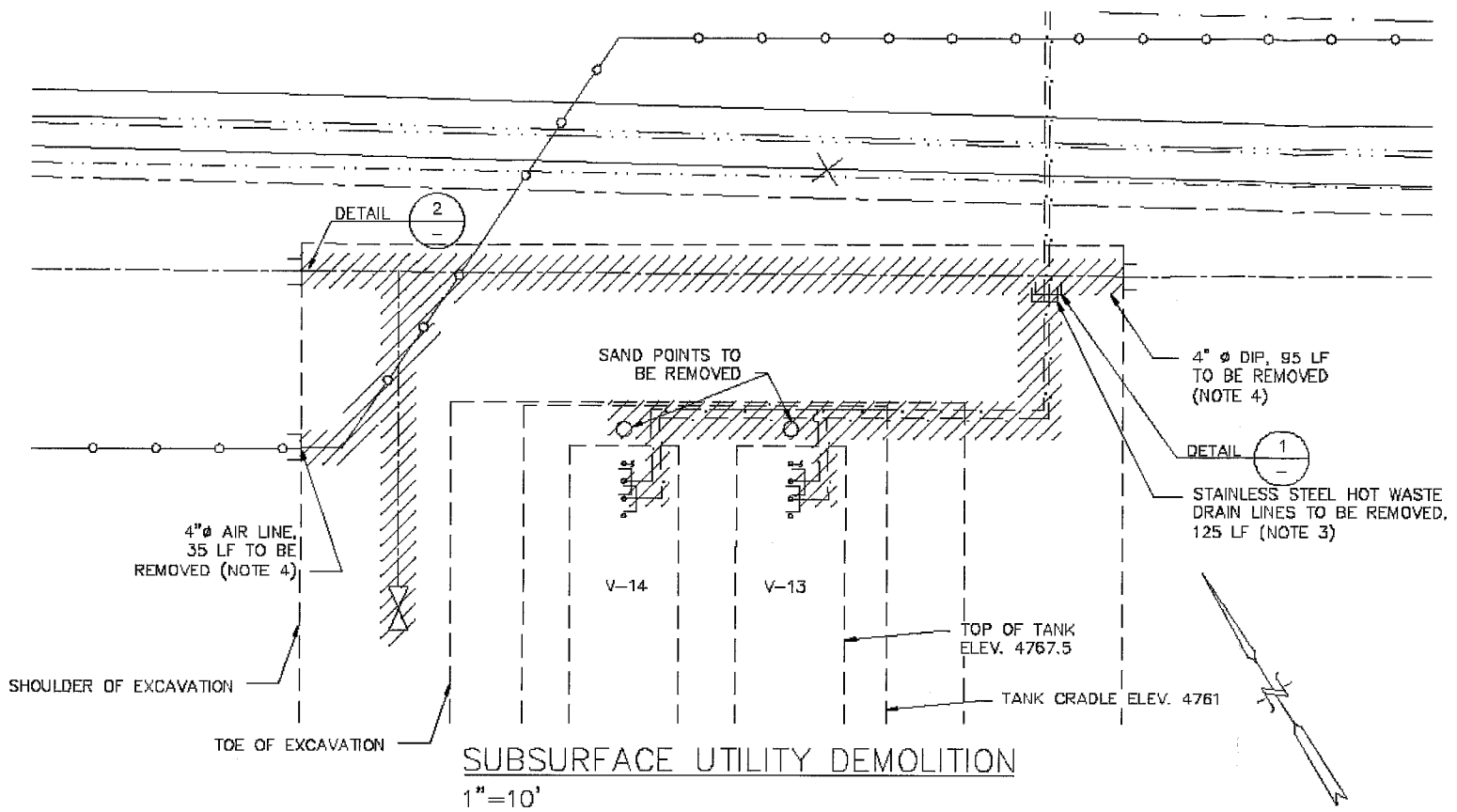


SUBSURFACE UTILITY DEMOLITION

1"=10'

NOTES

1) WHERE SURVEY MONUMENTS ARE SCHEDULED FOR DEMOLITION MAINTAIN STAKING TO PERMIT LOCATION OF ASSUMED TANK CRADLE CORNERS UNTIL CORNERS ARE EXPOSED.

2) RETAIN AND PROTECT ALL EXISTING INFRASTRUCTURE NOT SPECIFICALLY SLATED FOR DEMOLITION ON THIS SHEET.

3) 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.

4) 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.

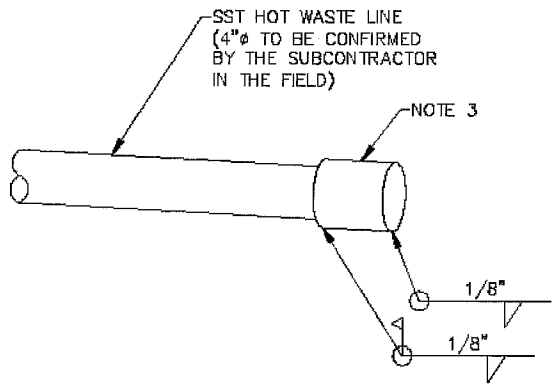
REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

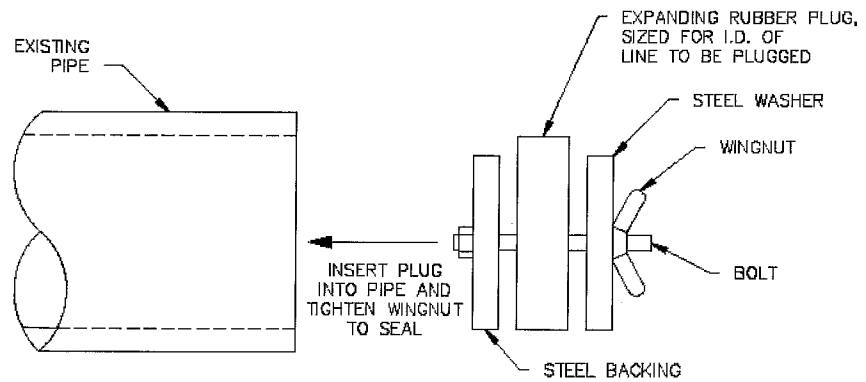
SCALE: AS NOTED

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

PROFESSIONAL ENGINEER REGISTERED 10712 STATE OF IDAHO J. SHAUN DUSTIN



SST HOT WASTE LINE CAP 1
TYP SIX LOCATIONS
NTS



RUBBER PIPE PLUG 2
TYP 4 LOCATIONS
NTS

OU 1-10 TSF-26 SUBSURFACE DEMOLITION PLAN

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501 W. BROADWAY, SUITE 200, IDAHO FALLS, ID 83402
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C-2

DRAWN: JSD	12/3/03	TASK ORDER NUMBER	2000-096
DESIGNED: JSD	12/3/03	QA LEVEL: CG	DWG SIZE: D
CHECKED: GDM	12/3/03	DRAWING NUMBER	REV 0
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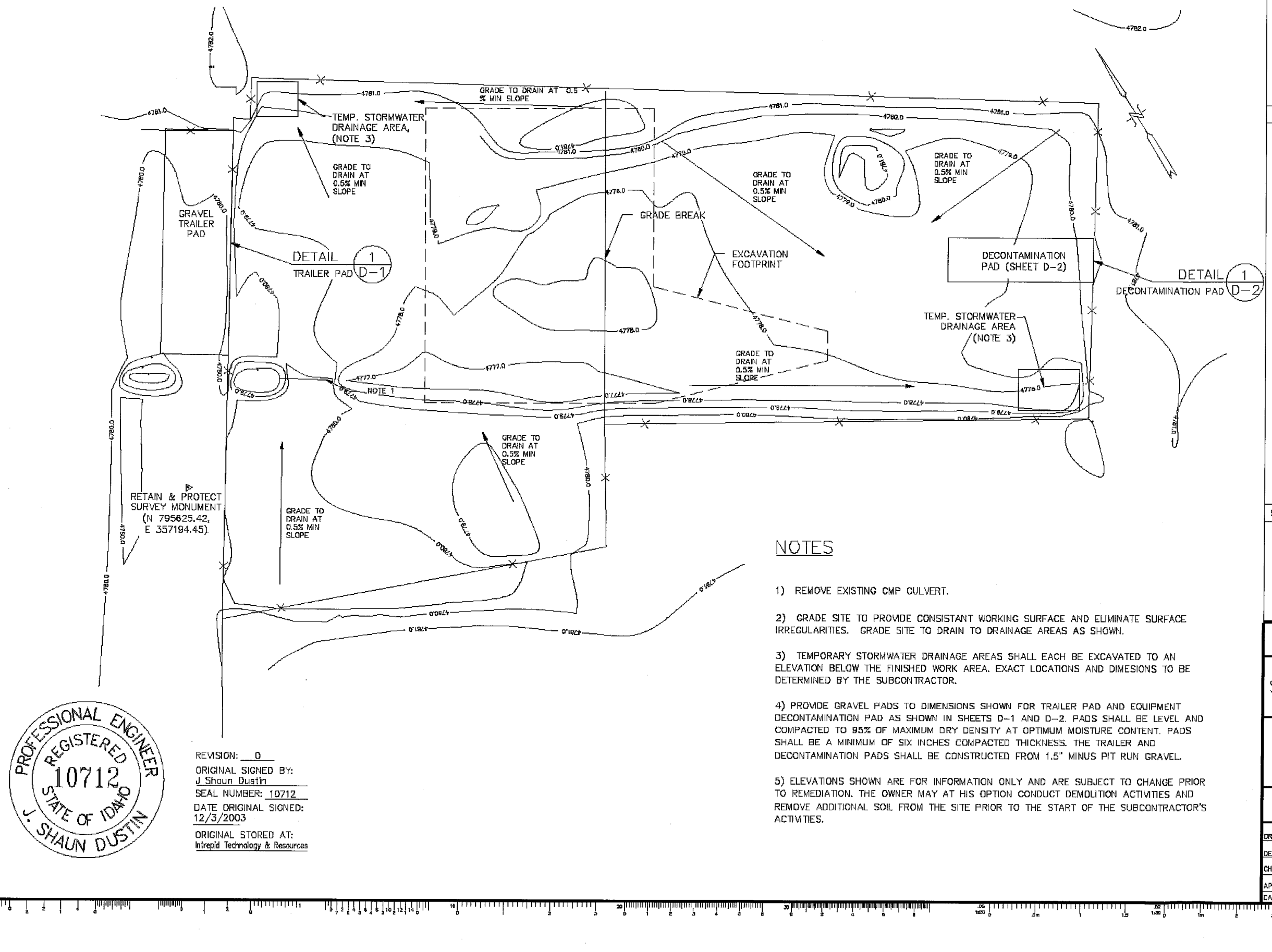

REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

SCALE: AS NOTED

NOTES

1) REMOVE EXISTING CMP CULVERT.

2) GRADE SITE TO PROVIDE CONSISTANT WORKING SURFACE AND ELIMINATE SURFACE IRREGULARITIES. GRADE SITE TO DRAIN TO DRAINAGE AREAS AS SHOWN.

3) TEMPORARY STORMWATER DRAINAGE AREAS SHALL EACH BE EXCAVATED TO AN ELEVATION BELOW THE FINISHED WORK AREA. EXACT LOCATIONS AND DIMESIONS TO BE DETERMINED BY THE SUBCONTRACTOR.

4) PROVIDE GRAVEL PADS TO DIMENSIONS SHOWN FOR TRAILER PAD AND EQUIPMENT DECONTAMINATION PAD AS SHOWN IN SHEETS D-1 AND D-2. PADS SHALL BE LEVEL AND COMPACTED TO 95% OF MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT. PADS SHALL BE A MINIMUM OF SIX INCHES COMPACTED THICKNESS. THE TRAILER AND DECONTAMINATION PADS SHALL BE CONSTRUCTED FROM 1.5" MINUS PIT RUN GRAVEL.

5) ELEVATIONS SHOWN ARE FOR INFORMATION ONLY AND ARE SUBJECT TO CHANGE PRIOR TO REMEDIATION. THE OWNER MAY AT HIS OPTION CONDUCT DEMOLITION ACTIVITIES AND REMOVE ADDITIONAL SOIL FROM THE SITE PRIOR TO THE START OF THE SUBCONTRACTOR'S ACTIVITIES.

PROFESSIONAL ENGINEER REGISTERED 10712 STATE OF IDAHO J. SHAUN DUSTIN

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

OU 1-10 TSF-26 STAGE 1 SITE GRADING/ STORMWATER CONTROL

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

C-3

DRAWN: JSD	12/3/03	TASK ORDER NUMBER 2000-096	
DESIGNED: JSD	12/3/03	QA LEVEL: CC	DWG SIZE: D
CHECKED: GDM	12/3/03	DRAWING NUMBER 10357	REV 0
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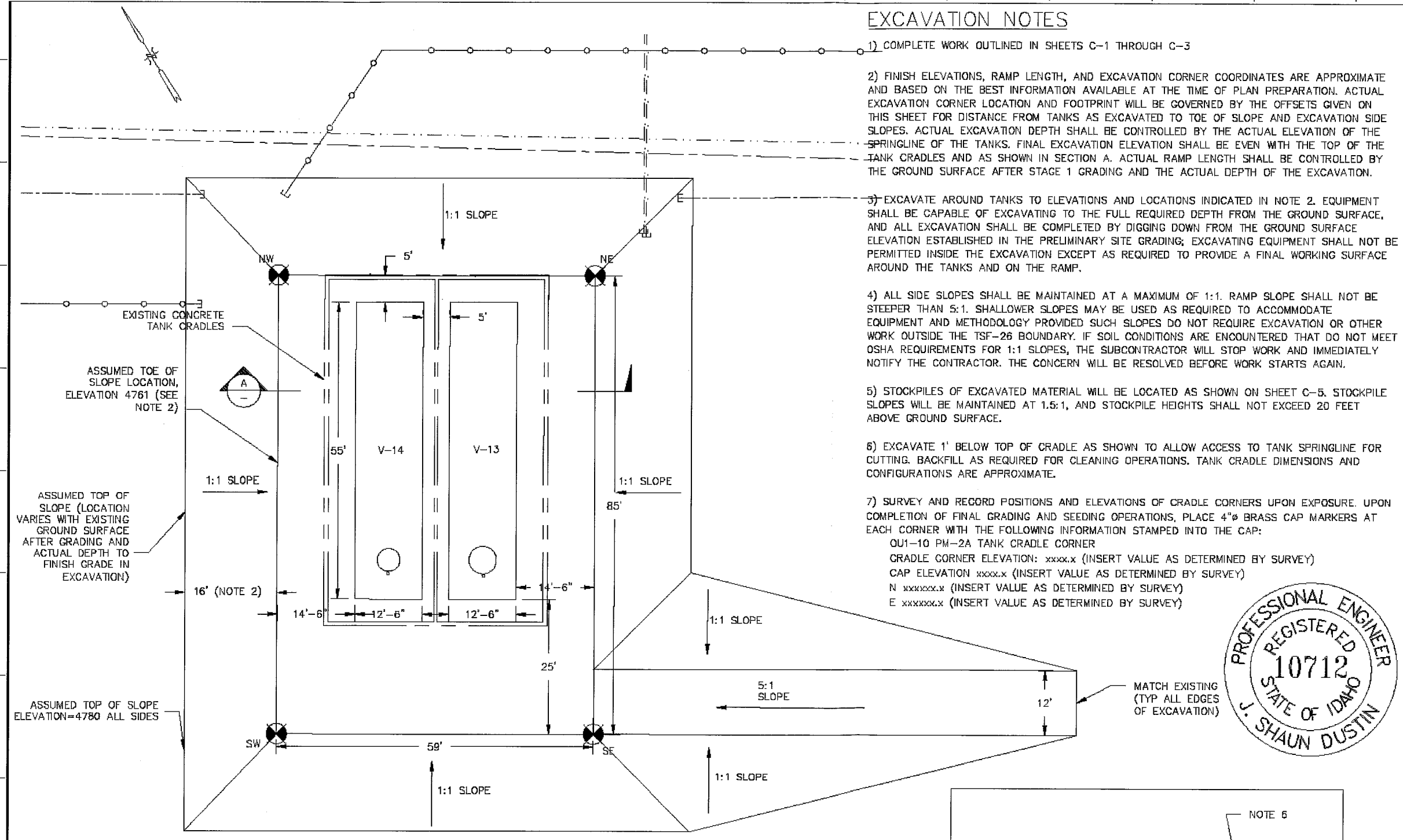


EXCAVATION NOTES

1) COMPLETE WORK OUTLINED IN SHEETS C-1 THROUGH C-3

2) FINISH ELEVATIONS, RAMP LENGTH, AND EXCAVATION CORNER COORDINATES ARE APPROXIMATE AND BASED ON THE BEST INFORMATION AVAILABLE AT THE TIME OF PLAN PREPARATION. ACTUAL EXCAVATION CORNER LOCATION AND FOOTPRINT WILL BE GOVERNED BY THE OFFSETS GIVEN ON THIS SHEET FOR DISTANCE FROM TANKS AS EXCAVATED TO TOE OF SLOPE AND EXCAVATION SIDE SLOPES. ACTUAL EXCAVATION DEPTH SHALL BE CONTROLLED BY THE ACTUAL ELEVATION OF THE SPRINGLINE OF THE TANKS. FINAL EXCAVATION ELEVATION SHALL BE EVEN WITH THE TOP OF THE TANK CRADLES AND AS SHOWN IN SECTION A. ACTUAL RAMP LENGTH SHALL BE CONTROLLED BY THE GROUND SURFACE AFTER STAGE 1 GRADING AND THE ACTUAL DEPTH OF THE EXCAVATION.

3) EXCAVATE AROUND TANKS TO ELEVATIONS AND LOCATIONS INDICATED IN NOTE 2. EQUIPMENT SHALL BE CAPABLE OF EXCAVATING TO THE FULL REQUIRED DEPTH FROM THE GROUND SURFACE, AND ALL EXCAVATION SHALL BE COMPLETED BY DIGGING DOWN FROM THE GROUND SURFACE ELEVATION ESTABLISHED IN THE PRELIMINARY SITE GRADING; EXCAVATING EQUIPMENT SHALL NOT BE PERMITTED INSIDE THE EXCAVATION EXCEPT AS REQUIRED TO PROVIDE A FINAL WORKING SURFACE AROUND THE TANKS AND ON THE RAMP.

4) ALL SIDE SLOPES SHALL BE MAINTAINED AT A MAXIMUM OF 1:1. RAMP SLOPE SHALL NOT BE STEEPER THAN 5:1. SHALLOWER SLOPES MAY BE USED AS REQUIRED TO ACCOMMODATE EQUIPMENT AND METHODOLOGY PROVIDED SUCH SLOPES DO NOT REQUIRE EXCAVATION OR OTHER WORK OUTSIDE THE TSF-26 BOUNDARY. IF SOIL CONDITIONS ARE ENCOUNTERED THAT DO NOT MEET OSHA REQUIREMENTS FOR 1:1 SLOPES, THE SUBCONTRACTOR WILL STOP WORK AND IMMEDIATELY NOTIFY THE CONTRACTOR. THE CONCERN WILL BE RESOLVED BEFORE WORK STARTS AGAIN.

5) STOCKPILES OF EXCAVATED MATERIAL WILL BE LOCATED AS SHOWN ON SHEET C-5. STOCKPILE SLOPES WILL BE MAINTAINED AT 1.5:1, AND STOCKPILE HEIGHTS SHALL NOT EXCEED 20 FEET ABOVE GROUND SURFACE.

6) EXCAVATE 1' BELOW TOP OF CRADLE AS SHOWN TO ALLOW ACCESS TO TANK SPRINGLINE FOR CUTTING. BACKFILL AS REQUIRED FOR CLEANING OPERATIONS. TANK CRADLE DIMENSIONS AND CONFIGURATIONS ARE APPROXIMATE.

7) SURVEY AND RECORD POSITIONS AND ELEVATIONS OF CRADLE CORNERS UPON EXPOSURE. UPON COMPLETION OF FINAL GRADING AND SEEDING OPERATIONS, PLACE 4"ø BRASS CAP MARKERS AT EACH CORNER WITH THE FOLLOWING INFORMATION STAMPED INTO THE CAP:
- OU1-10 PM-2A TANK CRADLE CORNER
- CRADLE CORNER ELEVATION: xxxx.x (INSERT VALUE AS DETERMINED BY SURVEY)
- CAP ELEVATION xxxx.x (INSERT VALUE AS DETERMINED BY SURVEY)
- N xxxxxx.x (INSERT VALUE AS DETERMINED BY SURVEY)
- E xxxxxx.x (INSERT VALUE AS DETERMINED BY SURVEY)

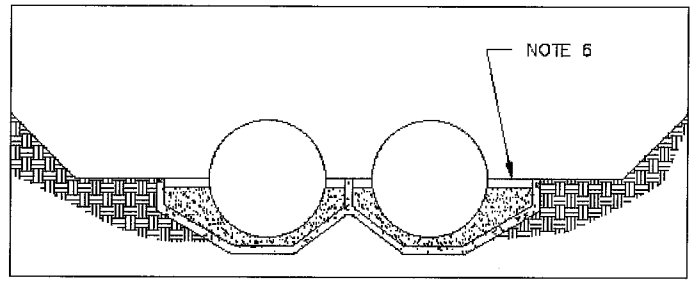
PROFESSIONAL ENGINEER REGISTERED 10712 STATE OF IDAHO J. SHAUN DUSTIN

TOE OF EXCAVATION SLOPE PRELIMINARY CONTROL COORDINATES

CORNER	X	Y	Z
NW	357369	795679	4761
NE	357420	795648	4761
SW	357325	795607	4761
SE	357375	795576	4761

EARTHWORK QUANTITIES

DESCRIPTION	VOL (CY)
TANK EXCAVATION AND REPLACEMENT	5300
IMPORTED PIT-RUN GRAVEL	13400
IMPORTED TOPSOIL	1100
CONTAMINATED MATERIAL	165



SECTION A
FINISH GRADE SECTION
BOTTOM OF EXCAVATION
NTS

REV	DATE	DESCRIPTION	DESIGN	APPD BY

NOTES

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

SCALE: AS NOTED

OU 1-10 TSF-26 TANK EXCAVATON PLAN

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

C-4

DRAWN: JSD	12/3/03	TASK ORDER NUMBER	2000-096
DESIGNED: JSD	12/3/03	QA LEVEL: CG	DWG SIZE: D
CHECKED: GDM	12/3/03	DRAWING NUMBER	10358
APPROVED: GDM	12/3/03		REV 0
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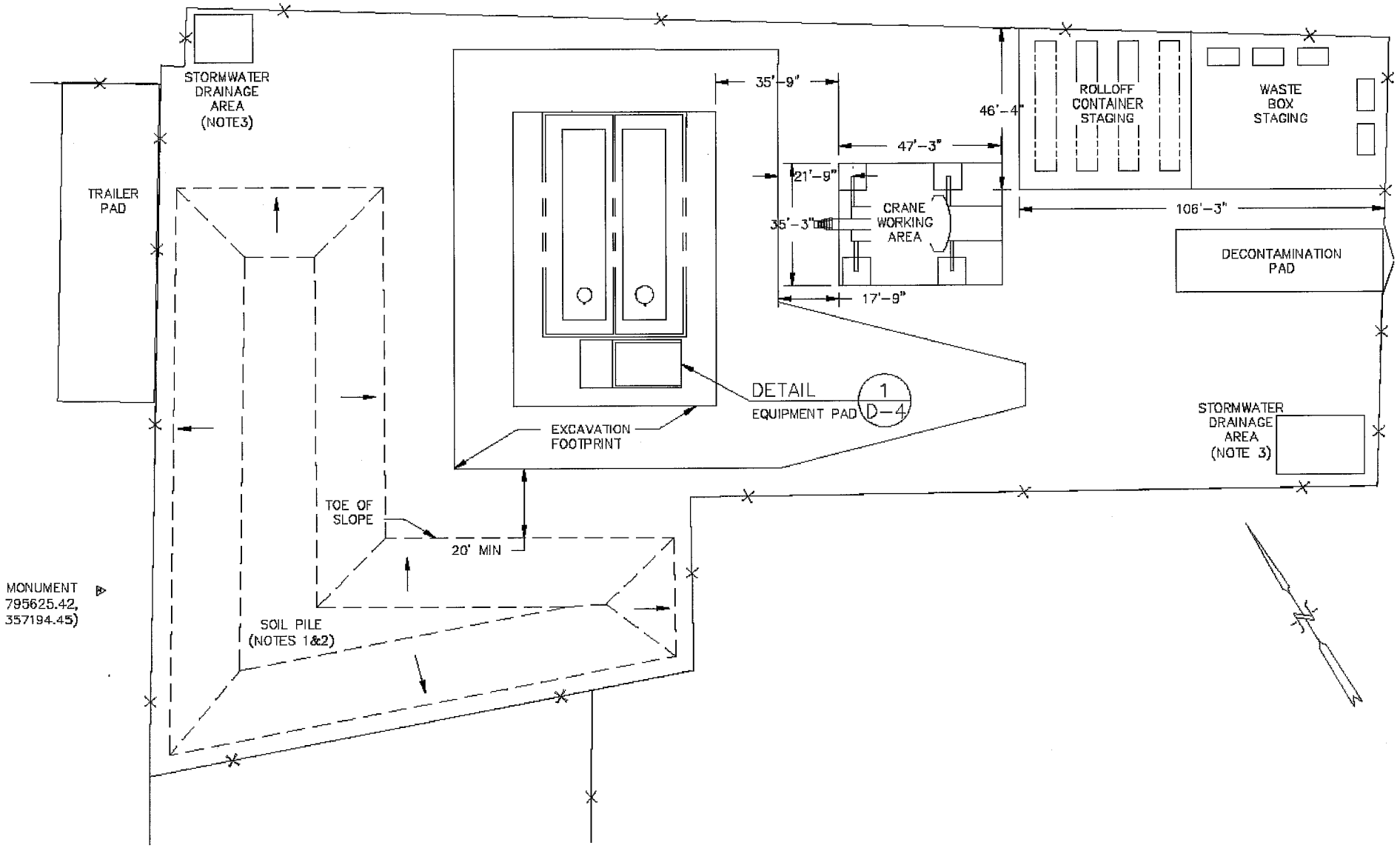

CONSTRUCTION SITE LAYOUT
1"=20'

REV	DATE	DESCRIPTION	DESIGN	APPD BY

NOTES

1) MAINTAIN TOE OF SOIL PILE A MINIMUM OF 20 FEET FROM THE EDGE OF THE EXCAVATION AND 5 FEET FROM FENCES AND WORK AREAS. EXACT SOIL PILE LOCATIONS WILL BE DETERMINED BY THESE OFFSETS IN THE FIELD. SOIL PILES SHALL COMPLY WITH CFR 29, OSHA REQUIREMENTS FOR SLOPE STABILITY. PILE HEIGHTS SHALL NOT EXCEED 20 FEET.

2) AN APPROVED DUST CONTROL PLAN FOR MAINTENANCE OF THE SOIL PILES MUST BE APPROVED PRIOR TO START OF CONSTRUCTION. DUST CONTROL MUST BE MAINTAINED AT ALL TIMES.

3) DRAINAGE AROUND THE SOIL PILES MUST BE MAINTAINED AT ALL TIMES. ALL STORMWATER RUNOFF AND DUST CONTROL RUNOFF SHALL BE ROUTED TO THE STORMWATER DRAINAGE AREAS SHOWN ON SHEET C-3.

4) SLOPE STABILITY CALCULATIONS ARE FOR LOADING CONDITIONS OUTLINED IN EDF PM-2A TANK EXCAVATION SLOPE STABILITY REV 2. REFER TO EDF FOR ALLOWABLE LOADS AND SITE CONDITIONS. DEVIATION FROM THE LOADS, CONDITIONS, AND ASSUMPTIONS OUTLINED IN THE EDF WILL REQUIRE A COMPLETE REVIEW OF THE CALCULATIONS BY A COMPETENT PROFESSIONAL ENGINEER, AND VERIFICATION OR REVISION OF SETBACK AND CRANE LOAD REQUIREMENTS.

SCALE: AS NOTED

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

PROFESSIONAL ENGINEER
REGISTERED
10712
STATE OF IDAHO
J. SHAUN DUSTIN

OU 1-10 TSF-26 EXCAVATED MATERIAL STORAGE AREAS

intrepid technology & resources incorporated
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(208)528-5337 FAX: (208)529-1014

C-5

DRAWN: JSD	12/3/03	TASK ORDER NUMBER	2000-096
DESIGNED: JSD	12/3/03	QA LEVEL: CG	DWG SIZE: D
CHECKED: GDM	12/3/03		
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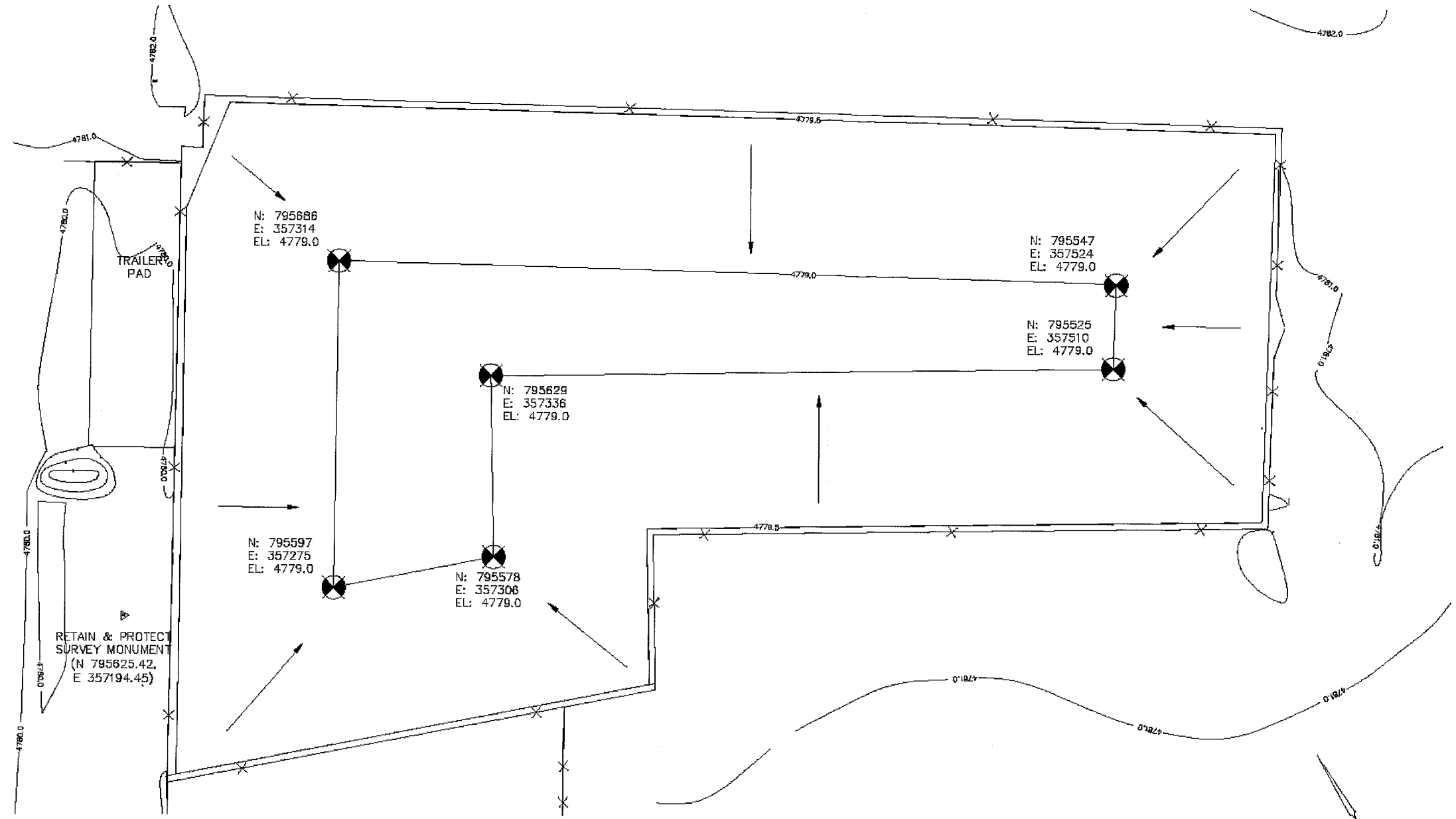

SUBGRADE ELEVATIONS
1"=20'

NOTES:

1) PLACE 2' ø STORM SEWER AS SHOWN ON SHEET C-7 PRIOR TO PLACEMENT OF CLEAN FILL.

