

Ephrata Landfill

MPE Pilot Study Interim Action

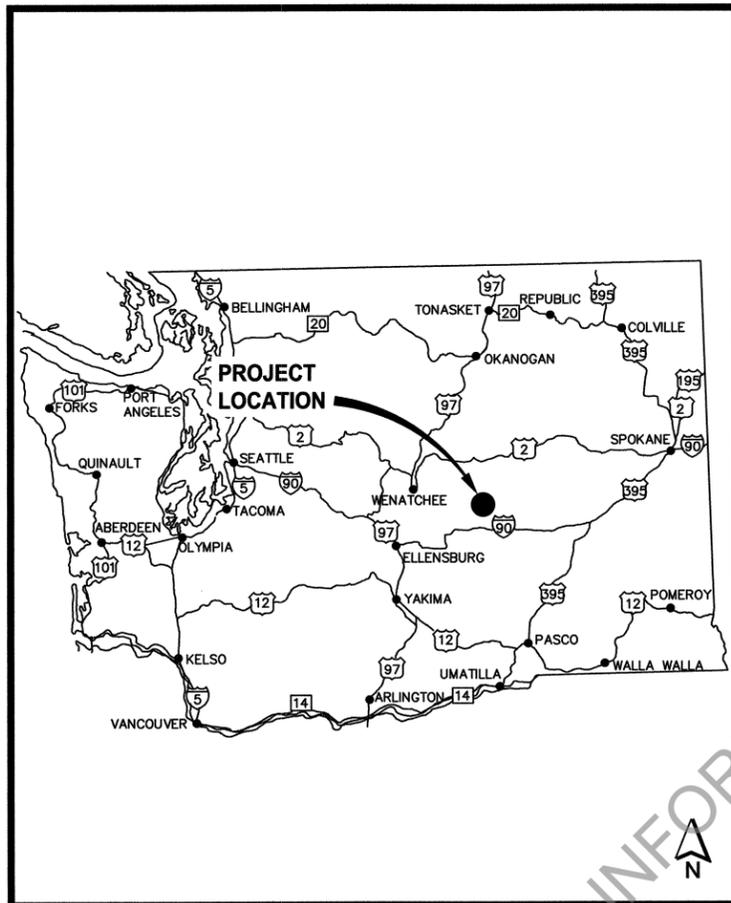
Pretreatment Facility and Evaporation Pond



Owner:
 Grant County Public Works
 124 Enterprise Street SE
 Ephrata, WA 98823
 Director: Jeff Tincher, PE

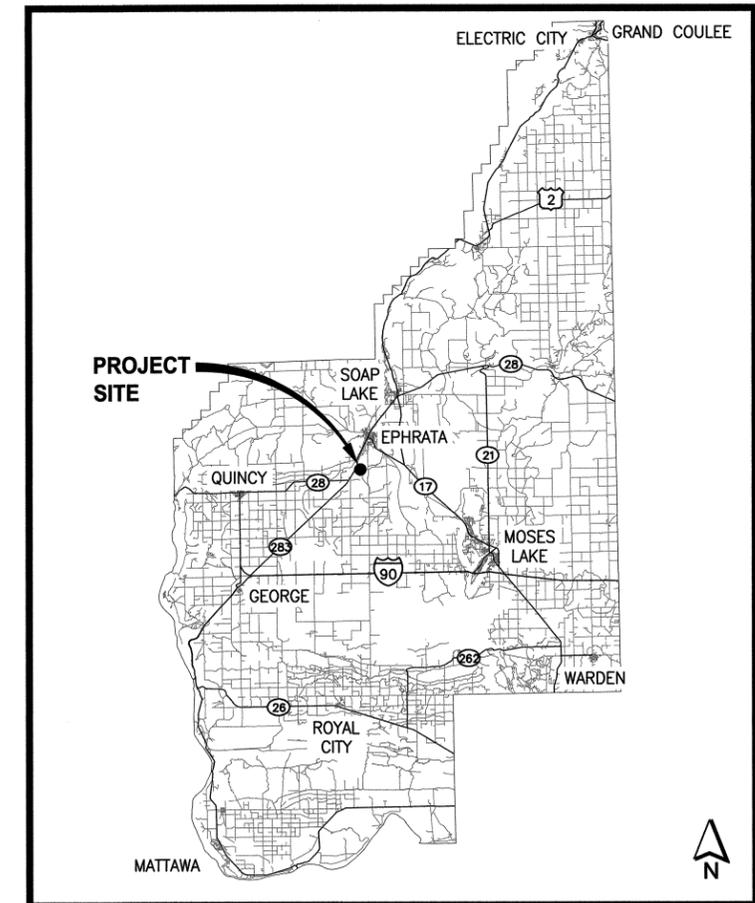
3803 Neva Lake Rd NW
Ephrata, WA 98823
SW 1/4 , NW 1/4, Sec 33, T21N, R26E
Tax Parcel Number: 160-90-3000

Project Contact:
 Ian Sutton, PE
 Parametrix, Inc
 719 2nd Avenue, Ste 200
 Seattle, WA 98104
 Phone: 206-394-3712



VICINITY MAP
 NO SCALE

INDEX TO DRAWINGS		
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LOCATION MAP
 NO SCALE

ISSUED FOR BID

PATH: U:\PSO\Projects\Clients\1860-HellerHirmonWhite\553-1860-012 PH7 MPE Pilot Study\985\ca\CA00\DWG PLOTTED BY: purgabot DATE: Thursday, June 02, 2016 2:47:49 PM LAYOUT: G1.0

REVISIONS	DATE	BY	DESIGNED
1 ISSUED FOR BID	6/2/16	BP	I. SUTTON
			J. CERALDE
			B. BALL
			B. PIPPIN

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 FILE NAME: PS1860012-G1
 JOB No.: 553-1860-012 (01/01)
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PROJECT NAME
**EPHRATA LANDFILL
 MPE PILOT STUDY
 PRETREATMENT FACILITY AND POND**
 EPHRATA, WASHINGTON

COVER SHEET

DRAWING NO.
 1 OF 28
G1.0

PATH: u:\PSD\Projects\Clients\1860-HellerEhrmanWhite\553-1860-012 PHY MPE Pilot Study\995veca\CADD\DWG\ PLOTTED BY: purgebut DATE: Thursday, June 02, 2016 2:58:09 PM LAYOUT: C1.0

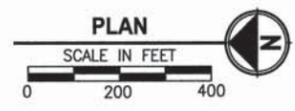


NOTES:

- 1 CONTRACTOR SHALL DISPOSE OF ALL UNACCEPTABLE MATERIALS AND REFUSE IN THIS AREA, AS DIRECTED BY OWNER.
- 2 CONTRACTOR SHALL EXCAVATE FOR ADDITIONAL EMBANKMENT MATERIAL FOR POND AND BUILDING AREA IF NEEDED, AS DIRECTED BY OWNER.
- 3 CONTRACTOR SHALL USE ONSITE ROCK ARMOR MATERIAL FOR THIS PROJECT. CONTRACTOR SHALL NOT DISTURB NORMAL LANDFILL OPERATIONS DURING HAULING AND SHALL FOLLOW OWNERS DIRECTIONS.
- 4 CONTRACTOR CAN USE THIS AREA FOR AN ADDITIONAL STAGING AREA, AS DIRECTED BY OWNER.
- 5 CONTRACTOR CAN NOT USE THIS ACCESS ROAD TO HAUL UNACCEPTABLE MATERIALS. REFUSE, ROCK ARMOR, EMBANKMENT, BEDDING OR LINER COVER LAYER MATERIALS.

LEGEND:

- ⊗ GAS PROBE LOCATION
- LYSIMETER LOCATION
- ⊙ GROUNDWATER MONITORING WELL (MW) LOCATION
- ⊙ PILOT EXTRACTION WELL
- SURFACE WATER DITCH
- PROPERTY BOUNDARY
- ACTIVE AREA PHASE BOUNDARY



ISSUED FOR BID

REVISIONS	DATE	BY	DESIGNED
1 ISSUED FOR BID	6/2/16	BP	S. EMGE
			B. PURGANAN
			I. SUTTON
			B. PIPPIN

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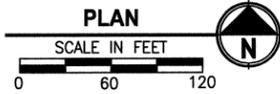
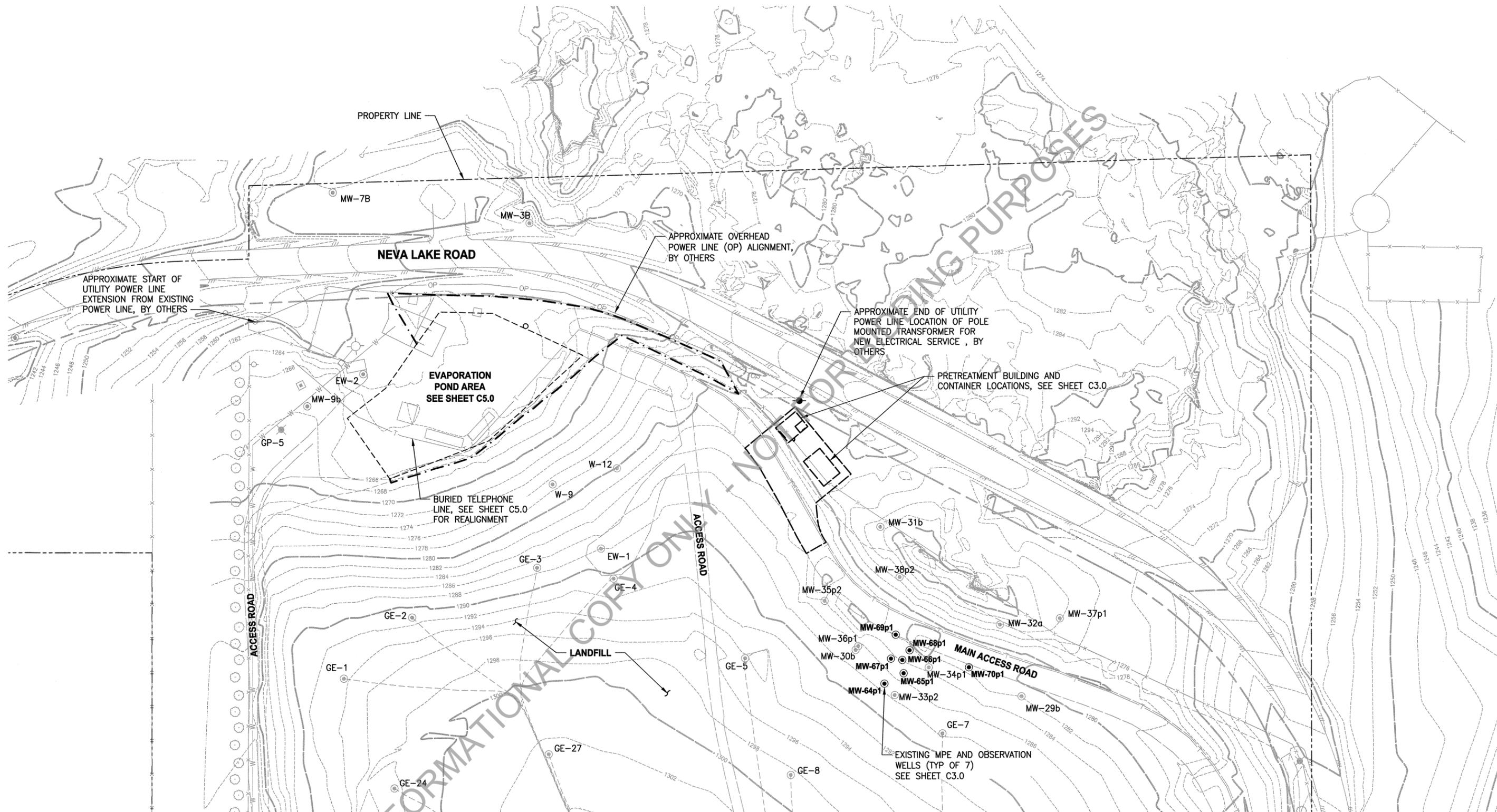
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 MPE PILOT STUDY
 PRETREATMENT FACILITY AND POND**
 EPHRATA, WASHINGTON

SITE PLAN

DRAWING NO.
 2 OF 28
C1.0

PATH: U:\PSO\Projects\Clients\1860-Heller\1860-012 PH7 MPE Pilot Study\955vca\CA00\DWG PLOTTED BY: purgaban DATE: Thursday, June 02, 2016 3:03:07 PM LAYOUT: C2.0



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1 ISSUED FOR BID	6/2/16	BP	S. EMGE
			B. PURGANAN
			L. SUTTON
			B. PIPPIN

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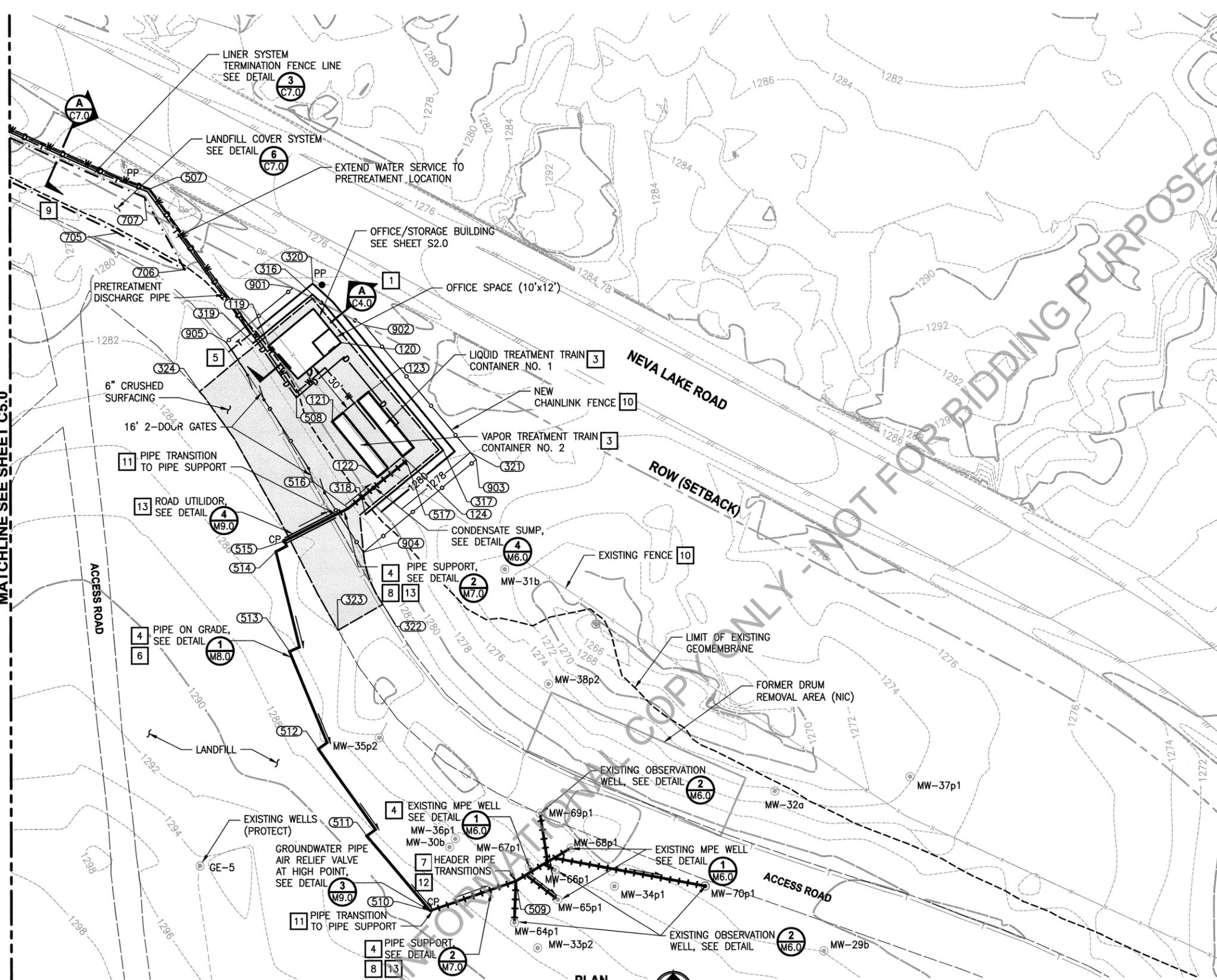
PROJECT NAME
**EPHRATA LANDFILL
MPE PILOT STUDY
PRETREATMENT FACILITY AND POND**
EPHRATA, WASHINGTON

**NORTH END
WORK AREA PLAN**

DRAWING NO.
3 OF 28
C2.0

PATH: U:\PSO\Projects\Clients\1860-Heller\1860-012 PH7 MPE Pilot Study\985vea\CADD\DWG PLOTTED BY: purgobut DATE: Thursday, June 02, 2016 3:07:30 PM LAYOUT: C3.0

MATCHLINE SEE SHEET C5.0



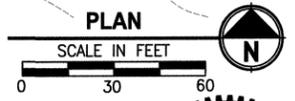
NOTES:

- 1 FOR PASSIVE LFG VENTING SYSTEM SEE SECTION A SHEET C4.0. FOR BUILDING ELEVATION SEE SHEET S2.0.
- 2 SEE SHEET M1.0 FOR COMPLETE ABBREVIATIONS.
- 3 SEE SHEET S3.0 FOR FOUNDATION REQUIREMENTS AND SHEET M4.0 FOR LAYOUT.
- 4 APPROXIMATE PIPE ALIGNMENT. CONTRACTOR TO FIELD ADJUST ALIGNMENT AND PIPE HEIGHT ON SUPPORTS IN CONSULTATION WITH ENGINEER TO PROVIDE A SINGLE HIGH POINT ON THE LANDFILL SIDESLOPE AND CONTINUOUS PIPE DRAINAGE GRADIENT TO THE EXISTING MPE AND OBSERVATION WELLS OR CONDENSATE SUMP. PIPE ALIGNMENT AND HEIGHT SHALL BE INSTALLED TO PROVIDE A MINIMUM 1% PIPE DRAINAGE GRADIENT. THE ALIGNMENT, AS SHOWN, IS BASED ON TOPOGRAPHY SURVEY INFORMATION AT THE TIME OF DESIGN. PROVIDE 5' EXPANSION LFGS, AS SHOWN.
- 5 TELEPHONE LINE SPLICING, SEE SPECIFICATIONS. (FIELD LOCATE, APPROXIMATE LOCATION).
- 6 PROVIDE CLEANOUTS ALONG THE SUCTION, GROUNDWATER, AND DISCHARGE PIPES AT 100' MAXIMUM SPACING. SEE DETAIL (M8.0)
- 7 INDIVIDUAL WELL UTILITIES SHALL CONVERGE INTO HEADER PIPES AS CLOSE TO WELL FIELD AS POSSIBLE. PROVIDE HEADER SIZED PIPES AT THE POINT WHICH TWO OR MORE PIPES COMBINE. PIPE SIZES SHALL CONFORM TO THOSE SHOWN ON THE PROCESS FLOW DIAGRAMS. HEAT TRACE SHALL REMAIN WITH THE COMPRESSED AIR, SUCTION, AND GROUNDWATER HEADERS UNTIL DIVERTING TO INDIVIDUAL WELLS AT WHICH LOCATION HEAT TRACE SHALL TRANSITION TO EACH GROUNDWATER LINE.
- 8 HEADER PIPE SUPPORT SPACING SHALL BE A MAXIMUM 5'-0" OC. INDIVIDUAL WELL PIPE SUPPORT SPACING SHALL BE A MAXIMUM 4'-6" OC.
- 9 CONTRACTOR SHALL EXPOSE AND CONNECT PVC GEOMEMBRANE TO EXISTING PVC GEOMEMBRANE.
- 10 CONTRACTOR SHALL REMOVE AND DEMOLISH EXISTING FENCE WITHIN NEW FENCE LINE. CONTRACTOR SHALL CONNECT EXISTING FENCE TO NEW FENCE AS APPROVED BY ENGINEER.
- 11 PROVIDE GRADUAL PIPE TRANSITION ONTO PIPE SUPPORTS. PROVIDE INTERMEDIATE SUPPORTS, AS NECESSARY, TO MAINTAIN GRADIENTS AND AVOID APPLICATION OF STRESS ON PIPING.
- 12 TERMINATE AND CAP SPARE RIGID CONDUIT AT FIRST DIVERSION OF PIPING FROM THE HEADER PIPES.
- 13 PROVIDE EXPANSION JOINTS ALONG LENGTHS OF PIPE SUPPORTED BY PIPE SUPPORTS AND THE UTILIDOR. PVC PIPE SHALL BE PROVIDED A MINIMUM OF ONE EXPANSION JOINT PER BRANCH OF PIPE, WITH ADDITIONAL EXPANSION JOINTS INCORPORATED AND EVENLY SPACED AT A MAXIMUM OF 12 FEET OC. CS PIPE SHALL BE PROVIDED A MINIMUM OF ONE EXPANSION JOINT PER BRANCH OF PIPE, WITH ADDITIONAL EXPANSION JOINTS INCORPORATED AND EVENLY SPACED AT A MAXIMUM 55 FEET OC. PROVIDE CONTINUITY OF PIPE INSULATION POST EXPANSION JOINT INSTALLATION.