2) TOP 12" (MINIMUM) OF SUBGRADE FILL SHALL BE CLEAN FILL FROM TAN GRAVEL PIT. PLACE CLEAN FILL STARTING AT EAST GATE TO SITE USING CLEAN EQUIPMENT. MAINTAIN UNCONTAMINATED CONDITION OF EQUIPMENT BY PLACING CLEAN FILL RADIALLY WESTWARD FROM THE GATE IN SUCH A WAY AS TO ALLOW OPERATION OF PLACEMENT AND COMPACTION EQUIPMENT ON CLEAN FILL ONLY. EFFORTS SHALL BE TAKEN TO KEEP UNCONTAMINATED EQUIPMENT FROM CONTACTING THE CONTAMINATED SUBGRADE. CONTAMINATED EQUIPMENT SHALL NOT BE PERMITTED ON CLEAN FILL.

3) SUBGRADE FINISH ELEVATION AT FENCELINE SHALL BE 6" BELOW EXISTING GROUND SURFACE TO ALLOW FOR PLACEMENT OF 6" TOPSOIL LAYER TO FINAL FINISH GRADE.

4) MAINTAIN DUST CONTROL DURING FILL AND GRADING OPERATIONS.

REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

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

SCALE: AS NOTED

PROFESSIONAL ENGINEER
REGISTERED
10712
STATE OF IDAHO
J. SHAUN DUSTIN

OU 1-10 TSF-26 SUBGRADE GRADING PLAN

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

C-6

DRAWN: JSD	12/3/03	TASK ORDER NUMBER	2000-096
DESIGNED: JSD	12/3/03	QA LEVEL: QC	DWG SIZE: D
CHECKED: GDM	12/3/03	DRAWING NUMBER	REV
APPROVED: GDM	12/3/03	10360	0
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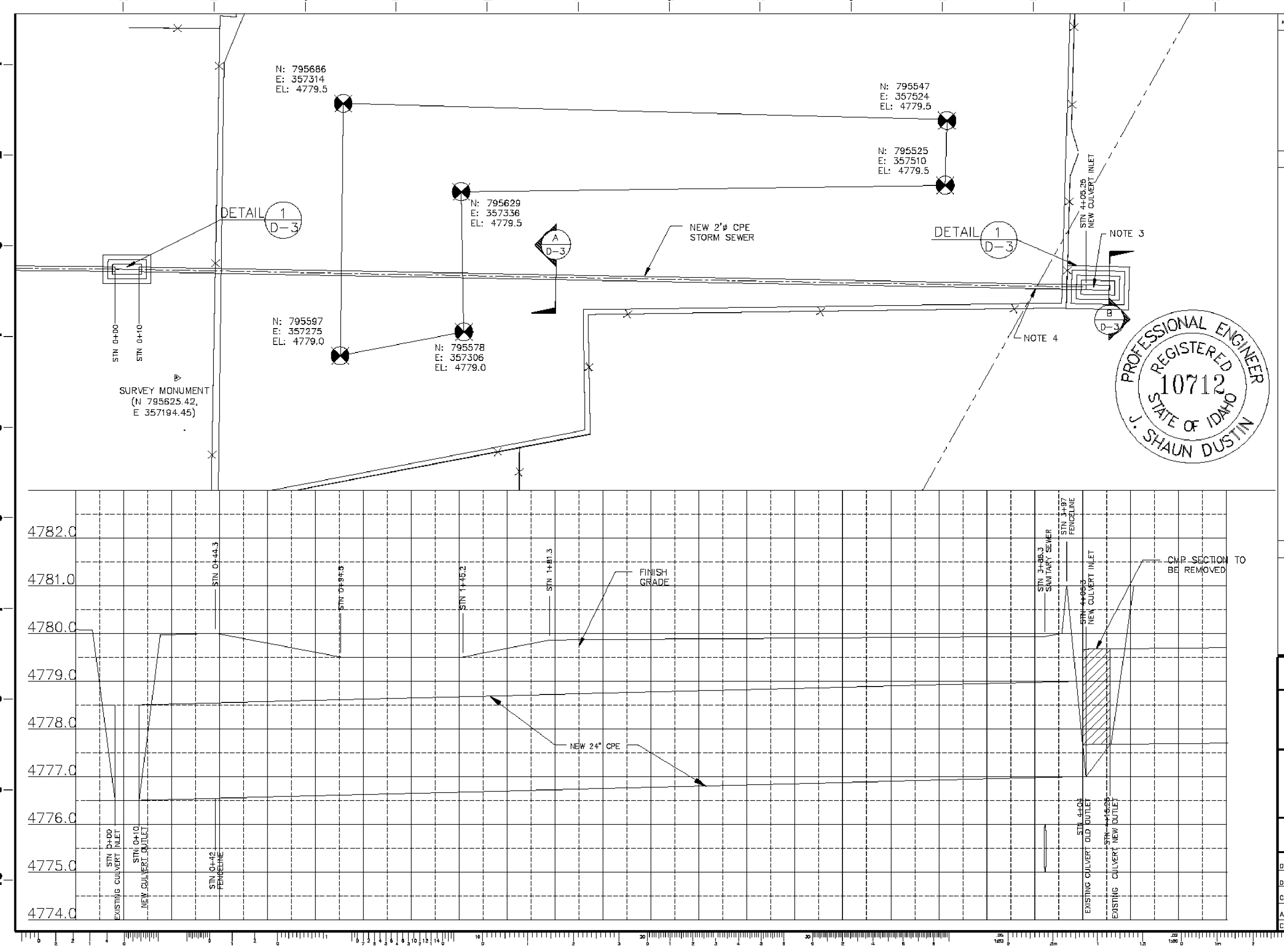

REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

1) PLACE 2' ø CORRUGATED POLYETHYLENE (CPE) STORM SEWER AS SHOWN PRIOR TO PLACEMENT OF CLEAN SUBGRADE FILL (SHEET C-6).

2) SEE SHEET D-3 FOR STORM DRAIN DETAILS

3) REMOVE SECTION OF CMP AS SHOWN BETWEEN STN 4+04 AND STN 4+15.25.

4) HAND EXCAVATE WITHIN 2 FEET OF SANITARY SEWER. EXACT DEPTH TO SEWER TO BE VERIFIED IN THE FIELD.

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

SCALE: AS NOTED

OU 1-10 TSF-26 STORM SEWER PLAN & PROFILE

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

C-7

DRAWN: JSD	12/3/03	TASK ORDER NUMBER 2000-096
DESIGNED: JSD	12/3/03	QA LEVEL: CG / DWG SIZE: D
CHECKED: GDM	12/3/03	DRAWING NUMBER 10361 / REV 0
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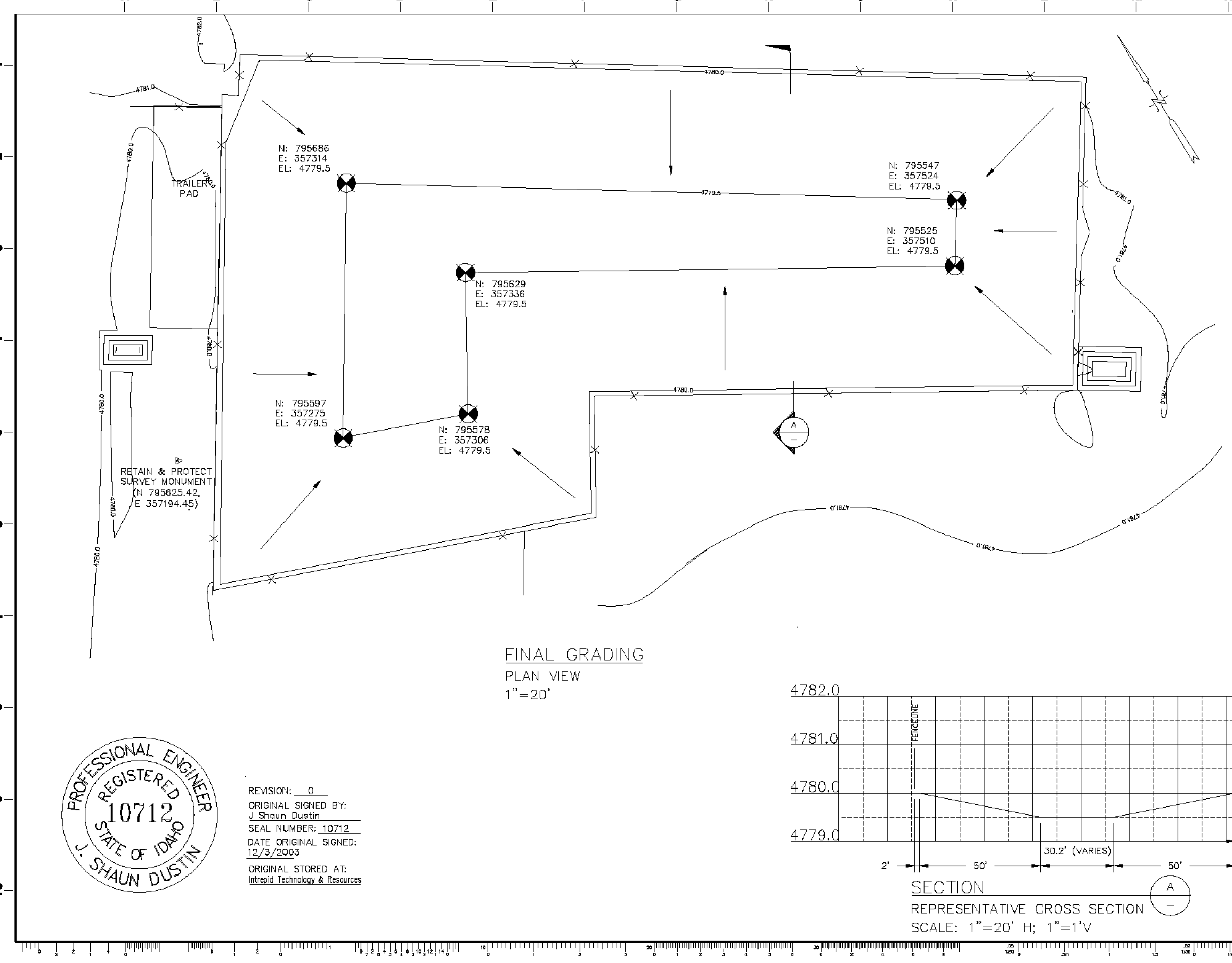
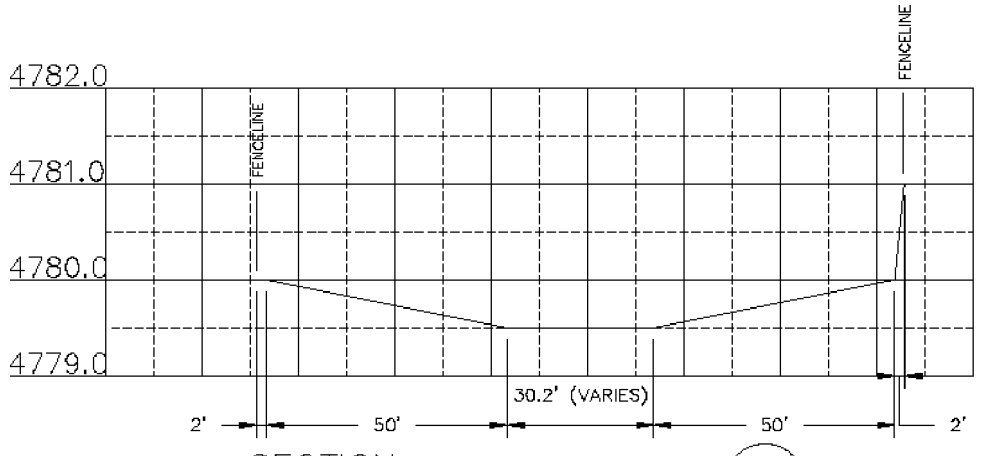


FINAL GRADING
PLAN VIEW
1"=20'



SECTION A
REPRESENTATIVE CROSS SECTION
SCALE: 1"=20' H; 1"=1'V

PROFESSIONAL ENGINEER
REGISTERED
10712
STATE OF IDAHO
J. SHAUN DUSTIN

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

1) GRADE SITE TO DRAIN AS SHOWN. PLACE 6" TOPSOIL PREPARATORY TO REVEGETATION. MATCH EXISTING ELEVATIONS AT FENCELINE. GRADE FLAT WITHIN BOUNDARY DESIGNATED BY COORDINATES AS SHOWN.

2) FERTILIZE AND SEED PER THE SPECIFICATIONS.

3) REMOVE TRAILERS AND SITE UTILITIES. CLEAN UP SITE AND RESTORE AREAS AFFECTED BY CONSTRUCTION.

SCALE: AS NOTED

OU 1-10 TSF-26 FINAL GRADING PLAN

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

C-8

DRAWN: JSD	12/3/03	TASK ORDER NUMBER	2000-096
DESIGNED: JSD	12/3/03	QA LEVEL: CG	DWG SIZE: D
CHECKED: GDM	12/3/03		
APPROVED: GDM	12/3/03	DRAWING NUMBER	10362
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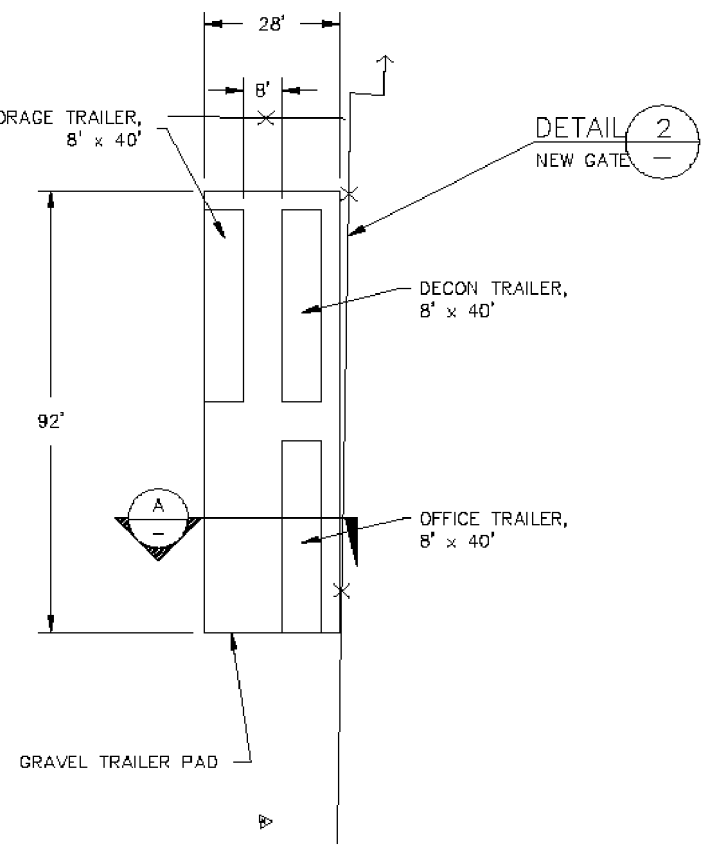
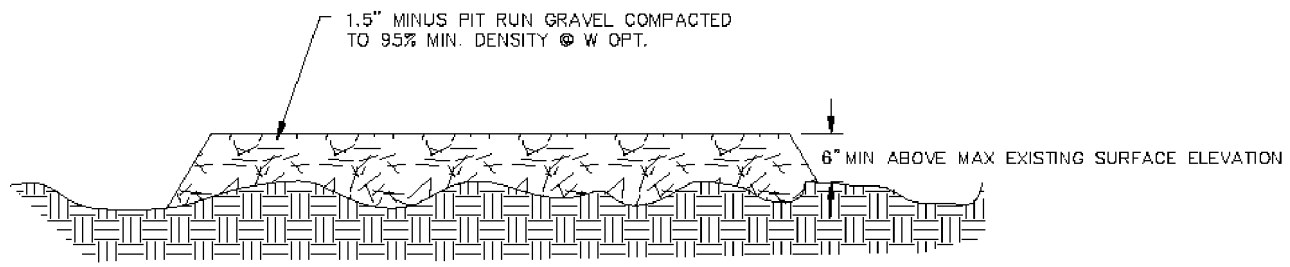
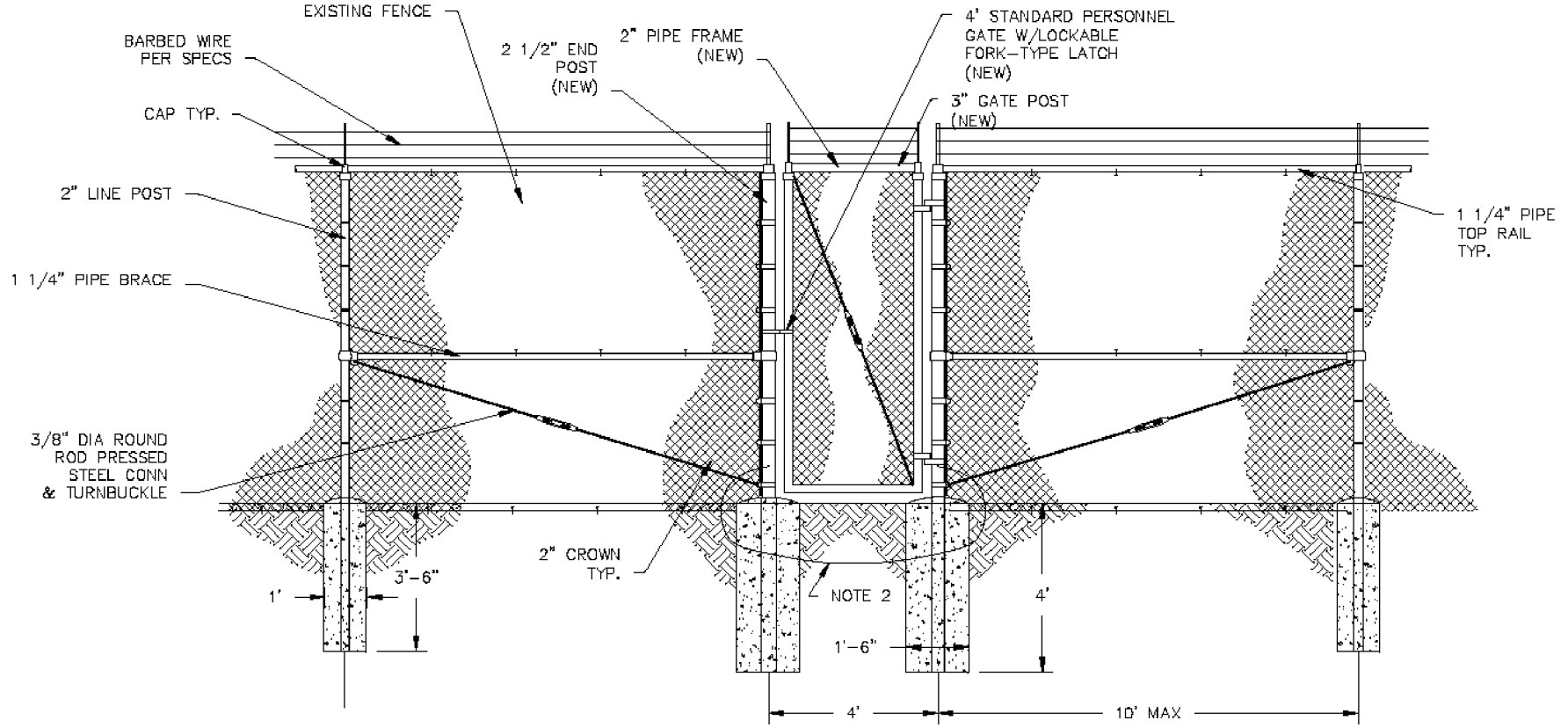


TRAILER PAD DETAILS (1 / C-3)
1"=20'



SECTION (A / —)
TYPICAL GRAVEL PAD
NTS



DETAIL (2 / —)
TYPICAL PERSONNEL GATE
NTS

PROFESSIONAL ENGINEER
REGISTERED
10712
STATE OF IDAHO
J. SHAUN DUSTIN

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

1) INSTALL 3' MAN GATE IN EXISTING FENCE AS SHOWN.

2) GROUND USING NO. 2/0 BARE COPPER JUMPER.

3) GRAVEL TO BE 3/4 AGREGATE (CRUSHED) SAND) ROAD BED MIX.

SCALE: AS NOTED

OU 1-10 TSF-26
SITE WORK
DETAILS

intrepid technology & resources incorporated
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(208)529-5337 FAX: (208)529-1014

D-1

DRAWN: JSD	12/3/03	TASK ORDER NUMBER	2000-096
DESIGNED: JSD	12/3/03	QA LEVEL: CG	DWG SIZE: D
CHECKED: GDM	12/3/03	DRAWING NUMBER	REV
APPROVED: GDM	12/3/03	10363	0
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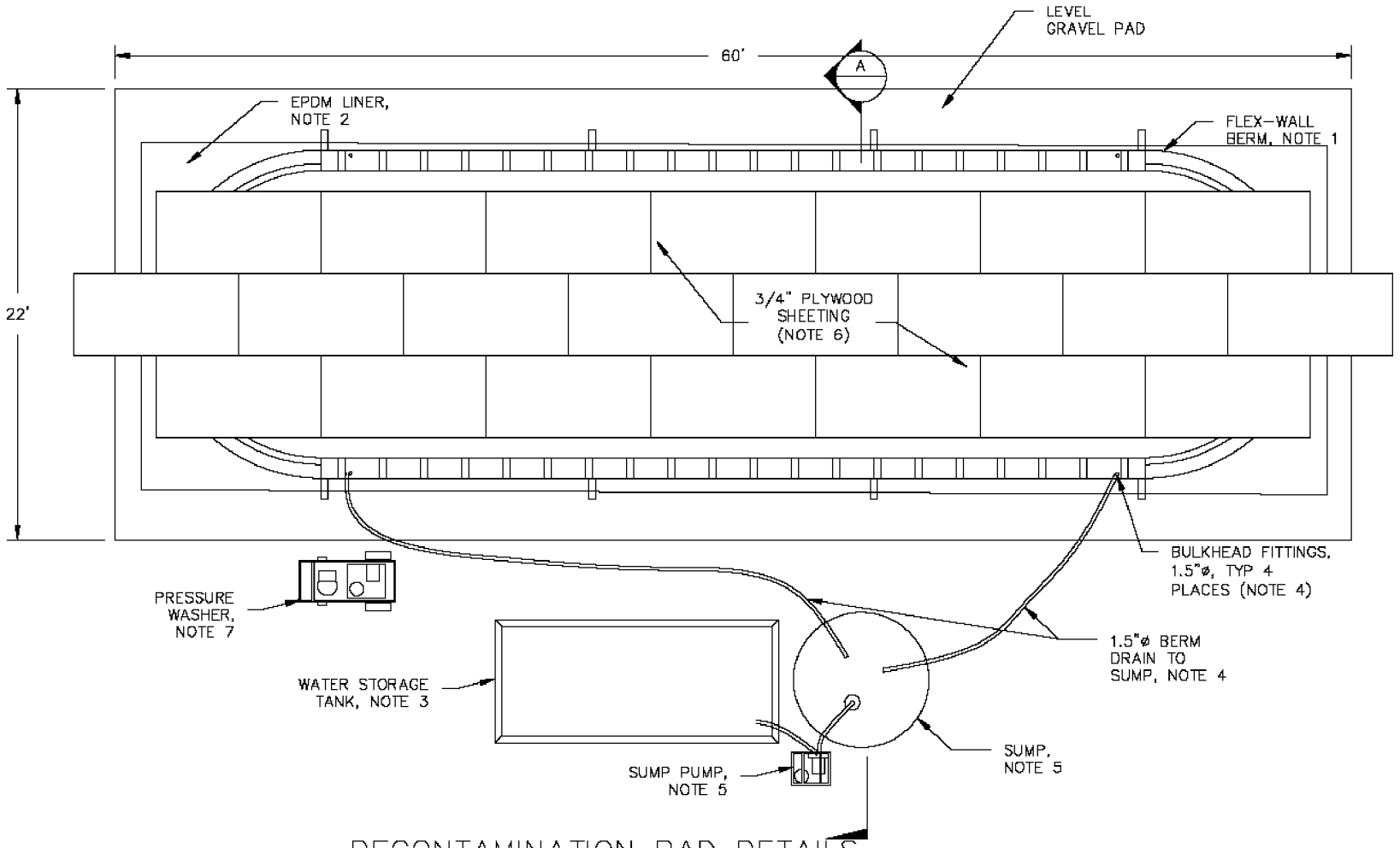
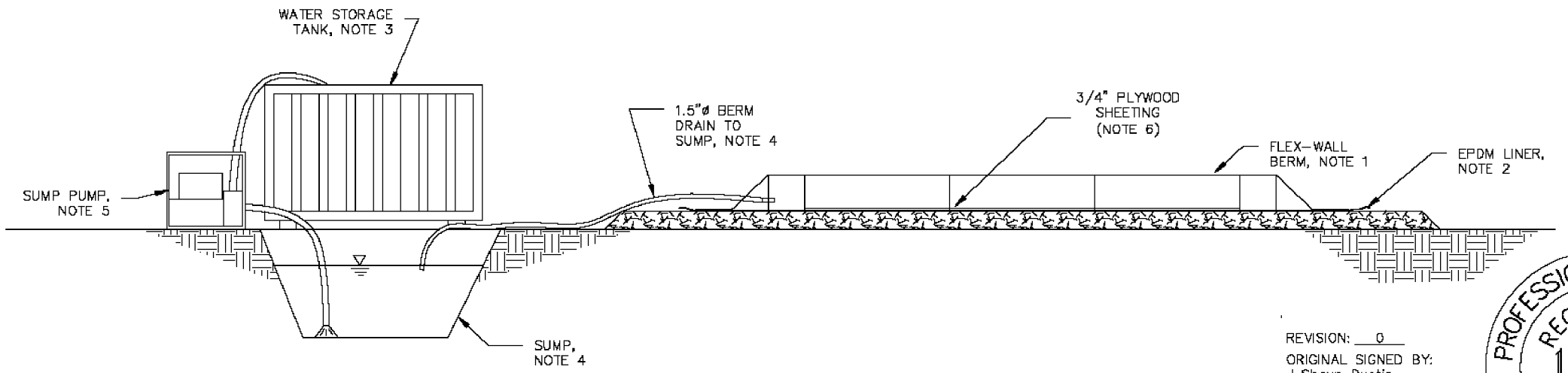


DECONTAMINATION PAD DETAILS

SCALE: 1"=4'



SECTION A

DECONTAMINATION PAD

SCALE: 1"=2'

NOTES

1) SELF SUPPORTED DECONTAMINATION PAD, MODEL FW-145618 FLEX WALL BERM FROM F.O. BERG CO. 1-800-228-8277.

2) SUPPLY 60 MIL EPDM SHEETING OF THE SAME SIZE AND SHAPE AS THE BERM SYSTEM FOR PLACEMENT BETWEEN BERM AND GRAVEL PAD.

3) PROVIDE FRAC TANK OR SIMILAR FOR WATER STORAGE.

4) PROVIDE BERM SYSTEM WITH TWO 1.5" BULKHEAD FITTINGS TO ALLOW GRAVITY DRAINAGE OF BERM TO SUMP AS SHOWN. PROVIDE VALVES ON BERM DRAINLINES. UPON COMPLETION OF WASHDOWN OPERATIONS FOR EACH PIECE OF EQUIPMENT, TURN ON SUMP PUMP AND OPEN VALVES. DRAIN PAD INTO SUMP AND TRANSFER WATER TO FRAC TANK FOR REUSE.

5) PROVIDE SUMP, MIN VOLUME 150 GALLONS TO ALLOW BERM TO DRAIN TO SUMP BY GRAVITY. SUMP SHALL BE LINED WITH SEAMLESS 40 MIL EPDM OR HDPE. PROVIDE SUMP PUMP WITH MIN 20 GPM CAPACITY AT 10 FT OF HEAD TO TRANSFER WATER FROM SUMP TO FRAC TANK FOR STORAGE. WATER MAY NOT BE DISCHARGED ONTO THE GROUND.

6) RESTRICT VEHICULAR ACCESS SUCH THAT VEHICLES AND EQUIPMENT MAY NOT LEAVE OR ENTER THE SITE WITHOUT PASSING THROUGH THE DECONTAMINATION PAD.

7) PROVIDE BELT DRIVEN COLD WATER GASOLINE PRESSURE WASHER CAPABLE OF PRODUCING 3.5 GPM @ 3000 PSI., HOTSY BD3011H OR EQUAL. WATER SHALL BE MADE AVAILABLE FROM THE TAN FIREWATER SYSTEM.

8) PROVIDE $\frac{3}{4}$" PLYWOOD SHEETING AS SHOWN FOR DRIVE SURFACE IN THE BERM. SUBCONTRACTOR IS RESPONSIBLE TO MAINTAIN SHEETING TO PROTECT BERM LINER FROM VEHICLE TRACKS AND TIRES.

9) REMOVE SEDIMENT FROM BERM AS REQUIRED TO MAINTAIN A CLEAN WORKING SURFACE. IN THE BERM. SEDIMENT MAY BE DISPOSED OF AS FILL WITHIN THE TSF-26 BOUNDARY.

10) COLLECTED DECONTAMINATION WATER WILL BE SAMPLED AND DISPOSED OF IN ACCORDANCE WITH THE PROJECT WASTE MANAGEMENT PLAN.

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

PROFESSIONAL ENGINEER REGISTERED 10712 STATE OF IDAHO J. SHAUN DUSTIN

REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

SCALE: AS NOTED

OU 1-10 TSF-26 DECONTAMINATION PAD DETAILS

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D-2

DRAWN: JSD	12/3/03	TASK ORDER NUMBER	
DESIGNED: JSD	12/3/03	2000-096	
CHECKED: GDM	12/3/03	QA LEVEL: CG	DWG SIZE: D
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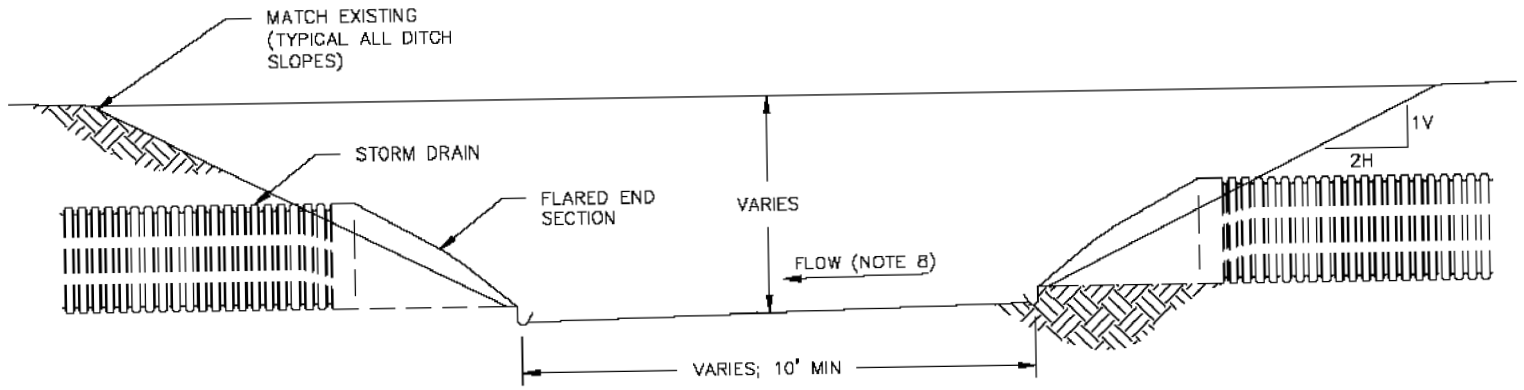
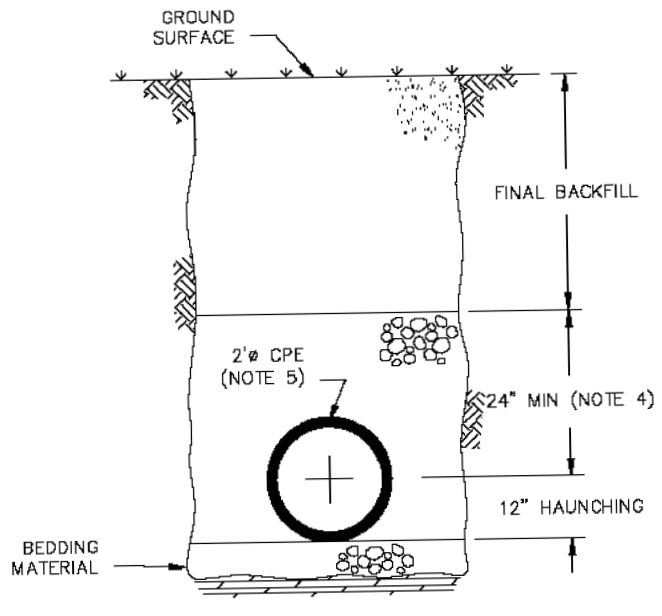
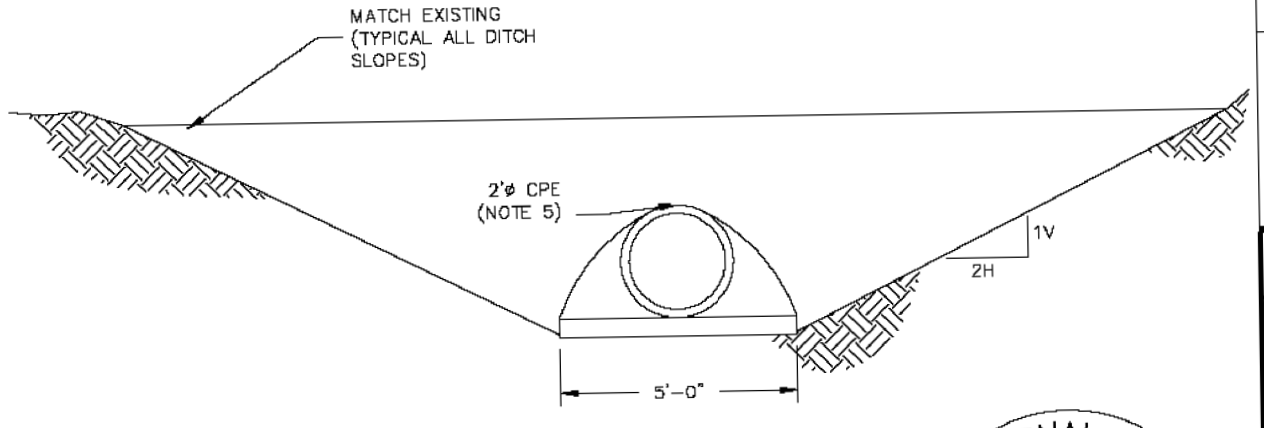


DETAIL 1/C-7
STORM DRAIN TRANSITION DITCH
AND SURFACE WATER COLLECTION
NTS



SECTION A/C-7
STORM DRAIN TRENCH
CROSS SECTION
NTS



SECTION B/C-7
STORM DRAIN
OPEN CHANNEL
NTS

REV	DATE	DESCRIPTION	DESIGN	APPVD BY

NOTES

1) BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II, OR III AND INSTALLED PER ASTM D2321, CURRENT EDITION. MINIMUM BEDDING THICKNESS SHALL BE 4".

2) HAUNCHING AND INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II, OR III AND INSTALLED PER ASTM D2321 LATEST EDITION.

3) MINIMUM TRENCH WIDTH SHALL BE 48".

4) MINIMUM COVER OVER TRENCH @ FINAL GRADE IS 12". FOR CONSTRUCTION OPERATIONS PRIOR TO SITE GRADING, CONTRACTOR SHALL PROVIDE MIN 24" COMPACTED FILL OVER PIPE. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF ALL PIPE MATERIALS DAMAGED BY CONSTRUCTION OPERATIONS PRIOR TO FINAL COMPLETION.

5) CPE: CORRUGATED POLYETHYLENE PIPE

6) ALL OPEN DITCHES SHALL BE GRADED AT 2H:1V TO MATCH EXISTING GROUND SURFACE ELEVATIONS.

7) GRADE GROUND SURFACE AROUND OPEN CHANNELS TO DRAIN INTO CHANNELS.

8) PROVIDE CONSTANT SLOPE BETWEEN EXISTING AND NEW PIPE INVERTS. INSTALL NEW CULVERTS TO ELEVATIONS SHOWN IN SHEET C-7.

SCALE: AS NOTED

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

PROFESSIONAL ENGINEER
REGISTERED
10712
STATE OF IDAHO
J. SHAUN DUSTIN

OU 1-10 TSF-26 STORM DRAIN DETAILS

intrepid technology & resources
incorporated
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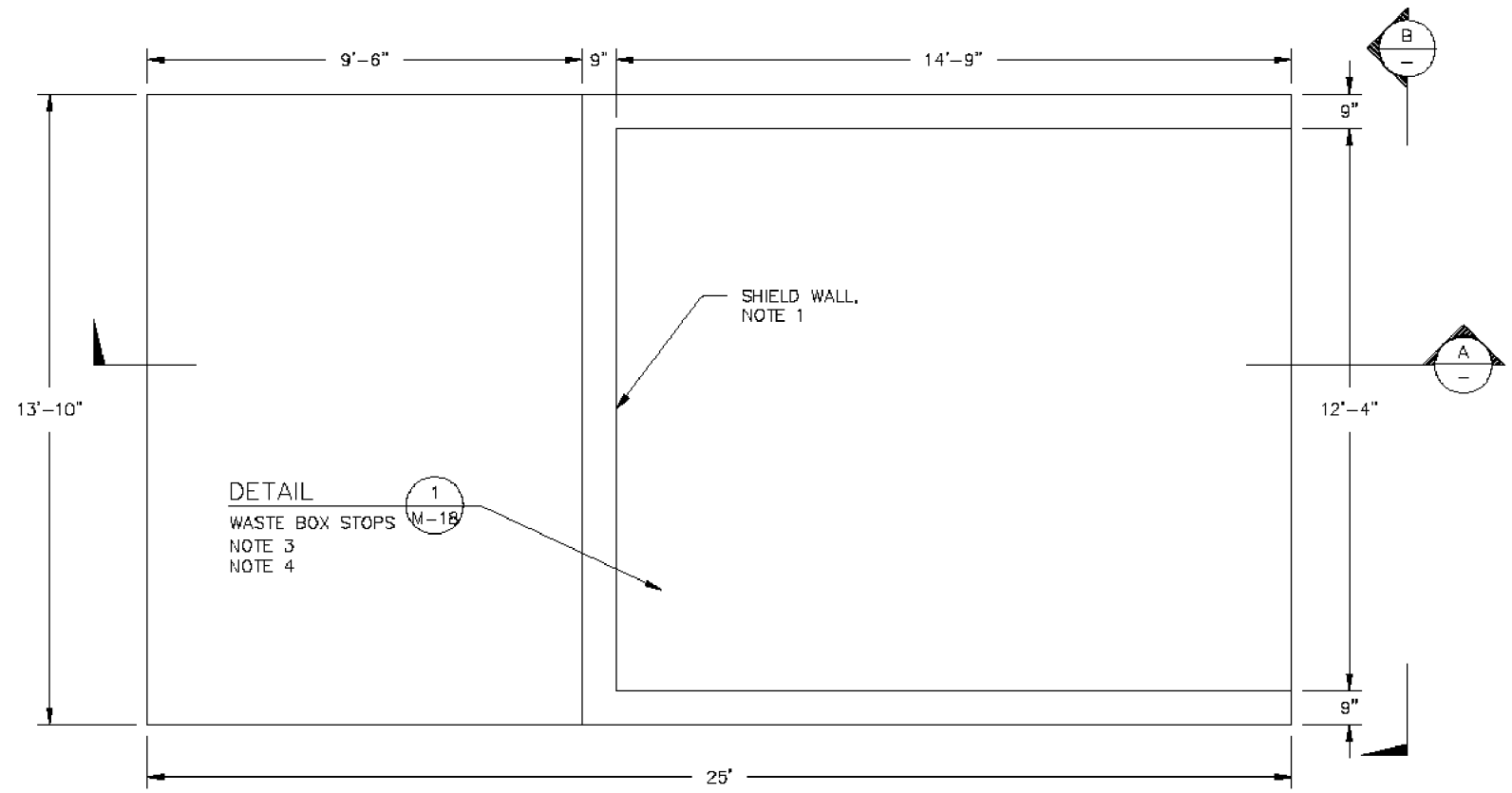
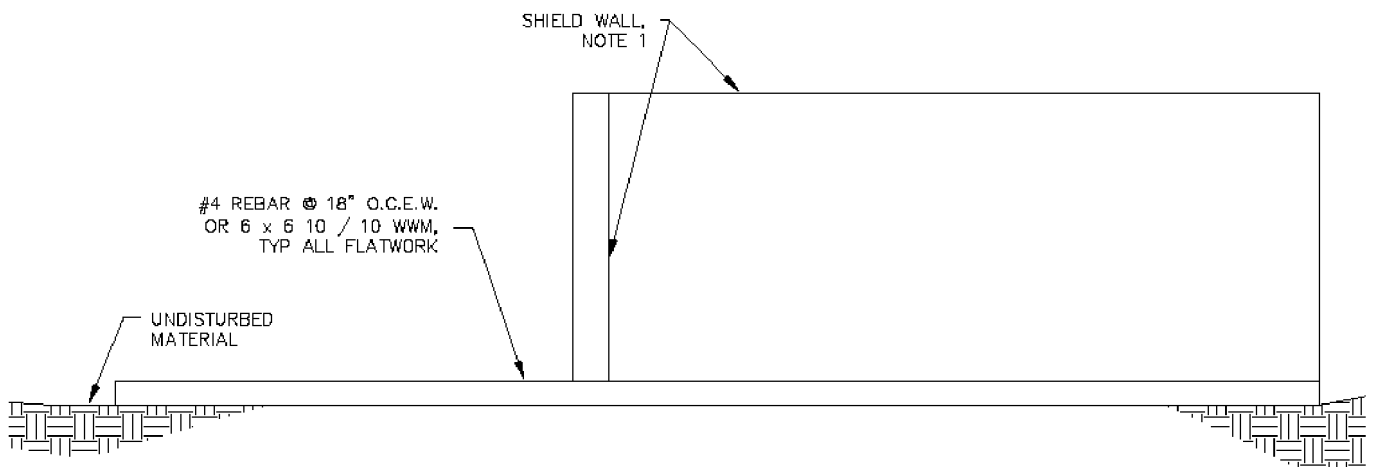
D-3

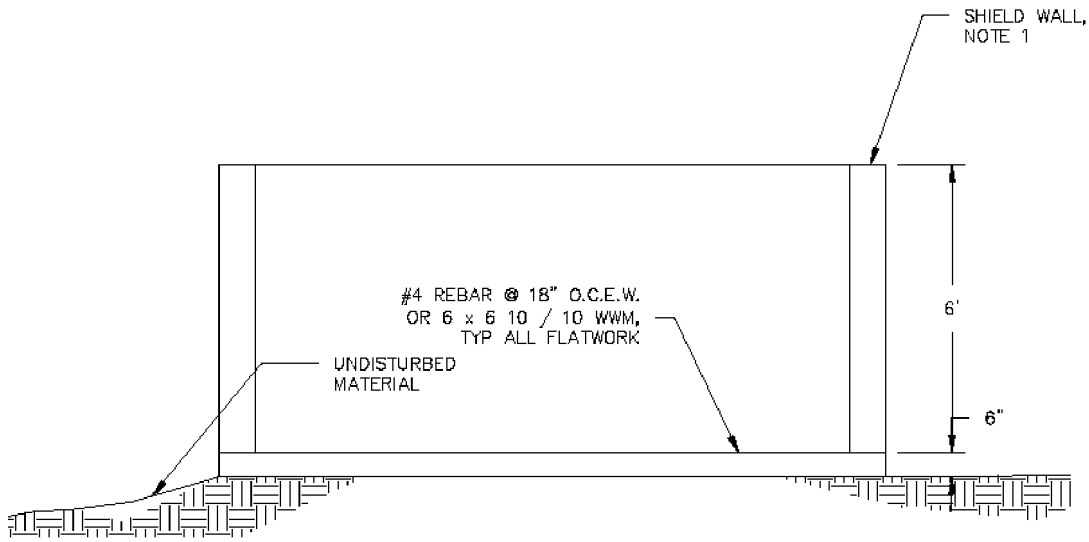
DRAWN: JSD	12/3/03	TASK ORDER NUMBER	
		2000-096	
DESIGNED: JSD	12/3/03	QA LEVEL:	DWG SIZE:
CHECKED: GDM	12/3/03	CG	D
APPROVED:GDM	12/3/03	DRAWING NUMBER	REV
CADD FILE:10385_0.DWG		10365	0



DETAIL 1 / C-5
EQUIPMENT PAD
SCALE: $\frac{1}{2}$"=1'



SECTION A / –
EQUIPMENT PAD
$\frac{1}{2}$"=1'



SECTION B / –
EQUIPMENT PAD
$\frac{1}{2}$"=1'

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

PROFESSIONAL ENGINEER
REGISTERED
10712
STATE OF IDAHO
J. SHAUN DUSTIN

REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

1) SHIELD WALL AND SLAB TO BE CONSTRUCTED OF 4000 PSI CONCRETE. PROVIDE SINGLE CURTAIN OF #4 REBAR @ 15" O.C.E.W IN SHIELD WALL CENTERED IN THE WALL WITH 3 IN. COVER OVER ALL BARS.

2) JOIN SHIELD WALL TO SLAB WITH 36" X 36" #5 HOOK BARS PLACED @ 18" CENTERS WITH HOOKS PERPENDICULAR TO THE SHIELD WALL. TIE HOOK BARS TO WALL AND SLAB REINFORCEMENT.

3) WASTE BOX POSITIONING STOPS SHALL BE FIELD LOCATED TO ENSURE PROPER ALIGNMENT OF WASTE BOXES WITH VACUUM SYSTEM FRAME.

4) ANCHOR STOPS TO CONCRETE USING HILTI HLC H 1/2x2 1/4 MC OR EQUIVALENT.

5) CONCRETE SHIELD WALLS MAY BE REPLACED WITH PRECAST CONCRETE BLOCKS IF NEEDED.

SCALE: AS NOTED

OU 1-10 TSF-26 EQUIPMENT PAD DETAILS

intrepid technology & resources incorporated
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(208)529-5337 FAX: (208)529-1014

D-4

DRAWN: JSD	12/3/03	TASK ORDER NUMBER	2000-096
DESIGNED: JSD	12/3/03	QA LEVEL: CG	DWG SIZE: D
CHECKED: GDM	12/3/03		
APPROVED: GDM	12/3/03	DRAWING NUMBER	10366
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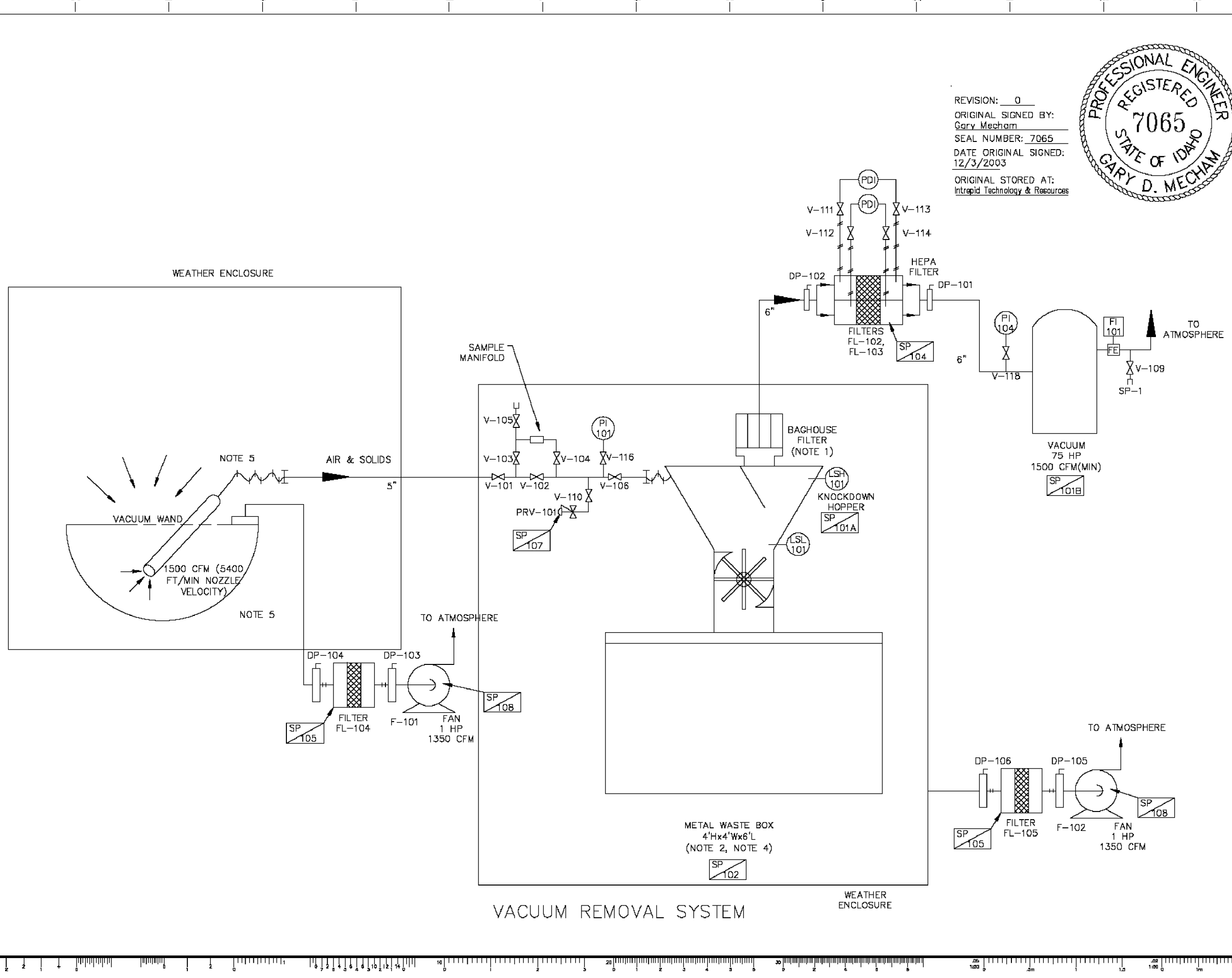


VACUUM REMOVAL SYSTEM

REVISION: 0
ORIGINAL SIGNED BY: Gary Mecham
SEAL NUMBER: 7065
DATE ORIGINAL SIGNED: 12/3/2003
ORIGINAL STORED AT: Intrepid Technology & Resources

PROFESSIONAL ENGINEER REGISTERED 7065 STATE OF IDAHO GARY D. MECHAM

REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

1) INCLUDES INTERNAL REVERSE PULSE SYSTEM, DETAILS IN SPEC.

2) LEVEL INDICATOR IS NOT REQUIRED ON WASTE BOX SINCE VOLUMETRIC CONTROL IS OBTAINED BY LSL-101 AND LSH-101 OF THE KNOCKDOWN HOPPER. ADDITIONAL DETAILS CAN BE FOUND IN SPEC.

3) IF A HOSE BECOMES PLUGGED DURING SLUDGE REMOVAL, IT WILL BE REPLACED. THE PLUGGED HOSE WILL BE DISPOSED OF IN THE ROLL-OFF CONTAINERS AS DEBRIS AND SENT TO THE ICDF.

4) WASTE BOX CHANGEOUT PROCESS IS DETAILED ON M-10.

5) PARTICLES ENTERING THE VACUUM SYSTEM WILL BE SIZED TO APPROXIMATELY 1/3 THE NOZZLE DIAMETER (1 1/2"-2").

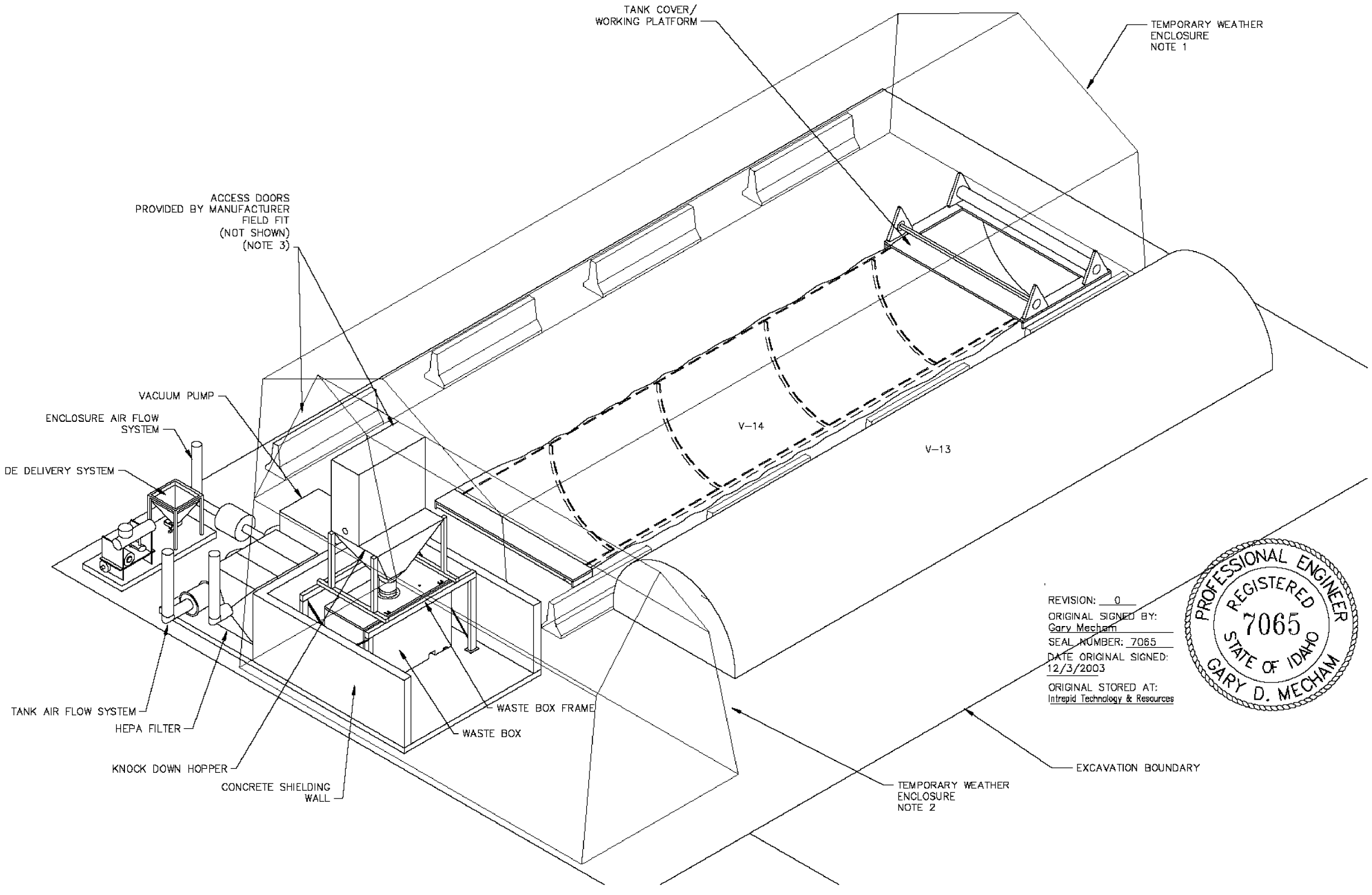
SCALE:

OU 1-10 TSF-26 VACUUM SYSTEM P&ID

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

M-1

DRAWN: KEM	12/3/03	TASK ORDER NUMBER 2000-096	
DESIGNED: KKK	12/3/03	QA LEVEL: CG	DWG SIZE: D
CHECKED: GDM	12/3/03		
APPROVED: GDM	12/3/03	DRAWING NUMBER 10367	REV 0
CADD FILE: 10367_0.DWG			



REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

1) 65'x26'x16' TEMPORARY WEATHER ENCLOSURE WILL BE PLACED OVER THE TANKS DURING VACUUM REMOVAL OPERATIONS.

2) 35'x16'x22' TEMPORARY WEATHER ENCLOSURE WILL BE PLACED OVER THE VACUUM SYSTEM AND KNOCKDOWN HOPPER DURING VACUUM OPERATIONS.

3) MAN DOOR WILL BE MINIMUM 2'x6.5'. LARGE ACCESS DOOR WILL BE A PVC FOLDING DOOR MINIMUM 12'x10'.

4) VENTILATION OPENING WILL BE PROVIDED IN GABLES AND SIZED TO ALLOW AN INLET FLOW OF 4000 CFM.