LEGEND:

- WELL UTILITY LINES, ON GRADE
- +—+—+—+— WELL UTILITY LINES, ON ABOVE GRADE SUPPORTS
- W—W— WATER SERVICE
- D—D— DISCHARGE PIPE
- NEW FENCE
- T—T— PROPOSED TELEPHONE LINE
- x—x— EXISTING FENCE
- --- --- ROW (SETBACK)
- · · · · · CAP GEOMEMBRANE LINER
- · · · · · EXISTING LIMIT OF LANDFILL GEOMEMBRANE (FIELD VERIFY)
- 1268--- EXISTING MINOR CONTOUR
- 1270--- EXISTING MAJOR CONTOUR
- 1268--- PROPOSED MINOR CONTOUR
- 1270--- PROPOSED MAJOR CONTOUR
- PP POWER POLE
- ⊗ EXISTING GAS PROBE
- ⊙ EXISTING WELL
- ⊙(105) CONTROL POINT NUMBER
- CRUSHED SURFACING

ISSUED FOR BID



REVISIONS	DATE	BY	DESIGNED
1 ISSUED FOR BID	6/2/16	BP	J. NEILSON
			J. CERALDE
			I. SUTTON
			B. PIPPIN

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 FILE NAME: PS1860012-C3.0
 JOB No.: 553-1860-012 (01/01)
 DATE: JUNE 2016



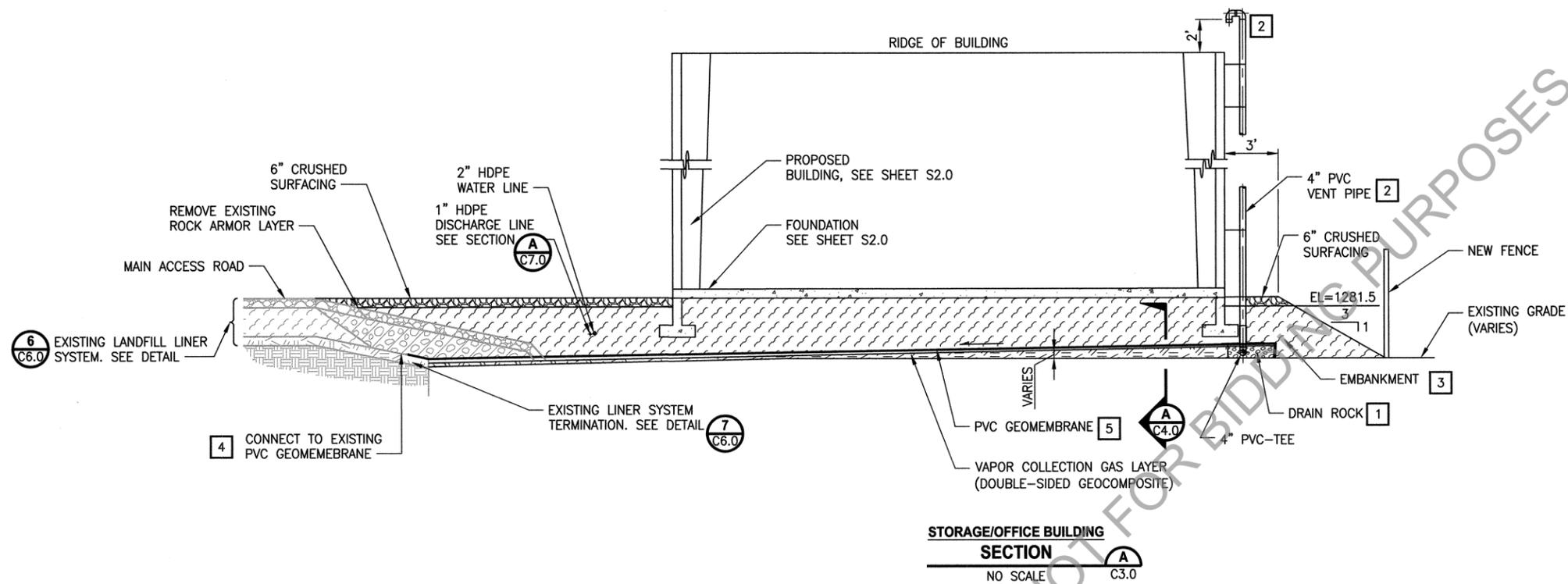
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PROJECT NAME
**EPHRATA LANDFILL
 MPE PILOT STUDY
 PRETREATMENT FACILITY AND POND**
 EPHRATA, WASHINGTON

**PRETREATMENT BUILDING
 GRADING AND PIPE PLAN**

DRAWING NO.
 4 OF 28
C3.0

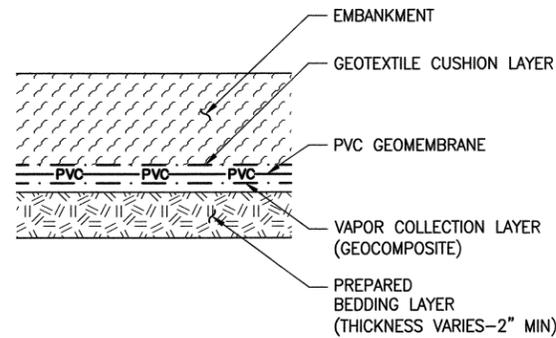
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NOTES:

- 1 PLACE 1-FOOT OF DRAIN ROCK AROUND HORIZONTAL 4" PVC PERFORATED COLLECTION PIPE, WHICH EXTENDS THE ENTIRE LENGTH OF BUILDING.
- 2 VENT PIPE SHALL BE ANCHORED TO MIDDLE OF THE BUILDING AND EXTEND 2- FEET ABOVE RIDGE OF BUILDING.
- 3 SEE SHEET C3.0 FOR GRADING PLAN.
- 4 EXPOSE LINER EDGE FOR VAPOR LINER TIE IN, THEN BACKFILL WITH EMBANKMENT.
- 5 PVC GEOMEMBRANE SHALL BE PLACED BENEATH ONLY THE OFFICE/STORAGE BUILDING. PVC GEOMEMBRANE SHALL EXTEND APPROXIMATELY TWO FEET BEYOND THE BUILDINGS THREE SIDES BEYOND THE LIMITS, IE NORTHWEST, NORTHEAST AND SOUTHEAST FACING SIDES.

STORAGE/OFFICE BUILDING
SECTION
 NO SCALE A
 C3.0



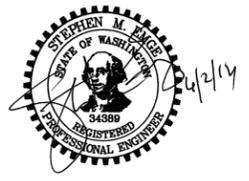
SECTION
 NO SCALE A
 C4.0

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1 ISSUED FOR BID	6/2/16	BP	S. EMGE
			B. PURGANAN
			I. SUTTON
			B. PIPPIN

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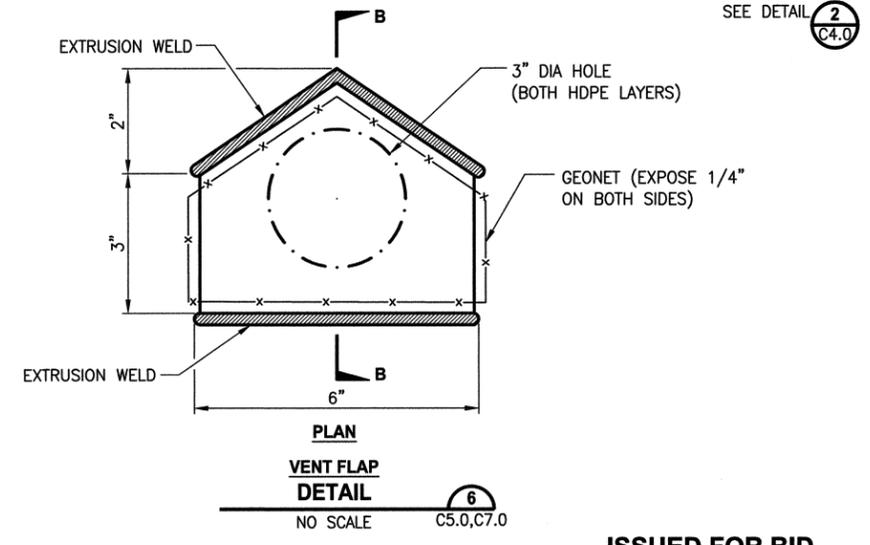
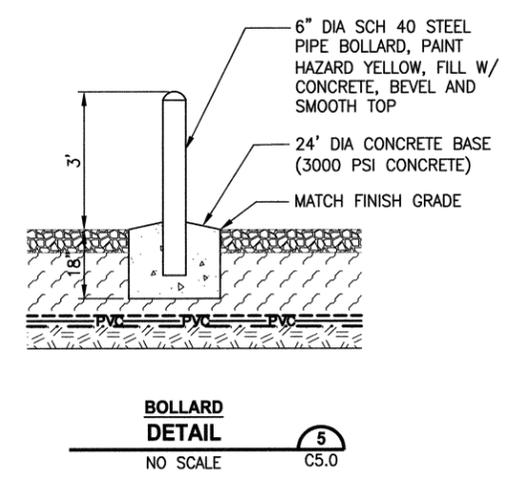
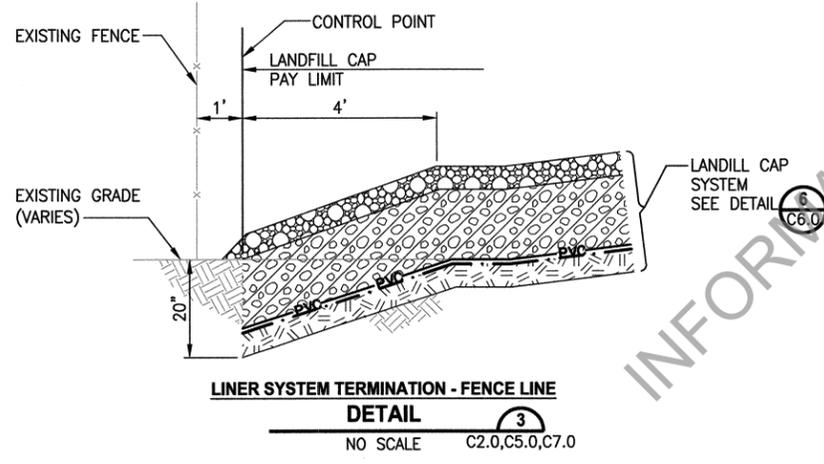
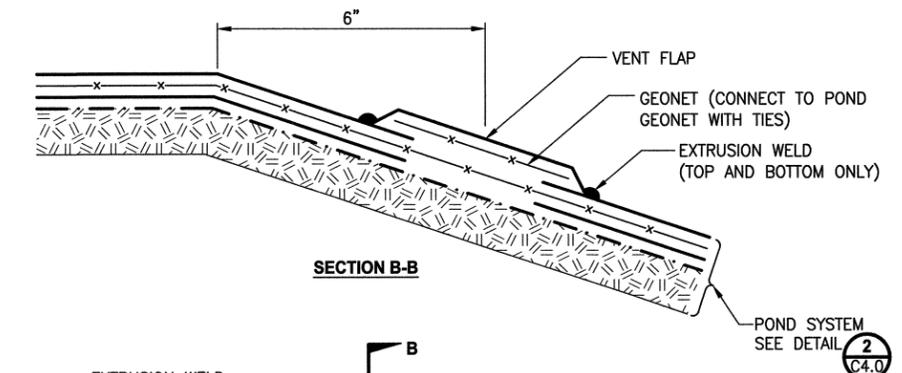
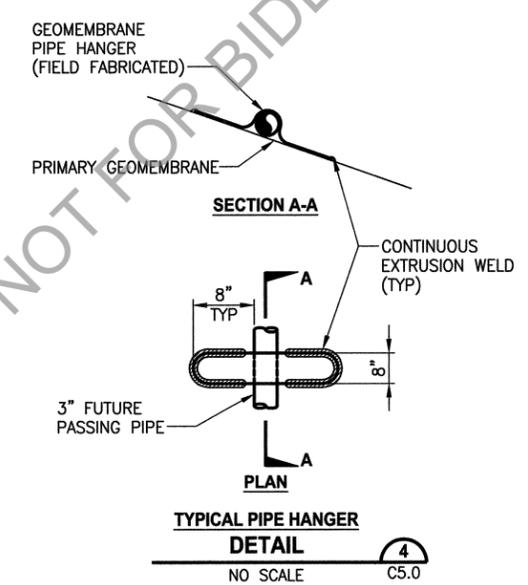
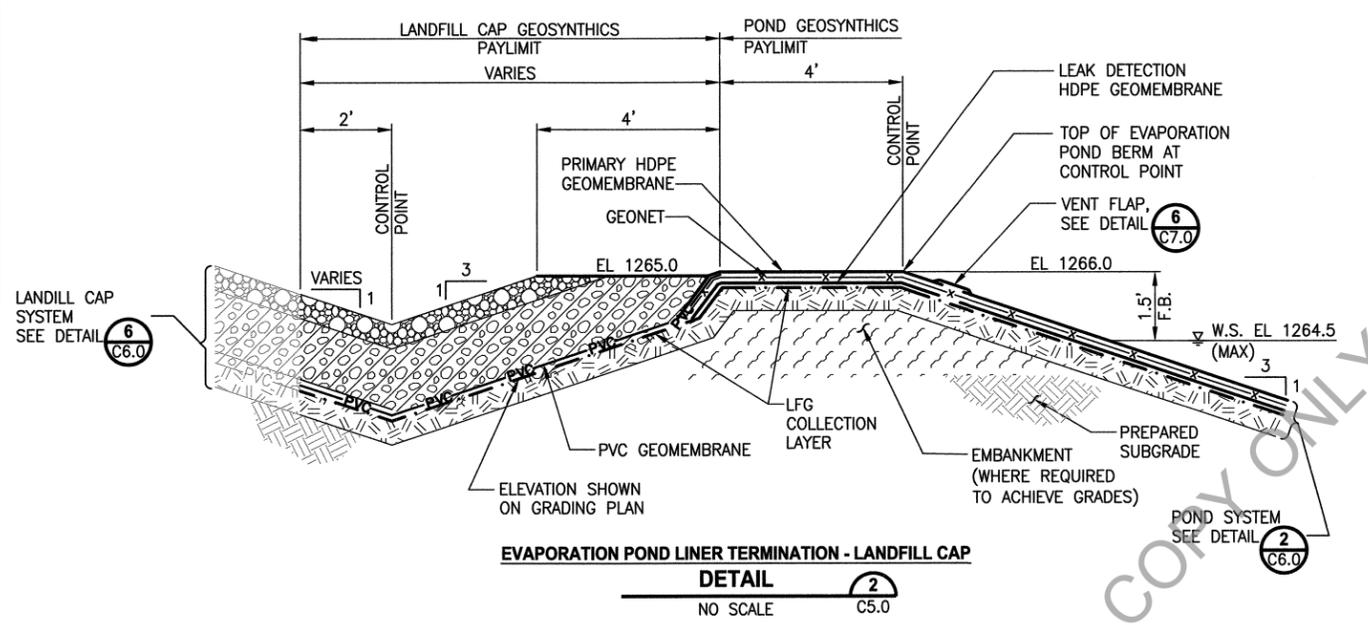
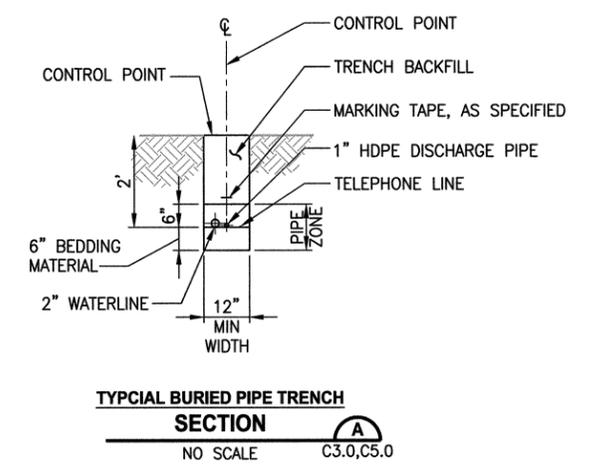
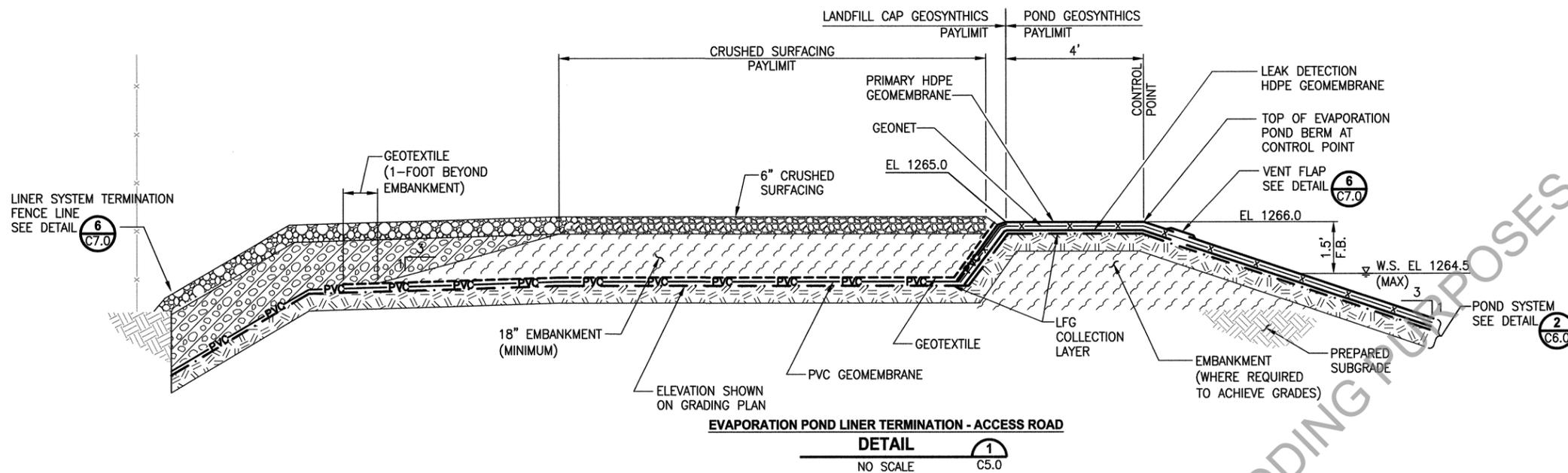
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PROJECT NAME
**EPHRATA LANDFILL
 MPE PILOT STUDY
 PRETREATMENT FACILITY AND POND**
 EPHRATA, WASHINGTON

**GRADING, PAVING, AND
 DRAINAGE SECTIONS AND DETAILS**

DRAWING NO.
 5 OF 28
C4.0

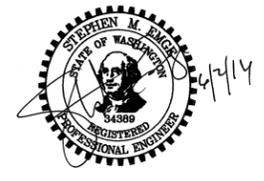
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1	6/2/16	BP	S. EMGE
			B. PURGANAN
			I. SUTTON
			B. PIPPIN

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 EPHRATA, WASHINGTON

DETAILS

DRAWING NO.
 8 OF 28
C7.0

LAYOUT: C8.0 PATH: U:\PSO\Projects\Clients\1860-Heller\Heller\White\553-1860-012 PH7 MPE Pilot Study\985svca\CADD\DWG PLOTTED BY: purgabut DATE: Thursday, June 02, 2016 3:15:18 PM

CONTROL SCHEDULE				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
101	13268.61	18910.70	1265.0	POND LIMIT
102	13305.03	18958.15	1265.0	POND LIMIT
103	13400.03	19025.47	1265.0	POND LIMIT
104	13398.10	19091.63	1265.0	POND LIMIT
105	13345.88	19203.56	1265.0	POND LIMIT
106	13240.65	19086.76	1265.0	POND LIMIT
107	13193.56	18963.45	1265.0	POND LIMIT
108	13264.63	18936.72	1261.0	POND BOTTOM
109	13291.70	18972.00	1261.0	POND BOTTOM
110	13380.74	19035.09	1261.0	POND BOTTOM
111	13379.22	19087.15	1261.0	POND BOTTOM
112	13340.79	19169.53	1261.0	POND BOTTOM
113	13257.14	19076.68	1261.0	POND BOTTOM
114	13216.59	18970.49	1261.0	POND BOTTOM
115	13338.52	19007.01	1260.5	POND BOTTOM -GRADE BREAK
116	13254.65	19065.96	1260.5	POND BOTTOM -GRADE BREAK
117	13349.77	19114.79	1260.0	LEAK DETECTION SUMP LIMITS
118	13355.58	19130.74	1260.0	LEAK DETECTION SUMP LIMITS
119	13256.21	19443.48	NA	BUILDING CORNER/FOOTING
120	13257.87	19483.45	NA	BUILDING CORNER/FOOTING
121	13214.85	19478.53	NA	BUILDING CORNER/FOOTING
122	13184.26	19503.30	NA	BUILDING CORNER/FOOTING
123	13231.05	19498.53	NA	BUILDING CORNER/FOOTING
124	13195.59	19517.29	NA	BUILDING CORNER/FOOTING
301	13412.55	18973.64	1260.0	ACCESS ROAD/CRUSHED SURFACE LIMITS
302	13411.21	19019.66	1263.0	ACCESS ROAD/CRUSHED SURFACE LIMITS
303	13409.03	19094.19	1263.0	ACCESS ROAD/CRUSHED SURFACE LIMITS
304	13376.11	19219.23	1267.0	ACCESS ROAD/CRUSHED SURFACE LIMITS
305	13359.53	19248.27	NA	FIELD FIT
306	13335.91	19223.42	NA	FIELD FIT
307	13400.38	18979.33	1260.0	ACCESS ROAD/CRUSHED SURFACE LIMITS
308	13312.35	18946.75	1262.0	ACCESS ROAD/CRUSHED SURFACE LIMITS
309	13270.07	18901.11	1266.0	ACCESS ROAD/CRUSHED SURFACE LIMITS
310	13237.37	18867.58	NA	FIELD FIT
311	13245.68	18860.77	NA	FIELD FIT
312	13296.41	18908.99	NA	FIELD FIT

CONTROL SCHEDULE				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
313	13341.28	18931.70	NA	ACCESS ROAD/CRUSHED SURFACE LIMITS
314	13377.09	18940.60	NA	ACCESS ROAD/CRUSHED SURFACE LIMITS
315	13401.49	18956.82	NA	ACCESS ROAD/CRUSHED SURFACE LIMITS
316	13284.41	19467.72	1281.5	TOP OF PAD
317	13198.85	19539.64	1281.5	TOP OF PAD
318	13163.74	19496.68	1281.5	TOP OF PAD
319	13257.63	19434.96	1281.5	TOP OF PAD
320	13290.36	19467.89	1280.0	TOE OF PAD
321	13197.56	19554.66	1278.0	TOE OF PAD
322	13114.33	19506.20	NA	FIELD FIT
323	13100.32	19481.48	NA	FIELD FIT
324	13231.49	19405.33	NA	FIELD FIT
501	13378.96	19135.03	1267.0	LEAK DETECTION PIPE
502	13357.40	18940.49	NA	WATERLINE TIEIN
503	13427.92	18957.95	NA	TRENCH ALIGNMENT FIELD LOCATE
504	13427.19	19093.34	NA	TRENCH ALIGNMENT FIELD LOCATE
505	13421.00	19156.02	NA	TRENCH ALIGNMENT FIELD LOCATE
506	13393.28	19261.45	NA	TRENCH ALIGNMENT FIELD LOCATE
507	13342.78	19378.01	NA	TRENCH ALIGNMENT FIELD LOCATE
508	13229.45	19458.82	NA	TRENCH ALIGNMENT FIELD LOCATE
509	12962.32	19579.17	NA	PIPE ALIGNMENT
510	12946.13	19531.86	NA	PIPE ALIGNMENT
511	12987.36	19496.98	NA	PIPE ALIGNMENT
512	13035.35	19470.43	NA	PIPE ALIGNMENT
513	13088.69	19454.63	NA	PIPE ALIGNMENT
514	13143.28	19447.31	NA	PIPE ALIGNMENT
515	13149.01	19451.91	NA	PIPE ALIGNMENT
516	13167.19	19487.39	NA	PIPE ALIGNMENT
517	13192.99	19519.24	NA	PIPE ALIGNMENT
701	13188.76	18965.03	NA	EX/CAP LINER TIEIN

CONTROL SCHEDULE				
POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
702	13219.50	19064.25	NA	EX/CAP LINER TIEIN
703	13274.05	19131.83	NA	EX/CAP LINER TIEIN
704	13370.39	19252.16	NA	EX/CAP LINER TIEIN
705	13318.72	19360.46	NA	EX/CAP LINER TIEIN
706	13298.26	19397.41	NA	EX/CAP LINER TIEIN
707	13338.38	19375.18	NA	CAP LINER LIMIT
708	13405.47	19208.29	NA	CAP LINER LIMIT
709	13414.39	19149.94	NA	CAP LINER LIMIT
710	13419.63	19088.82	NA	CAP LINER LIMIT
711	13423.79	18960.79	NA	CAP LINER LIMIT
712	13359.99	18997.10	NA	CAP LINER LIMIT
901	13287.98	19457.11	NA	FENCE LIMITS
902	13267.40	19496.19	NA	FENCE LIMITS
903	13193.69	19557.82	NA	FENCE LIMITS
904	13142.79	19495.53	NA	FENCE LIMITS
905	13258.31	19420.10	NA	FENCE LIMITS

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ISSUED FOR BID

REVISIONS	DATE	BY	DESIGNED
1 ISSUED FOR BID	6/2/16	BP	S. EMGE
			B. PURGANAN
			I. SUTTON
			B. PIPPIN

ONE INCH AT FULL SCALE, IF NOT, SCALE ACCORDINGLY
 FILE NAME: PS1860012-C8.0
 JOB No. 553-1860-012 (01/01)
 DATE: JUNE 2016



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PROJECT NAME
**EPHRATA LANDFILL
 MPE PILOT STUDY
 PRETREATMENT FACILITY AND POND**
 EPHRATA, WASHINGTON

CONTROL SCHEDULE

DRAWING NO.
 9 OF 28
C8.0

GENERAL STRUCTURAL NOTES

DESIGN CRITERIA

APPLICABLE BUILDING CODES
 INTERNATIONAL BUILDING CODE, IBC 2012 EDITION
 WITH WASHINGTON STATE AMENDMENTS
 SEI/ASCE 7-10 (AS REFERENCED BY IBC)

DEAD LOADSAS CALCULATED

LIVE LOADS (UNLESS NOTED)
 BUILDING FLOORS, GRATING.....125psf
 ROOF LIVE LOAD OR SNOW.....25psf
 OFFICE ROOF STORAGE.....75psf

WIND LOADS
 WIND SPEED (3 SECOND GUST).....110 MPH
 EXPOSURE.....C

SEISMIC LOADS:
 LOCATION: 47.28N, 119.58W
 BUILDING USE CATEGORY II, $I_e = 1.00$
 SITE CLASS D
 $S_s = 0.41, S_1 = 0.165$
 $F_a = 1.47, F_v = 2.14$
 $S_{ds} = 0.403, S_{d1} = 0.235$
 SEISMIC DESIGN CATEGORY D

BUILDING STRUCTURE SHALL BE DESIGNED BY THE PRE-ENGINEERED BUILDING SUPPLIER

EQUIPMENT CONTAINER FOUNDATIONS DESIGNED USING THE EQUIVALENT LATERAL FORCE ANALYSIS
 SEISMIC FORCE RESISTING SYSTEM:
 $R = 1.0, C_s = 0.40$
 SEISMIC BASE SHEAR = 12.8 kips

FOUNDATIONS

DESIGNED FOR AN ASSUMED SOIL BEARING VALUE OF 2000 PSF.
 TABLE 1806.2. TYPE 4 SOIL PER IBC

SHORING AND TEMPORARY SUPPORTS ARE THE RESPONSIBILITY OF THE CONTRACTOR.