SCALE:

REVISION: 0
ORIGINAL SIGNED BY:
Gary Mecham
SEAL NUMBER: 7065
DATE ORIGINAL SIGNED:
12/3/2003
ORIGINAL STORED AT:
Intrepid Technology & Resources

PROFESSIONAL ENGINEER
REGISTERED
7065
STATE OF IDAHO
GARY D. MECHAM

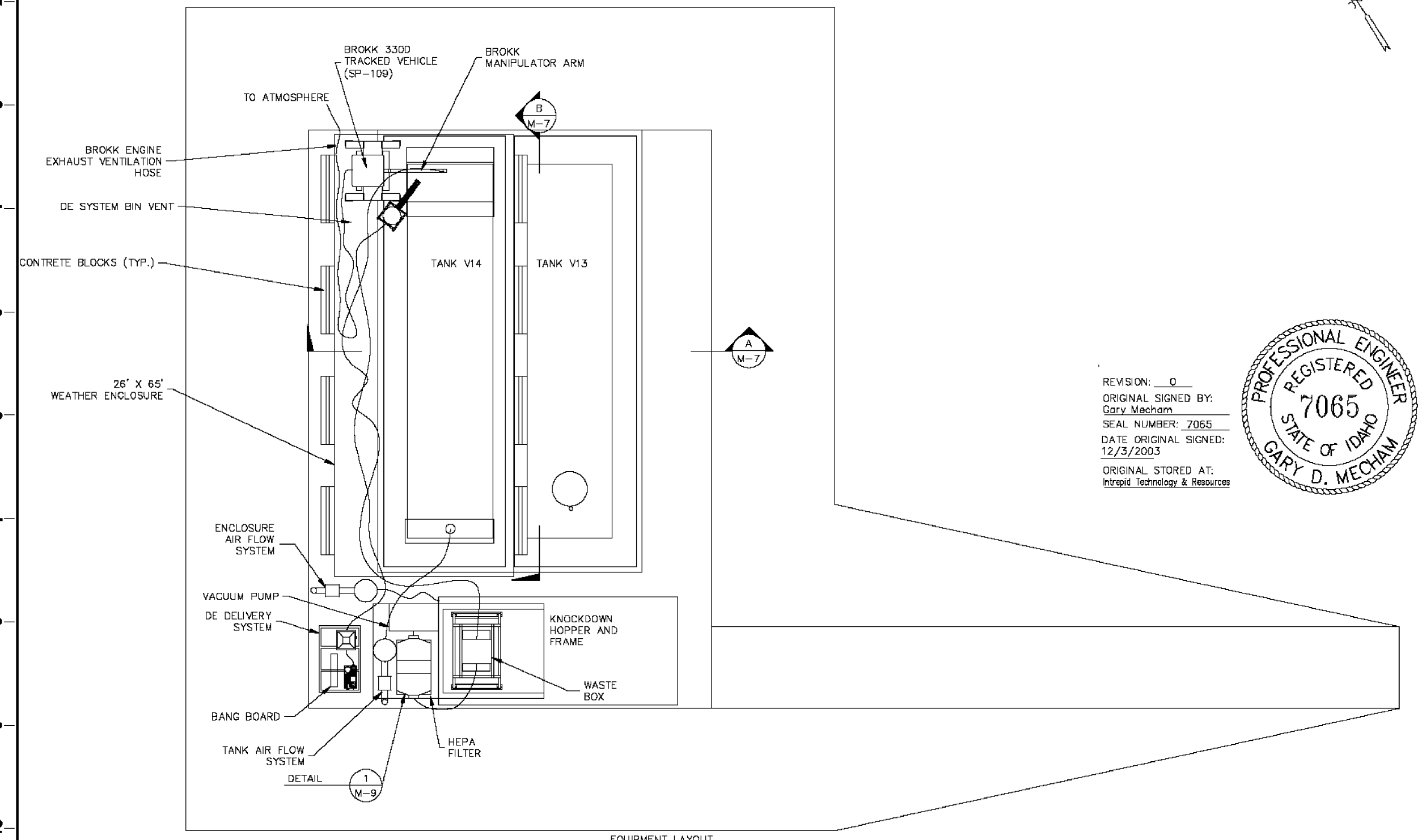
OU 1-10 TSF-26
SITE LAYOUT ISOMETRIC

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

M-2

DRAWN:		TASK ORDER NUMBER	
		2000-096	
DESIGNED:		QA LEVEL: CG	DWG SIZE: D
CHECKED:			
APPROVED:		DRAWING NUMBER	REV
CADD FILE10388_0.DWG		10368	0

SEQUENCE OF ACTIVITIES
1. BLOW ADDITIONAL DE INTO TANKS TO ABSORB STANDING WATER
2. EXCAVATE SOIL AROUND TANK
3. CUT AND REMOVE TANK TOP (V-14)
4. PLACE TEMPORARY ENCLOSURE OVER TANK V-14 SECTIONS
5. ADD ADDITIONAL DE UNTIL WASTE IS OF CRUMBLY CONSISTANCY
6. REMOVE TANK CONTENTS
7. REMOVE TEMPORARY ENCLOSURE
8. REMOVE TANK BOTTOM SECTION
9. (REPEAT STEPS 2 THRU 8 FOR TANK V-13)
10. BACKFILL EXCAVATION AREA



EQUIPMENT LAYOUT
1/8"=1'

REVISION: 0
ORIGINAL SIGNED BY: Gary Mecham
SEAL NUMBER: 7065
DATE ORIGINAL SIGNED: 12/3/2003
ORIGINAL STORED AT: Intrepid Technology & Resources

PROFESSIONAL ENGINEER REGISTERED 7065 STATE OF IDAHO GARY D. MECHAM

REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

SCALE:

OU 1-10 TSF-26 VACUUM SYSTEM EQUIPMENT LAYOUT

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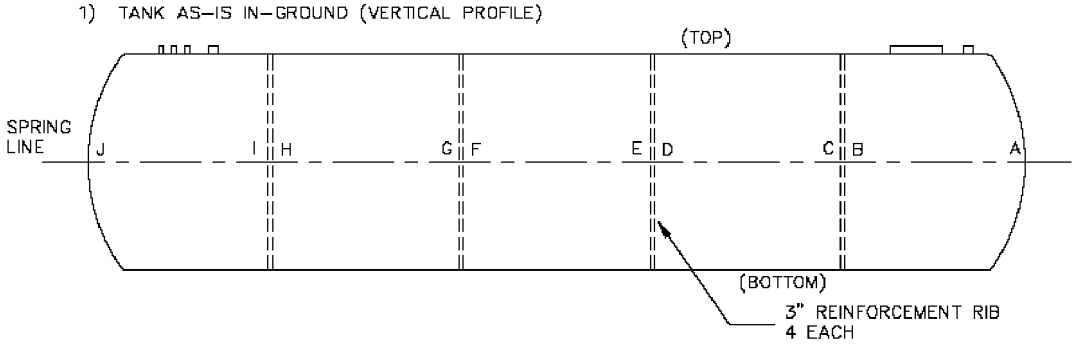
(208)529-5337 FAX: (208)529-1014

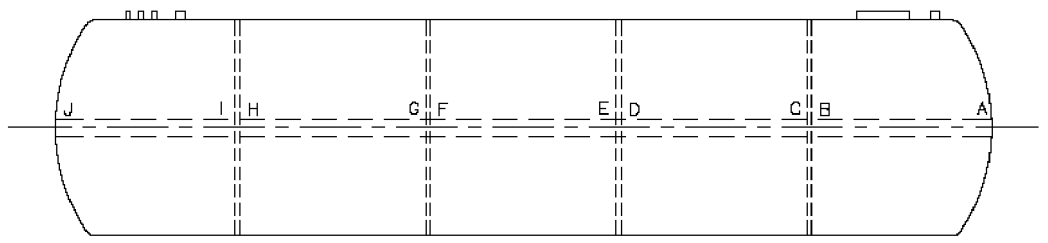
M-3

DRAWN: KEM	12/3/03	TASK ORDER NUMBER	
DESIGNED: KKK	12/3/03	2000-096	
CHECKED: GDM	12/3/03	QA LEVEL: CG	DWG SIZE: D
APPROVED: GDM	12/3/03	DRAWING NUMBER 10369	REV 0
CADD FILE: 10369_0.DWG			

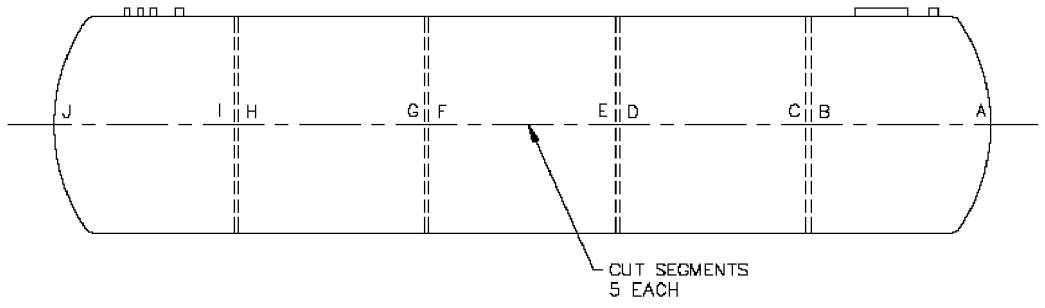
1) TANK AS-IS IN-GROUND (VERTICAL PROFILE)



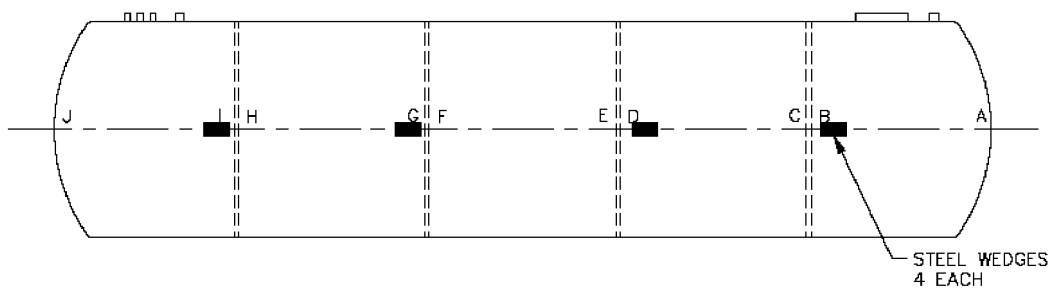
2) REMOVE EXTERIOR TAR COATING AT TANK CENTERLINE, IF NEEDED.



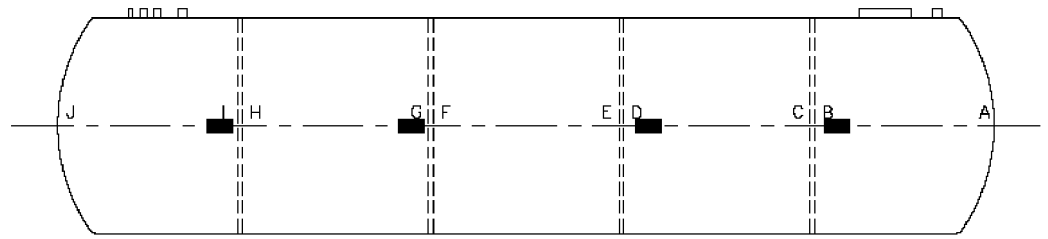
3) MECHANICAL CUTTING UP TO REINFORCING RIBS
(A TO B, C TO D, E TO F, G TO H, I TO J)



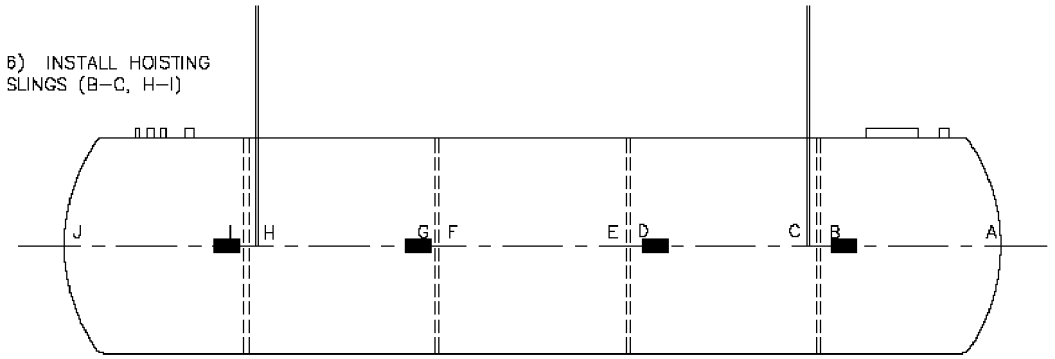
4) INSTALL STEEL WEDGES NEAR REINFORCING RIBS (B, D, G, & I)



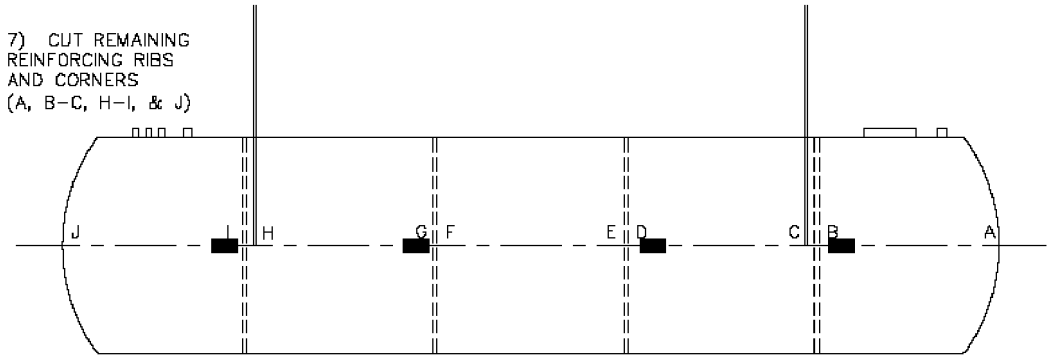
5) CUT OUTER REINFORCING RIBS (NOTE 1)
(B-C, H-I)



6) INSTALL HOISTING SLINGS (B-C, H-I)



7) CUT REMAINING REINFORCING RIBS AND CORNERS
(A, B-C, H-I, & J)



REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

1) REINFORCEMENT RIBS WILL BE CUT WITH A SELECTED MECHANICAL METHOD.

SCALE: NTS

REVISION: 0
ORIGINAL SIGNED BY: Gary Mecham
SEAL NUMBER: 7065
DATE ORIGINAL SIGNED: 12/3/2003
ORIGINAL STORED AT: Intrepid Technology & Resources

PROFESSIONAL ENGINEER REGISTERED 7065 STATE OF IDAHO GARY D. MECHAM

OU 1-10 TSF-26 TANK CUTTING SEQUENCE

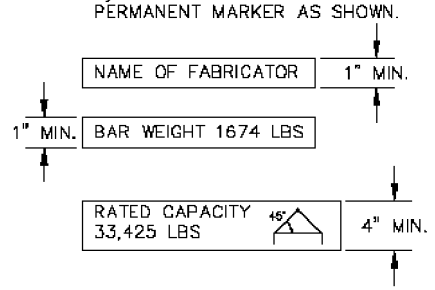
intrepid technology & resources incorporated
501 W. BROADWAY, SUITE 200, IDAHO FALLS, ID 83402
(208)529-5337 FAX: (208)529-1014

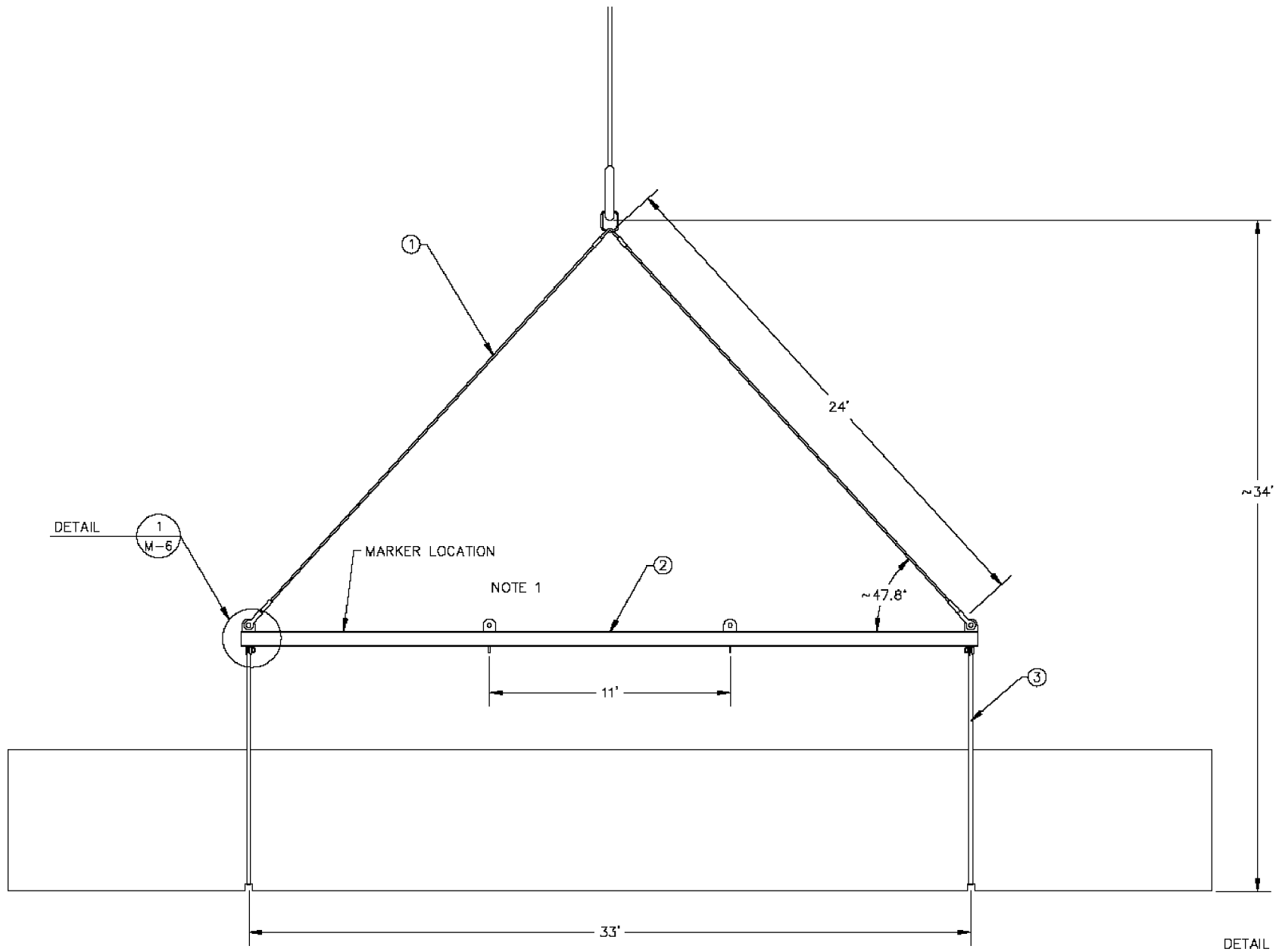
M-4

DRAWN:		TASK ORDER NUMBER	
		2000-096	
DESIGNED:		QA LEVEL: CG	DWG SIZE: D
CHECKED:			
APPROVED:		DRAWING NUMBER	REV
CADD FILE10370_0.DWG		10370	0

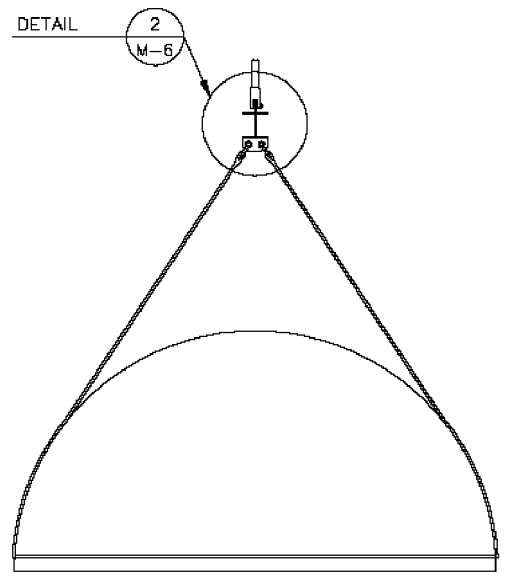
	PARTS LIST
1	1 EA. 1 1/4" TWO PART SLING, 24 FT LEGS, EACH LEG: ONE END CLOSED SWAGED SOCKET ONE END OPEN SWAGED SOCKET, AT RIGHT ANGLES
2	1 EA. W8x48 SPREADER BAR, 33'8" LONG
3	2 EA. 40 FT NYLON WEB SLING, 2" 3-PLY 8300 LB CAPACITY FLAT EYE, CONSOLIDATED EE3-802 OR EQUIVALENT
4	8 EA. 1" SHACKLE RATING 8.5 TONS (SEE M-6)
5	4 EA. UPPER LIFTING LUG, FABRICATE FROM 3/4" STEEL PLATE (SEE M-6)
6	4 EA. LOWER LIFTING LUG, FABRICATE FROM 3/4" STEEL PLATE (SEE M-6)

4) MARK SPREADER BAR USING NAMEPLATE, NAMETAG OR OTHER PERMANENT MARKER AS SHOWN.

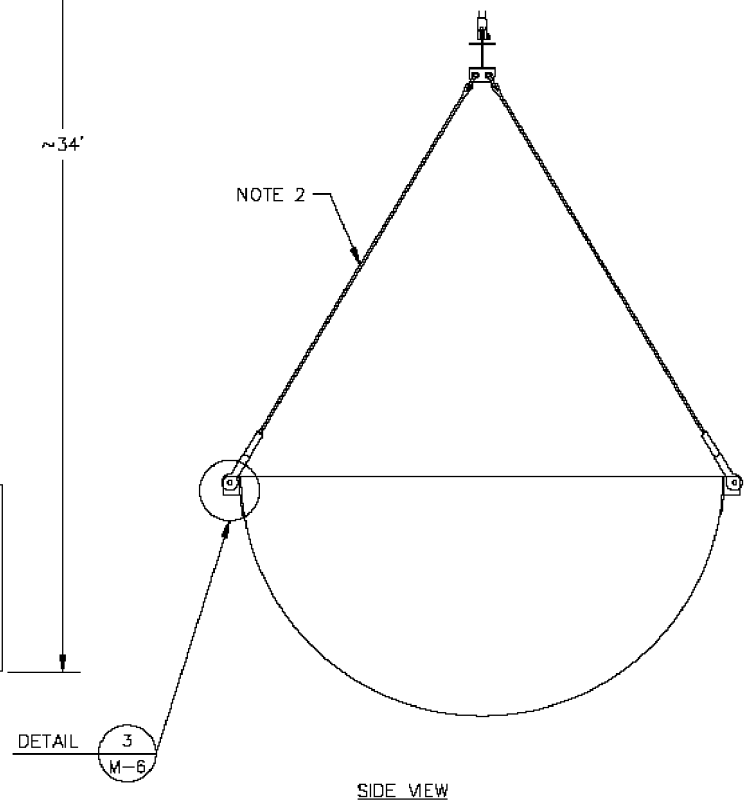




HALF TANK LIFTING RIGGING
1:40



SIDE VIEW
RIGGING FOR STRAIGHT
LIFTING OF THE TOP
1:30



SIDE VIEW
ALTERNATIVE
LIFTING LUG SETUP
NOTE 3
1:30

REV	DATE	DESCRIPTION	DESIGN	APP'D BY

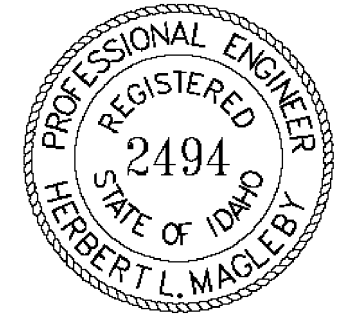
NOTES

1) INTERIOR LUGS PROVIDED FOR LIFTING SHORT PIECES. CAN ALSO BE USED FOR MORE SUPPORT WITH 4 LEG SLING WITH CENTER LEGS 18'-3" LONG.

2) 10 1/2" LONG 1" WIRE ROPE SLING WITH OPEN SOCKET BOTH ENDS.

3) THE TOP SECTION OF THE TANK MAY ALSO BE LIFTED USING THE ALTERNATE LIFTING LUG SETUP.

REVISION: 0
ORIGINAL SIGNED BY:
Herbert L Magleby
SEAL NUMBER: 2494
DATE ORIGINAL SIGNED:
12/3/2003
ORIGINAL STORED AT:
Intrepid Technology & Resources



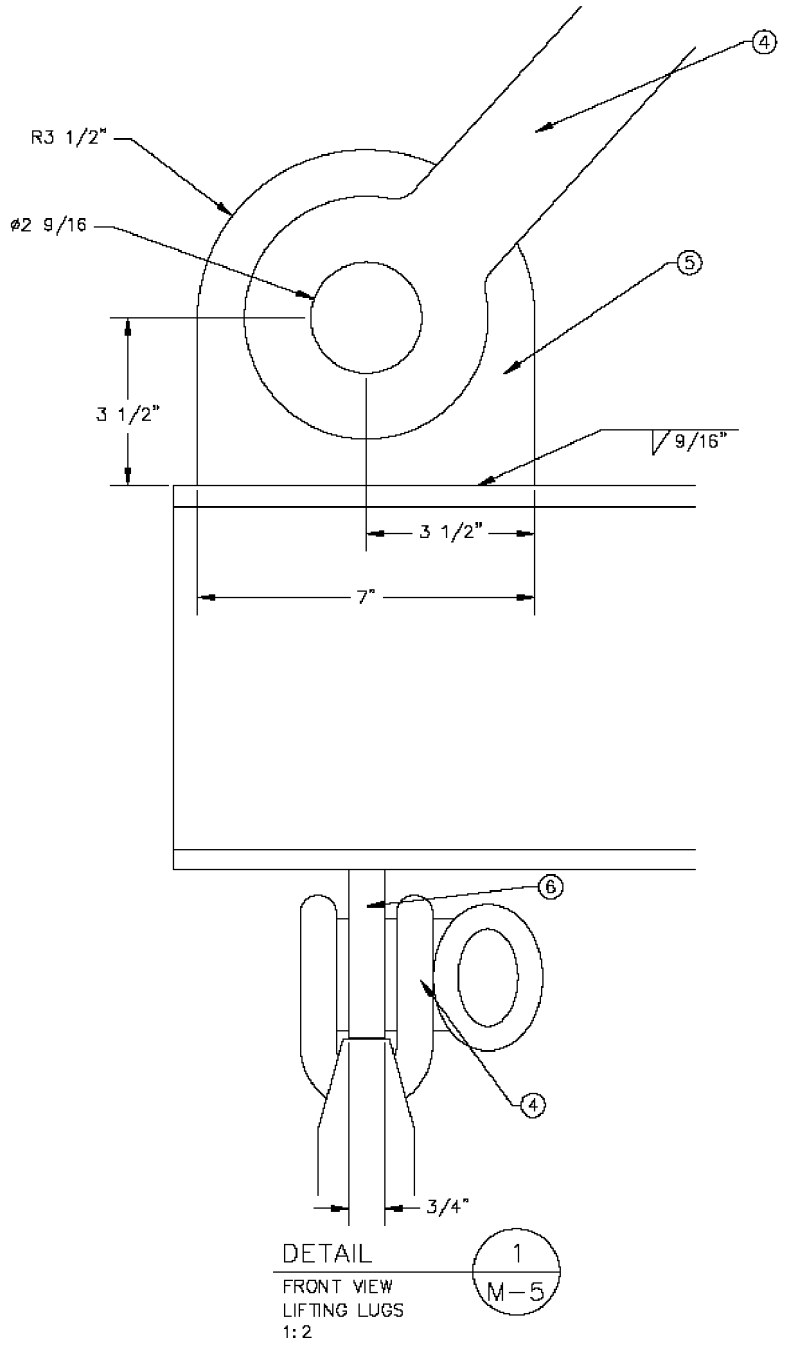
SCALE:

OU 1-10 TSF-26
PM2A
HALF TANK RIGGING

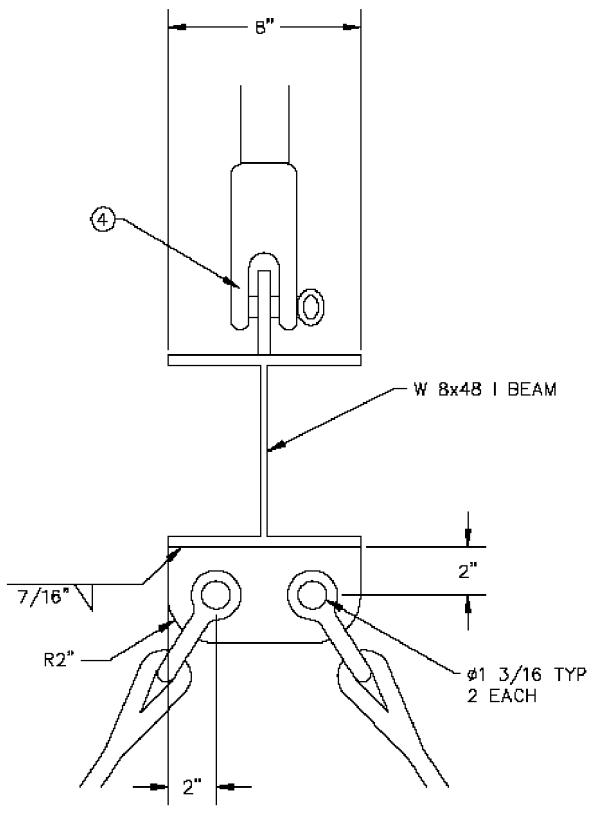
intrepid technology & resources incorporated
501 W. BROADWAY, SUITE 200, IDAHO FALLS, ID 83402
(208)529-5337 FAX: (208)529-1014

M-5

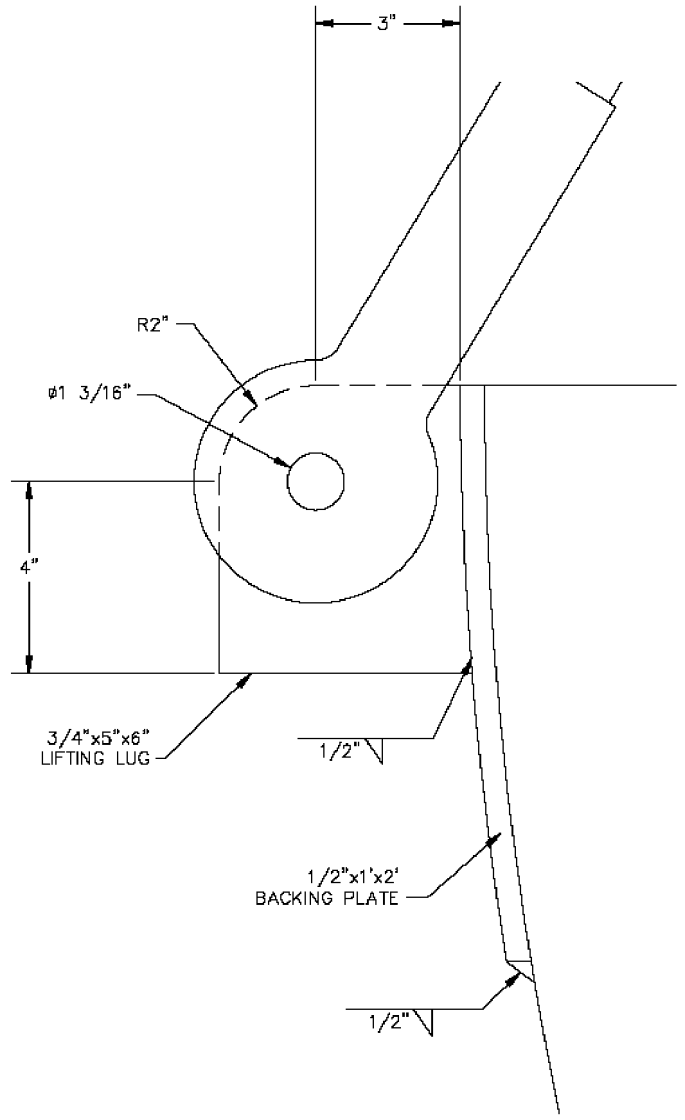
DRAWN: KEM	12/3/03	TASK ORDER NUMBER	2000-096
DESIGNED: HLM	12/3/03	QA LEVEL: CG	DWG SIZE: D
CHECKED: DJK	12/3/03		
APPROVED: GDM	12/3/03	DRAWING NUMBER	REV
CADD FILE: 10371_0.DWG		10371	0



DETAIL 1 / M-5
FRONT VIEW
LIFTING LUGS
1:2



DETAIL 2 / M-5
SIDE VIEW
LIFTING LUG
SET UP FOR
STRAIGHT LIFTING
1:4



DETAIL 3 / M-5
LIFTING LUG
1:2

REVISION: 0
ORIGINAL SIGNED BY:
Herbert L Magleby
SEAL NUMBER: 2494
DATE ORIGINAL SIGNED:
12/3/2003
ORIGINAL STORED AT:
Intrepid Technology & Resources

PROFESSIONAL ENGINEER
REGISTERED
2494
STATE OF IDAHO
HERBERT L. MAGLEBY

REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

SCALE:

OU 1-10 TSF-26 HALF TANK RIGGING DETAILS

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

M-6

DRAWN: KEM	12/3/03	TASK ORDER NUMBER	2000-096
DESIGNED: HLM	12/3/03	QA LEVEL: CG	DWG SIZE: D
CHECKED: DJK	12/3/03		
APPROVED: DJK	12/3/03	DRAWING NUMBER	REV
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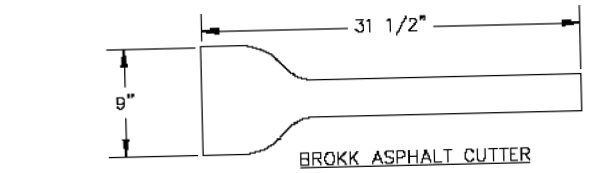
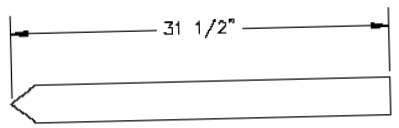
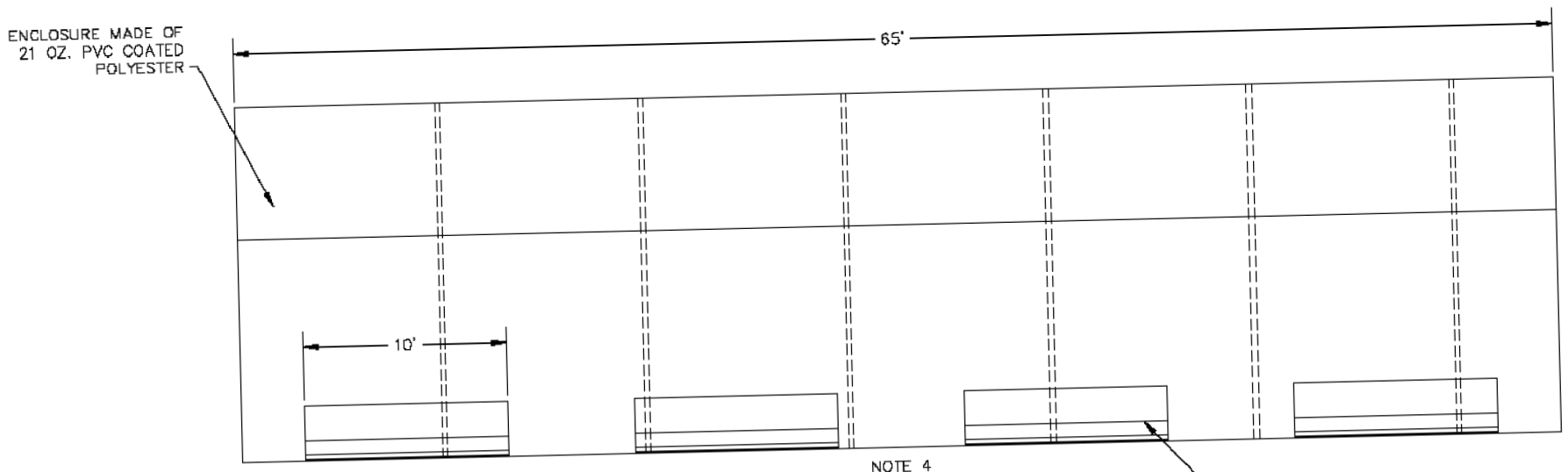


BROKK ASPHALT CUTTER

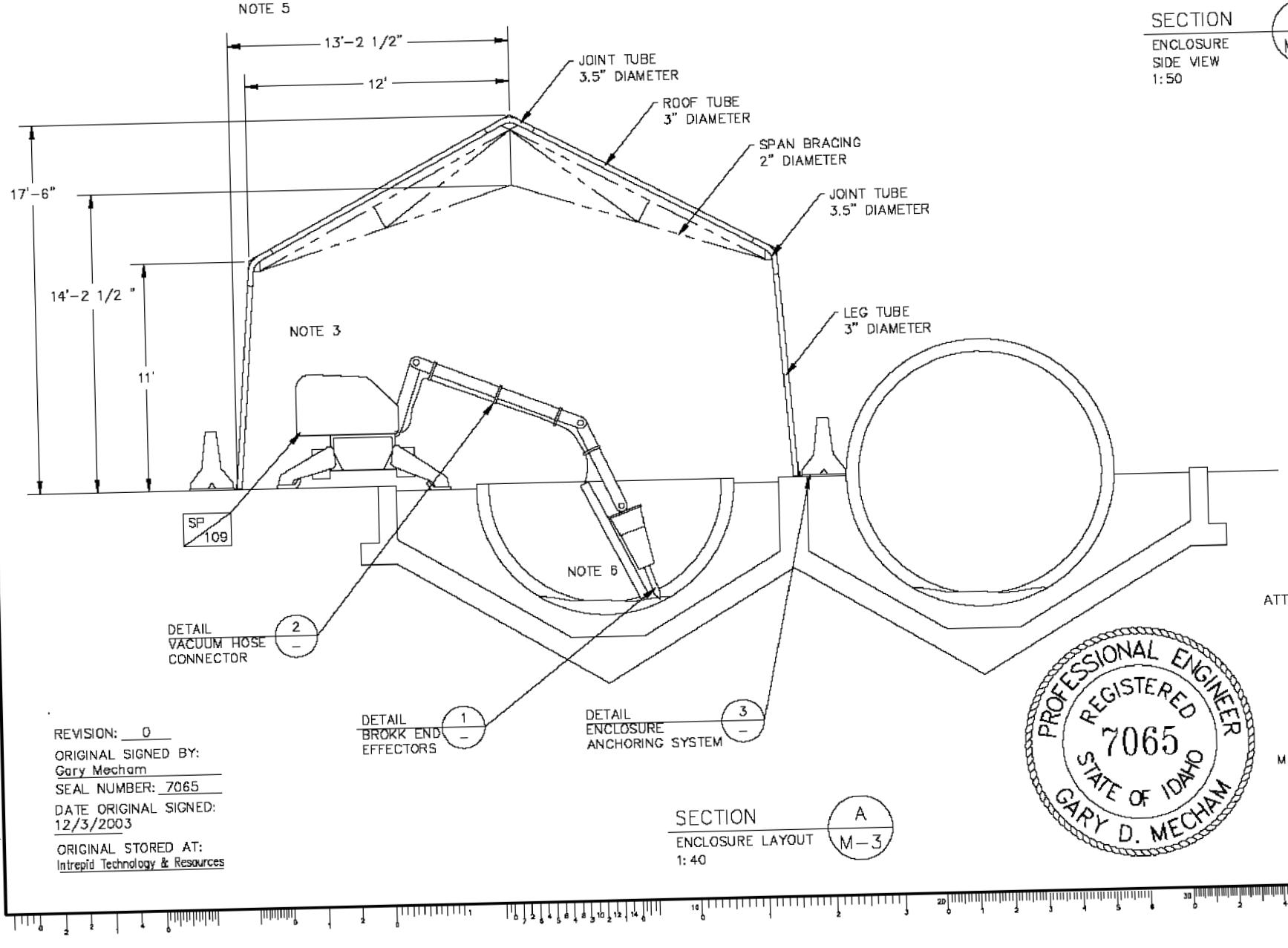


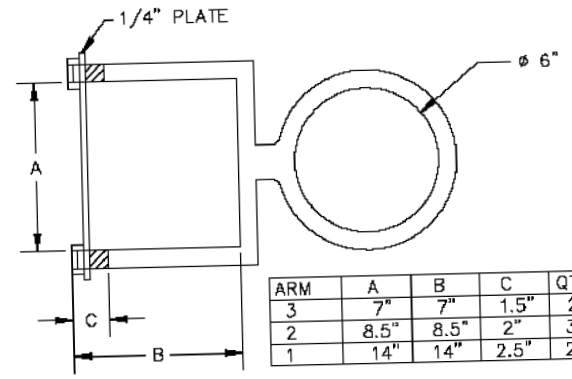
BROKK MOIL POINT

DETAIL 1/— BROKK END EFFECTERS
1:8
NOTE 5



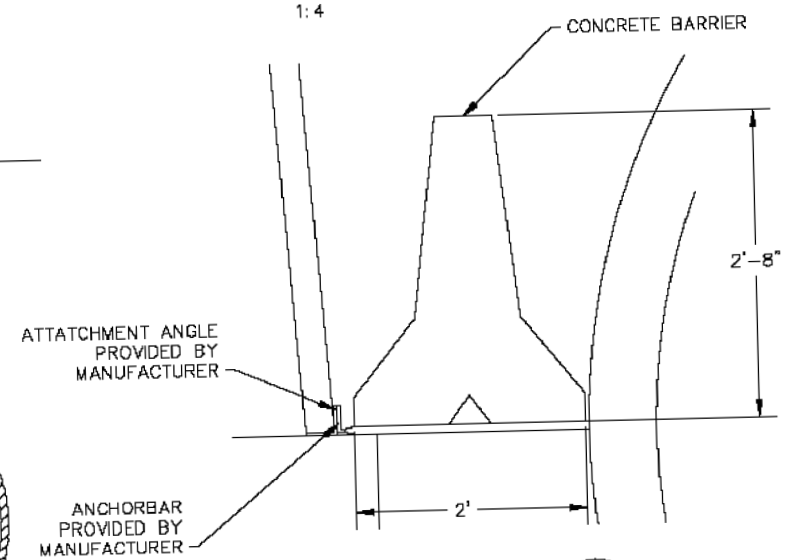
SECTION B/M-3
ENCLOSURE SIDE VIEW
1:50





ARM	A	B	C	QTY.
3	7"	7"	1.5"	2
2	8.5"	8.5"	2"	3
1	14"	14"	2.5"	2

DETAIL VACUUM HOSE CONNECTOR 2/—
1:4



DETAIL ENCLOSURE ANCHORING SYSTEM 3/—
1:8

SECTION A/M-3
ENCLOSURE LAYOUT
1:40

PROFESSIONAL ENGINEER REGISTERED 7065 STATE OF IDAHO GARY D. MECHAM

REVISION: 0
ORIGINAL SIGNED BY: Gary Mecham
SEAL NUMBER: 7065
DATE ORIGINAL SIGNED: 12/3/2003
ORIGINAL STORED AT: Intrepid Technology & Resources

REV	DATE	DESCRIPTION	DESIGN	APPD BY

NOTES

1) SIZE AND STRUCTURE AS SPECIFIED FOR A 26' X 65' RUBB INC. STRUCTURE.

2) EACH GABLE IS EQUIPPED WITH A VENTILATION OPENING. WALL PENETRATIONS WILL BE FIELD FIT.

3) BROKK 330D SYSTEM WILL INCLUDE RF CAMERA SYSTEM WITH FOUR CAMERAS – ONE DIRECTED TO THE REAR OF THE BROKK, TWO TO THE FRONT, AND ONE ON THE END EFFECTER.

4) ENCLOSURE HOLDDOWN SUPPORTS ARE APPROXIMATELY 10" LONG. SPACING IS DETERMINED BY MANUFACTURE.

5) ADDITIONAL TOOLS TO BE USED WITH SBC 610 END EFFECTER.

6) VACUUM WAND WILL BE HELD IN PLACE AT THE END EFFECTOR WITH CABLE TIES.

SCALE:

OU 1-10 TSF-26 EQUIPMENT SETUP DETAILS

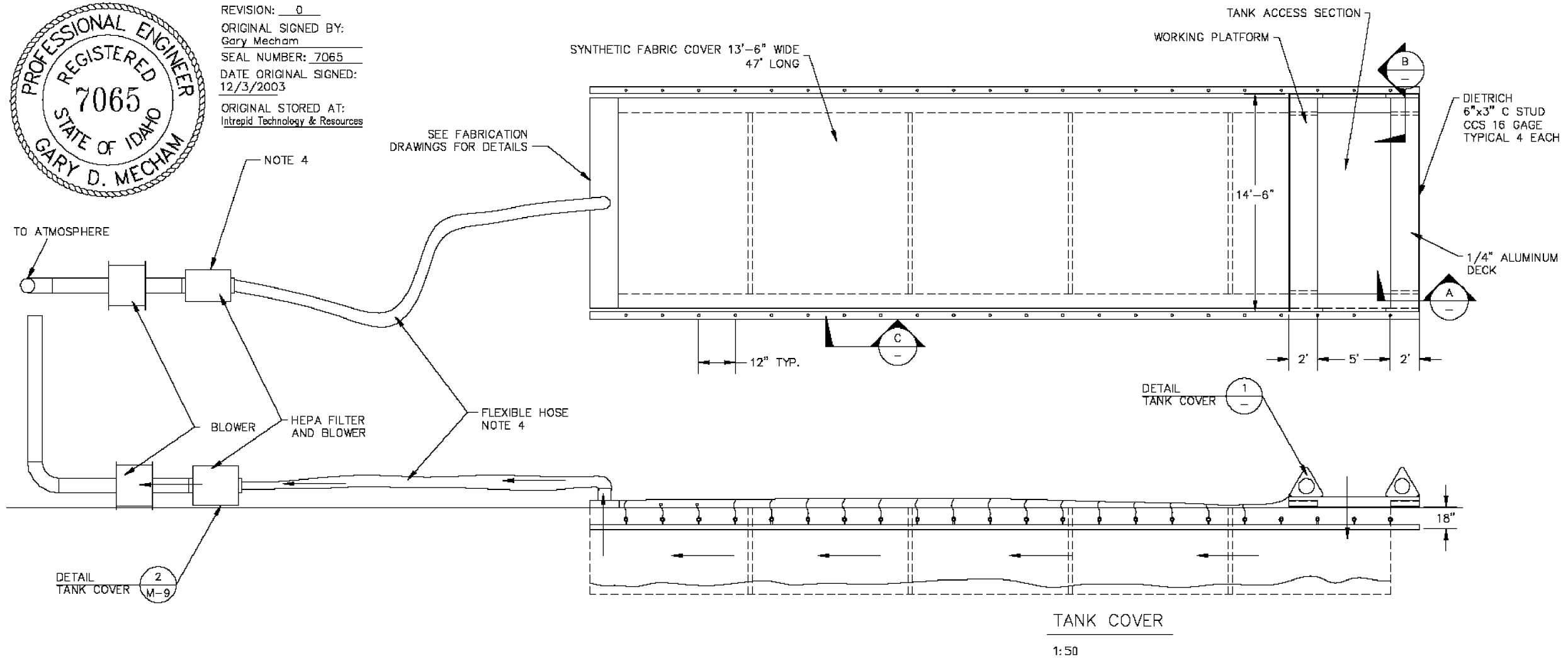
intrepid technology & resources incorporated
501 W. BROADWAY, SUITE 200, IDAHO FALLS, ID 83402
(208)529-5337 FAX: (208)529-1014

M-7

DRAWN: KEM	12/3/03	TASK ORDER NUMBER	2000-096
DESIGNED: KKK	12/3/03	QA LEVEL: CG	DWG SIZE: D
CHECKED: GDM	12/3/03	DRAWING NUMBER	REV 0
APPROVED: GDM	12/3/03	10373	

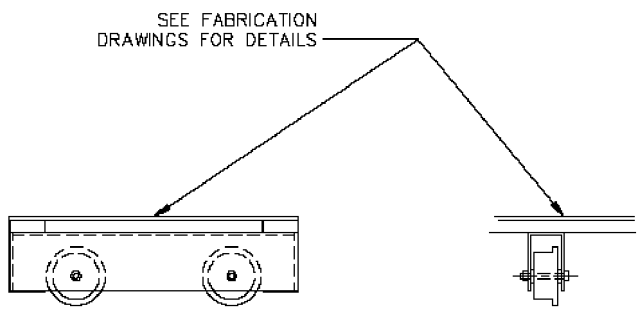
CADD FILE: 10373_0.DWG

REVISION: 0
ORIGINAL SIGNED BY:
Gary Mecham
SEAL NUMBER: 7065
DATE ORIGINAL SIGNED:
12/3/2003
ORIGINAL STORED AT:
Intrepid Technology & Resources

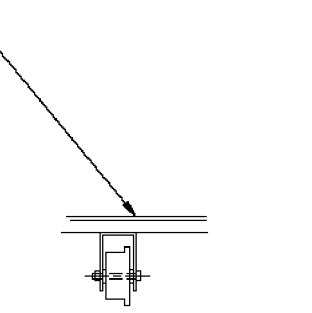


TANK COVER

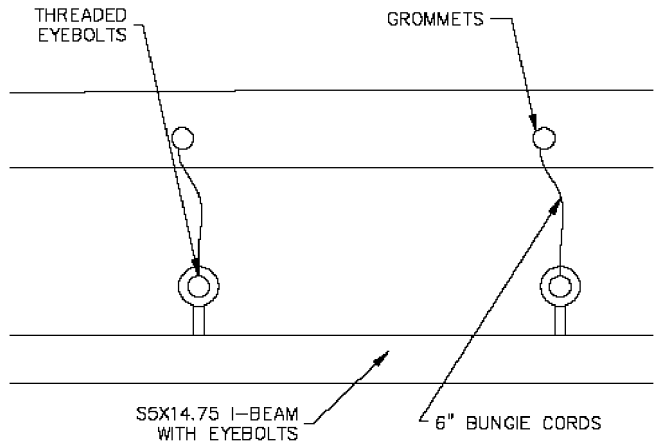
1:50



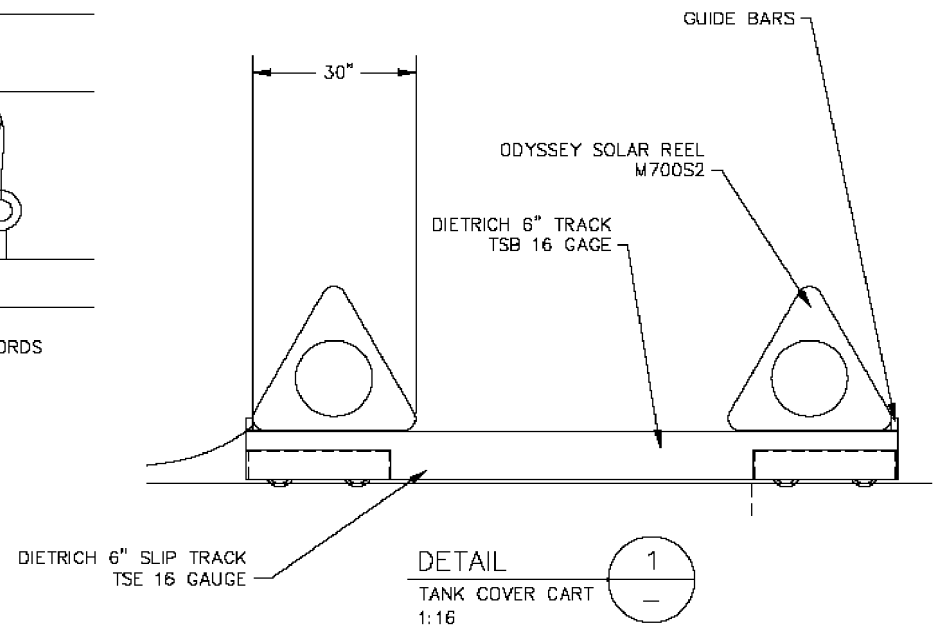
SECTION A
TANK COVER CART
WHEEL BOX
1:8



SECTION B
TANK COVER CART
WHEEL BOX
1:8



SECTION C
TANK COVER SUPPORT
1:8



DETAIL
TANK COVER CART
1:16

REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

1) USE CAMLOC FITTINGS FOR ALL HOSE CONNECTIONS.

2) THE COVER SUPPORTS WILL BE WOODEN BOARDS THAT SPAN THE WIDTH OF THE TANKS. THE PLASTIC WILL BE HELD DOWN WITH BUNGIE CORDS AROUND THE EDGES OF THE PLASTIC TO ENSURE THAT THE AIR FLOW GOES THROUGH THE ACCESS OPENING IN THE WORKING PLATFORM.

3) BUNGIE CORDS AND 2"x4" WOOD BEAM SUPPORTS WILL BE REMOVED AND REINSTALLED AS NECESSARY FOR CART TO MOVE.

4) BLOWER AND HEPA FILTER ARE DUCTED TOGETHER.

5) REMOVE ALL BURRS AND SHARP EDGES.

6) FABRICATION DRAWINGS PROVIDING THE TANK COVER SYSTEM DETAILS AND FABRICATION INFORMATION WILL BE PROVIDED WITHIN A SEPARATE PACKAGE.

7) CART TO BE MOVED BY ROLLING ONE REEL AND SIMULTANEOUSLY UNROLLING THE OTHER. REEL TENSION WILL MAINTAIN TENSION ON COVER.

8) CART MAY BE PICKED USING A FOUR-POINT LIFT AT THE GUIDE BARS.

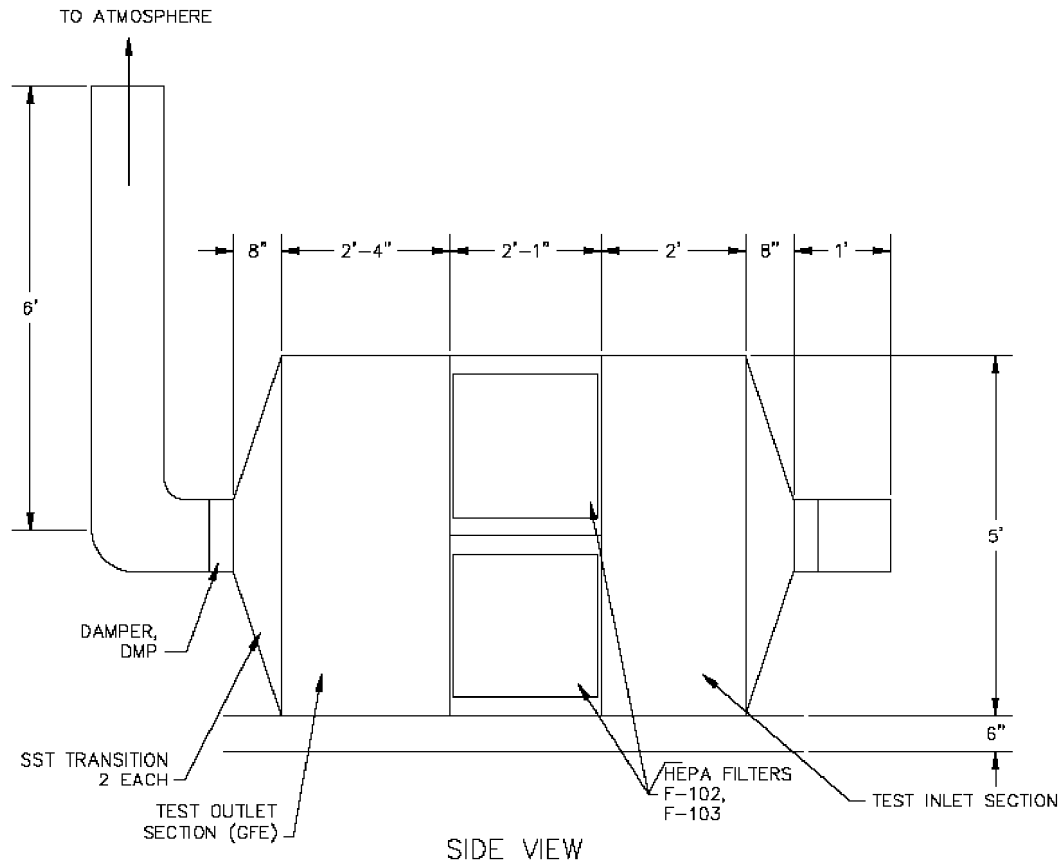
SCALE:

OU 1-10 TSF-26 TANK COVER AND AIR FLOW SYSTEM

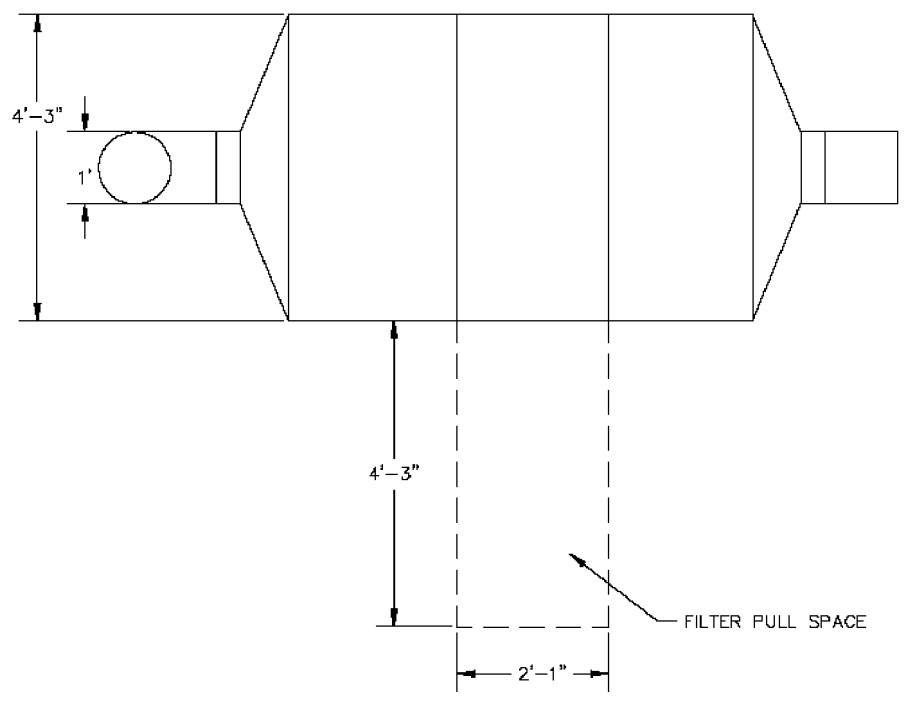
intrepid technology & resources incorporated
501 W. BROADWAY, SUITE 200, IDAHO FALLS, ID 83402
(208)529-5337 FAX: (208)529-1014

M-8

DRAWN: KEM	12/3/03	TASK ORDER NUMBER	
DESIGNED: HLM	12/3/03	2000-096	
CHECKED: GDM	12/3/03	QA LEVEL: CG	DWG SIZE: D
APPROVED: GDM	12/3/03	DRAWING NUMBER	REV
CADD FILE: 10374_0.DWG		10374	0

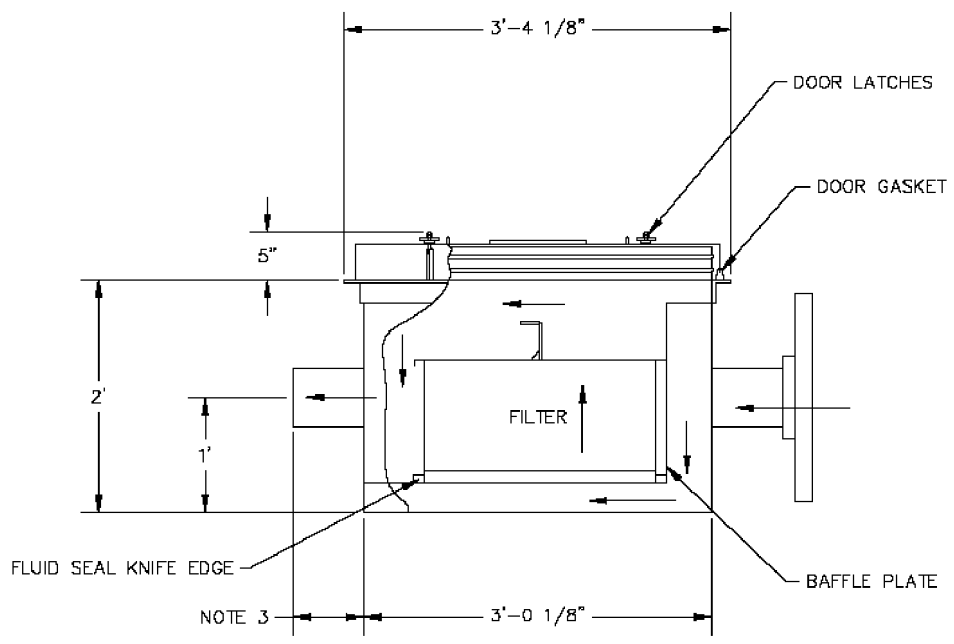


SIDE VIEW



TOP VIEW

HEPA FILTERS F-102, F-103 — 1 / M-3
1:16



DETAIL — 2 / M-8
HEPA FILTERS
F-104
1:10

REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

1) USE FLANDERS FILTER HOUSING PER SPECIFICATIONS. THE FILTER HOUSING WILL USE INEEL STANDARD 24" X 24" X 11 1/2" HEPA FILTERS.

2) 4' CLEARANCE MUST BE MAINTAINED ON DOOR SIDE OF FILTER HOUSING TO ACCOMODATE FILTER CHANGEOUT.