FOUNDATIONS SHOWN ON THE DRAWINGS ARE BASED ON THE BEST INFORMATION AND EXPERIENCE AT THE TIME OF BIDDING. DIMENSIONS AND DETAILS MAY CHANGE DEPENDING ON THE BUILDING SUPPLIER SELECTED BY THE CONTRACTOR. BUILDING DESIGN AND CHANGES TO FOUNDATION SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER AND THE BUILDING CODE AUTHORITY.

INSPECTIONS

CONTRACTOR SHALL BE RESPONSIBLE FOR REQUESTING AND COORDINATING REQUIRED BUILDING DEPARTMENT INSPECTIONS.

BUILDING DEPARTMENT INSPECTIONS, AS LISTED IN IBC SECTION 109, INCLUDE:
 FOOTING AND FOUNDATION INSPECTION
 CONCRETE SLAB AND UNDER-FLOOR INSPECTION
 FRAME INSPECTION
 ENERGY EFFICIENCY INSPECTIONS
 OTHER INSPECTIONS AS REQUIRED BY BUILDING OFFICIAL
 FINAL INSPECTION

IN ADDITION, SPECIAL INSPECTIONS, AS DEFINED IN IBC SECTION 17, SHALL BE PERFORMED AS NOTED BELOW AND IN THE PROJECT SPECIFICATIONS. THESE INSPECTIONS SHALL BE PERFORMED BY CURRENTLY CERTIFIED WABO INSPECTOR UNDER THE SUPERVISION OF A REGISTERED PROFESSIONAL ENGINEER. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED FOR CONFORMANCE WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS.

SPECIAL INSPECTIONS REQUIRED FOR THIS PROJECT INCLUDE:
 COMPACTION TESTING OF FILL MATERIALS UNDER SLAB OR FOOTINGS
 CONCRETE CONSTRUCTION PER IBC TABLE 1704.4
 MASONRY CONSTRUCTION LEVEL 2 PER IBC TABLE 1704.5.3
 FABRICATION AND WELDING OF MISCELLANEOUS METAL
 SEISMIC ANCHORAGE OF MECHANICAL AND ELECTRICAL EQUIPMENT

THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, THE ENGINEER OF RECORD, AND OTHER DESIGNATED PERSONS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE GENERAL CONTRACTOR FOR CORRECTION. THEN, IF NOT IN CONFORMANCE, TO THE TO THE PROPER DESIGN AUTHORITY AND TO THE BUILDING OFFICIAL.

THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL REPORT, SEALED BY A REGISTERED PROFESSIONAL ENGINEER, STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE IBC.

CONCRETE

ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS, SHALL BE IN ACCORDANCE WITH MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES ACI 315, LATEST EDITION. CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 318 BUILDING CODE, LATEST EDITION.

DESIGN STRENGTH
 CAST-IN-PLACE CONCRETE, UNLESS OTHERWISE NOTED
 $f_c = 4000\text{psi}$ AT 28 DAYS

REINFORCING STEEL
 REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615, GRADE 60. HOOKS ARE ACI 318 STANDARD UNLESS NOTED.

CONCRETE COVER
 CONCRETE COVER FOR REINFORCING BARS, EXCEPT AS NOTED:
 FOOTINGS AND MATS CAST AGAINST SOIL.....3"
 CONCRETE IN CONTACT WITH SOIL OR WEATHER.....2"
 CONCRETE NOT EXPOSED TO SOIL OR WEATHER.....1/2"

ACCESSORY BARS
 RIGIDLY SUPPORT BARS ON APPROVED ACCESSORIES.

DOWELS AND CORNER BARS
 ALL HORIZONTAL BARS SHALL BE CONTINUOUS AROUND CORNERS AND THROUGH PILASTERS. PROVIDE DOWELS AND CORNER BARS FOR ALL COLUMN AND WALL REINFORCEMENT, AT LEAST THE SAME SIZE AND SPACING AS BARS WITH WHICH THEY ARE LAPPED. LAP SPLICES AND EMBEDMENT SHALL BE PER ACI 318, OR AS NOTED.

TOLERANCES SHALL CONFORM TO ACI 117, SECTIONS 1 THRU 6.

ROUGHENED SURFACES AT JOINTS SHALL HAVE A SURFACE AMPLITUDE OF 1/4" MIN.

3/4" CHAMFER AT ALL EXPOSED EDGES & OUTSIDE CORNERS.

BAR SPLICES

LAP REINFORCING STEEL 40 BAR DIAMETERS UNLESS NOTED. THE LENGTH OF LAP SPlice OF BARS OF DIFFERENT DIAMETER SHALL BE BASED ON THE SMALLER DIAMETER. BAR SPLICES MAY ALSO BE MADE BY WELDING IN ACCORDANCE WITH THE DETAILS FOR REINFORCING STEEL SPlice AND WITH AWS SPECIFICATION D1.4 WELDING CODE. WHERE REINFORCING BARS CANNOT BE DEVELOPED DUE TO THE LIMITED EXTENT OF THE CONCRETE STRUCTURE, THE BARS SHALL EXTEND AS FAR AS POSSIBLE AND END IN STANDARD HOOKS.

ANCHOR BOLTS

ANCHOR BOLTS SHALL CONFORM TO ASTM A307. HEADED ANCHOR RODS SHALL CONFORM TO ASTM F1554 GRADE 55 OR AS SPECIFIED BY METAL BUILDING SUPPLIER. (GALVANIZED UNLESS NOTED).

DRILLED-IN EXPANSION BOLTS

EXPANSION BOLTS SHALL BE "KWIK BOLTS" BY HILTI CORP., OR APPROVED EQUAL. ICBO CERTIFICATION IS REQUIRED. MINIMUM SPACING SHALL BE 12 BOLT DIAMETERS AND MINIMUM EDGE DISTANCE 6 BOLT DIAMETERS UNLESS NOTED OTHERWISE. MIN. EMBEDMENT IN STRUCTURAL CONCRETE SHALL BE 7 DIAMETERS.

ADHESIVE ANCHORING SYSTEM

ANSI 304. REINFORCING BARS AND RODS ANCHORED INTO EXISTING CONCRETE SHALL BE IN DRILLED HOLE WITH HILTI "HVA" CAPSULE, OR SIKA "SIKADUR" EPOXY INJECTION GEL OR APPROVED EQUAL. ICBO CERTIFICATION IS REQUIRED. MIN EMBEDMENT IN STRUCTURAL CONCRETE SHALL BE 8 DIAMETERS.

STEEL

MATERIAL

SHAPES AND PLATES SHALL CONFORM TO ASTM A992 (A572/50),
 TUBES (HSS) SHALL CONFORM TO ASTM A500, GRADE B OR C,
 PIPES SHALL CONFORM TO ASTM A53, GRADE B.
 HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM A325, BEARING TYPE N UNLESS NOTED.
 MACHINE BOLTS SHALL BE ASTM A307 AND SHALL BE PROVIDED WITH LOCK WASHERS UNDER NUTS OR SELF LOCKING NUTS.

WELDING

ALL WELDING SHALL CONFORM TO AWS D1.1 STRUCTURAL WELDING CODE. MINIMUM SIZE WELDS 3/16" CONTINUOUS FILLET.

MISCELLANEOUS

REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF RECESSES, DUCT OPENINGS, PIPING, CONDUITS, EQUIPMENT LOCATION AND ANCHORAGES, ETC., NOT SHOWN.

SUBMIT ALL REQUIRED SHOP DRAWINGS AND RECEIVE THEIR SATISFACTORY REVIEW FROM THE ENGINEER, PRIOR TO FABRICATION.

COORDINATE AND VERIFY ALL DIMENSIONS WITH ARCHITECTURAL, MECHANICAL OR ELECTRICAL DRAWINGS.

VERIFY ALL DIMENSIONS AND CONDITIONS AT THE PROJECT SITE PRIOR TO STARTING WORK AND NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.

PROVIDE TEMPORARY ERECTION BRACING AND SHORING AS REQUIRED FOR STABILITY OF THE STRUCTURE AND ADJACENT STRUCTURES, DURING ALL PHASES OF CONSTRUCTION.

REFER TO SPECIFICATIONS FOR INFORMATION NOT CONTAINED IN THESE GENERAL NOTES.

ABBREVIATIONS

ALT	ALTERNATE	INTER	INTERMEDIATE
AB	ANCHOR BOLT	INT	INTERNAL/INTERIOR
ADH	ADHESIVE	JT	JOINT
AFF	ABOVE FINISHED FLOOR	KD	KILN-DRIED
APA	AMERICAN PLYWOOD ASSOC.	LOCN	LOCATION
APPD	APPROVED	LONG	LONGITUDINAL
APPROX	APPROXIMATE	LLH	LONG LEG HORIZONTAL
AC	ASPHALTIC CONCRETE	LLV	LONG LEG VERTICAL
AL	ALUMINUM	LP	LOW POINT
B/B	BACK TO BACK	MK	MARK
BM	BEAM OR BENCH MARK	MAX	MAXIMUM
BLKG	BLOCKING	MS	MILD STEEL
B	BOLT	MIN	MINIMUM
BOT	BOTTOM	MISC	MISCELLANEOUS
BLDG	BUILDING	MC	MOMENT CONNECTION
BUR	BUILT UP ROOFING	NF	NEAR FACE
CIP	CAST IN PLACE	NS	NEAR SIDE
CTR	CENTER	N	NORTH
CL	CENTERLINE	NOM	NOMINAL
C/C	CENTER TO CENTER	NIC	NOT IN CONTRACT
CL	CLEAR/CLEARANCE	NTS	NOT TO SCALE
COL	COLUMN	NO OR #	NUMBER
CONC	CONCRETE	OC	ON CENTER
CMU	CONCRETE MASONRY UNIT	OPNG	OPENING
CONN	CONNECTION, CONNECT	OPP	OPPOSITE
CONST	CONSTRUCTION	OD	OUTSIDE DIAMETER
CNJ	CONSTRUCTION JOINT	O/O	OUT TO OUT
CJ	CONTROL JOINT	OA	OVERALL
CONT	CONTINUOUS	OH	OVERHEAD
DET	DETAIL	PERP	PERPENDICULAR
DIA	DIAMETER	PL	PLATE
DIM	DIMENSION	PWD	PLYWOOD
DO	DITO	PC	PIECE OF
DBL	DOUBLE	PCC	PRECAST CONCRETE
DWL	DOWEL	PREFAB	PREFABRICATED
DN	DOWN	PROJ	PROJECTION, PROJECT
DWG	DRAWING	PT	PRESSURE TREATED
EA	EACH	REF	REFERENCE
EF	EACH FACE	REINF	REINFORCING/REINFORCE
ES	EACH SIDE	REQD	REQUIRED
EW	EACH WAY	REV	REVISION
E	EAST	RO	ROUGH OPENING
EL OR ELEV	ELEVATION	SCH	SCHEDULE
EMBD	EMBEDDED/EMBEDMENT	SECT	SECTION
ENGR	ENGINEER	SIM	SIMILAR
= OR EQ	EQUAL	SOG	SLAB ON GRADE
EXIST	EXISTING	SLV	SLEEVE
EJ	EXPANSION JOINT	S	SOUTH
EPS	EXPANDED POLYSTYRENE	SPCS	SPACES
EXT	EXTERNAL/EXTERIOR	SPEC	SPECIFICATION, SPECIFY
FAB	FABRICATE	SQ	SQUARE
FOS	FACE OF STUDS	STGD	STAGGERED
FOW	FACE OF WALL	SS	STAINLESS STEEL
F/F	FACE TO FACE	STD	STANDARD
FS	FAR SIDE	STL	STEEL
FIN	FINISH/FINISHED	STIFF	STIFFENER
FLG	FLANGE	STRUCT	STRUCTURAL
FL	FLOOR	THK	THICK
FD	FLOOR DRAIN	T & B	TOP & BOTTOM
FO	FLOOR OPENING	TOC	TOP OF CONCRETE
FT OR	FEET	TOG	TOP OF GRATING
FTG	FOOTING	TOS	TOP OF STEEL
FND	FOUNDATION	TYP	TYPICAL
GALV	GALVANIZED	U/S	UNDERSIDE
GA	GAUGE	UNO	UNLESS NOTED OTHERWISE
HDW	HARDWARE	V OR VERT	VERTICAL
HP	HIGH POINT	WSHR	WASHER
HM	HOLLOW METAL	W	WEST
H OR HORIZ	HORIZONTAL	W/	WITH
IN OR "	INCH	WP	WORK POINT
INCL	INCLUDED/INCLUDING	WS	WATER STOP
ID	INSIDE DIAMETER		

LAYOUT: S1.0
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REVISIONS	DATE	BY	DESIGNED
1	6/2/16	BP	S. WAGNER
			D. PETERSON
			J. MERTH
			B. PIPPIN

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 IF NOT, SCALE ACCORDINGLY.**

FILE NAME
 PSI1860012-S1

JOB No.
 553-1860-012 (01/01)

DATE
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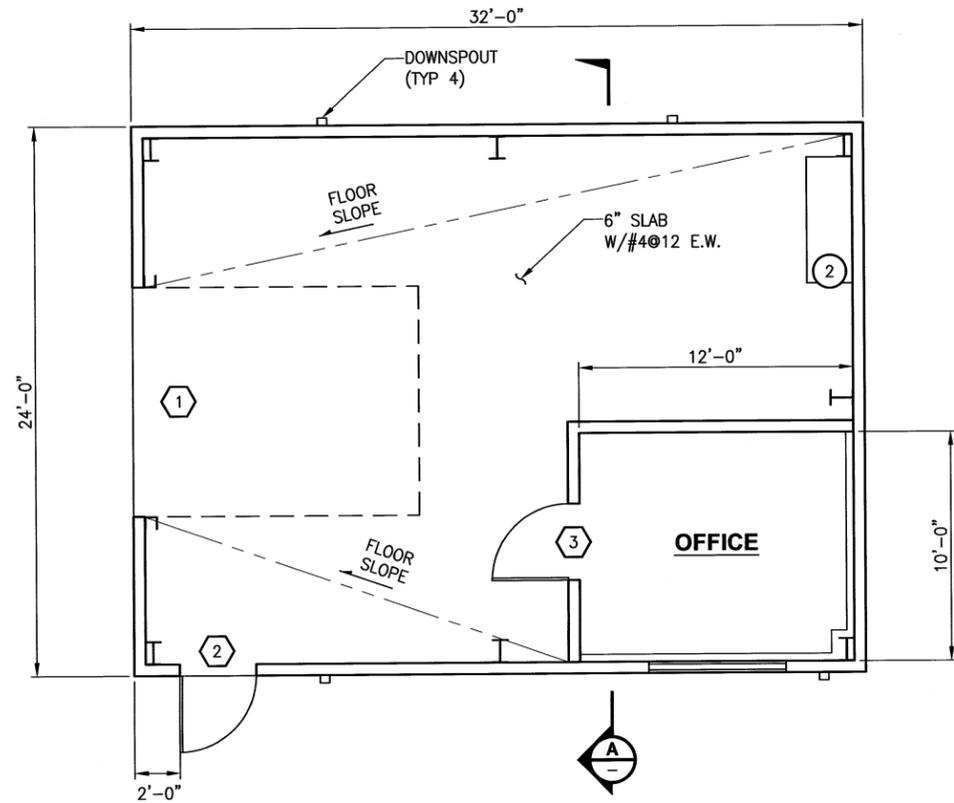
PROJECT NAME
**EPHRATA LANDFILL
 MPE PILOT STUDY
 PRETREATMENT FACILITY AND POND**
 EPHRATA, WASHINGTON

**GENERAL STRUCTURAL NOTES
 AND ABBREVIATIONS**

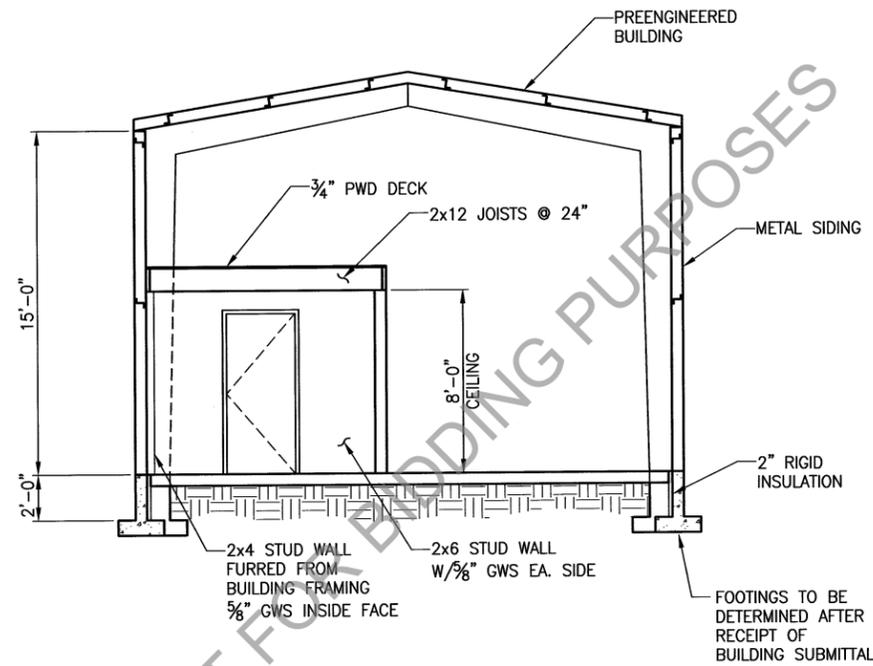
DRAWING NO.
 9 OF 28

S1.0

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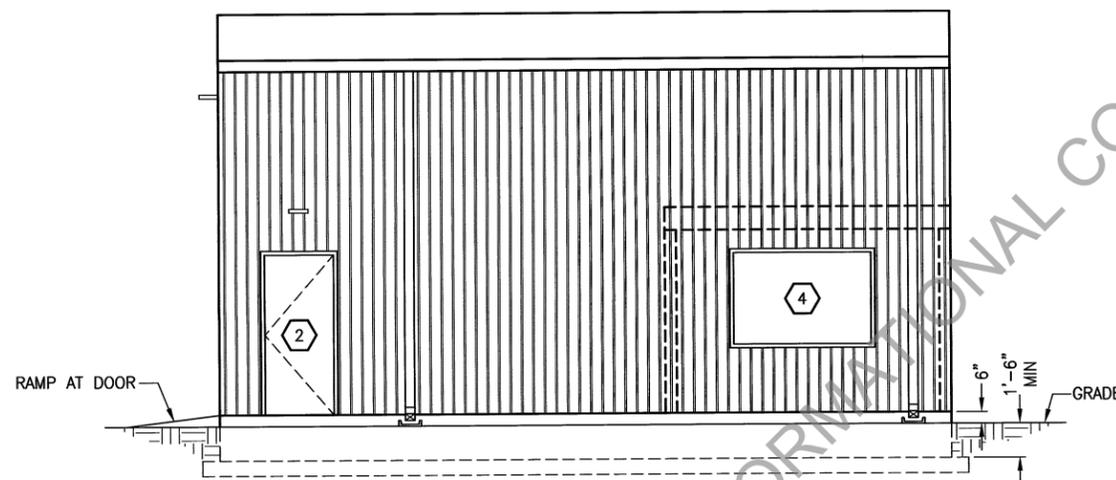
BUILDING PLAN
SCALE: 1/4" = 1'-0"



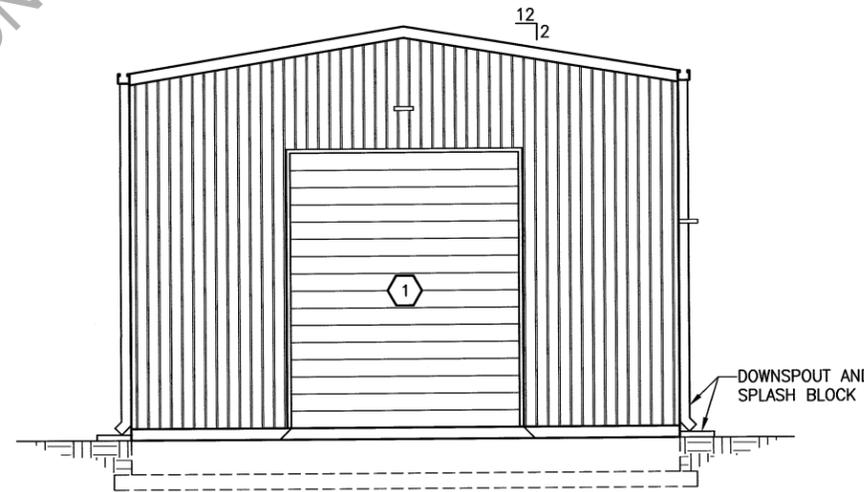
SECTION A-A
SCALE: 1/4" = 1'-0"

- NOTES:**
- INSULATION TO MEET WSEC PRESCRIPTIVE REQUIREMENTS:
 ROOF = R-25 + R-11
 WALLS = R-13 + R-10ci
 OFFICE CEILING = R-30
 OFFICE WALLS = R-21
 SLAB PERIMETER = R-10 RIGID
 - PROVIDE 4" CONCRETE EQUIPMENT PAD UNDER FLOOR MOUNTED ELECTRICAL EQUIPMENT. SEE EQUIPMENT PAD DETAIL 1 (THIS SHEET). REFER TO SHEET E3.0 AND COORDINATE WITH ELECTRICAL CONTRACTOR.

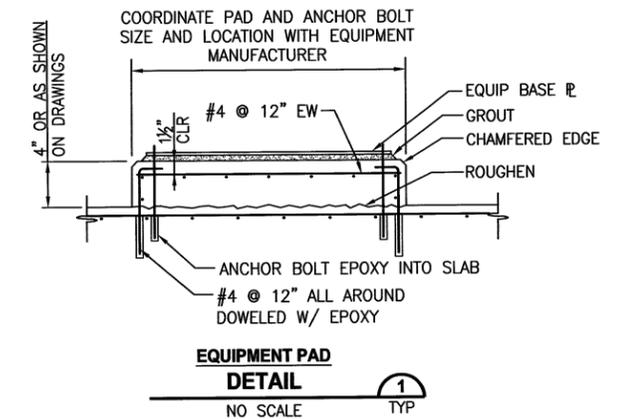
DOOR & WINDOW SCHEDULE			
TAG NUMBER	DIMENSIONS	TYPE	INSULATION
1	10'-0" x 12'-0"	SEGMENTAL ROLL-UP	R=4.75
2	3'-0" x 7'-0"	HM	U=0.37
3	3'-0" x 7'-0"	HM	U=0.37
4	6'-0" x 4'-0"	INSULATED WINDOW PER SPEC	U=0.40



SOUTHEAST ELEVATION
SCALE: 1/4" = 1'-0"



SOUTHWEST ELEVATION
SCALE: 1/4" = 1'-0"



EQUIPMENT PAD DETAIL 1
NO SCALE TYP

REVISIONS	DATE	BY	DESIGNED
1 ISSUED FOR BID	6/2/16	BP	S. WAGNER
			A. PETERSON
			J. MERTH
			B. PIPPIN

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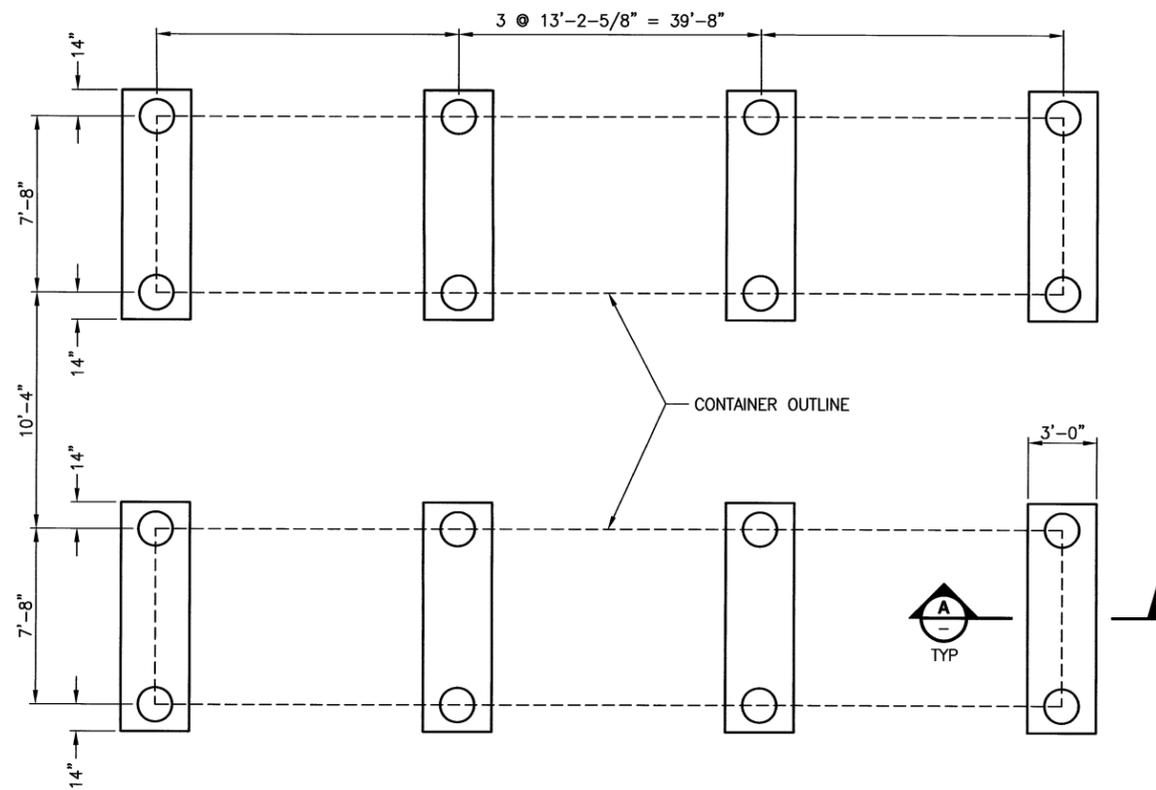


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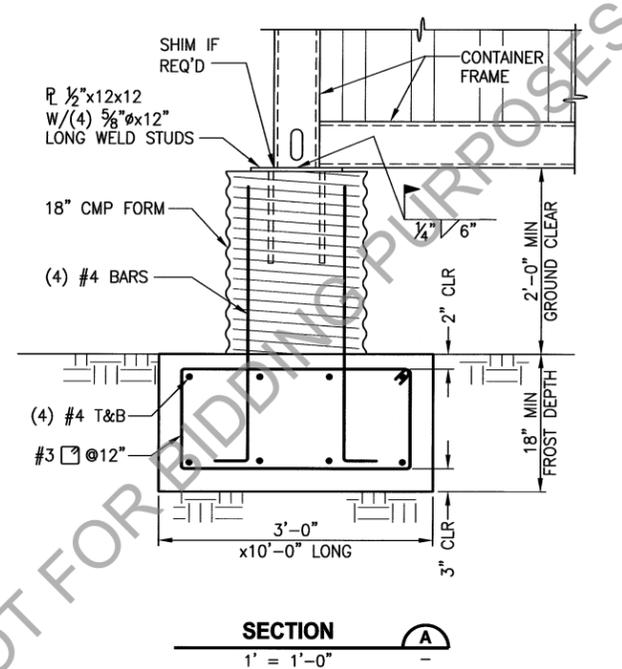
PROJECT NAME
EPHRATA LANDFILL MPE PILOT STUDY
PRETREATMENT FACILITY AND POND
 EPHRATA, WASHINGTON

BUILDING PLAN
 DRAWING NO. 10 OF 28
S2.0

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FOUNDATION PLAN
SCALE: 1/4" = 1'-0"



SECTION A
1' = 1'-0"

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1	ISSUED FOR BID	6/2/16	BP	S. WAGNER
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PROJECT NAME
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 MPE PILOT STUDY
 PRETREATMENT FACILITY AND POND**
 EPHRATA, WASHINGTON

**CONTAINER FOUNDATION
 PLAN AND SECTION**

DRAWING NO.
 11 OF 28
S3.0

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SYMBOL SPECIFICATION

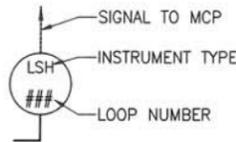
INSTRUMENT TYPE

FE	FLOW ELEMENT
FIT	FLOW INDICATING TRANSMITTER
LSH	LEVEL SWITCH HIGH
LSHH	LEVEL SWITCH HIGH HIGH
LSL	LEVEL SWITCH LOW
LT	LEVEL TRANSMITTER
M	MOTOR, METER
PI	PRESSURE INDICATOR
PIT	PRESSURE INDICATING TRANSMITTER
PS	PRESSURE SWITCH
PSH	PRESSURE SWITCH HIGH
SV	SOLENOID VALVE
TI	TEMPERATURE INDICATOR
TSH	TEMPERATURE SWITCH HIGH

INSTRUMENTATION CONTROLS AND EQUIPMENT

	PUMP		MOTOR
	BLOWER		INTERLOCK
	CHEMICAL METERING PUMP		HANDS, OFF, AUTO
	DIAPHRAGM PUMP		DISCONNECT SWITCH, UNFUSED
	TANK (CLOSED TOP)		DISCONNECT SWITCH, FUSED
	TANK (CLOSED TOP)		POSITIVE DISPLACEMENT PUMP
	TANK (CLOSED TOP)		TANK (CLOSED TOP)

INSTRUMENT IDENTIFICATION



PIPE MATERIAL

	HAND CONTROL		CLEANOUT
	BLOWDOWN		STRAINER
	GATE VALVE		PLUG
	CLOSED VALVE		PIPE CAP
	GLOBE VALVE		SLIP UPDRAFT VENT CAP
	CHECK VALVE		ELBOW - TURNED UP
	TRU UNION BALL/CHECK VALVE		ELBOW - TURNED DOWN
	PLUG		ELBOW - 90°
	BALL VALVE		ELBOW - 45°
	TRUE UNION BALL VALVE		ELBOW - LONG RADIUS
	BUTTERFLY OR DAMPER		REDUCING ELBOW
	NEEDLE VALVE		QUICK CONNECT COUPLING
	DIAPHRAGM VALVE		BUSHING
	THREE WAY VALVE		REDUCER (CONCENTRIC)
	ELECTRIC CONTROL GATE		TEE - REDUCING
	ELECTRIC BUTTERFLY OR DAMPER		TEE - OUTLET UP
	BLEED OR PURGE CONNECTION		TEE - OUTLET DOWN
	AIR RELEASE VALVE		TEE
	SOLENOID VALVE		SAMPLE PORT
	VACUUM RELIEF VALVE		REGULATOR
	PRESSURE RELIEF VALVE		FLOW CONTROL VALVE (NONADJUSTABLE)
	ANTI-SIPHON VALVE		FLOW CONTROL VALVE (ADJUSTABLE)
	FOOT VALVE		SPECTACLE FLANGE
	HARD PIPE		ORIFICE
	FLEXIBLE PIPE		
	INSULATED PIPE		
	CROSS OVER		
	FLANGED CONNECTION		
	SCREWED CONNECTION		
	UNION		
	COUPLING		
	EXPANSION JOINT/SLEEVE		
	METER		
	HOSE CONNECTION		
	ROTAMETER		

PIPE MATERIAL

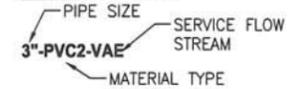
CARBON STEEL	
CS1	CARBON STEEL - SCHEDULE 5
CS2	CARBON STEEL - SCHEDULE 10
CS3	CARBON STEEL - SCHEDULE 40
CS4	CARBON STEEL - SCHEDULE 80
CS5	GALVANIZED CARBON STEEL - SCHEDULE 40
CS6	CARBON STEEL, POLYPROPYLENE LINED
COPPER	
CO1	TYPE K COPPER
CO2	TYPE L COPPER
DUCTILE IRON	
DI1	DUCTILE CAST IRON
DI2	DUCTILE CAST IRON
DI3	DUCTILE CAST IRON
FIBERGLASS	
F1	FIBERGLASS PIPE (POLYTHREAD WITH INNER LINER)
F2	FIBERGLASS PIPE (GREENTHREAD)
F3	FIBERGLASS PIPE (FIBERCAST - CENTRICAST P-115 EP 2530)
F4	FIBERGLASS PIPE (VINYL ESTER RESIN)
F5	FIBERGLASS PIPE (POLYTHREAD WITHOUT VINYL ESTER LINER)
F6	FIBERGLASS PIPE (CUSTOM MANUFACTURED POLYESTER)
F7	FIBERGLASS PIPE (FIBERCAST - CENTRICAST P-115 EP)
PLASTIC	
PVC1	PVC PIPE - SCH 40
PVC2	PVC PIPE - SCH 80
PVC3	PVC PIPE - SDR21
PVC4	PVC PIPE - SDR26
PVC5	PVC PIPE - SDR35
PVC6	PVC C900 PIPE - DR 14
PVC7	PVC C900 PIPE - DR 18
PVC8	PVC C900 PIPE - DR 21
PVC9	PVC C900 PIPE - DR 25
PVC10	PVC C900 PIPE - DR 32.5
PVC11	PVC C900 PIPE - DR 32.5
PVC12	PVC C900 PIPE - DR 32.5
PVC13	PVC C900 PIPE - DR 32.5
PVC14	PVC C900 PIPE - DR 32.5
CPVC	DRAIN WASTE VENT (CHEMICAL SERVICE)
TI1	TERPOL TUBING

CAST IRON	
CI1	CAST IRON DRAIN
HDPE	
PE1	HIGH DENSITY POLYETHYLENE PIPE - SDR 7
PE2	HIGH DENSITY POLYETHYLENE PIPE - SDR 9
PE3	HIGH DENSITY POLYETHYLENE PIPE - SDR 11
PE4	HIGH DENSITY POLYETHYLENE PIPE - SDR 13.5
PE5	HIGH DENSITY POLYETHYLENE PIPE - SDR 15.5
PE6	HIGH DENSITY POLYETHYLENE PIPE - SDR 17
PE7	HIGH DENSITY POLYETHYLENE PIPE - SDR 19
PE8	HIGH DENSITY POLYETHYLENE PIPE - SDR 21
PE9	HIGH DENSITY POLYETHYLENE PIPE - SDR 26
PE10	HIGH DENSITY POLYETHYLENE PIPE - SDR 32.5
PE11	POLYETHYLENE TUBING
STAINLESS STEEL	
SS1	STAINLESS STEEL T-304L - SCHEDULE 5
SS2	STAINLESS STEEL T-304L - SCHEDULE 10
SS3	STAINLESS STEEL T-304L - SCHEDULE 40
SS4	STAINLESS STEEL T-304L - SCHEDULE 80
SS5	STAINLESS STEEL T-316L - SCHEDULE 5
SS6	STAINLESS STEEL T-316L - SCHEDULE 10
SS7	STAINLESS STEEL T-316L - SCHEDULE 40
SS8	STAINLESS STEEL T-316L - SCHEDULE 80

NOTE: PIPE MATERIALS SHOWN SHADED NOT USED

PIPE DESIGNATIONS:

EXAMPLE SYMBOL:

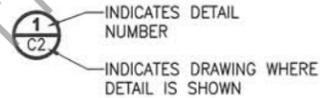


PROCESS ABBREVIATIONS:

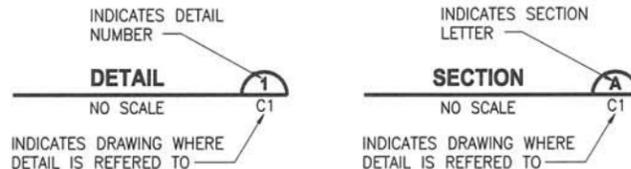
A/C	AIR CONDITIONING
ACFM	ACTUAL CUBIC FEET PER MINUTE
AIR	AIR, ATMOSPHERIC PRESSURE
BGS	BELOW GROUND SURFACE
BR	REDUCING BALL VALVE
CD	CONDENSATE, CLEAN OUT
CP	CONTROL POINT
CS	CARBON STEEL
D	DRAIN, DISCHARGE
DIA	DIAMETER
EL	ELEVATION
FB	FREEBOARD
FT	FEET
GALV	GALVANIZED
GW	GROUNDWATER
HDPE	HIGH DENSITY POLYETHYLENE
HG	MERCURY
HOA	HAND OFF AUTO
HP	HORSE POWER
I/O	INLET/OUTLET
KO	KNOCKOUT
LFG	LANDFILL GAS
LTT	LIQUID TREATMENT TRAIN
MAX	MAXIMUM
MCP	MASTER CONTROL PANEL
MIN	MINIMUM
MPE	MULTI PHASE EXTRACTION
MW	MONITORING WELL
NIC	NOT IN CONTRACT
NPT	NATIONAL PIPE THREAD
OC	ON CENTER
OD	OUTSIDE DIAMETER
OP	OVERHEAD POWER
OWS	OIL WATER SEPARATOR
P&ID	PIPING AND INSTRUMENTATION DIAGRAM
PE	POLYETHYLENE
PP	POWER POLE
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
ROW	RIGHT-OF-WAY
SCH	SCHEDULE
SP	SAMPLE PORT
SS	STAINLESS STEEL
T	TELEPHONE
TBD	TO BE DETERMINED
TYP	TYPICAL
V	VENT
VAE	VACUUM ASSISTED EXTRACTION
VFD	VARIABLE FREQUENCY DRIVE
VTT	VAPOR TREATMENT TRAIN
W	WATER
W/	WITH
WS	WATER SURFACE

SECTION AND DETAIL DESIGNATIONS:

DETAIL CALLOUT:



SECTION AND DETAIL DESIGNATION:



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PROJECT NAME
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MPE PILOT STUDY
PRETREATMENT FACILITY AND POND**
EPHRATA, WASHINGTON

**MECHANICAL
LEGEND, NOTES AND
ABBREVIATIONS**

REVISIONS	DATE	BY	DESIGNED
1	ISSUED FOR BID	6/2/16	BP
			I. SUTTON
			J. CERALDE
			J. NEILSON
			B. PIPPIN

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FILE NAME
PS1860012-M1-M2
JOB NO.
553-1860-012 (01/01)
DATE
JUNE 2016

DRAWING NO.
12 OF 28
M1.0

PIPE SPECIFICATIONS

SEE SECTION 22 13 16 AND SECTION 22 13 16.1

EQUIPMENT SKID TABLE

SKID #	DESCRIPTION	DIMENSIONS*	CONTROL PANEL
SKID 1	OIL WATER SEPARATOR SKID: INCLUDES OWS, OWS PUMP, OIL WASTE DRUM, INSTRUMENTATION, PIPE AND VALVING.	TBD BY EQUIPMENT SUPPLIER	MCP
SKID 2	PROCESS TANK SKID: INCLUDES AIR SPARGE TANK, EFFLUENT PUMP, INSTRUMENTATION, PIPING AND VALVING.	TBD BY EQUIPMENT SUPPLIER	MCP
SKID 3	KNOCKOUT (KO) SKID: INCLUDES KO TANK, KO TRANSFER PUMP, INLINE FILTER, CLEAR TRAP, VAE BLOWER, INSTRUMENTATION, PIPING AND VALVING.	TBD BY EQUIPMENT SUPPLIER	MCP
SKID 4	COMPRESSED AIR SKID: RECEIVER TANK, DESSICANT AIR DRYER, FILTERS, COMPRESSOR, INSTRUMENTATION, PIPING AND VALVING.	TBD BY EQUIPMENT SUPPLIER	MCP

*SKIDS MUST FIT INSIDE INTERMODAL CONTAINERS AS SHOWN ON DRAWINGS.

HVAC EQUIPMENT TABLE

NAME	TAG #	DESCRIPTION
OFFICE HEAT PUMP INDOOR UNIT	AHU-1	DUCTLESS SPLIT SYSTEM HEAT PUMP
OFFICE HEAT PUMP OUTDOOR UNIT	CCU-1	DUCTLESS SPLIT SYSTEM HEAT PUMP
STORAGE ROOM HEATER	HTR-1	UNIT HEATER
STORAGE ROOM HEATER	HTR-2	UNIT HEATER
STORAGE ROOM EXHAUST FAN	FAN-1	CENTRIFUGAL SIDEWALL EXHAUST FAN

GENERAL MECHANICAL NOTES

- FOR CLARITY, NOT ALL FITTINGS, OFFSETS, REDUCERS, VALVES, AND OTHER COMPONENTS ARE SHOWN ON EVERY DRAWING. PIPING IS SHOWN DIAGRAMMATICALLY. THE CONTRACTOR SHALL PROVIDE ALL ITEMS SHOWN AT ANY ONE LOCATION ON THE DRAWINGS OR SPECIFIED. CONTRACTOR SHALL USE ALL DRAWINGS, SPECIFICATIONS, P&IDS, AND MANUFACTURER DRAWINGS UNILATERALLY TO BUILD FROM.
- NUMBER AND LOCATIONS OF UNIONS SHOWN ARE APPROXIMATE. PROVIDE ALL UNIONS NECESSARY TO FACILITATE CONVENTIONAL REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.
- PIPES CONNECTED TO EQUIPMENT SHALL BE INSTALLED IN SUCH A MANNER SO THEY SHALL NOT IMPART STRAIN ON THE EQUIPMENT.
- SIZE OF FITTINGS SHOWN ON DRAWINGS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE AND SHALL BE OF SAME MATERIAL AND CLASS.

TANK SCHEDULE

NAME	TAG NUMBER	*STANDARD LENGTH X WIDTH OR DIAMETER (FT)	STANDARD APPROX LIQUID HEIGHT (FT)	LIQUID VOLUME (GAL)
OWS	T-101	IRREGULAR		30
AIR SPARGE TANK	T-102	2.5'ø	6'	220
OIL WASTE DRUM	T-103	2'ø	35"	55
WASTE COLLECTION TANK	T-104	4'ø	5'	600
KO TANK	T-105			50
KO TANK	T-201			120

*DIAMETERS PROVIDED ARE MAXIMUMS

PUMP SCHEDULE

NAME	TAG NUMBER	DESCRIPTION
EFFLUENT PUMP	P-101	CENTRIFUGAL PUMP
OWS PUMP	P-102	PNEUMATIC DIAPHRAGM PUMP
SPARGE BLOWER	P-103	REGENERATIVE BLOWER
KO TRANSFER PUMP	P-201	PROGRESSIVE CAVITY PUMP
VAE BLOWER	P-202	ROTARY CLAW VACUUM BLOWER WITH VFD
SUBMERSIBLE WELL PUMP	P-401	SUBMERSIBLE PNEUMATIC WELL PUMP
SUBMERSIBLE WELL PUMP	P-402	SUBMERSIBLE PNEUMATIC WELL PUMP
SUBMERSIBLE WELL PUMP	P-403	SUBMERSIBLE PNEUMATIC WELL PUMP

HEAT TRACING

SEE SECTION 40 41 13 PROCESS PIPING HEAT TRACING

PIPE INSULATION

SEE SECTION 40 42 13 PROCESS PIPING INSULATION

VACUUM/PRESSURE GAUGES

ASHROFT TYPE 1009, OR APPROVED EQUAL, WITH 4½" DIAL, 316 SS BOURDON TUBE, SOCKET MATERIAL, AND ¼" NPT. RANGE IN ACCORDANCE WITH ASME B40.100 OR AS SHOWN ON THE DRAWINGS. SEE SPECIFICATIONS FOR TRANSMITTERS.

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			J. CERALDE
			J. NEILSON
			B. PIPPIN

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 FILE NAME: PS1860012-M1-M2
 JOB NO: 553-1860-012 (01/01)
 DATE: JUNE 2016



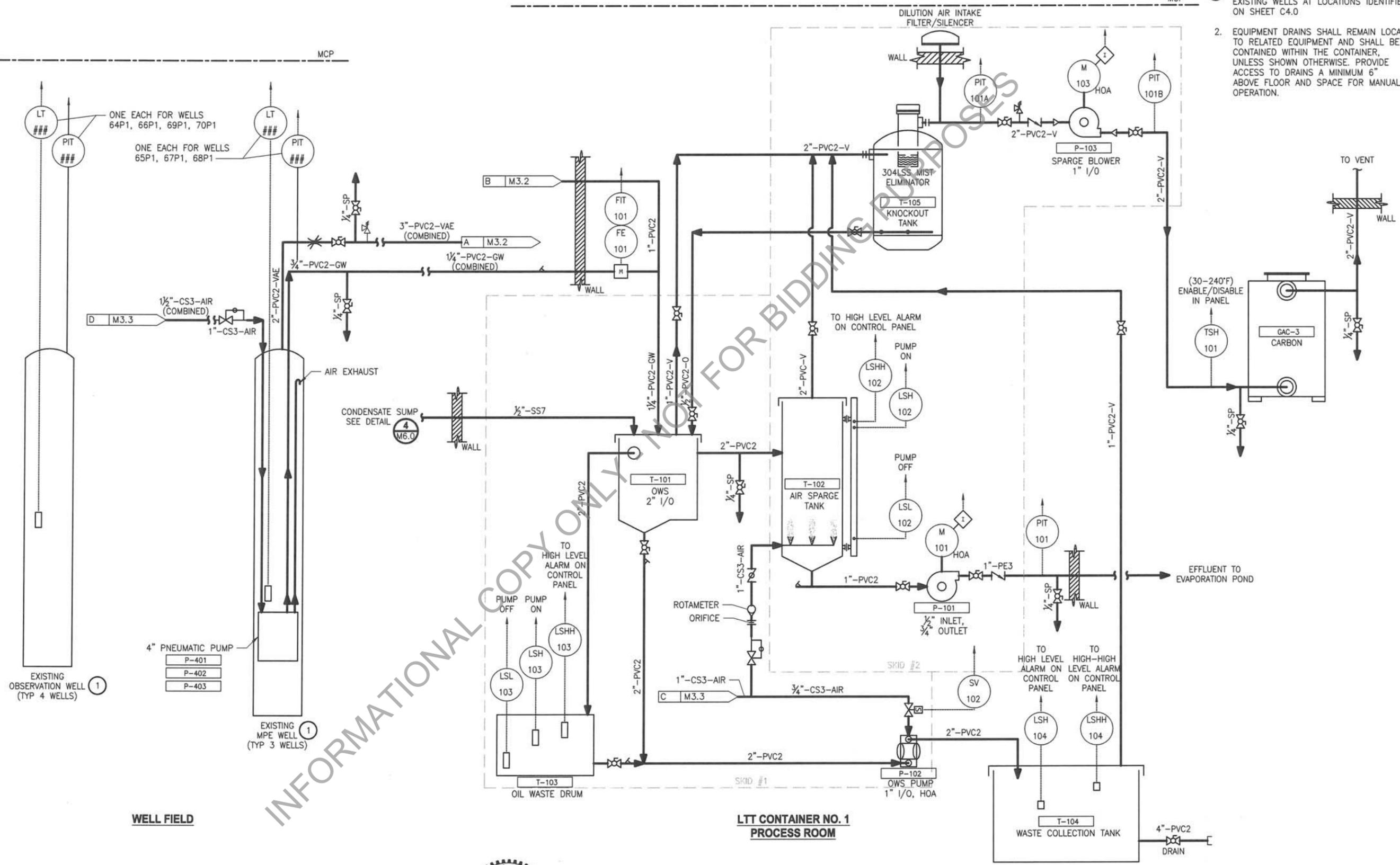
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**PIPE AND VALVE
 SPECIFICATION AND SCHEDULE**

DRAWING NO.
 13 OF 28
M2.0

- NOTES:**
- 1 WELL EQUIPMENT SHALL BE INSTALLED IN EXISTING WELLS AT LOCATIONS IDENTIFIED ON SHEET C4.0
 2. EQUIPMENT DRAINS SHALL REMAIN LOCAL TO RELATED EQUIPMENT AND SHALL BE CONTAINED WITHIN THE CONTAINER, UNLESS SHOWN OTHERWISE. PROVIDE ACCESS TO DRAINS A MINIMUM 6" ABOVE FLOOR AND SPACE FOR MANUAL OPERATION.