3) INLET AND OUTLET CONNECTIONS ARE AVAILABLE IN ROLLED AND SEAM WELDED NIPPLE CONNECTIONS, OR STANDARD PIPE OR TUBING SIZES. CONNECTIONS ARE 6" LONG UNLESS OTHERWISE SPECIFIED.

SCALE:

REVISION: 0
ORIGINAL SIGNED BY: Gary Mecham
SEAL NUMBER: 7065
DATE ORIGINAL SIGNED: 12/3/2003
ORIGINAL STORED AT: Intrepid Technology & Resources

PROFESSIONAL ENGINEER REGISTERED 7065 STATE OF IDAHO GARY D. MECHAM

OU 1-10 TSF-26 HEPA FILTERS

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

M-9

DRAWN: KEM	12/3/03	TASK ORDER NUMBER	2000-096
DESIGNED: GDM	12/3/03	QA LEVEL: CG	DWG SIZE: D
CHECKED: KKK	12/3/03		
APPROVED: GDM	12/3/03	DRAWING NUMBER	10375
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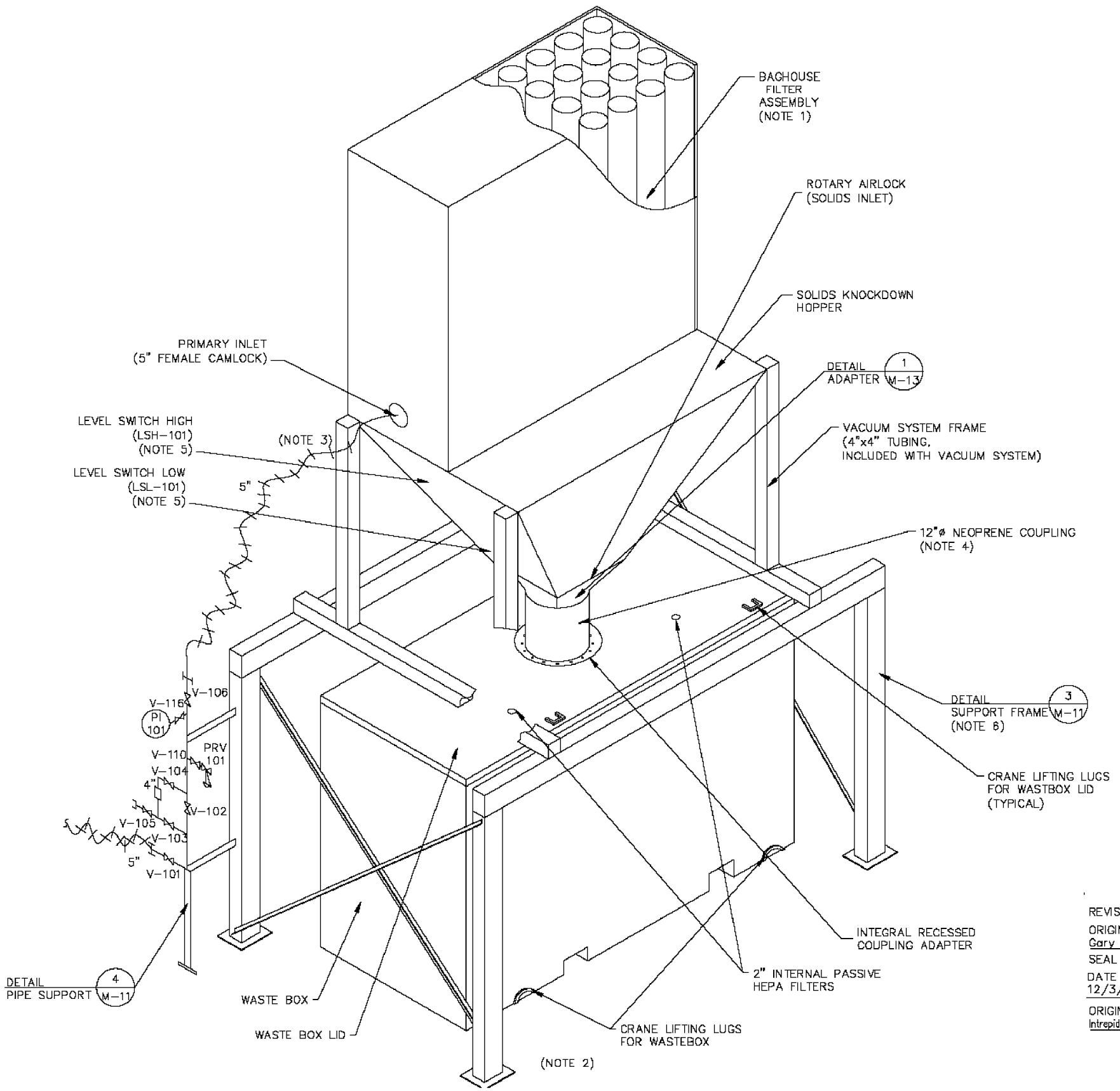

PROPOSED
WASTE BOX CHANGEOUT PROCESS

STARTING WITH AN EMPTY WASTE BOX:
1) CONTAMINATION CONTROL BAG IS ATTACHED TO THE INTEGRAL RECESSED COUPLING ADAPTER, AND LID ATTACHED TO WASTE BOX.

2) WASTE BOX IS PLACED IN VACUUM FRAME, WITH CONTAMINATION CONTROL BAG AND COUPLER INSTALLED.

3) VACUUMING BEGINS. WHEN WASTE LEVEL REACHES LSH-101, THE VACUUM AUTOMATICALLY TURNS OFF, THEN THE ROTARY AIRLOCK AUTOMATICALLY DISCHARGES WASTE IN TO THE WASTE BOX UNTIL LSL-101 IS TRIPPED. TURN OFF VACUUM SYSTEM.

4) THE CLAMPS ATTACHING THE NEOPRENE COUPLING ARE LOOSENED, THE COUPLING SLID UP ONTO THE ROTARY AIRLOCK/COUPLING ADAPTER, AND TIGHTENED OUT OF THE WAY WITH BAG SEALED IN A PIGTAIL.

5) REMOVE HEPA FILTER PLUGS AND PUSH CONTAMINATION CONTROL BAG WITH PIGTAIL INTO WASTE BOX. BOLT CAP (BLANK PLATE) ONTO LID AND REPLACE HEPA FILTER PLUGS.

6) FORKLIFT RAISES WASTE BOX 6"-12" AND REMOVES 2/3 FULL WASTE BOX TO WASTE BOX STAGING AREA (ONTO TARP).

7) THE NEXT WASTE BOX IS PREPARED.

REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

1) INCLUDES INTERNAL REVERSE PULSE SYSTEM, DETAILS IN SPEC.

2) FRAME TUBING IS CARBON STEEL; DETAILS ON M-8.

3) FRAME TUBING IS 4" SQUARE CARBON STEEL AND INTEGRAL TO THE VACUUM SYSTEM.

4) NEOPRENE COUPLING WILL BE SIZED TO MATCH HEIGHT OF THE SELECTED WASTE BOX, APPROXIMATELY 12" IN LENGTH.

5) LSL-101 AND LSH-101 ARE INTERNAL SWITCHES AND INTEGRAL TO THE VACUUM SYSTEM HOPPER.

6) FABRICATE FRAME FROM ASTM A-36 CARBON STEEL TUBING.

SCALE: NOT TO SCALE

REVISION: 0
ORIGINAL SIGNED BY: Gary Mecham
SEAL NUMBER: 7065
DATE ORIGINAL SIGNED: 12/3/2003
ORIGINAL STORED AT: Intrepid Technology & Resources

PROFESSIONAL ENGINEER REGISTERED 7065 STATE OF IDAHO GARY D. MECHAM

OU 1-10 TSF-26 KNOCKDOWN HOPPER ISOMETRIC

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

M-10

DRAWN: KEM	12/3/03	TASK ORDER NUMBER	
		2000-096	
DESIGNED: KKK	12/3/03	QA LEVEL:	DWG SIZE:
CHECKED: GDM	12/3/03	CG	D
APPROVED: GDM	12/3/03	DRAWING NUMBER	REV
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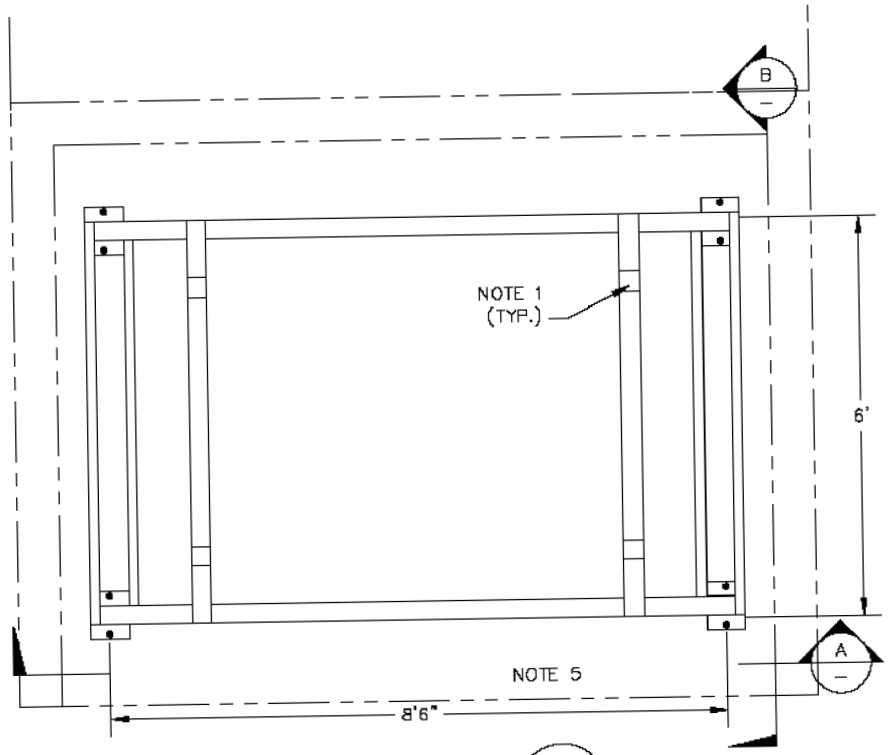
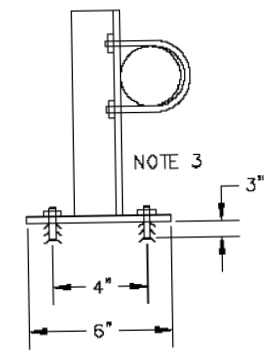
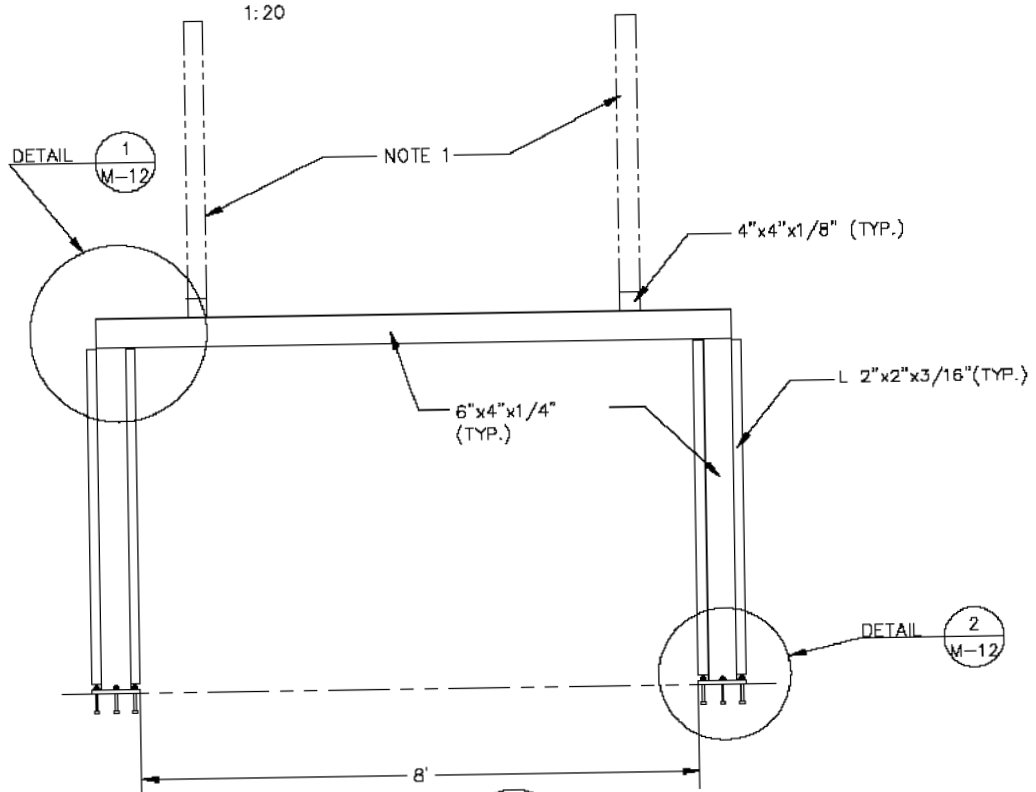


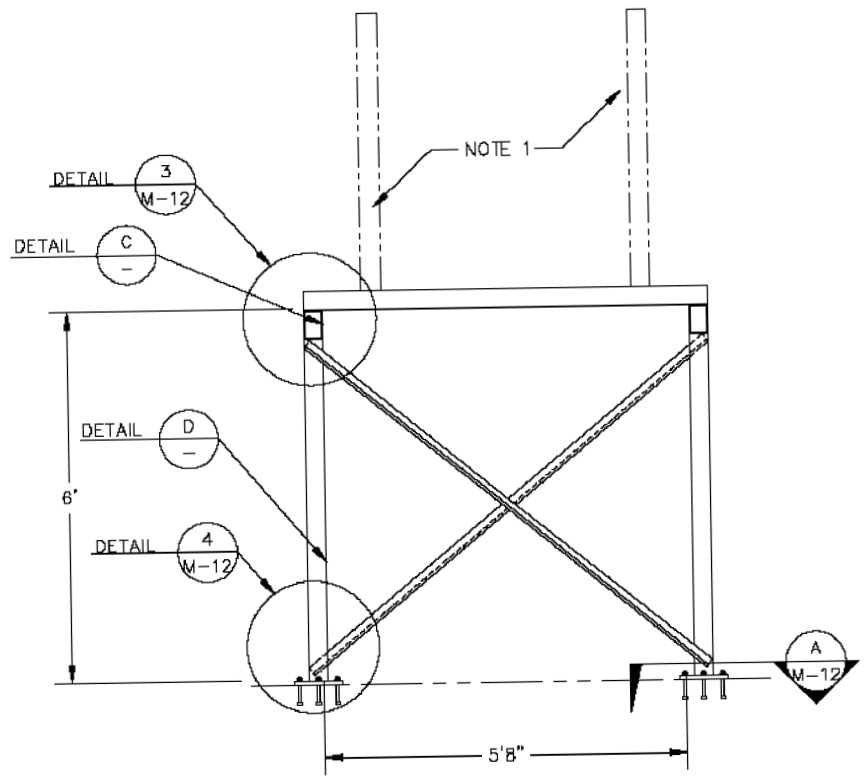
DETAIL 3 / M-10
VACUUM SUPPORT FRAME
PLAN VIEW
1:20



DETAIL 4 / M-10
PIPE SUPPORTS
1:4



SECTION A / —
VACUUM SUPPORT FRAME
1:20
NOTE 4



SECTION B / —
VACUUM SUPPORT FRAME
1:20
NOTE 4

REV	DATE	DESCRIPTION	DESIGN	APPD BY

NOTES

1) VACUUM FRAME SUPPORTS TO BE SUPPLIED WITH VACUUM SYSTEM AND ATTACHED AS SHOWN ON SHEET M-10.

2) EXACT POSITIONING OF VACUUM FRAME SUPPORT CROSS MEMBERS SHALL COMPLY WITH THE ACTUAL DIMENSIONS OF THE SUPPLIED VACUUM FRAME.

3) PIPE SUPPORTS WILL BE MADE WITH 1/4"X2" ANGLE WITH 6"x6" BASE PLATES. ATTACH PIPE USING APPROPRIATE U-BOLTS. ATTACH BASE PLATES TO EQUIPMENT PAD WITH 2 EA. 3/8" EMBEDDED CONCRETE WEDGE ANCHORS.

4) SHIELD WALLS NOT SHOWN FOR CLARITY.

5) ALL EXPOSED SURFACES SHALL BE PAINTED WITH ONE COAT OF KEELER AND LONG TRI-POLAR WHITE PRIMER (OR APPROVED EQUIVALENT) AND TWO COATS OF KEELER AND LONG POLY-SILICONE PAINT (OR APPROVED EQUIVALENT).

PROFESSIONAL ENGINEER
REGISTERED
7065
STATE OF IDAHO
GARY D. MECHAM

REVISION: 0
ORIGINAL SIGNED BY:
Gary Mecham
SEAL NUMBER: 7065
DATE ORIGINAL SIGNED:
12/3/2003
ORIGINAL STORED AT:
Intrepid Technology & Resources

SCALE:

OU 1-10 TSF-26 VACUUM SUPPORT FRAME

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

M-11

DRAWN: KEM	12/3/03	TASK ORDER NUMBER	2000-096
DESIGNED: KKK	12/3/03	QA LEVEL: CG	DWG SIZE: D
CHECKED: GDM	12/3/03	DRAWING NUMBER	REV 0
APPROVED: GDM	12/3/03	10377	

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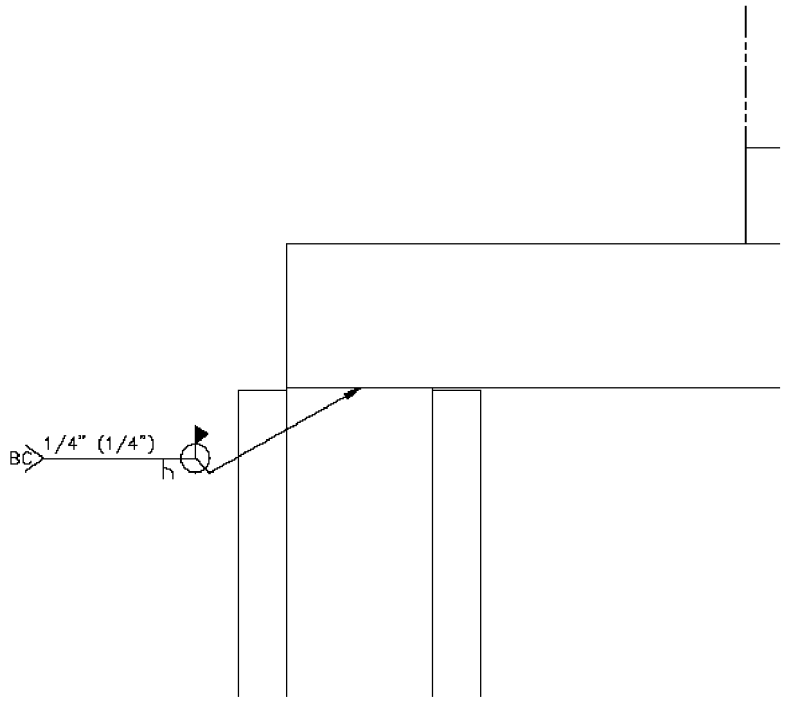
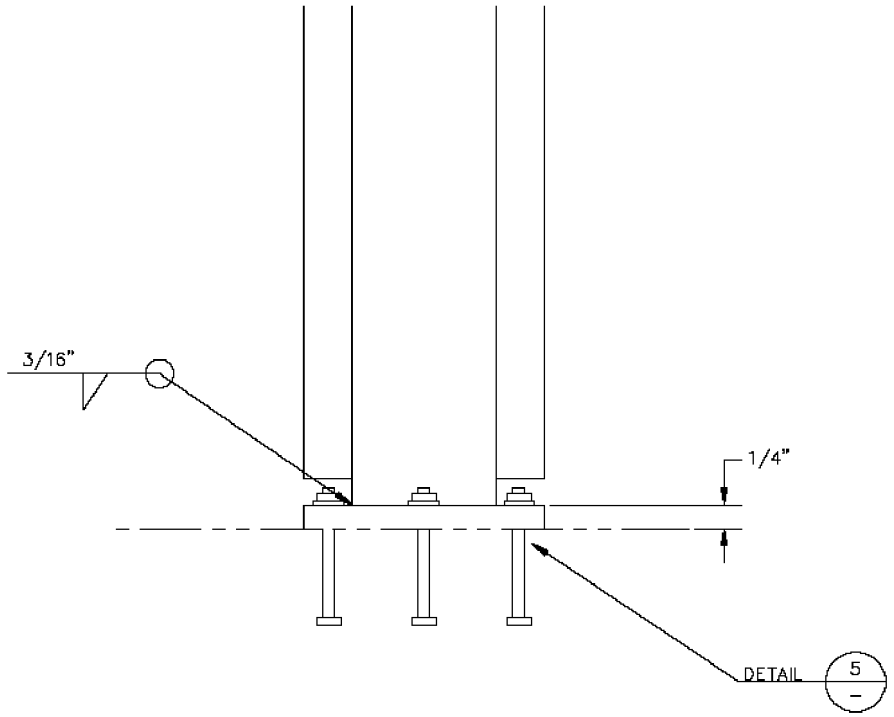
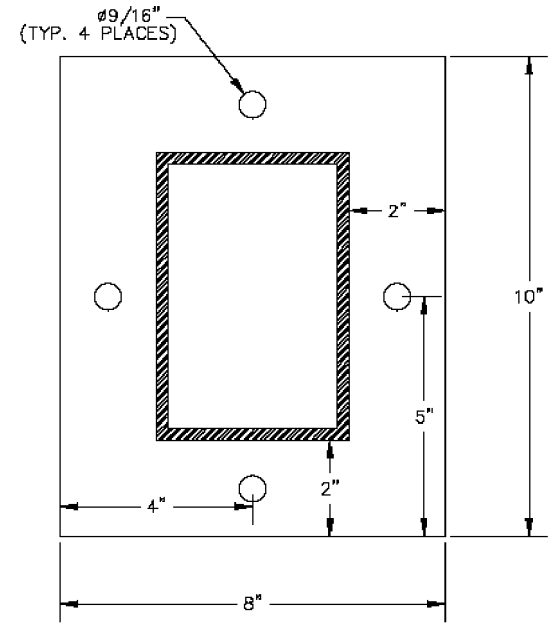


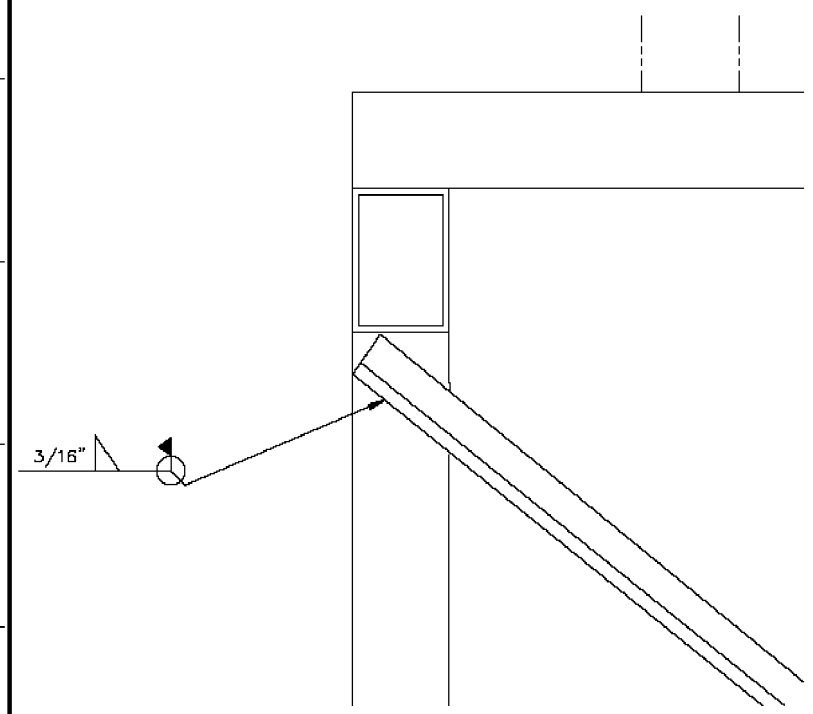
DETAIL 1 / M-11
BEAM-COLUMN CONNECTION
1:4



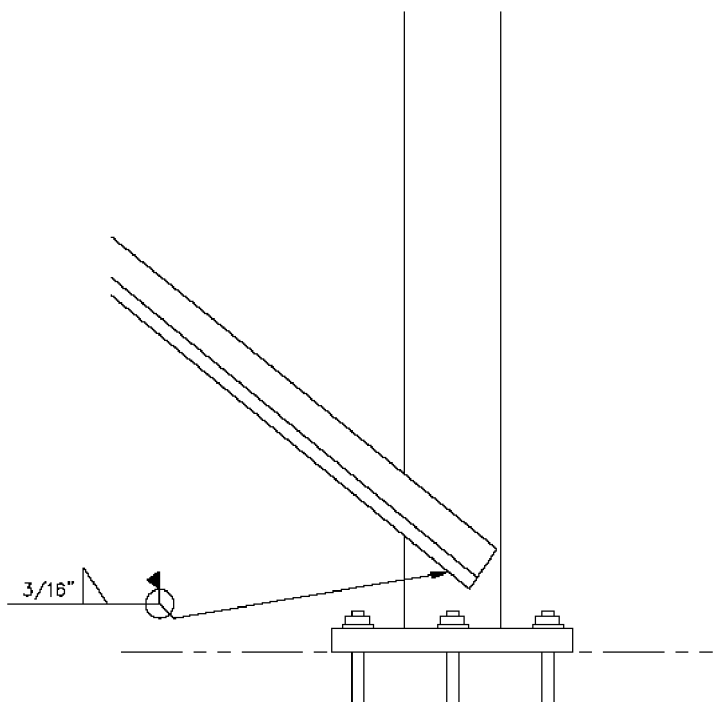
DETAIL 2 / M-11
BASE PLATE
1:4



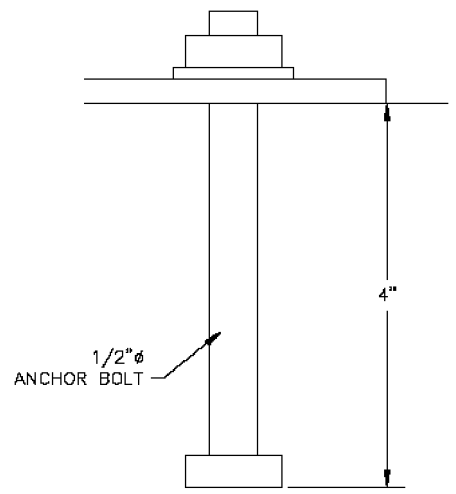
SECTION A / M-11
BASE PLATE
1:2



DETAIL 3 / M-11
CROSS BRACE @TOP OF FRAME
1:4



DETAIL 4 / M-11
CROSS BRACE @BASEPLATE
(TYP. ALL CROSS BRACES)
1:4



DETAIL 5 / –
ANCHOR BOLT (TYP.)
1:1

REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

REVISION: 0
ORIGINAL SIGNED BY: Gary Mecham
SEAL NUMBER: 7065
DATE ORIGINAL SIGNED: 12/3/2003
ORIGINAL STORED AT: Intrepid Technology & Resources

PROFESSIONAL ENGINEER REGISTERED 7065 STATE OF IDAHO GARY D. MECHAM

SCALE:

OU 1-10 TSF-26 WASTE BOX FRAME DETAILS

intrepid technology & resources incorporated
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(208)529-5337 FAX: (208)529-1014

M-12

DRAWN: KEM	12/3/03	TASK ORDER NUMBER	
DESIGNED: KKK	12/3/03	2000-096	
CHECKED: GDM	12/3/03	QA LEVEL: CG	DWG SIZE: D
APPROVED: GDM	12/3/03	DRAWING NUMBER	REV
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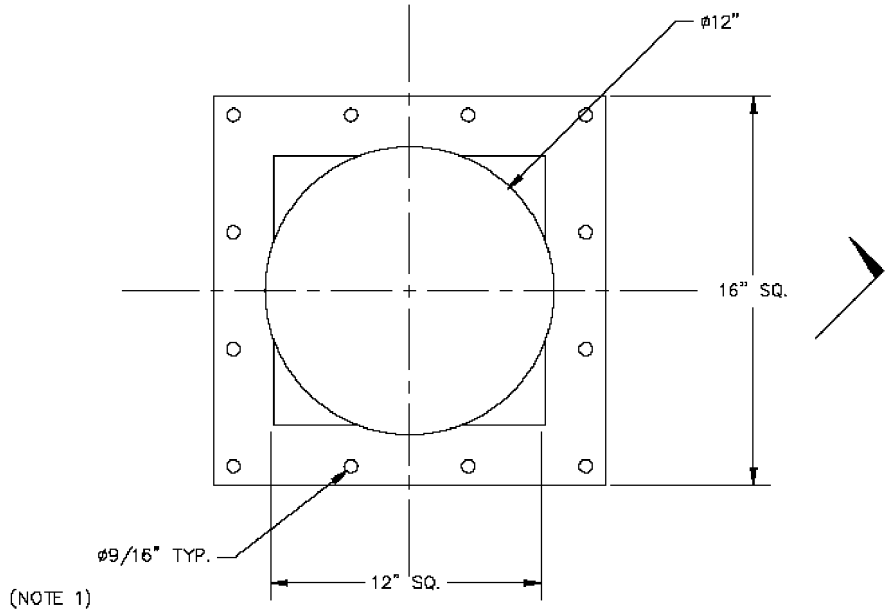
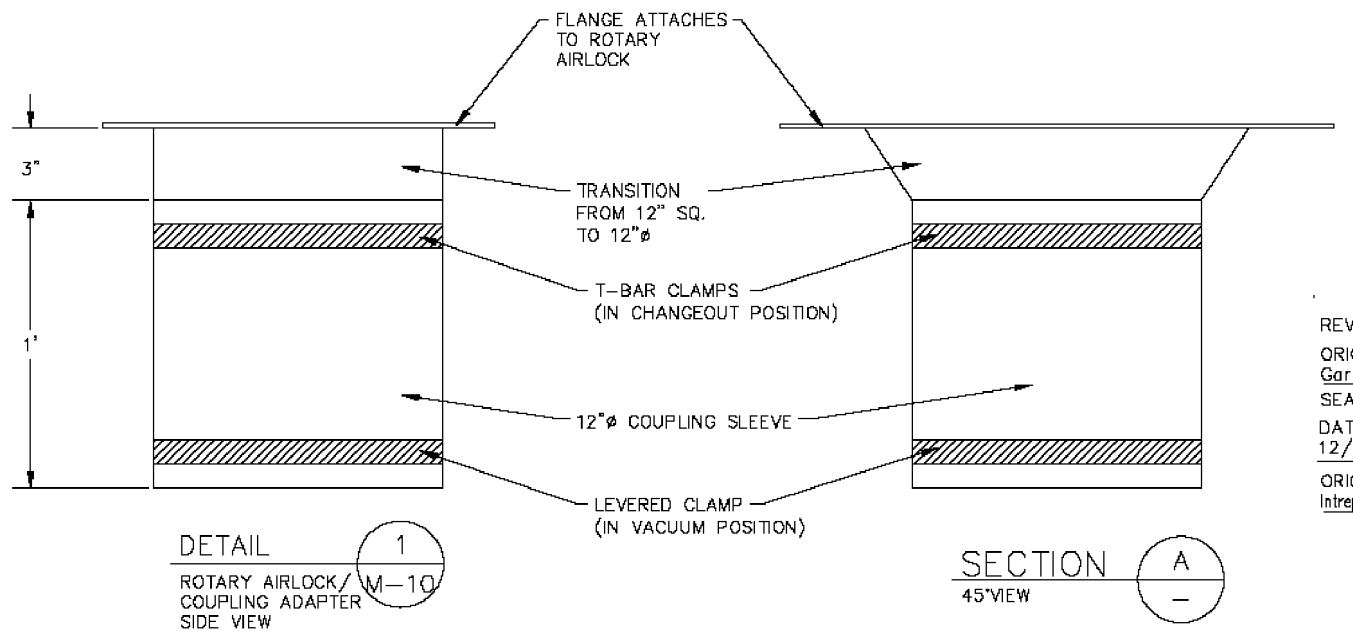


TOP VIEW

A
—



DETAIL 1 / M-10
ROTARY AIRLOCK/ COUPLING ADAPTER SIDE VIEW
1:4
(NOTE 2)

SECTION A / —
45°VIEW

REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

1) BOLT SIZE AND PATTERN TO MATCH ROTARY AIRLOCK.