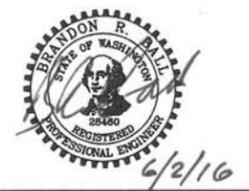


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 LAYOUT: M3.1

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			B. PIPPIN

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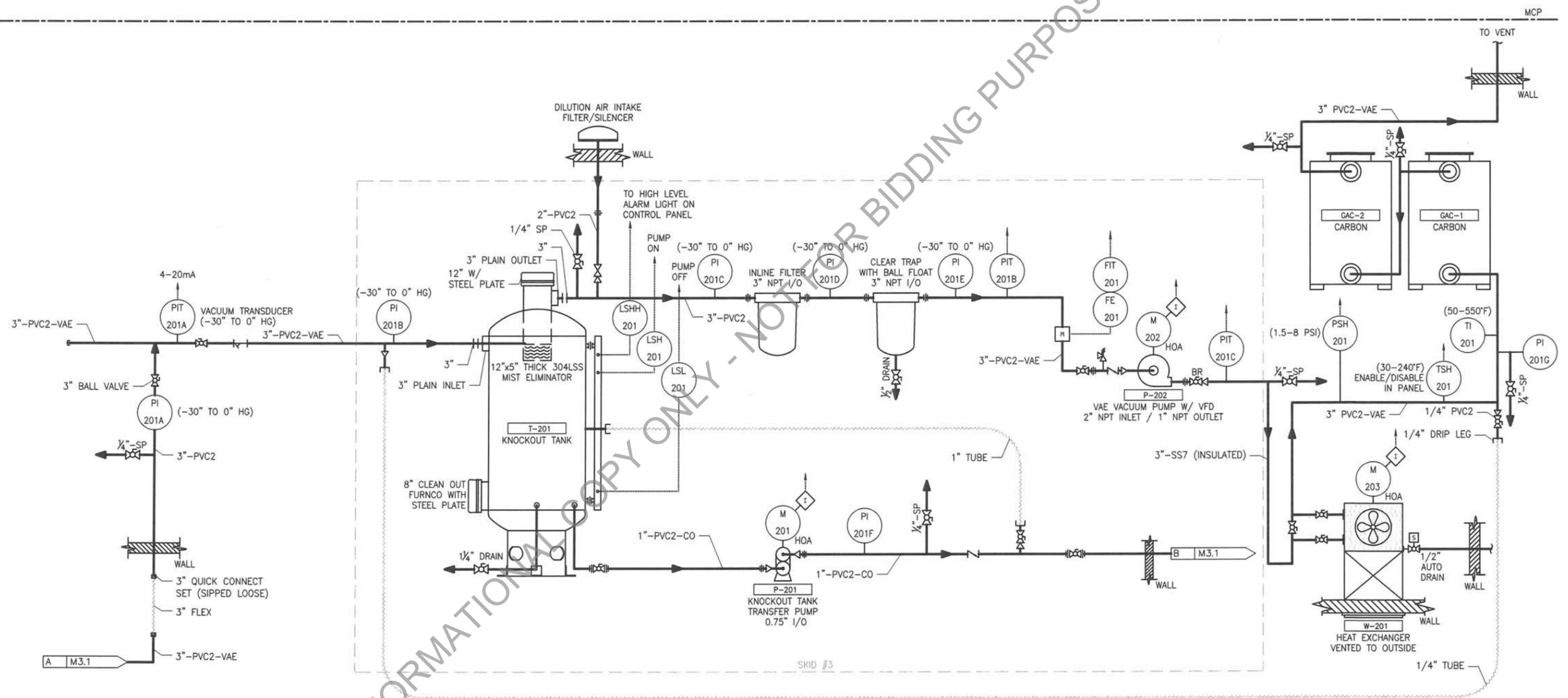
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 EPHRATA, WASHINGTON

PROCESS FLOW DIAGRAM

DRAWING NO.
 14 OF 28
M3.1

NOTES:

- EQUIPMENT DRAINS SHALL REMAIN LOCAL TO RELATED EQUIPMENT AND SHALL BE CONTAINED WITHIN THE CONTAINER, UNLESS SHOWN OTHERWISE PROVIDE ACCESS TO DRAINS, A MINIMUM 6" ABOVE FLOOR AND SPACE FOR MANUAL OPERATION.
- VTT EQUIPMENT, PIPING AND COMPONENTS SHALL BE RATED FOR VACUUM UP TO 30" HG.



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**VTT CONTAINER NO.2
PROCESS ROOM**

LAYOUT: M3.2 PATH: U:\PSO\Projects\Clients\1860-1860-012 PH7 MPE Pilot Study\995sca\CADD\DWG PLOTTED BY: ceralde DATE: Thursday, June 02, 2016 2:55:43 PM

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FILE NAME: PS1860012-M3.1-3.3
JOB NO: 553-1860-012 (01/01)
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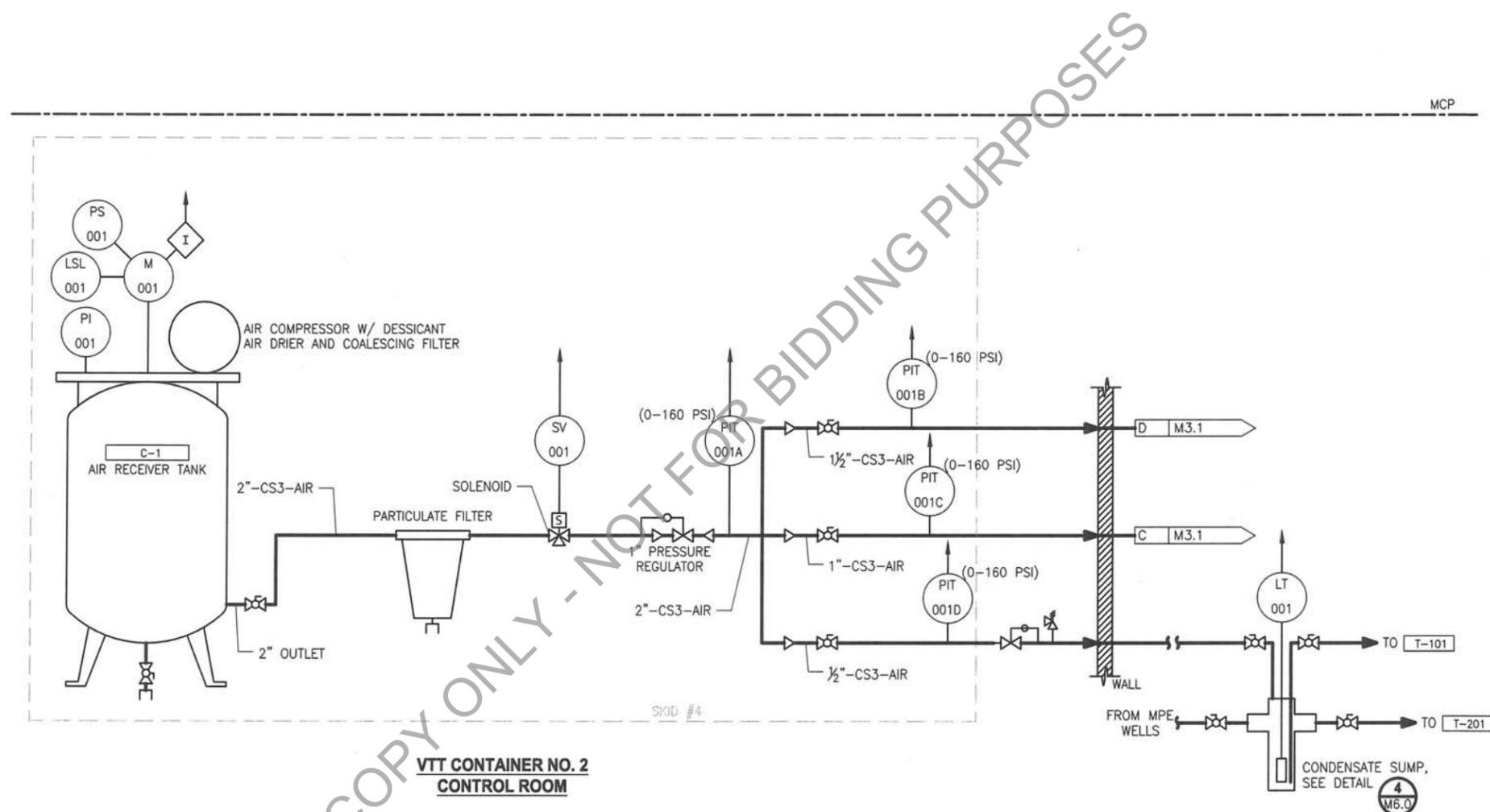
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PROCESS FLOW DIAGRAM

DRAWING NO.
15 OF 28
M3.2

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 LAYOUT: M3.3



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MCP

**VTT CONTAINER NO. 2
CONTROL ROOM**

- NOTES:**
- CONDENSATE PUMP CONNECTIONS TO UPSTREAM/DOWNSTREAM PROCESS NOT SHOWN FOR CLARITY.

REVISIONS	DATE	BY	DESIGNED
1 ISSUED FOR BID	6/2/16	BP	I. SUTTON
			J. CERALDE
			J. NEILSON
			B. PIPPIN

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IF NOT, SCALE ACCORDINGLY**
 FILE NAME: PS1860012-M3.1-3.3
 JOB No.: 553-1860-012 (01/01)
 DATE: JUNE 2016



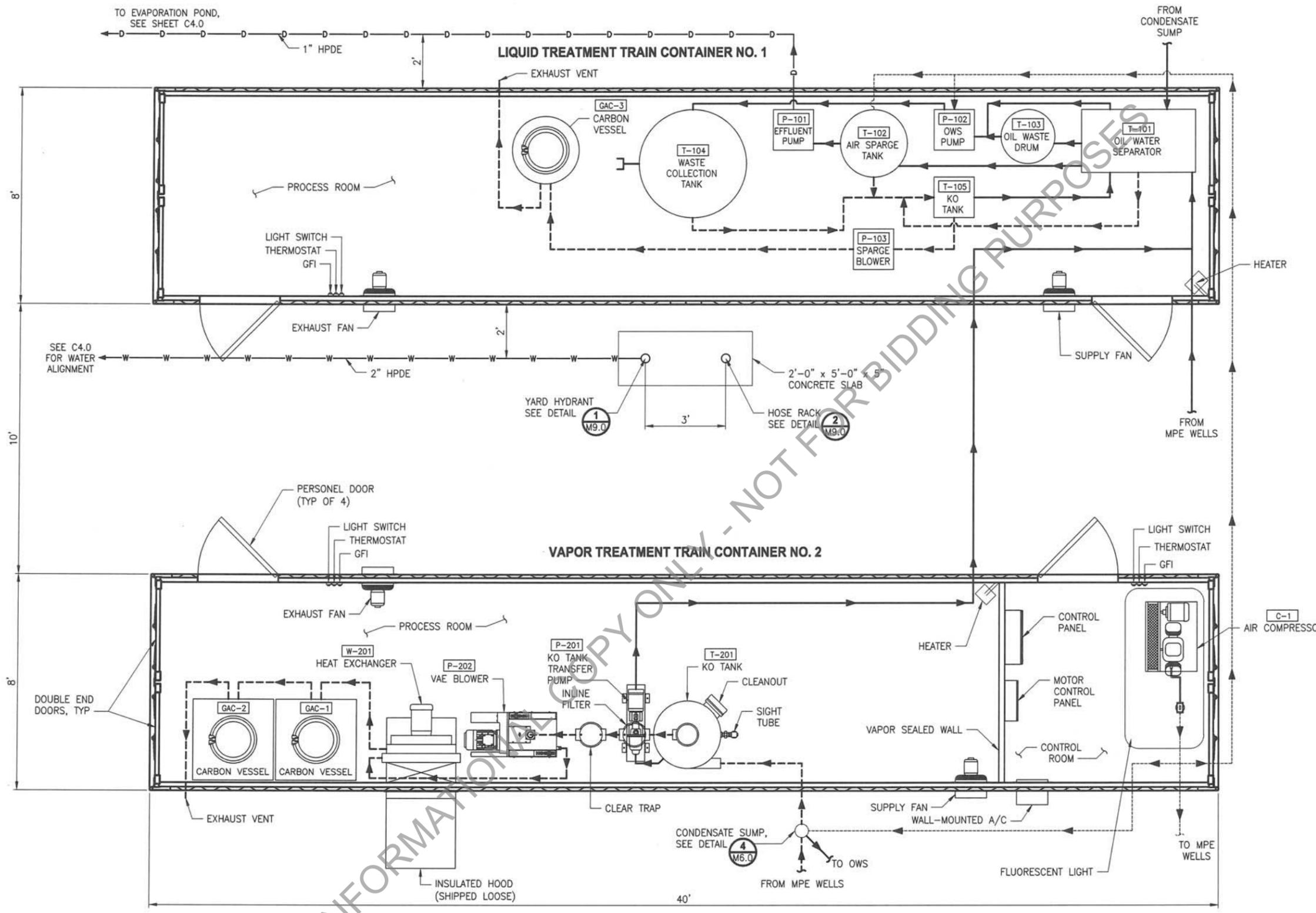
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PROCESS FLOW DIAGRAM

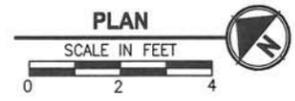
DRAWING NO.
16 OF 28
M3.3

LAYOUT: M4.0 PATH: u:\pso\Projects\Clients\1860-HellerErmonWhite\553-1860-012 PH7 MPE Pilot Study\995eca\CADD\DWG PLOTTED BY: ceroljls DATE: Thursday, June 02, 2016 2:56:07 PM



- NOTES:**
1. ALL PIPES ALONG WALL AND CEILING TO BE SUPPORTED PER DETAIL 1 M7.0
 2. INTERMODAL CONTAINERS SHALL BE IN ACCORDANCE WITH SECTION 13 34 20 - PRE-FABRICATED INTERMODAL CONTAINERS.
 3. HVAC SYSTEMS SHOWN ARE GENERAL. EQUIPMENT SUPPLIER SHALL SIZE, LOCATE, AND PROVIDE SYSTEMS IN ACCORDANCE WITH CODE AND CONTRACT REQUIREMENTS.
 4. PIPE SIZES AND MATERIAL TYPES SHALL BE IN ACCORDANCE WITH THE PROCESS FLOW DIAGRAMS.
 5. PIPE ROUTES AND EQUIPMENT LOCATIONS ARE CONCEPTUAL. FINAL ROUTING AND LOCATIONS TO BE DETERMINED BY THE CONTRACTOR. PROVIDE ADEQUATE ACCESS AND CLEARANCE TO OPERATE AND MAINTAIN THE SYSTEMS.
 6. CONDUITS AND PIPING BETWEEN VTT AND LTT CONTAINERS SHALL BE INSTALLED AND CONTINUOUSLY SUPPORTED OVERHEAD UTILIZING SHARED OR INDIVIDUAL PIPE RACKS AS DETERMINED BY THE CONTRACTOR. PROVIDE A MINIMUM CLEARANCE TO GROUND OF 8'. PROVIDE INDIVIDUAL, SEALED CONTAINER WALL PENETRATIONS.
 7. MAXIMIZE PRESERVED SPACE WITHIN THE NORTHERN PORTION OF LTT CONTAINER NO.1 BY CONSOLIDATING EQUIPMENT ALONG THE NORTHEAST WALL STARTING AT THE EASTERN CORNER, AS SHOWN, AND PROGRESSING NORTHWARD.
 8. PROVIDE STAIR ACCESS TO EACH PERSONNEL DOOR.
 9. FOR ALL PENETRATIONS INTO THE CONTAINER, SHALL HAVE AN EXPANSION JOINT OR FLEX HOISING LOCATED IMMEDIATELY OUTSIDE OF THE CONTAINER.
 10. EXHAUST VENTS SHALL INCLUDE FIBERGLASS LOUVRE AND SST INSECT SCREEN. LOCATE AT TOP OF SIDE WALL.

- PIPE LEGEND:**
- LIQUID LINE
 - - - VAPOR LINE
 - · - · - COMPRESSED AIR LINE



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1 ISSUED FOR BID	6/2/16	BP	I. SUTTON
			J. CERALDE
			J. NEILSON
			B. PIPPIN

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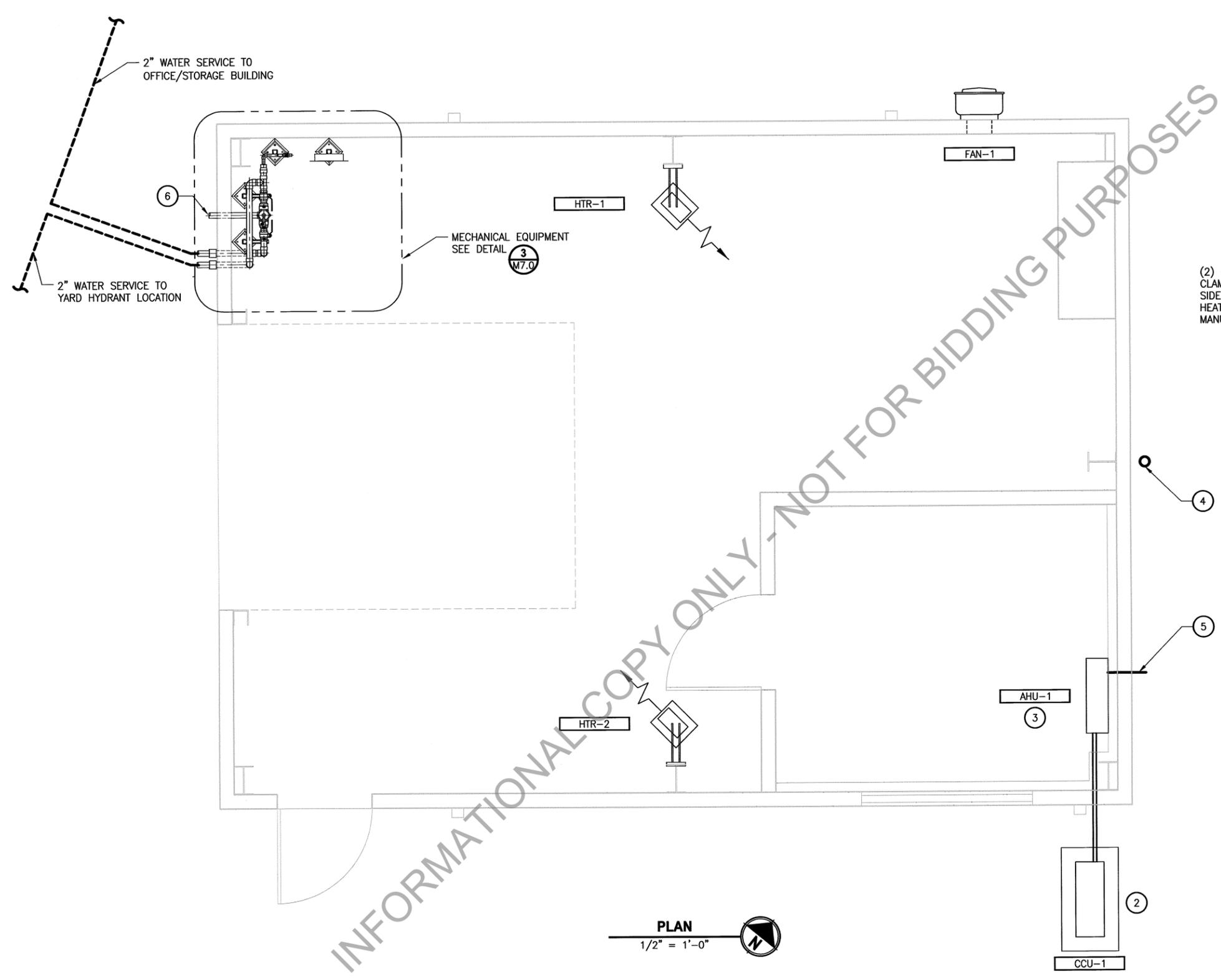
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CONTAINER LAYOUT

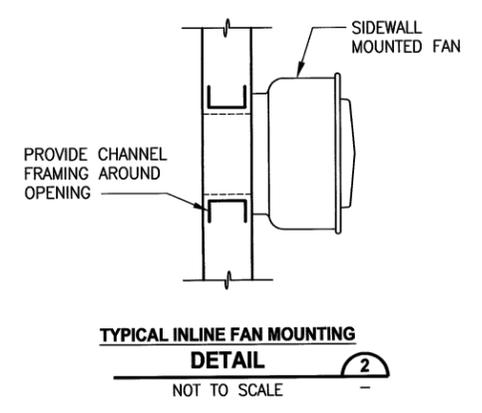
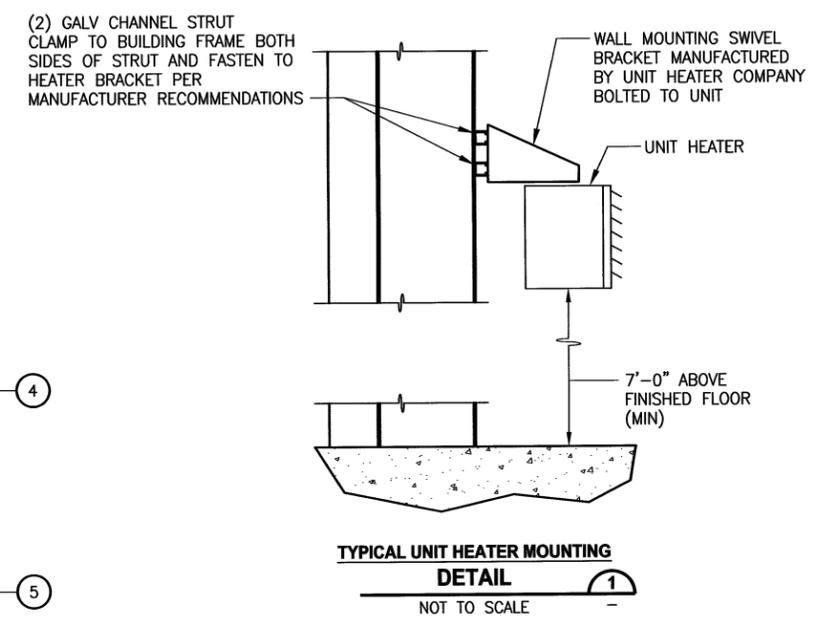
DRAWING NO.
 17 OF 28
M4.0

LAYOUT: M5.0
 PATH: U:\PSO\Projects\Clients\1860-HellerErmanWhite\553-1860-012 PH7 MPE Pilot Study\985\ca\CADD\DWG
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- NOTES:**
1. PROVIDE INSULATED REFRIGERATION LINES BETWEEN AHU AND CCU, PER EQUIPMENT MANUFACTURER.
 2. COORDINATE EQUIPMENT PAD SIZE WITH MANUFACTURER. LOCATE AND ORIENT CCU-1 TO MAINTAIN THE 25' CLEARANCE REQUIRED AROUND THE TREATMENT TRAIN CONTAINERS, AS SHOWN IN DETAIL 1 (E5.0)
 3. PROVIDE CONDENSATE DRAIN LINES TO GROUND OUTSIDE.
 4. VENT PIPE. SEE SHEET C4.0.
 5. DRAIN TO GROUND.
 6. CONTRACTOR TO PROVIDE SPLASH BOCK FOR AIR GAP DRAIN.



PLAN
1/2" = 1'-0"

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			A. PETERSON
			L. SUTTON
			B. PIPPIN

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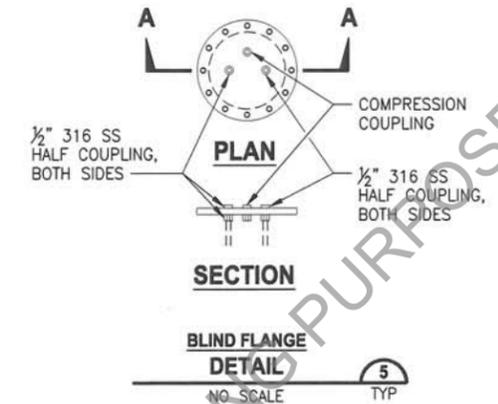
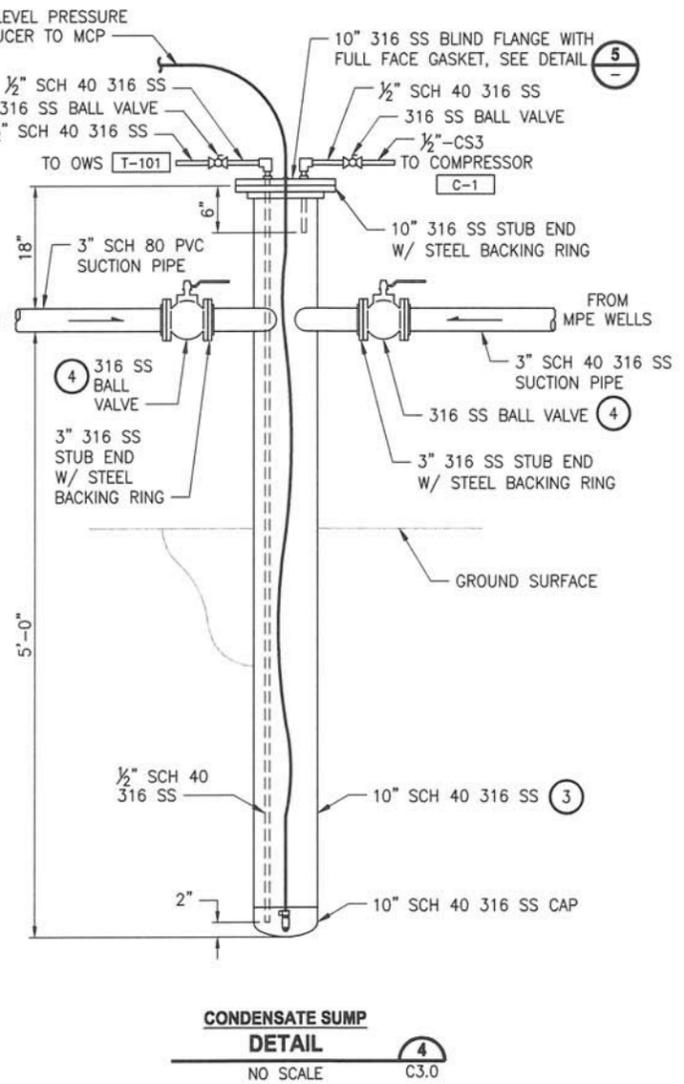
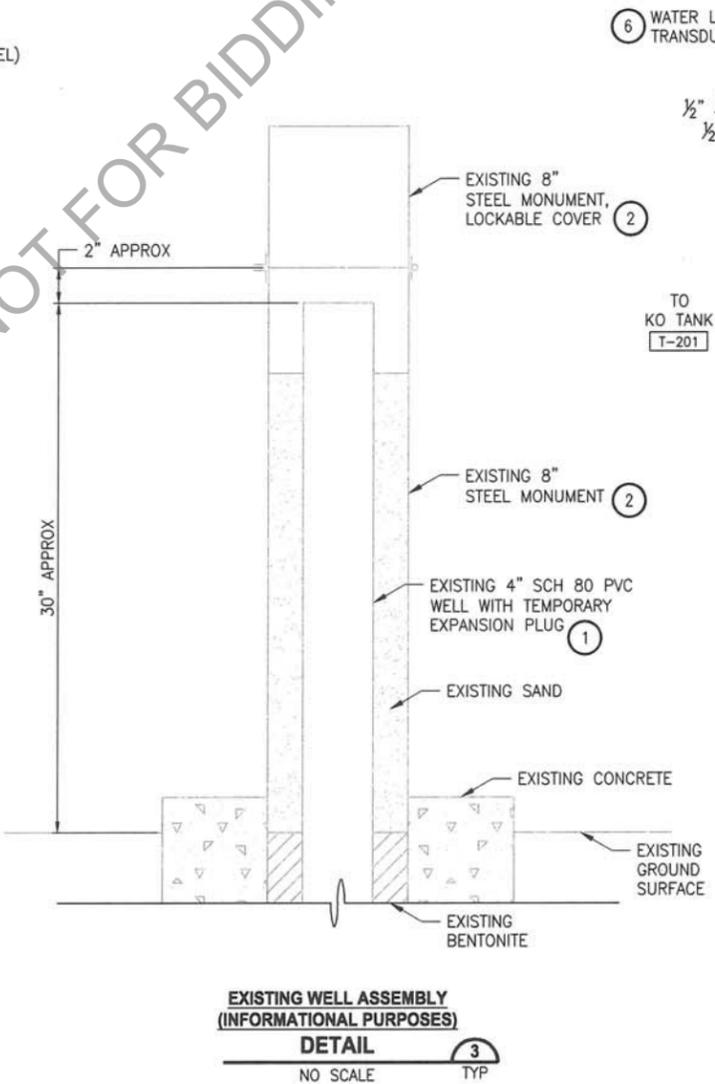
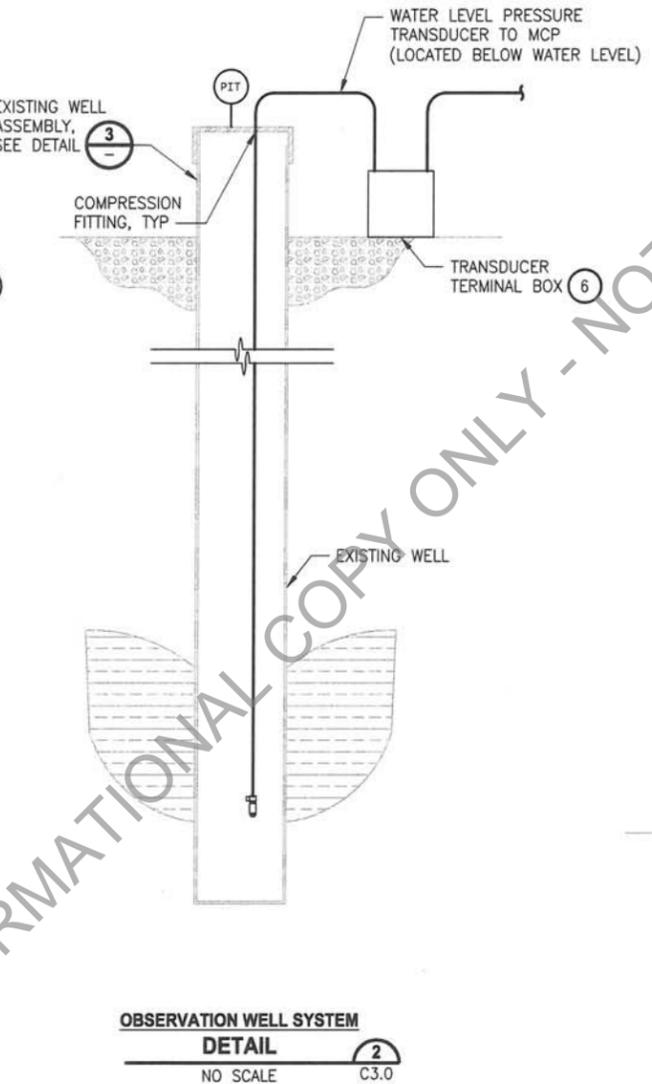
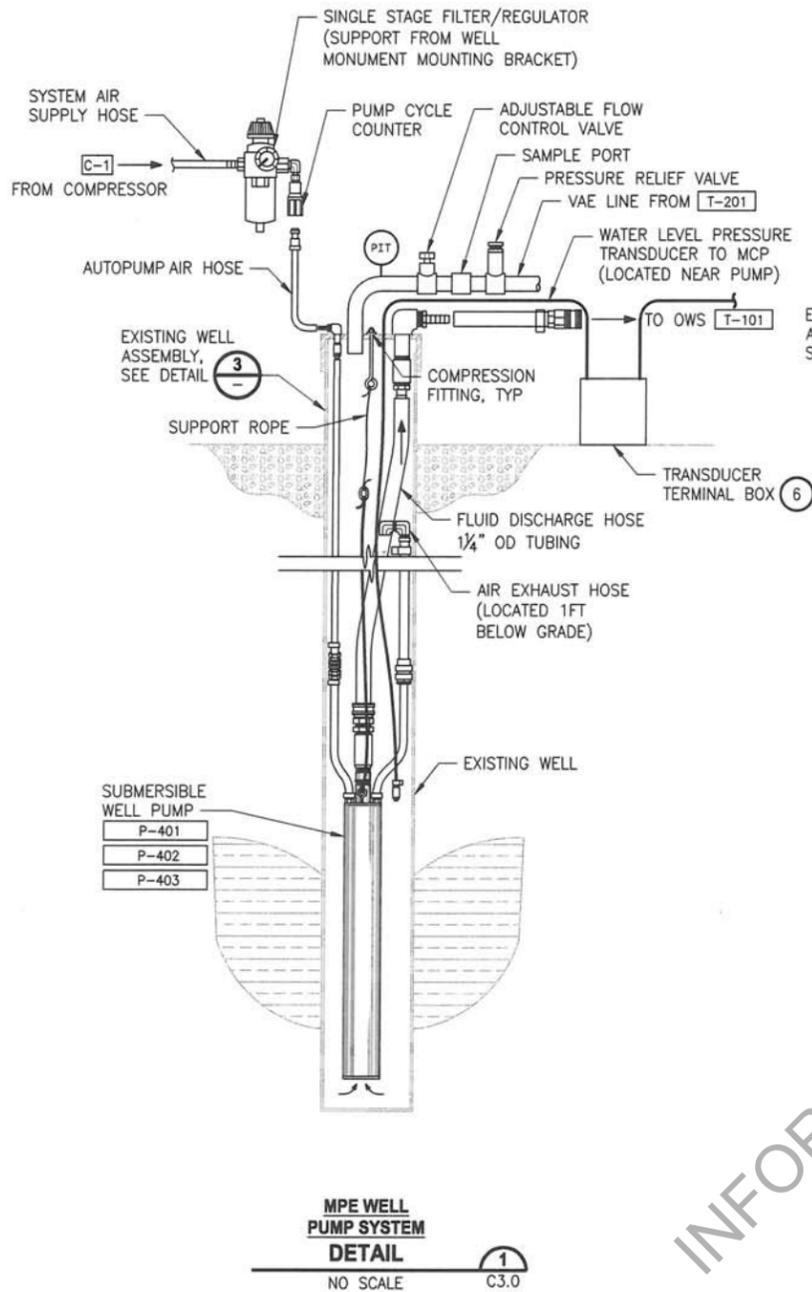
HVAC AND PLUMBING PLAN AND DETAILS

DRAWING NO.
18 OF 28

M5.0

EXISTING WELL SCHEDULE

WELL NAME	DEPTH BGS (FT)	TYPE
MW-64P1	42	OBSERVATION
MW-65P1	33	MPE
MW-66P1	36.5	OBSERVATION
MW-67P1	40	MPE
MW-68P1	34	MPE
MW-69P1	32.5	OBSERVATION
MW-70P1	33	OBSERVATION



- NOTES:**
- REMOVE PLUG AND INSTALL WELLHEAD AND COMPONENTS IN ACCORDANCE WITH SPECIFICATIONS SECTION 43 25 50 POSITIVE DISPLACEMENT SUBMERSIBLE LIQUID PUMPS AND DETAIL 1 AND 2
 - IN CONSULTATION WITH ENGINEER, PROVIDE "U" CUT IN MONUMENT AND COVER AT THE RIM TO ACCOMMODATE UTILITIES EXITING THE WELL. PROVIDE 1" CLEARANCE AROUND UTILITIES AND PRESERVE LOCKABLE COVER FUNCTIONALITY. CLEAN AND PAINT CUT EDGES.
 - CENTER CONDENSATE SUMP BETWEEN ADJACENT PIPE SUPPORTS, OFFSETTING 3" SUCTION PIPE AS REQUIRED TO PROVIDE SPACE FOR 10" CONDENSATE SUMP.
 - ENSURE CONDENSATE SUMP INSTALLATION PROVIDES NO STRAIN ON SUCTION PIPE.
 - WELL EQUIPMENT INSERTION DEPTHS SHALL BE DETERMINED IN THE FIELD IN CONSULTATION WITH THE ENGINEER. EQUIPMENT SHALL BE CAPABLE OF INSTALLATION AT FULL WELL DEPTH.
 - SEE DRAWING E2.0 FOR REQUIREMENTS ASSOCIATED WITH INSTRUMENTATION, TERMINAL BOXES, AND THE ASSOCIATED WIRING.

LAYOUT: M6.0 PATH: U:\VSO\Projects\Clients\1860-HellerErmanWhite\553-1860-012 PH7 MPE Pilot Study\995ves\CADD\DWG PLOTTED BY: coraljas DATE: Thursday, June 02, 2016 2:56:25 PM

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			I. SUTTON
			B. PIPPIN

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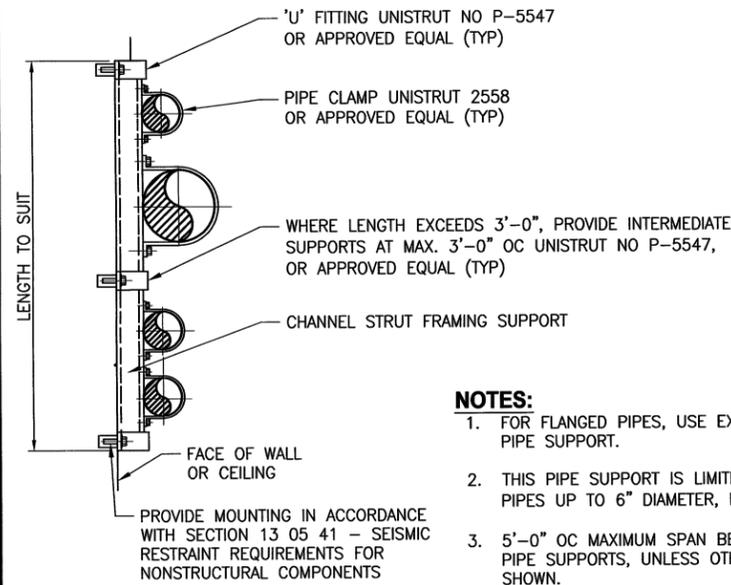
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DETAILS

DRAWING NO.
 19 OF 28
M6.0

LAYOUT: M7.0
 PATH: U:\PSO\Projects\Olefin\1860-Heller\Drawings\1860-012 PH7 MPE Pilot Study\9855.dwg
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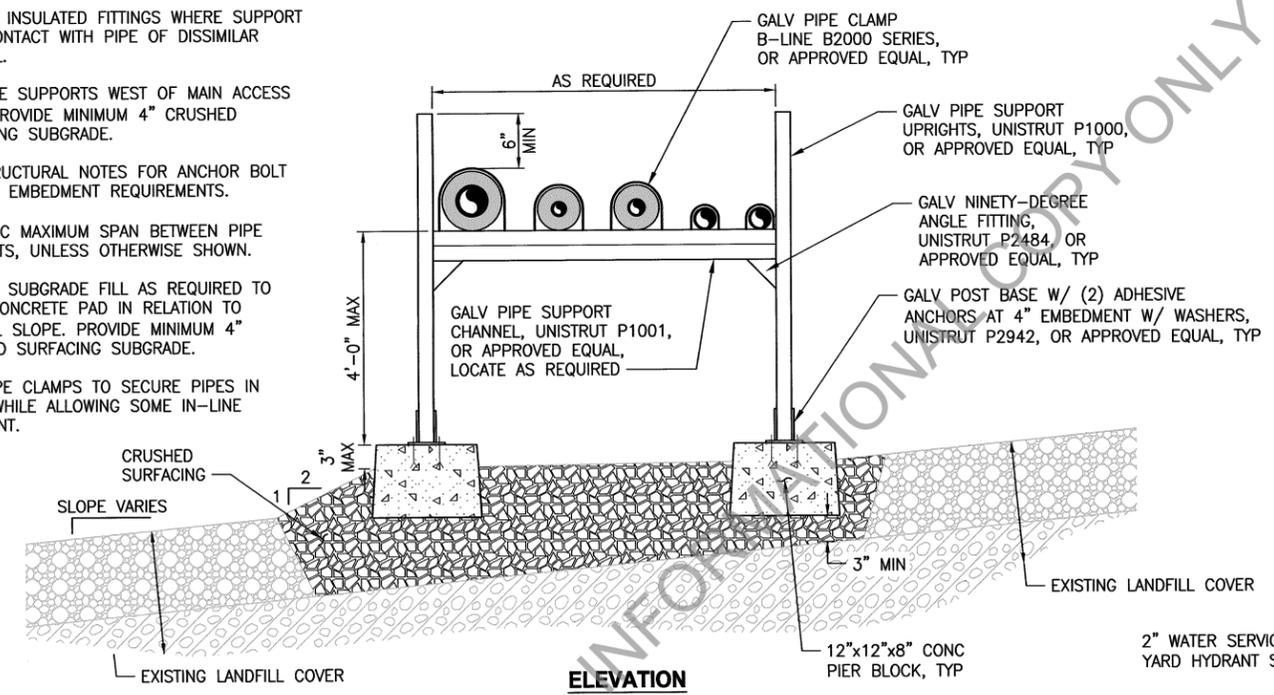


- NOTES:**
1. FOR FLANGED PIPES, USE EXTENDED PIPE SUPPORT.
 2. THIS PIPE SUPPORT IS LIMITED FOR PIPES UP TO 6" DIAMETER, INCLUSIVE.
 3. 5'-0" OC MAXIMUM SPAN BETWEEN PIPE SUPPORTS, UNLESS OTHERWISE SHOWN.

TYP FLUSH MOUNTED PIPE SUPPORT DETAIL 1
NO SCALE

PIPE SUPPORT NOTES:

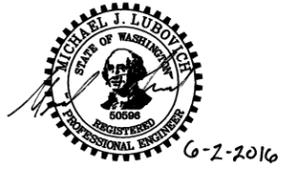
1. FOR ADDITIONAL REQUIREMENTS, SEE SPECIFICATION SECTION 22 33 46 - PIPE HANGERS AND SUPPORTS.
2. PROVIDE INSULATED FITTINGS WHERE SUPPORT IS IN CONTACT WITH PIPE OF DISSIMILAR MATERIAL.
3. FOR PIPE SUPPORTS WEST OF MAIN ACCESS ROAD, PROVIDE MINIMUM 4" CRUSHED SURFACING SUBGRADE.
4. SEE STRUCTURAL NOTES FOR ANCHOR BOLT MINIMUM EMBEDMENT REQUIREMENTS.
5. 5'-0" OC MAXIMUM SPAN BETWEEN PIPE SUPPORTS, UNLESS OTHERWISE SHOWN.
6. PROVIDE SUBGRADE FILL AS REQUIRED TO LEVEL CONCRETE PAD IN RELATION TO LANDFILL SLOPE. PROVIDE MINIMUM 4" CRUSHED SURFACING SUBGRADE.
7. SIZE PIPE CLAMPS TO SECURE PIPES IN PLACE WHILE ALLOWING SOME IN-LINE MOVEMENT.