2) ROTARY AIRLOCK/COUPLING ADAPTER IS STAINLESS STEEL, SUPPLIED BY VACUUM SYSTEM MANUFACTURER.

3) WASTE BOX/COUPLING ADAPTER IS STAINLESS STEEL, SUPPLIED BY WASTE BOX MANUFACTURER.

SCALE:

REVISION: 0
ORIGINAL SIGNED BY: Gary Mecham
SEAL NUMBER: 7065
DATE ORIGINAL SIGNED: 12/3/2003
ORIGINAL STORED AT: Intrepid Technology & Resources

PROFESSIONAL ENGINEER REGISTERED 7065 STATE OF IDAHO GARY D. MECHAM

OU 1-10 TSF-26 COUPLING ADAPTERS

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

M-13

DRAWN: KEM	12/3/03	TASK ORDER NUMBER	
DESIGNED: KKK	12/3/03	2000-096	
CHECKED: GDM	12/3/03	QA LEVEL: CG	DWG SIZE: D
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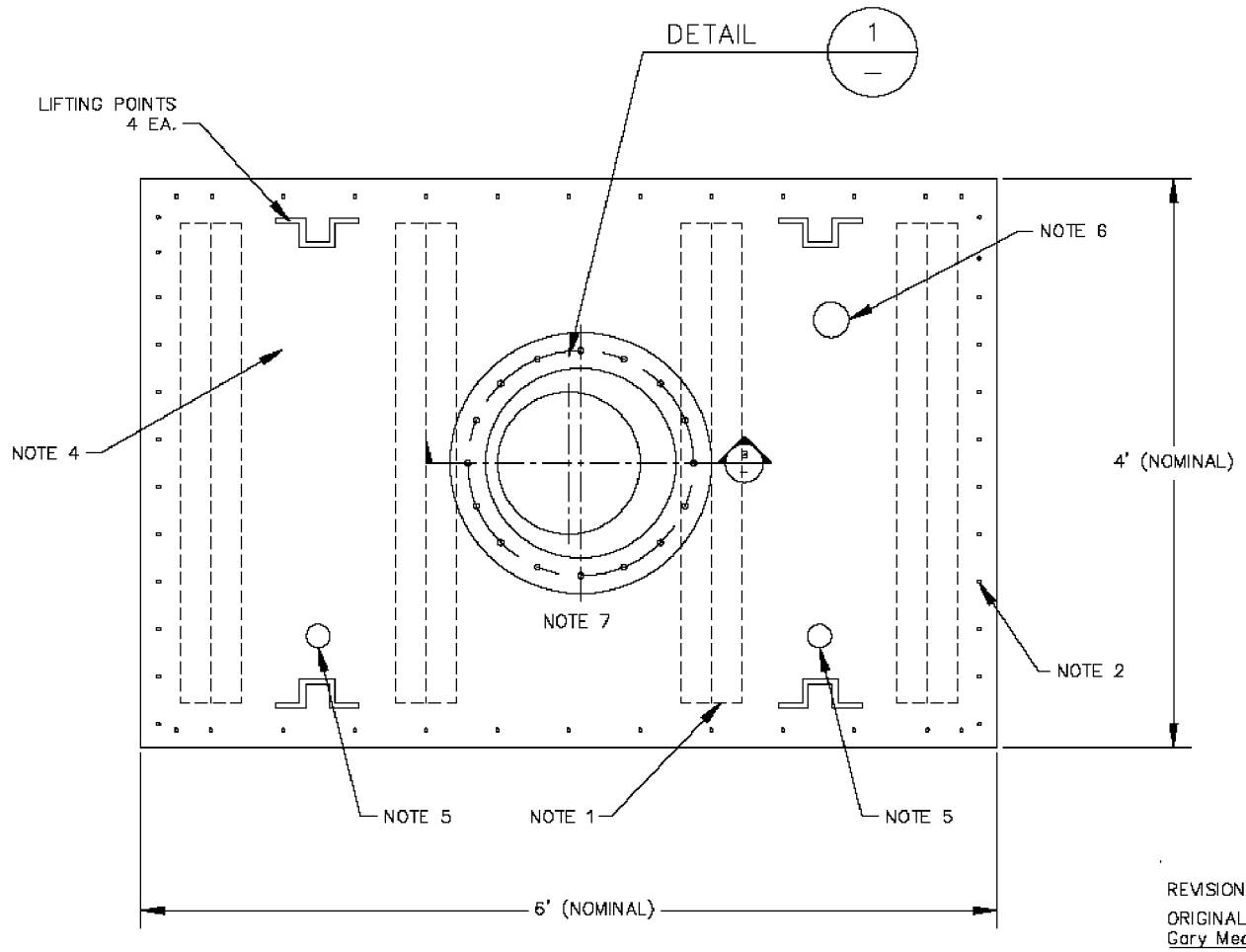
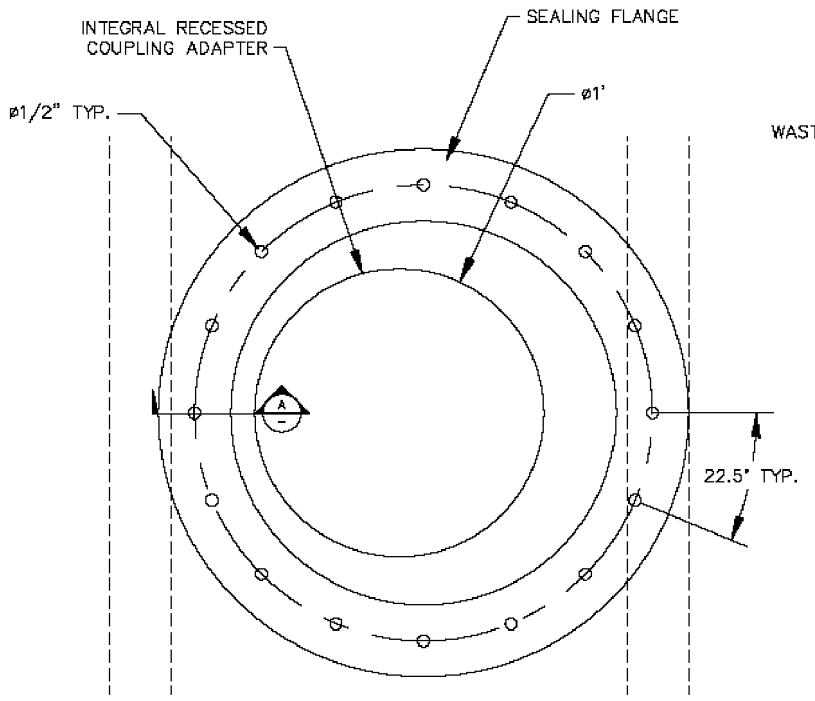
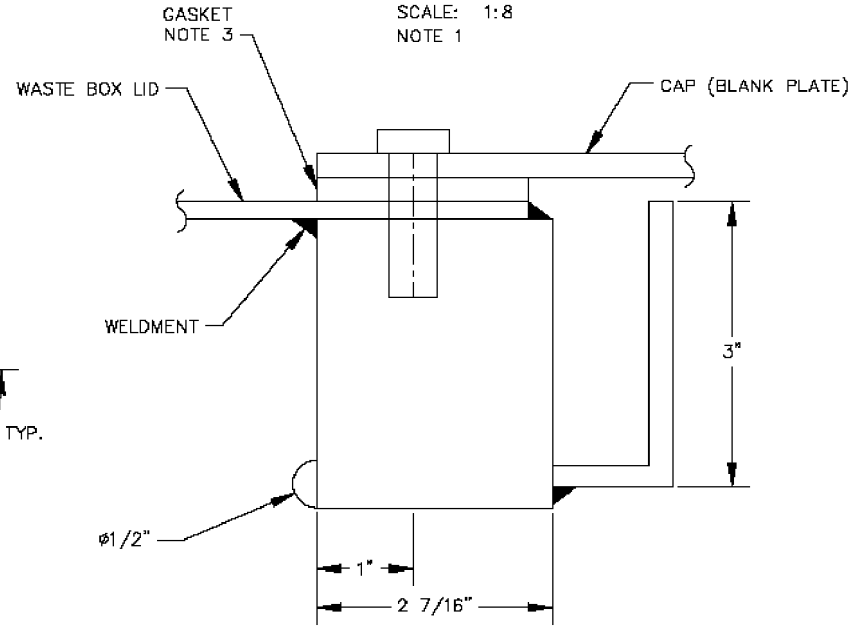


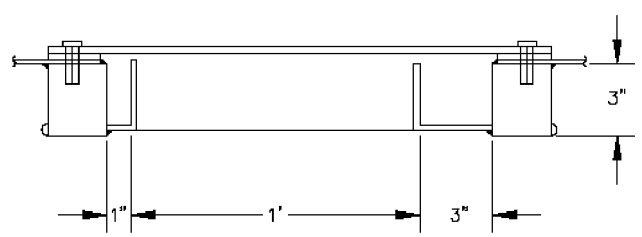
WASTE BOX LID
SCALE: 1:8
NOTE 1



DETAIL 1
SCALE: 1:4



SECTION A
SCALE: 1:1
TYPICAL



SECTION B
SCALE: 1:4

REVISION: 0
ORIGINAL SIGNED BY: Gary Mecham
SEAL NUMBER: 7065
DATE ORIGINAL SIGNED: 12/3/2003
ORIGINAL STORED AT: Intrepid Technology & Resources

PROFESSIONAL ENGINEER REGISTERED 7065 STATE OF IDAHO GARY D. MECHAM

REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

1) ACTUAL CONFIGURATION OF BOLT HOLES, REINFORCING RIBS, AND LIFT POINTS MAY VARY ACCORDING TO SELECTED WASTEBOX MANUFACTURER.

2) BOLT PATTERN TO MATCH WASTEBOX.

3) GASKET MATERIAL TO MATCH LID GASKET MATERIAL.

4) STENCIL "LID LIFT ONLY" USING BLACK PAINT IN 4 PLACES.

5) PASSIVE HEPA FILTER INLETS; INCLUDE FLUSH SEALING PLUG WITH A RECESSED TOOL ENTRY FOR PLUG MANIPULATION. SIZES MAY VARY BY MANFACTURER.

6) 3" SAMPLE PORT; INCLUDE FLUSH SEALING PLUG WITH A RECESSED TOOL ENTRY FOR PLUG MANPULATION.

7) SEALING FLANGE SHALL BE APPROXIMATELY CENTERED LENGTHWISE (± 6").

SCALE: AS NOTED

OU 1-10 TSF-26 WASTE BOX LID

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

M-14

DRAWN: KEM	12/3/03	TASK ORDER NUMBER	2000-096
DESIGNED: KKK	12/3/03	QA LEVEL: CG	DWG SIZE: D
CHECKED: GDM	12/3/03		
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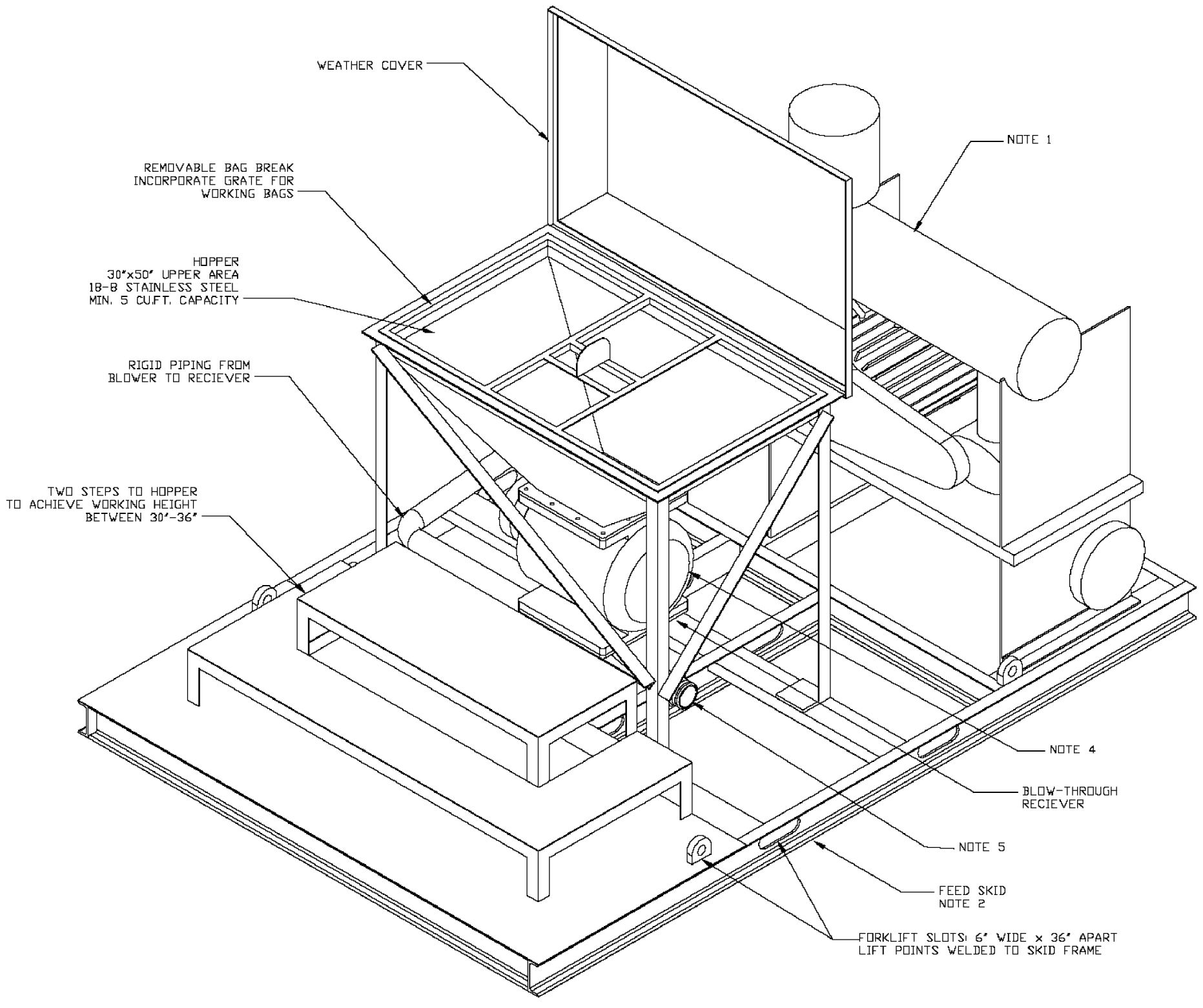

REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

1) BLOWER PRODUCES 385CFM AT 5.5PSI. INDUSTRIAL ACCESSORIES COMPANY PART # V56-20-3T-HS.

2) SKID, SUPPORT FRAME, STEPS, AND DECKING ARE PAINTED CARBON STEEL. ASSEMBLY AND WELDING ARE TO BE DONE IN ACCORDANCE WITH AWS AND AISC STRUCTURAL STEEL CODE. THE SKID INCORPORATES SLOTS AND ANCHORS FOR TRANSPORT BY FORKLIFT OR CRANE.

3) PRODUCT CONTACTING PARTS: HOPPER, LID, BAG BREAK, AIRLOCK, AND RECIEVER, ARE STAINLESS STEEL.

4) ROTARY AIRLOCK VALVE; INDUSTRIAL ACCESORIES COMPANY PART # HE-12-8-1 HP.

5) THE CONNECTIONS BETWEEN THE FEED SKID, THE TRANSFER LINE, AND THE DISCHARGE UNIT ARE CAMLOCK FITTINGS. THE HOSE USES FEMALE CAMLOCK FITTINGS AT BOTH ENDS. THE TRANSFER LINE IS 3" ID ABRASION RESISTANT FLEXIBLE RUBBER HOSE.

SCALE:

REVISION: 0
ORIGINAL SIGNED BY:
Gary Mecham
SEAL NUMBER: 7065
DATE ORIGINAL SIGNED:
12/3/2003
ORIGINAL STORED AT:
Intrepid Technology & Resources

PROFESSIONAL ENGINEER
REGISTERED
7065
STATE OF IDAHO
GARY D. MECHAM

OU 1-10 TSF-26 DE SYSTEM FEED SKID ISOMETRIC

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

M-15

DRAWN: KMS	12/3/03	TASK ORDER NUMBER	200-096
DESIGNED: KMS	12/3/03	QA LEVEL: CG	DWG SIZE: D
CHECKED: KKK	12/3/03		
APPROVED: GDM	12/3/03	DRAWING NUMBER	10381
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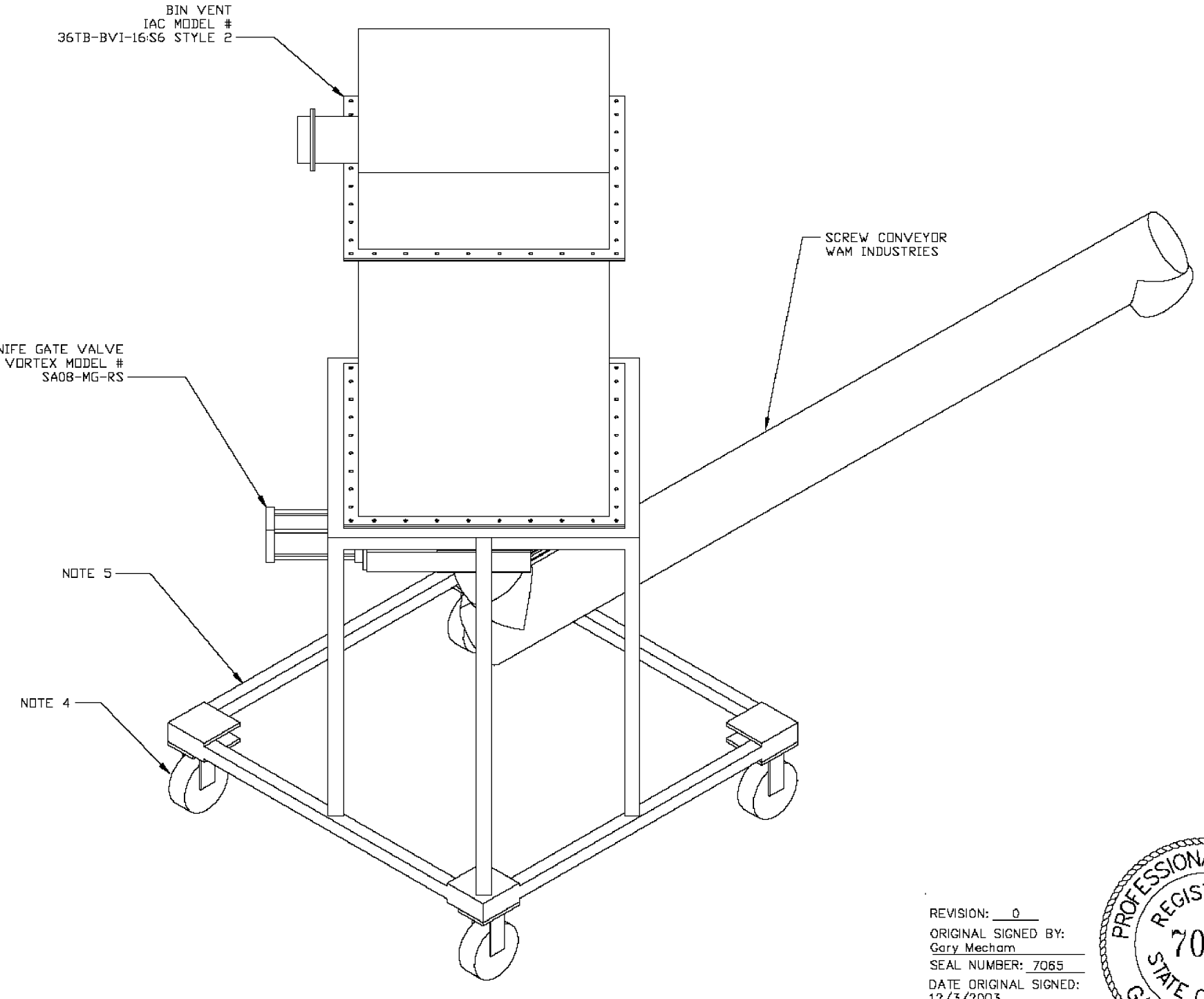


REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

1) 6–10 SCFM @ 90PSI PURGE AIR REQUIRED FOR PULSE JET.

2) 120V/1PH/60HZ CONTROL VOLTAGE REQUIRED FOR PULSE JET, MOTOR CONTROLLER, AND KNIFE–GATE VALVE.

3) FILTER AIR–TO–CLOTH RATIO 4.14:1 WITH AIRFLOW OF 385CFM. MAXIMUM DIFFERENTIAL PRESSURE IS 20" H2O.

4) WHEELS MUST ROLL EASILY ON BARE GRADED EARTH.

5) SUPPORT FRAME IS PAINTED CARBON STEEL. ASSEMBLY AND WELDING ARE TO BE DONE IN ACCORDANCE WITH AWS AND AISC STRUCTURAL STEEL CODE.

6) SCREW CONVEYOR IS INCLINED AT 35 DEGREES.

7) 480V/3P/60HZ REQUIRED FOR CONVEYOR MOTOR.

SCALE:

REVISION: 0
ORIGINAL SIGNED BY: Gary Mecham
SEAL NUMBER: 7065
DATE ORIGINAL SIGNED: 12/3/2003
ORIGINAL STORED AT: Intrepid Technology & Resources

PROFESSIONAL ENGINEER REGISTERED 7065 STATE OF IDAHO GARY D. MECHAM

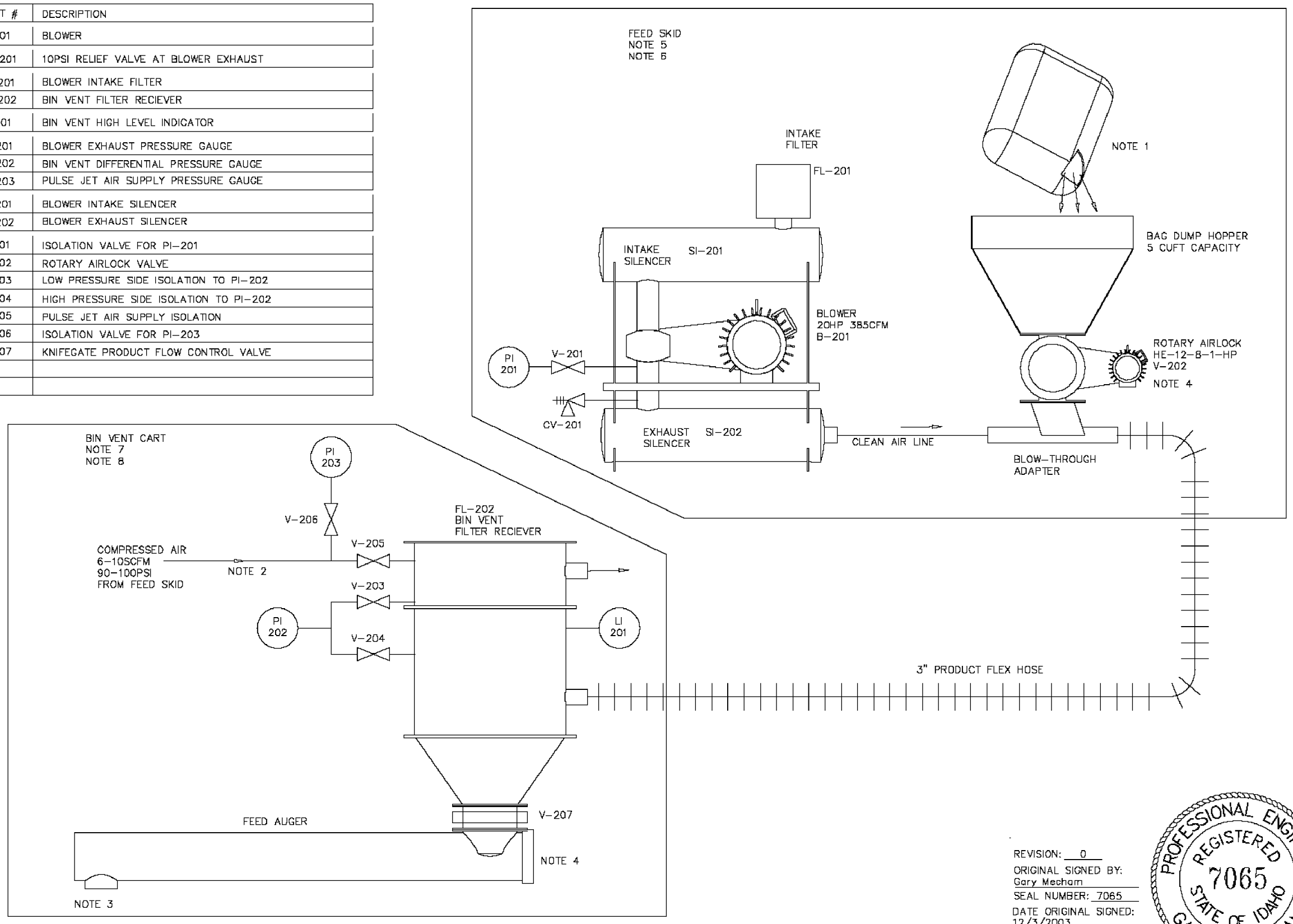
OU 1–10 TSF–26 DE SYSTEM BIN VENT ISOMETRIC

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

M–16

DRAWN: KMS	12/3/03	TASK ORDER NUMBER	2000–096
DESIGNED: KMS	12/3/03	QA LEVEL: CG	DWG SIZE: D
CHECKED: KKK	12/3/03		
APPROVED: DDM	12/3/03	DRAWING NUMBER	REV 0
CADD FILE: 10382_0.DWG		10382	

PART #	DESCRIPTION
B–201	BLOWER
CV–201	10PSI RELIEF VALVE AT BLOWER EXHAUST
FL–201	BLOWER INTAKE FILTER
FL–202	BIN VENT FILTER RECIEVER
LI–201	BIN VENT HIGH LEVEL INDICATOR
PI–201	BLOWER EXHAUST PRESSURE GAUGE
PI–202	BIN VENT DIFFERENTIAL PRESSURE GAUGE
PI–203	PULSE JET AIR SUPPLY PRESSURE GAUGE
SI–201	BLOWER INTAKE SILENCER
SI–202	BLOWER EXHAUST SILENCER
V–201	ISOLATION VALVE FOR PI–201
V–202	ROTARY AIRLOCK VALVE
V–203	LOW PRESSURE SIDE ISOLATION TO PI–202
V–204	HIGH PRESSURE SIDE ISOLATION TO PI–202
V–205	PULSE JET AIR SUPPLY ISOLATION
V–206	ISOLATION VALVE FOR PI–203
V–207	KNIFEGATE PRODUCT FLOW CONTROL VALVE



REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

1) DE WILL BE INTRODUCED TO THE SYSTEM THROUGH BAGS AT THE BAG DUMP STATION.

2) BIN VENT INCLUDES REVERSE PULSE SYSTEM. DETAILS IN SPECIFICATION.

3) SCREW CONVEYOR AND ROTARY AIRLOCK VALVE SHALL BE INTERLOCKED TO PREVENT OVERFILLING THE BIN VENT.

4) THE FEED SKID SHALL OPERATE OUTSIDE THE WEATHER ENCLOSURE NEXT TO THE VACUUM SYSTEM.

5) THE BIN VENT SHALL BE MOUNTED ON AN EASILY MOVABLE CART.

6) THE BIN VENT SHALL OPERATE INSIDE THE WEATHER ENCLOSURE ATTACHED TO THE FEED SKID VIA THE 3" PRODUCT FLEX HOSE AND AUXILIARY SYSTEM UTILITY LINES.

7) ALL NECESSARY ANCILLIARY EQUIPMENT WILL BE SUPPLIED AS PART OF THE DE SYSTEM PACKAGE.