TYP PIPE SUPPORT DETAIL 2
NO SCALE C3.0

REVISIONS	DATE	BY	DESIGNED
1	6/2/16	BP	J. NEILSON
			J. CERALDE
			I. SUTTON
			B. PIPPIN

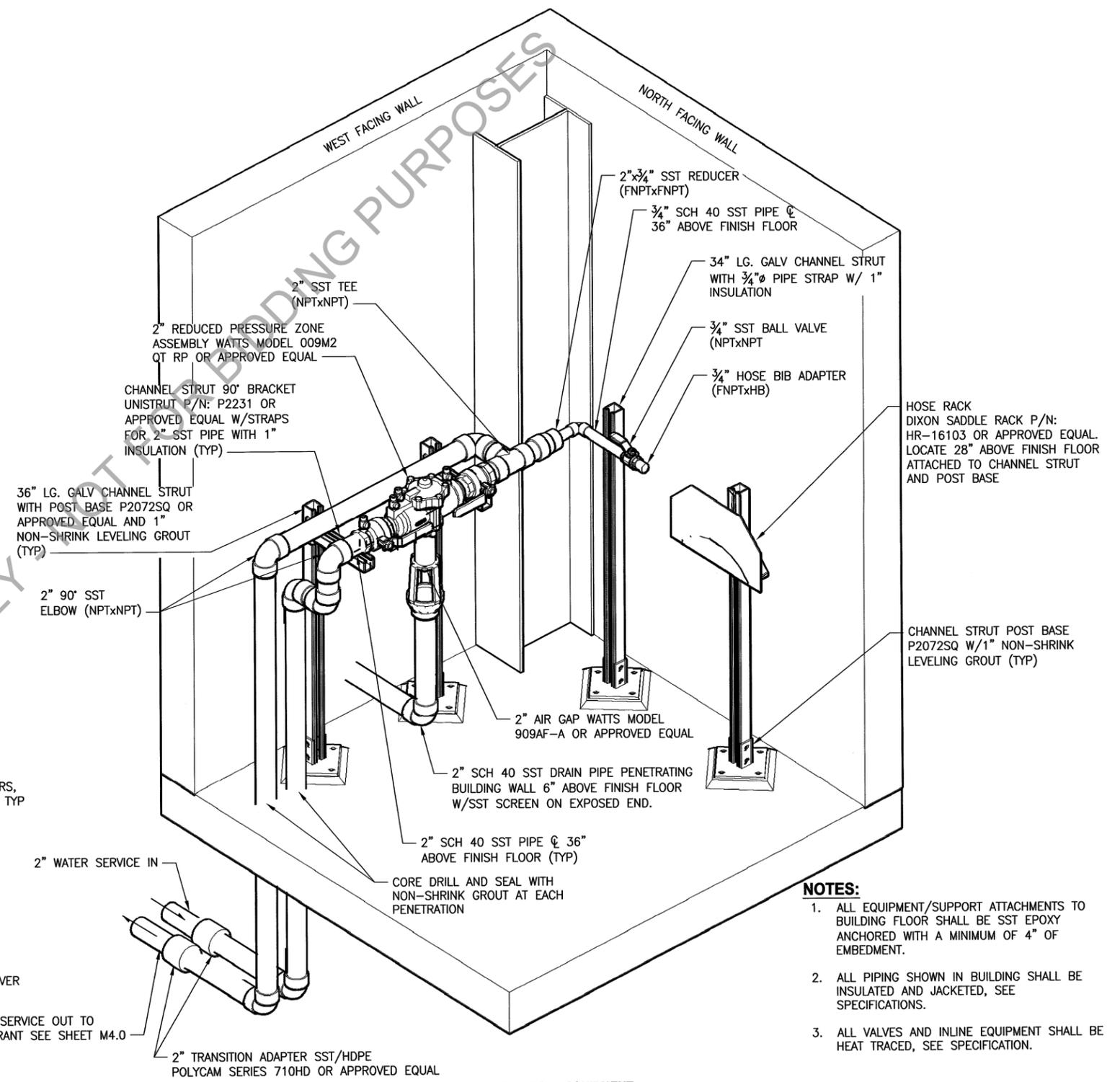
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 FILE NAME: PS1860012-M06-09
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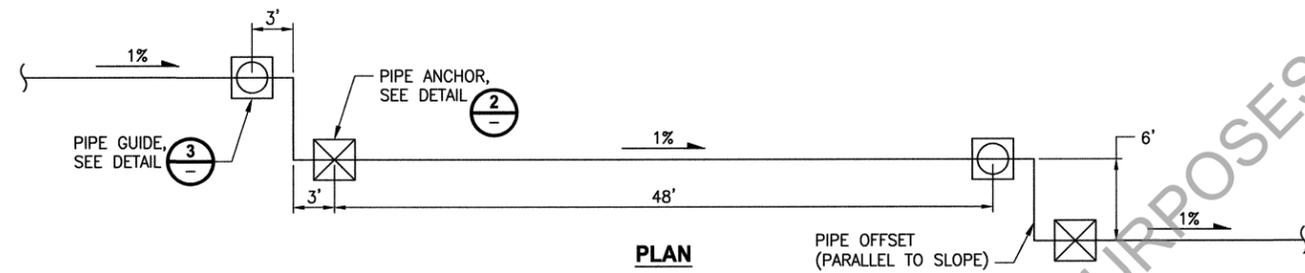
PROJECT NAME
EPHRATA LANDFILL MPE PILOT STUDY PRETREATMENT FACILITY AND POND
 EPHRATA, WASHINGTON

DETAILS
 DRAWING NO. 20 OF 28
M7.0

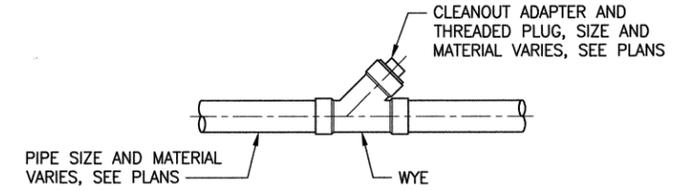


- NOTES:**
1. ALL EQUIPMENT/SUPPORT ATTACHMENTS TO BUILDING FLOOR SHALL BE SST EPOXY ANCHORED WITH A MINIMUM OF 4" OF EMBEDMENT.
 2. ALL PIPING SHOWN IN BUILDING SHALL BE INSULATED AND JACKETED, SEE SPECIFICATIONS.
 3. ALL VALVES AND INLINE EQUIPMENT SHALL BE HEAT TRACED, SEE SPECIFICATION.

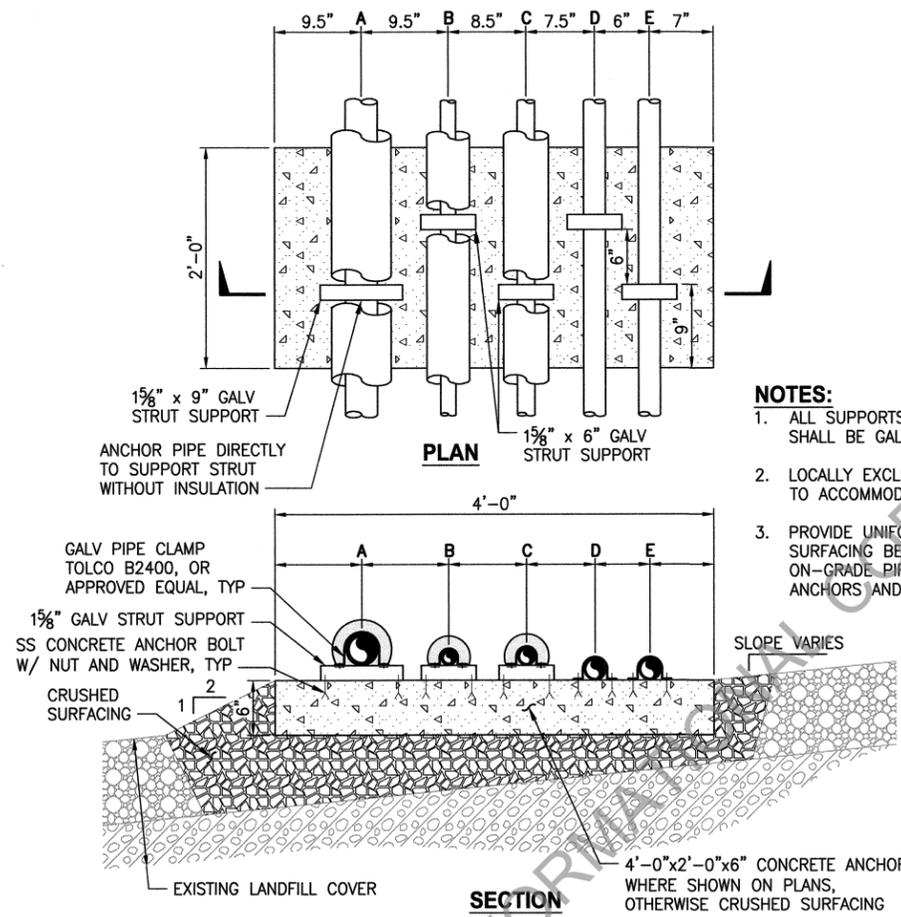
MECHANICAL EQUIPMENT DETAIL 3
NO SCALE M5.0



PLAN
TYP ON-GRADE PIPE OFFSET
DETAIL
 NO SCALE C3.0



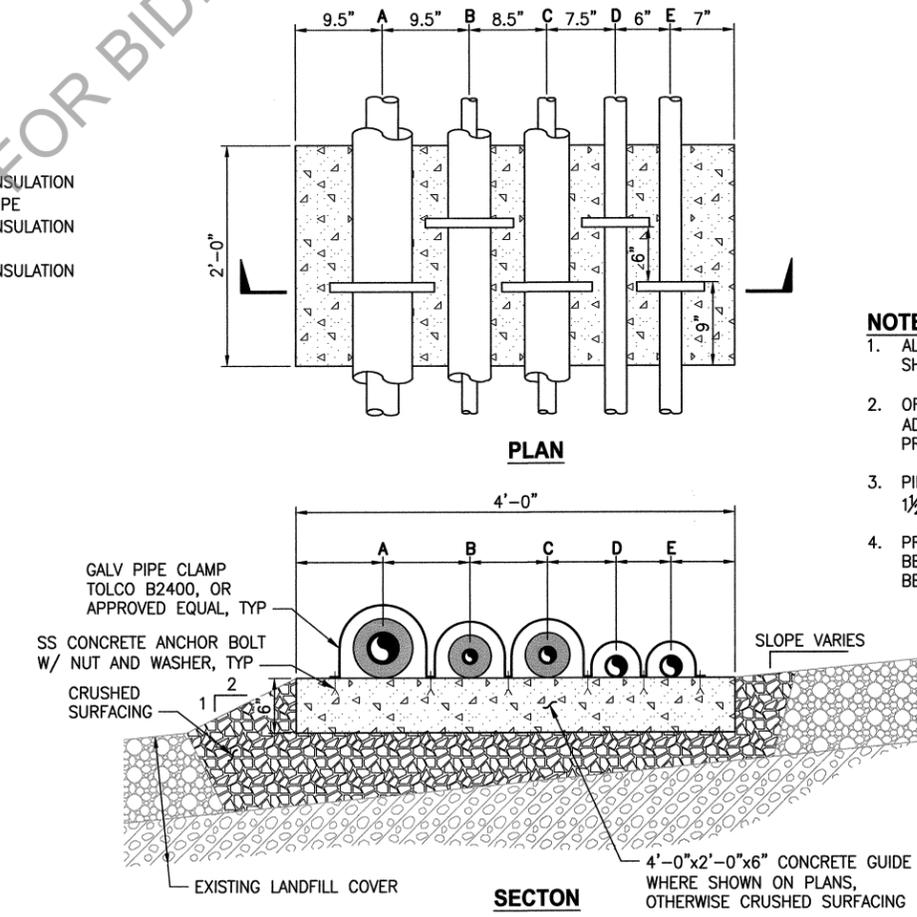
TYP PIPE CLEAN OUT
DETAIL
 NO SCALE C3.0



SECTION
TYP ON-GRADE PIPE ANCHOR
DETAIL
 NO SCALE

- PIPE KEY**
- A 3" SCH80 PVC SUCTION PIPE W/ HEAT TRACE AND 1/2" INSULATION
 - B 1/4" SCH80 PVC GROUNDWATER PIPE W/ HEAT TRACE AND 1/2" INSULATION
 - C 1/2" SCH40 CS COMPRESSED AIR W/ HEAT TRACE AND 1/2" INSULATION
 - D 2" GALV RIGID CONDUIT (SPARE)
 - E 2" GALV RIGID CONDUIT

- NOTES:**
1. ALL SUPPORTS AND FASTENERS SHALL BE GALVANIZED.
 2. LOCALLY EXCLUDE INSULATION TO ACCOMMODATE PIPE CLAMPS.
 3. PROVIDE UNIFORM CRUSHED SURFACING BENCH TO SUPPORT ON-GRADE PIPES BETWEEN ANCHORS AND GUIDES.



SECTION
TYP ON-GRADE PIPE GUIDE
DETAIL
 NO SCALE

- NOTES:**
1. ALL SUPPORTS AND FASTENERS SHALL BE GALVANIZED.
 2. OFFSET PIPE CLAMPS 6" FROM ADJACENT PIPE CLAMPS TO PROVIDE INSTALLATION SPACE.
 3. PIPE CLAMPS SHALL BE OVERSIZED BY 1/2" RADIUS TO THE PIPE ASSEMBLY.
 4. PROVIDE UNIFORM CRUSHED SURFACING BENCH TO SUPPORT ON-GRADE PIPES BETWEEN ANCHORS AND GUIDES.

LAYOUT: M8.0 PATH: U:\PSO\Projects\Clients\1860-Heller\Heller\White\553-1860-012 PH7 MPE Pilot Study\983ves\CAD\DWG PLOTTED BY: ceralde DATE: Thursday, June 02, 2016 3:31:33 PM

REVISIONS	DATE	BY	DESIGNED
1 ISSUED FOR BID	6/2/16	BP	J. NEILSON
			J. CERALDE
			I. SUTTON
			B. PIPPIN

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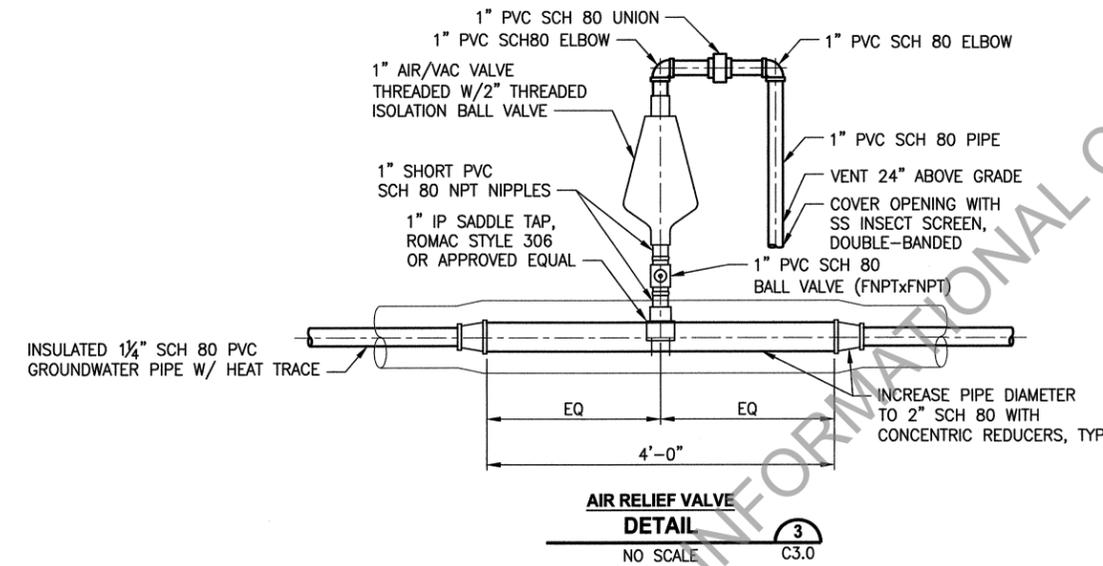
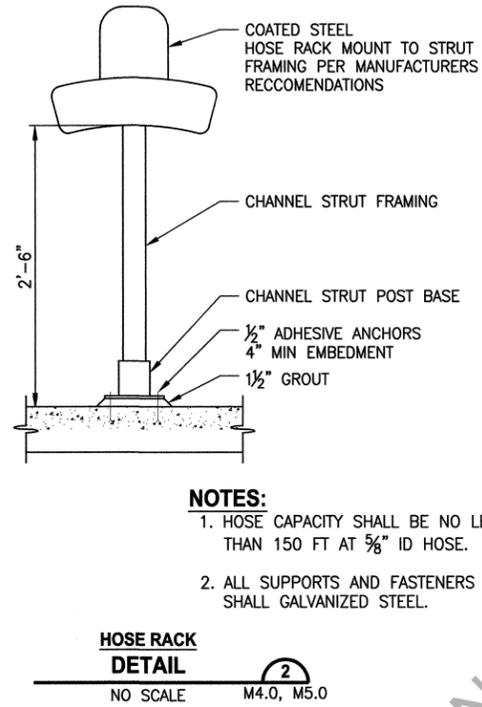
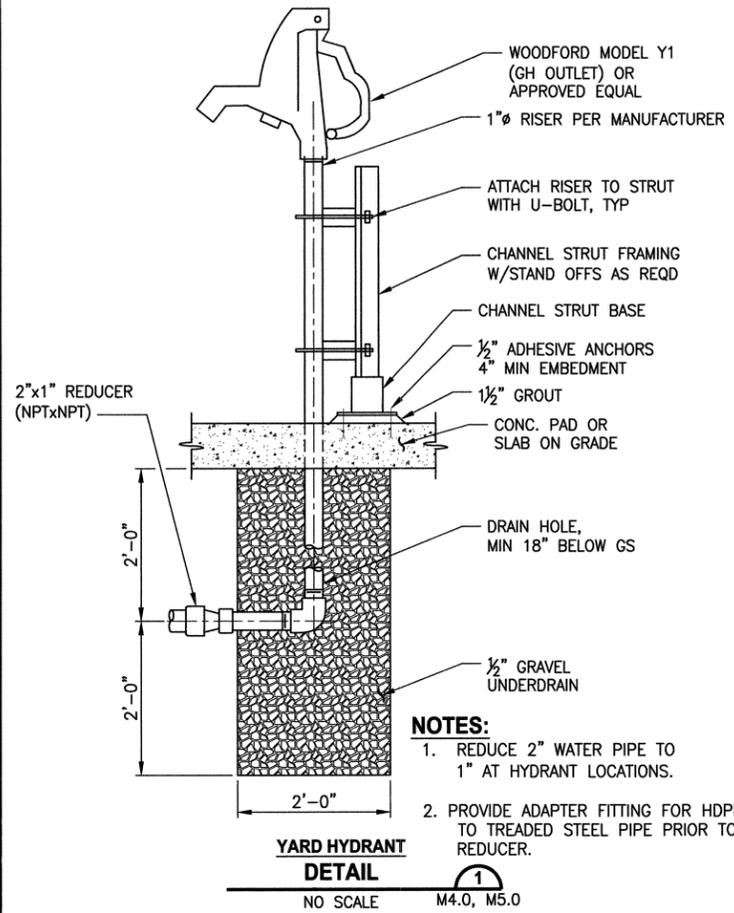
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PRETREATMENT FACILITY AND POND
 EPHRATA, WASHINGTON

DETAILS

DRAWING NO.
 21 OF 28
M8.0

LAYOUT: M9.0
 PATH: U:\PSO\Projects\Clients\1860-HellerEhrmanWhite\553-1860-012 PH7 MPE Pilot Study\985vca CAD\DWG
 PLOTTED BY: ceraljas DATE: Thursday, June 02, 2016 3:31:37 PM



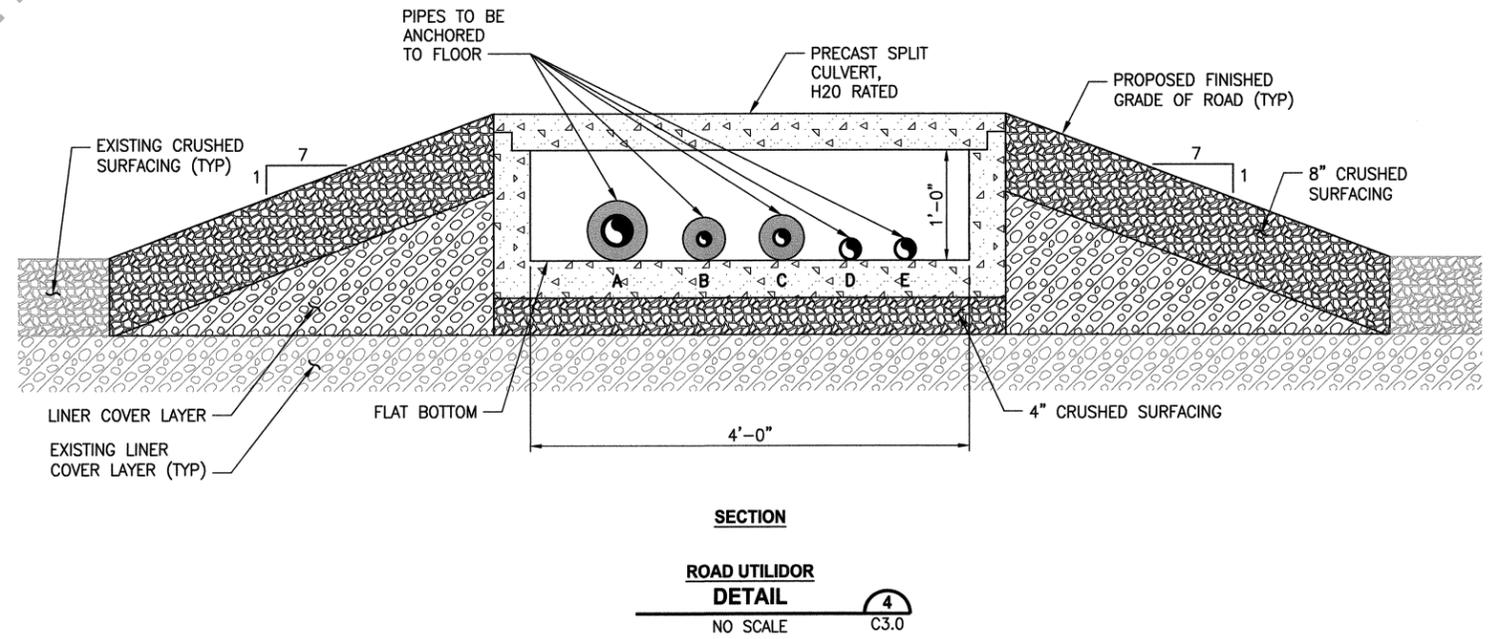
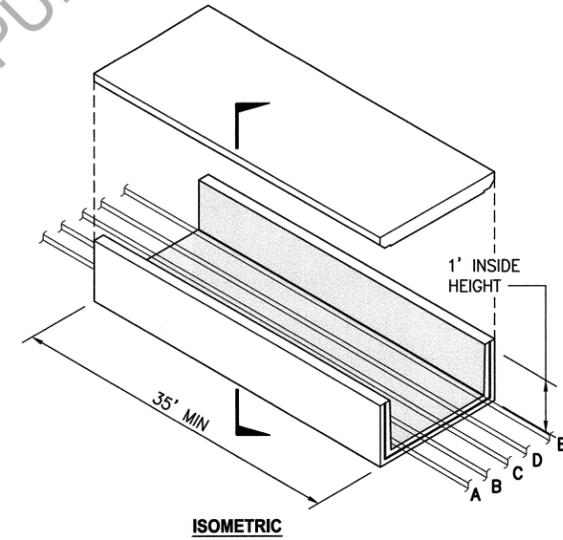
- NOTES:**
1. HOSE CAPACITY SHALL BE NO LESS THAN 150 FT AT 3/8" ID HOSE.
 2. ALL SUPPORTS AND FASTENERS SHALL GALVANIZED STEEL.

ROAD UTILIDOR NOTES:

1. ANCHOR WITH GALV PIPE CLAMP GUIDES, TOLCO B2400 OR EQUAL AT BOTH UTILIDOR ENDS OVERSIZED BY 1/2" RADIUS. ANCHOR WITH 1/2" SS CONCRETE ANCHORS, NUT AND LOCKWASHER, TYP.
2. PIPE CLAMPS SHALL BE GALVANIZED AND INSULATED. PROVIDE INSULATED FITTINGS WHERE IN CONTACT WITH PIPE OF DISSIMILAR MATERIAL.
3. COVER UTILIDOR END OPENINGS WITH SS ANIMAL SCREENS.
4. SIZE PIPE CLAMPS TO SECURE PIPES IN PLACE WHILE ALLOWING SOME IN-LINE MOVEMENT.