SCALE:

REVISION: 0
ORIGINAL SIGNED BY: Gary Mecham
SEAL NUMBER: 7065
DATE ORIGINAL SIGNED: 12/3/2003
ORIGINAL STORED AT: Intrepid Technology & Resources

PROFESSIONAL ENGINEER REGISTERED 7065 STATE OF IDAHO GARY D. MECHAM

OU 1–10 TSF–26 DE SYSTEM P&ID

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

M–17

DRAWN: KMS	12/3/03	TASK ORDER NUMBER	2000–096
DESIGNED: KMS	12/3/03	QA LEVEL: CG	DWG SIZE: D
CHECKED: KKK	12/3/03		
APPROVED: GDM	12/3/03	DRAWING NUMBER	REV
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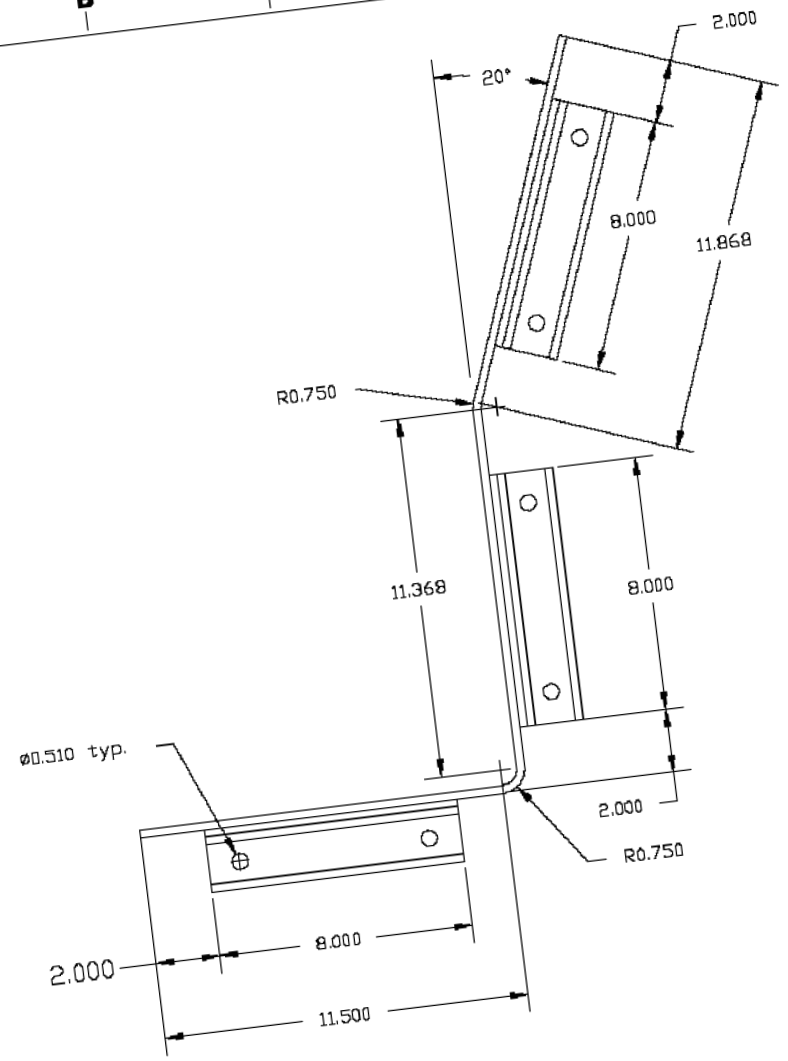

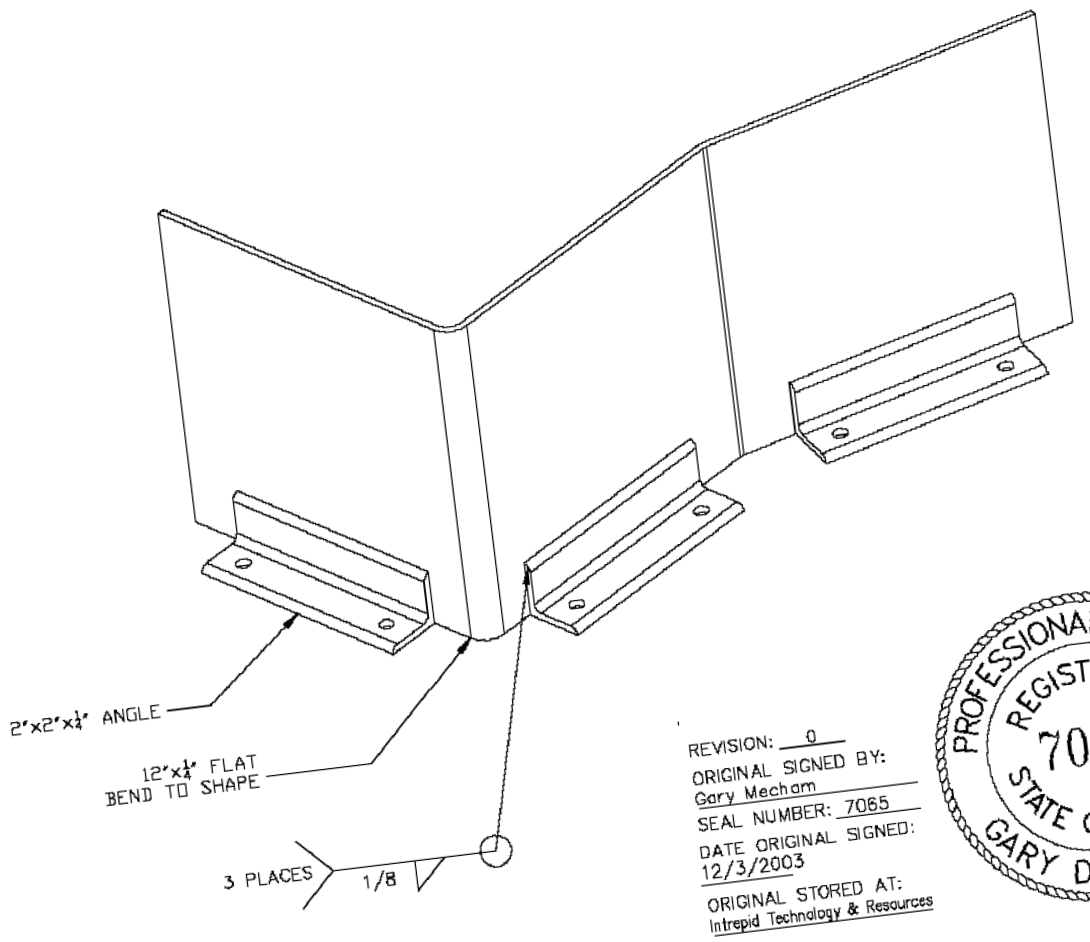

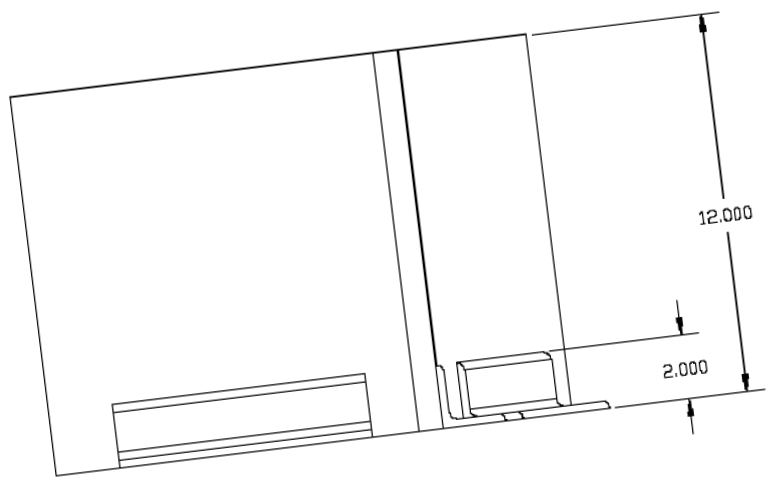

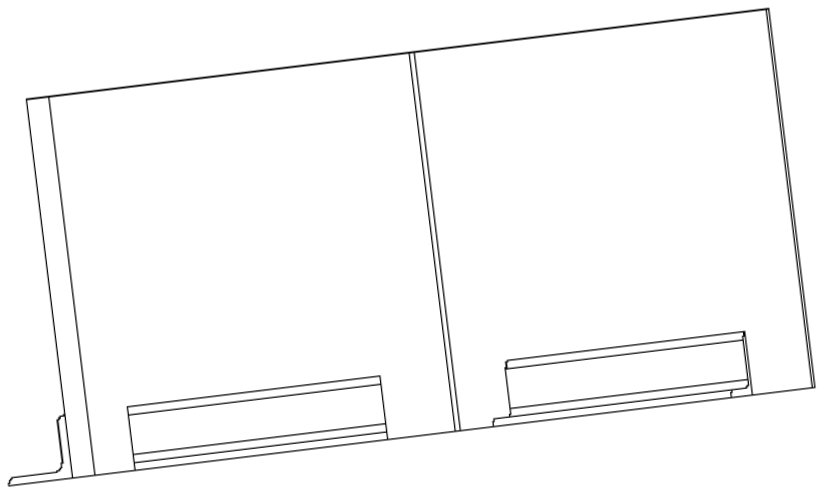

SCALE: 1/3

REV	DATE	DESCRIPTION	DESIGN	APPD BY

NOTES

1) REFERENCE DRAWING D-4 FOR APPLICATION AND PLACEMENT.

2) ANCHOR TO CONCRETE PAD USING HILTI H $\frac{3}{4}$X2-$\frac{1}{4}$ MC CONCRETE ANCHORS OR EQUIVALENT.

3) FABRICATION AND FINISH:
- DEBUR ALL EDGES AND SHARP CORNERS.
- REMOVE WELD SPLATER, SMOKE, AND DISCOLORATION.
- PRIME AND PAINT WHITE.

4) MATERIALS:
- THE STOP AND ANGLE BRACING SHALL BE MADE FROM LOW CARBON STEEL (ASTM A36).
- WELDS SHALL BE PERFORMED IN ACCORDANCE WITH AWS CODE.

REVISION: 0
ORIGINAL SIGNED BY: Gary Mecham
SEAL NUMBER: 7065
DATE ORIGINAL SIGNED: 12/3/2003
ORIGINAL STORED AT: Intrepid Technology & Resources

PROFESSIONAL ENGINEER REGISTERED 7065 STATE OF IDAHO GARY D. MECHAM

SCALE:

OU 1-10 TSF-26 WASTE BOX STOPS DETAILS

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

M-18

DRAWN: KMS	12/3/03	TASK ORDER NUMBER	2000-096
DESIGNED: KMS	12/3/03	QA LEVEL: CG	DWG SIZE: D
CHECKED: KKK	12/3/03	DRAWING NUMBER	REV
APPROVED@DM	12/3/03	10384	0
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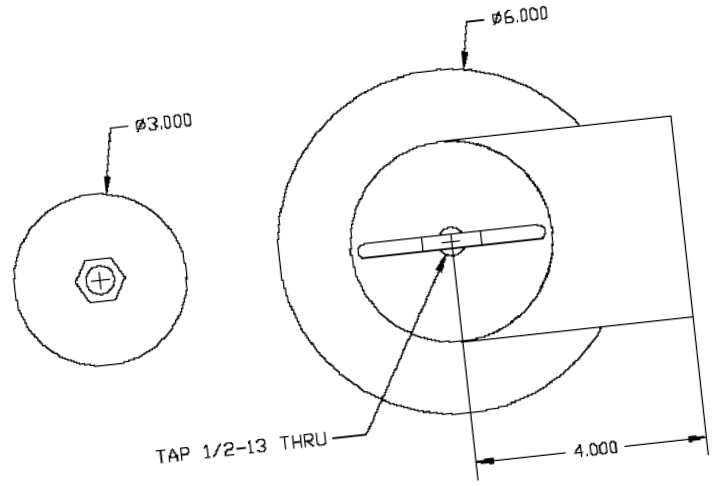
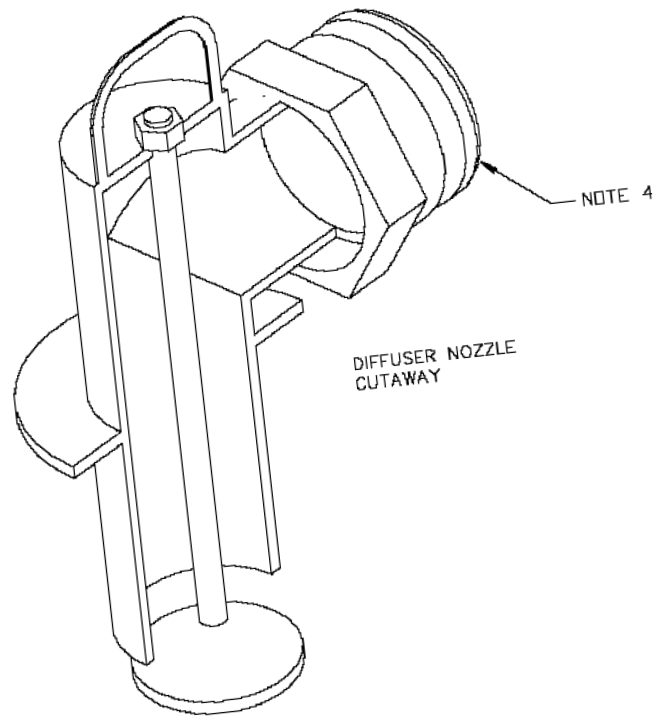




REV	DATE	DESCRIPTION	DESIGN	APPVD BY

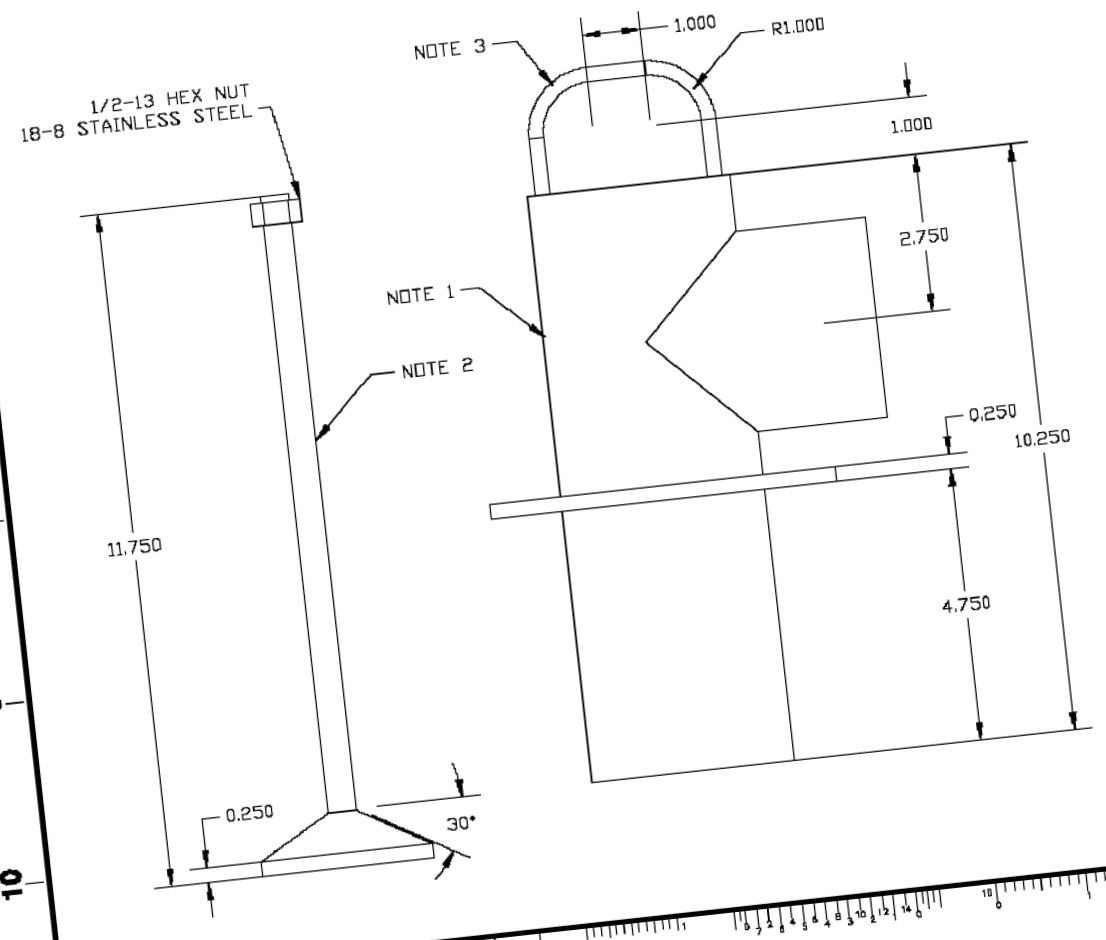
NOTES

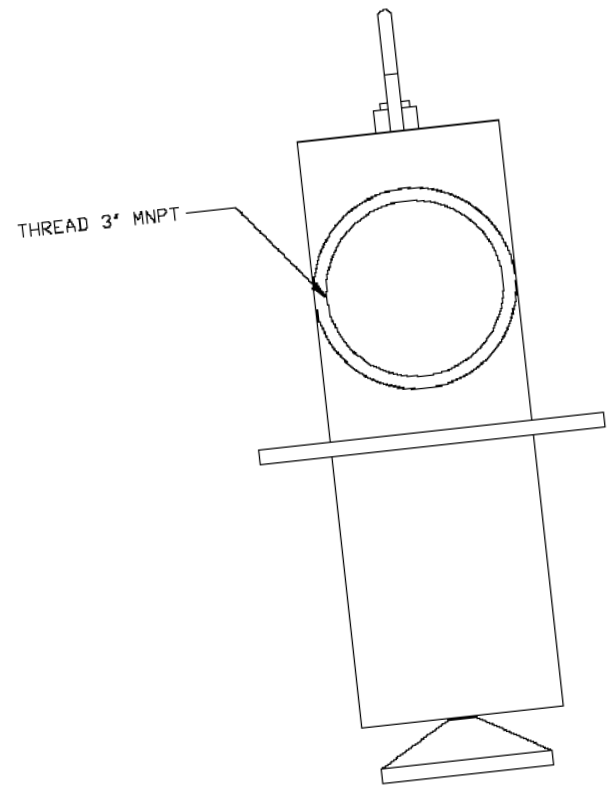
1) MAKE FROM 3" SCH 40 PIPE, 18-8 STAINLESS STEEL.

2) MAKE FROM 1/2-13 ALL THREAD, 18-8 STAINLESS STEEL.

3) MAKE FROM ¾ RND BAR, 18-8 STAINLESS STEEL.

4) USE MCMASTER-CARR PART #53015K47, MALE/MALE NPT CAM AND GROOVE COUPLER, TO QUICK CONNECT WITH TRANSFER HOSE.





REVISION: 0
ORIGINAL SIGNED BY: Gary Mecham
SEAL NUMBER: 7065
DATE ORIGINAL SIGNED: 12/3/2003
ORIGINAL STORED AT: Intrepid Technology & Resources

PROFESSIONAL ENGINEER
REGISTERED
7065
STATE OF IDAHO
GARY D. MECHAM

SCALE:

OU 1-10 TSF-26 DE DIFFUSER NOZZLE DETAILS

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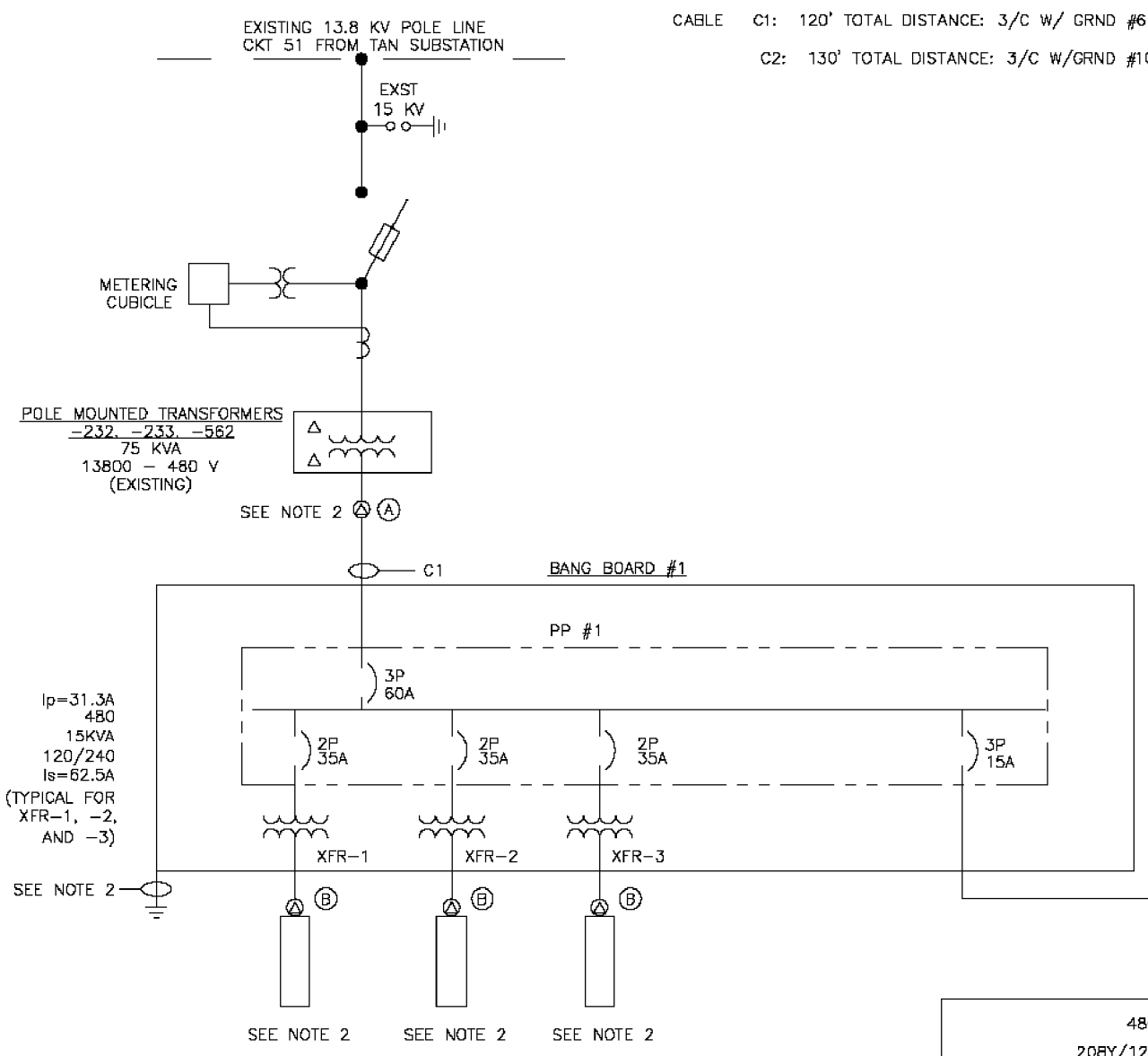
(208)529-5337 FAX: (208)529-1014

M-19

DRAWN: KMS	12/3/03	TASK ORDER NUMBER 2000-096	
DESIGNED: KMS	12/3/03	QA LEVEL: CG	DWG SIZE: D
CHECKED: KKK	12/3/03	DRAWING NUMBER 10385	REV 0
APPROVED: GDM	12/3/03		
CADD FILE: 10385_0.DWG			



CABLE C1: 120' TOTAL DISTANCE: 3/C W/ GRND #6 FLEXIBLE CABLE

C2: 130' TOTAL DISTANCE: 3/C W/GRND #10 FLEXIBLE CABLE

Ⓐ POWER CONNECTORS, A/C, NEMA 3R, TYPE AS NOTED
TYPE A : 480 VAC, 4 POLE, 60A
B : 240 VAC, 4 POLE, 60A

REV	DATE	DESCRIPTION	DESIGN	APP'D BY
E	11/10/03	MAIN LINE CHANGED FROM 3KVA TO 13KVA AS PER REQUEST FROM BBWI		
F	11/19/03	CHANGED PHASE OF XFR-1, ADDED GROUNDING INFORMATION		

NOTES

1) ALL BUILDING WIRE TO BE 75°C THHN/THWN UNLESS OTHERWISE NOTED.

2) ESTABLISH A GROUNDING ELECTRODE USING THE UNDERGROUND POTABLE WATER LINE RUNNING EAST-WEST JUST SOUTH OF THE EXISTING FENCE. A SECOND CHOICE WOULD BE TO USE THE ABANDONED AIR LINE LOCATED IN THE SAME GENERAL AREA. OTHERWISE A GROUNDING ELECTRODE MAY BE USED. REFER TO NEC 250-81, -83, & -84.
ADDITIONAL GROUNDING TO BE INSTALLED BY THE ELECTRICIAN TO MEET SITE CODE REQUIREMENTS.

3) ALL ELECTRICAL EQUIPMENT TO BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE.

SCALE:

REVISION: 0
ORIGINAL SIGNED BY: Kenneth L Caldwell
SEAL NUMBER: 7621
DATE ORIGINAL SIGNED: 12/3/2003
ORIGINAL STORED AT: Intrepid Technology & Resources

PROFESSIONAL ENGINEER REGISTERED 7621 STATE OF IDAHO KENNETH L CALDWELL

OU 1-10 TSF-26 ELECTRICAL ONE-LINE DIAGRAM

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(208)529-5337 FAX: (208)529-1014

E-1

DRAWN: KEM	12/3/03	TASK ORDER NUMBER	2000-096
DESIGNED: KLC	12/3/03	QA LEVEL: CG	DWG SIZE: D
CHECKED: GDM	12/3/03	DRAWING NUMBER	10386
APPROVED: GDM	12/3/03	REV	0
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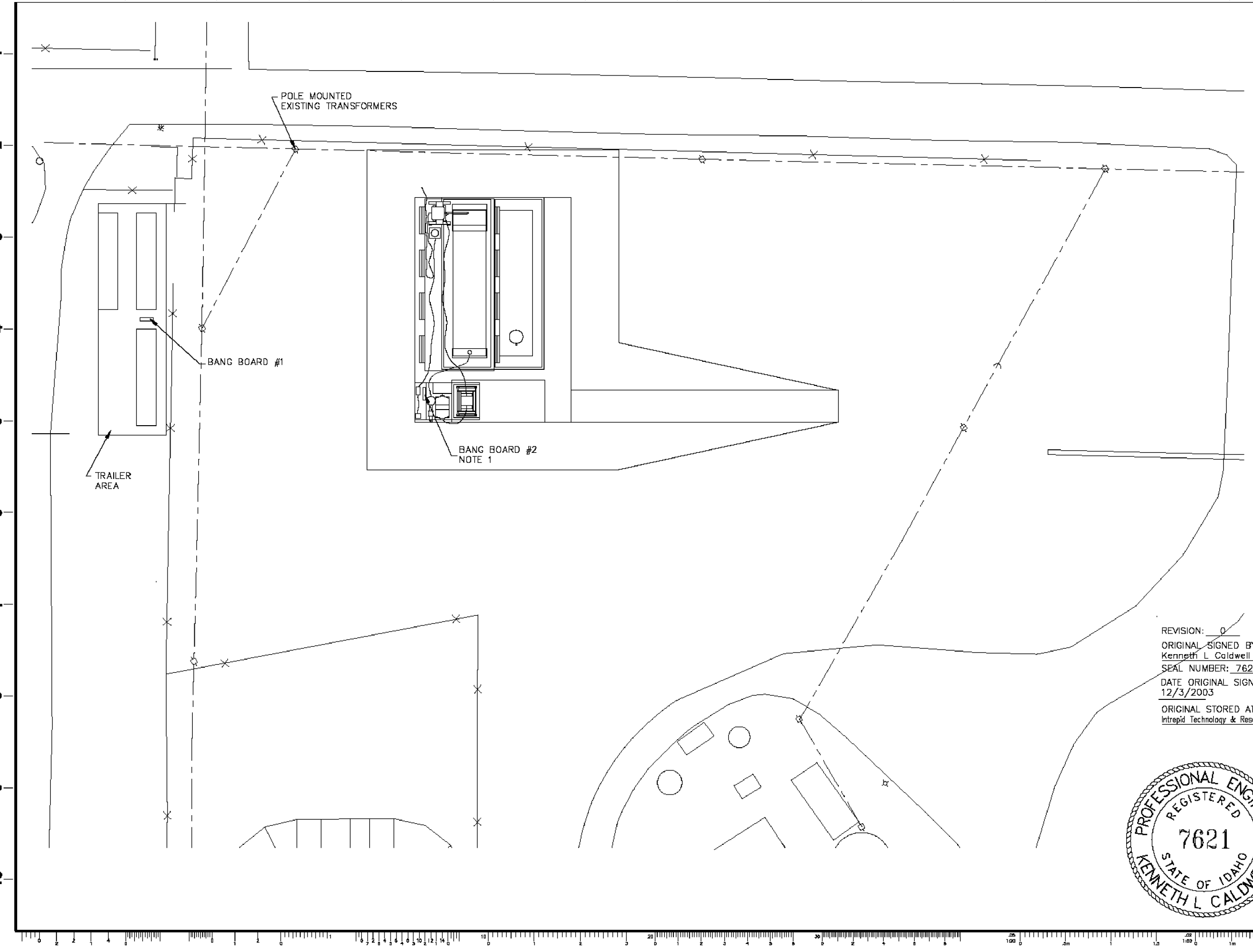

REV	DATE	DESCRIPTION	DESIGN	APP'D BY

NOTES

1) BANG BOARD #2 MOUNT FABRICATED FRAME, ON DE SYSTEM SKID, ENSURING A MINIMUM OF 3' CLEARANCE IN FRONT OF ELECTRICAL EQUIPMENT.

SCALE:

REVISION: 0
ORIGINAL SIGNED BY:
Kenneth L Caldwell
SEAL NUMBER: 7621
DATE ORIGINAL SIGNED:
12/3/2003
ORIGINAL STORED AT:
Intrepid Technology & Resources

PROFESSIONAL ENGINEER
REGISTERED
7621
STATE OF IDAHO
KENNETH L CALDWELL

OU 1-10 TSF-26
ELECTRICAL SITE LAYOUT

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

E-2

DRAWN: KEM	12/3/03	TASK ORDER NUMBER	2000-096
DESIGNED: KLC	12/3/03	QA LEVEL: CG	DWG SIZE: D
CHECKED: GDM	12/3/03		
APPROVED: GDM	12/3/03	DRAWING NUMBER	REV
CADD FILE: 10387_0.DWG		10387	0