PIPE KEY

- A 3" SCH80 PVC SUCTION PIPE W/ HEAT TRACE AND 1/2" INSULATION
- B 1/4" SCH80 PVC GROUNDWATER PIPE W/ HEAT TRACE AND 1/2" INSULATION
- C 1/2" SCH40 CS COMPRESSED AIR W/ HEAT TRACE AND 1/2" INSULATION
- D 2" GALV RIGID CONDUIT (SPARE)
- E 2" GALV RIGID CONDUIT



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1 ISSUED FOR BID	6/2/16	BP	J. NEILSON
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 PRETREATMENT FACILITY AND POND**
 EPHRATA, WASHINGTON

DETAILS

DRAWING NO.
 22 OF 28
M9.0

LAYOUT: E1.0
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 PLOTTED BY: peterden DATE: Thursday, June 02, 2016 2:37:28 PM

ABBREVIATIONS			
a	CIRCUIT BREAKER AUX. CONTACT, CLOSED WHEN BREAKER IS CLOSED	FSH	FLOAT SWITCH HIGH
A	AMMETER, AMPERES	FSO	FLOAT SWITCH OVERFLOW
AC	ALTERNATING CURRENT	FU	FUSE
A/D	ANALOG TO DIGITAL	(F)	FUTURE FUT.
ADJ	ADJUSTABLE	FVNR	FULL VOLTAGE, NON REVERSING
AF	AMPERE FRAME	FVR	FULL VOLTAGE, REVERSING
AFD	ADJUSTABLE FREQUENCY DRIVE	FWD	FORWARD
AIC	AMPERES INTERRUPTING CAPACITY	GEN	GENERATOR
AMP	AMPERES	GFI	GROUND FAULT INTERRUPTER
ANN	ANNUNCIATOR	GND	GROUND
AS	AMMETER SWITCH	GRS	GALVANIZED RIGID STEEL
AT	AMPERE TRIP	O ₂ H ₂	HYDROGEN PEROXIDE
ATS	AUTOMATIC TRANSFER SWITCH	HH	HANDHOLE
AUTO	AUTOMATIC	HOA	HAND-OFF-AUTOMATIC
AWG	AMERICAN WIRE GAGE	HOR	HAND-OFF-REMOTE
b	CIRCUIT BREAKER AUX. CONTACT, CLOSED WHEN BREAKER IS OPEN	HPS	HIGH PRESSURE SODIUM
BCG	BARE COPPER GROUND	HT	HEAT TAPE, HEAT TRACE
C	CONDUIT	HTR	HEATER
CAB	CABINET	HV	HIGH VOLTAGE
CAP	CAPACITOR	HZ	HERTZ (CYCLES PER SECOND)
CB	CIRCUIT BREAKER	IND LT	INDICATING LIGHT
CC	CONTROL CABLE, CLOSING COIL	INCAND	INCANDESCENT
CDF	CONTROLLED DENSITY FILL	INSTR	INSTRUMENT
CHH	COMMUNICATION HANDHOLE	ISB	INTRINSICALLY SAFE BARRIER
CC	CLARIFIER CONSOLE	ISR	INTRINSICALLY SAFE RELAY
CKT	CIRCUIT	JB	JUNCTION BOX
CMH	COMMUNICATION MANHOLE	KA	KILOAMPERES
CO	CONDUIT ONLY	KCMIL	THOUSANDS OF CIRCULAR MILS
COMM	COMMUNICATION	KV	KILOVOLTS
COND	CONDUCTOR	KVA	KILOVOLT AMPERES
CPT	CONTROL POWER TRANSFORMER	KVAR	KILOVOLT AMPERES REACTIVE
CP	CONTROL PANEL	KVARH	KILOVOLT AMPERES REACTIVE HOURS
CR	CONTROL RELAY	KWH	KILOWATT HOURS
CS	CONTROL STATION	LCS	LOCAL CONTROL STATION
CT	CURRENT TRANSFORMER	LTG	LIGHTING
DB	DIRECT BURIAL	LTS	LIGHTS
DC	DIRECT CURRENT	LP	LIGHTING PANEL
DIAG	DIAGRAM	(M)	MODIFIED
DISC	DISCONNECT	MA	MILLIAMPERES
DISTR	DISTRIBUTION	MCC	MOTOR CONTROL CENTER
DIV	DIVISION	MCP	MOTOR CIRCUIT PROTECTION OR MAIN CONTROL PANEL
DP	DISTRIBUTION PANEL	MCM	THOUSAND CIRCULAR MILS (KCMIL)
DPDT	DOUBLE POLE, DOUBLE THROW	MON	MONITOR
DPST	DOUBLE POLE, SINGLE THROW	MOV	MOTOR OPERATED VALVE
(E)	EXISTING	MS	MOTOR STARTER
EE	ELECTRICAL ENCLOSURE	MTD	MOUNTED
EHH	ELECTRICAL HANDHOLE	MTG	MOUNTING
ELEM	ELEMENTARY	MTS	MANUAL TRANSFER SWITCH
EMERG	EMERGENCY	MV	MEDIUM VOLTAGE
ENCL	ENCLOSURE	(N)	NEW
EFFL	EFFLUENT	NC	NORMALLY CLOSED
EGC	EQUIPMENT GROUND CONDUCTOR	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOC.
EQPT	EQUIPMENT	NEUT	NEUTRAL
ETM	ELAPSED TIME METER	NO	NORMALLY OPEN, NUMBER
FDR	FEEDER	OL	OZONE CONTROL PANEL OVERLOAD
FE	FLOW ELEMENT	OT	OVER TEMPERATURE
FIT	FLOW INDICATING TRANSMITTER	OVL	THERMAL OVERLOAD RELAY
FLEX	FLEXIBLE		
FLUOR	FLUORESCENT		
FREQ	FREQUENCY		

GENERAL NOTES

G1 THE INSTALLATION OF ALL EQUIPMENT SHOWN ON THESE DRAWINGS OR DESCRIBED IN THE SPECIFICATIONS SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE LATEST EDITIONS OF ALL APPLICABLE CODES AND UTILITY COMPANY STANDARDS. CONTACT THE UTILITY COMPANY REPRESENTATIVES AND VERIFY THEIR REQUIREMENTS.

G2 THIS IS A GENERALIZED LEGEND SHEET. THIS CONTRACT MAY NOT USE ALL INFORMATION SHOWN.

G3 NOTIFY THE ENGINEER IMMEDIATELY IF CONFLICTS IN EQUIPMENT LOCATIONS ARE DISCOVERED OR IF PROBLEMS ARISE DUE TO FIELD CONDITIONS, LACK OF INFORMATION OR ANY OTHER REASON.

G4 INFORMATION SHOWN MAY NOT BE ALL INCLUSIVE. SEE ALSO ANSI C37.2, Y1.1, Y32.2, AND Y32.9.

G5 REFER TO THE MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF MECHANICAL EQUIPMENT AND FOR CERTAIN CONNECTIONS TO BE MADE TO ELECTRICAL CIRCUITS.

G6 EQUIPMENT SHOWN IN 1/2 TONE OR GREY TONE ARE EXISTING OR BY OTHERS.

G7 VERIFY ALL COLOR REQUIREMENTS BEFORE ORDERING MATERIALS.

PLAN SYMBOLS	
	OVERHEAD POWER LINE
	UNDERGROUND POWER
	UNDERGROUND DUCT LINE (CONC. ENCASEMENT)
	UNDERGROUND DIRECT BURIAL CONDUITS
	CONDUIT CONCEALED IN FLOOR, WALL OR CEILING
	EXPOSED CONDUIT
	CALLOUT INDICATING CONDUIT SIZE, NUMBER OF WIRES AND WIRE SIZE
	CALLOUT INDICATING CONDUIT PER SCHEDULE
	CONDUIT RUN, HATCH MARKS INDICATE NUMBER OF #12 CONDUCTORS, NO HATCH MARKS IS (2) #12 AND (1) #12 GND
	HOME RUN TO PANELBOARD OR AS INDICATED
	FLEXIBLE CONDUIT
	CONDUIT RUN, BROKEN AND CONTINUED SAME SHEET OR AS NOTED
	CONDUIT WITH SEAL FITTING
	CAP ON CONDUIT STUB
	OPEN CIRCLE DENOTES UPWARD CONDUIT RISER
	SOLID CIRCLE DENOTES DOWNWARD CONDUIT RISER
	INDICATES REMOVAL
	CABLE TRAY
	SURFACE MOUNTED PANELBOARD
	FLUSH MOUNTED PANELBOARD
	LOCAL CONTROL STATION
	CONTROL STATION W/SAFETY SWITCH (SEE NOTE P4)
	EQUIPMENT MOUNTING STAND
	MOTOR
	COMBINATION MOTOR STARTER AND SAFETY SWITCH (SEE NOTE P4)
	MANUAL MOTOR STARTER
	GROUND ROD AND BOX
	GROUNDING BRANCH CONNECTION
	CONDUIT NUMBER
	P-POWER C-CONTROL S-SIGNAL
	CONDUIT SIZE AND FILL SHALL BE AS INDICATED. WHERE NO SIZE IS SHOWN, THE CONDUIT SHALL BE SIZED IN ACCORDANCE WITH THE EDITION OF THE NATIONAL ELECTRICAL CODE ADOPTED BY THE AUTHORITY HAVING CODE ENFORCEMENT JURISDICTION. WHERE NO FILL IS INDICATED, PROVIDE (3) #12 WIRES. PROVIDE 3/16 INCH NYLON PULL ROPE IN EACH EMPTY CONDUIT.
	LOWER CASE LETTERS IN PARENTHESIS ADJACENT TO A SWITCH OR LIGHT FIXTURE INDICATE A SWITCHED CIRCUIT AND IDENTIFY THE FIXTURE/SWITCH COMBINATIONS. FOR FOUR LAMP FLUORESCENT FIXTURES WIRED IN PAIRS
	WITHIN EACH FIXTURE, THE "a" SWITCH CONTROLS THE OUTER LAMPS AND THE "b" SWITCH CONTROLS THE INNER LAMPS. WIRE 3 LAMP FIXTURES SIMILARLY.
	NUMBERS IN PARENTHESIS ADJACENT TO A LIGHT FIXTURE OR RECEPTACLE INDICATE THE LIGHTING PANEL BRANCH CIRCUIT FEEDING THE DEVICE.
	NUMBER INDICATES THE AMPERAGE RATING OF THE SWITCH. IDENTIFIERS IN PARENTHESIS INDICATE THAT THE SWITCH IS PROVIDED WITH FUSES AND THE AMPERAGE RATING OF THE FUSE(S).

PLAN SYMBOL NOTES

P1 CONDUIT SIZE AND FILL SHALL BE AS INDICATED. WHERE NO SIZE IS SHOWN, THE CONDUIT SHALL BE SIZED IN ACCORDANCE WITH THE EDITION OF THE NATIONAL ELECTRICAL CODE ADOPTED BY THE AUTHORITY HAVING CODE ENFORCEMENT JURISDICTION. WHERE NO FILL IS INDICATED, PROVIDE (3) #12 WIRES. PROVIDE 3/16 INCH NYLON PULL ROPE IN EACH EMPTY CONDUIT.

P2 LOWER CASE LETTERS IN PARENTHESIS ADJACENT TO A SWITCH OR LIGHT FIXTURE INDICATE A SWITCHED CIRCUIT AND IDENTIFY THE FIXTURE/SWITCH COMBINATIONS. FOR FOUR LAMP FLUORESCENT FIXTURES WIRED IN PAIRS

P3 NUMBERS IN PARENTHESIS ADJACENT TO A LIGHT FIXTURE OR RECEPTACLE INDICATE THE LIGHTING PANEL BRANCH CIRCUIT FEEDING THE DEVICE.

P4 NUMBER INDICATES THE AMPERAGE RATING OF THE SWITCH. IDENTIFIERS IN PARENTHESIS INDICATE THAT THE SWITCH IS PROVIDED WITH FUSES AND THE AMPERAGE RATING OF THE FUSE(S).

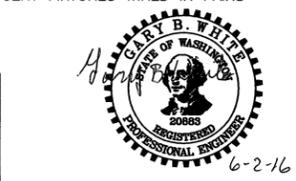
SINGLE LINE SYMBOLS	
	GROUND CONNECTION
	SWITCH, 3 POLE EXCEPT WHERE NOTED. RATING IN AMPERES AS NOTED (NOTE 1)
	TEST SWITCH WITH SHORTING BLOCK
	AUTOMATIC TRANSFER SWITCH 3 POLE, RATING AS NOTED
	SHUNT TRIP
	FUSE
	FUSE CUTOUT
	CIRCUIT BREAKER, 3 POLE EXCEPT WHERE NOTED. RATING IN AMPERES AS NOTED.
	POWER CIRCUIT BREAKER DRAWOUT ABOVE 1500V RATING AS NOTED
	SURGE ARRESTER
	CURRENT TRANSFORMER
	VOLTAGE TRANSFORMER
	POWER OR DISTRIBUTION TRANSFORMER RATING AS NOTED
	MOTOR. NUMBER INDICATES HORSEPOWER
	GENERATOR
	BUS STAB ON MCC OR SWITCHGEAR, CORD & PLUG CONNECTION FOR MOTORS
	THERMAL OVERLOAD
	*A - AMMETER
	V - VOLTMETER
	WH - WATTHOUR METER
	GS - GROUND FAULT SENSOR
	AMMETER SWITCH
	VOLTMETER SWITCH
	ELEMENTARY DIAGRAM NUMBER
	KIRK KEY INTERLOCK
	POWER RECEPTACLE FOR PORTABLE EQUIPMENT
	TERMINATOR/POTHEAD
	SPLICE, TERMINATION
	* MOTOR STARTER. NUMBER INDICATES NEMA SIZE (NONE) FULL VOLTAGE NONREVERSING A = AUTOTRANSFORMER REDUCED VOLTAGE -2S = TWO SPEED CAPACITOR - KVAR INDICATED
	VACUUM BREAK SWITCH
	VARIABLE FREQUENCY DRIVE
	CALLOUT INDICATING CONDUIT AND WIRE PER SCHEDULE
	SURGE PROTECTION DEVICE

LOOP WIRING/ELEMENTARY DIAGRAM SYMBOLS			
	FUSE. RATING IN AMPERES MOTOR		BUS STAB ON MCC, CORD & PLUG CONNECTION FOR MOTORS
	ELAPSED TIME METER		THERMAL OVERLOAD
	CONTROL DEVICE COIL NUMBER, WHEN USED, DISTINGUISHES BETWEEN DEVICES OF THE SAME TYPE.		BELL
	CIRCUIT BREAKER		SOLENOID VALVE
SENSING SWITCHES			
CLOSE ON		SENSED VARIABLE	
RISING	FALLING		
		FLOW	
		PRESSURE	
LIMIT SWITCHES			
	CLOSE ON REACHING LIMIT		
	CLOSE ON LEAVING LIMIT		
TIMED CONTACTS			
SYMBOL	NORMAL	OPEN TO CLOSED	CLOSED TO OPEN
	OPEN	DELAYED	INSTANTANEOUS
	CLOSED	INSTANTANEOUS	DELAYED
	OPEN	INSTANTANEOUS	DELAYED
	CLOSED	DELAYED	INSTANTANEOUS
ELEMENTARY DIAGRAMS			
E1 "NORMAL" STATUS OF SWITCHES OR CONTACTS IS THE SHELF POSITION.			
E2 NUMBERS AND LETTERS IDENTIFY DEVICE.			
	REACTOR		
	CONTACT		
	WIRING INSIDE ENCLOSURE		
	FIELD WIRING		
	MOTOR HEATER		
FIRE ALARM			
	FIRE ALARM CONTROL PANEL		
	HORN AND STROBE		
	MANUAL PULL STATION		
	COMBINATION SMOKE/HEAT DETECTOR		

REVISIONS	DATE	BY	DESIGNED
1 ISSUED FOR BID	6/2/16	BP	G. WHITE
			D. PETERSON
			O. AGUSTSSON
			B. PIPPIN

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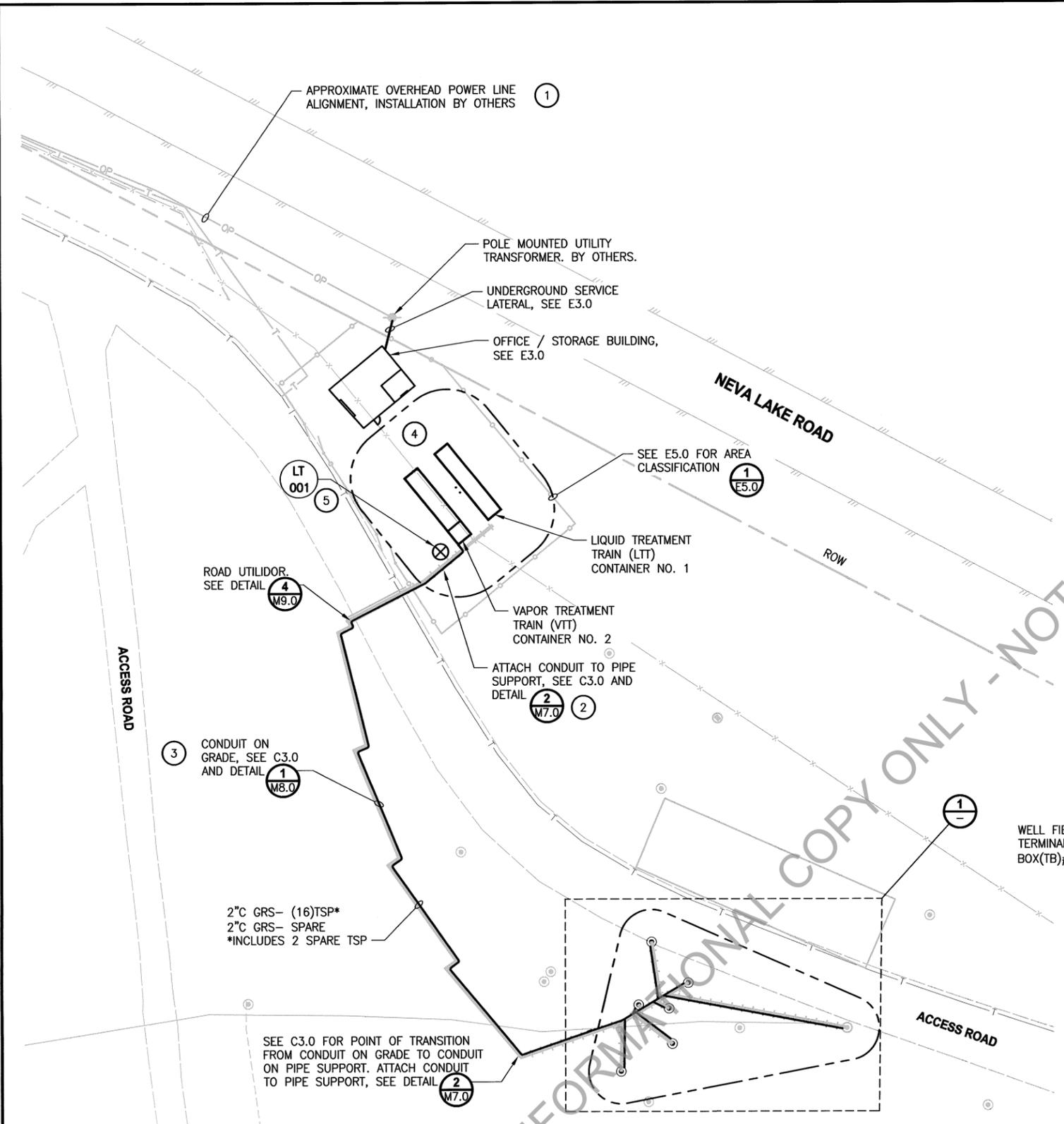
PROJECT NAME
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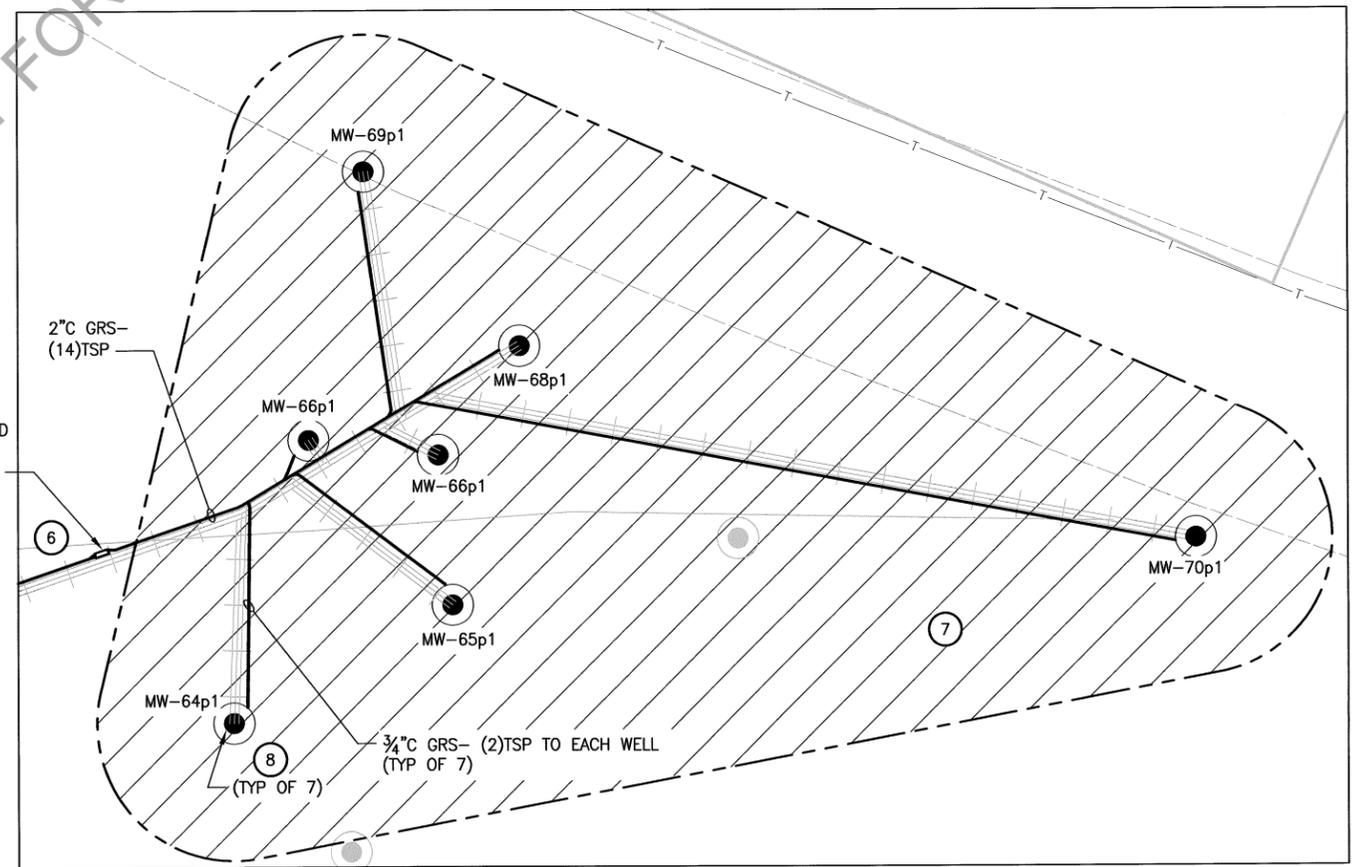
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 23 OF 28

E1.0

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- NOTES:**
- SEE SHEET C2.0 FOR PROPOSED OVERHEAD POWER LINE EXTENSION WHICH WILL BE PROVIDED BY OTHERS.
 - MAINTAIN CONDUIT HEIGHT ABOVE CLASSIFIED SPACE.
 - PROVIDE PULL POINTS FOR EACH CONDUIT AT 270 DEGREE INTERVALS (MAXIMUM) AND NO MORE THAN 200 FEET APART.
 - WHERE POSSIBLE, AVOID ROUTING CONDUITS BETWEEN BUILDING AND VTT BENEATH FOUNDATION STRUCTURES. SEE E3.0 AND E5.0, DETAIL A FOR MORE INFORMATION REGARDING THESE CIRCUITS.
 - REFERENCE DRAWING M6.0, DETAIL 4. PROVIDE A 12" X 12" X 6" DEEP NEMA 4 TERMINAL BOX EQUIPPED WITH A BACKPANEL AND A MINIMUM OF 10 TERMINALS SUITABLE FOR TERMINATING TWISTED SHIELDED PAIR INSTRUMENTATION CABLE. MOUNT TERMINAL BOX TO THE PIPE SUPPORT STRUCTURE USING FRAMING CHANNEL. LOCATE THE TERMINAL BOX APPROXIMATELY 36" TO 60" ABOVE GRADE, OUTSIDE THE CLASSIFIED SPACE AND AS CLOSE AS POSSIBLE TO WHERE LT001 CABLE EMERGES FROM BLIND FLANGE ON CONDENSATE SUMP. PROVIDE WEATHERPROOF STAINLESS STEEL CORD GRIP ASSEMBLY AT TERMINAL BOX TO RECEIVE LT001 CABLE. PROVIDE 3/4" GRS CONDUIT WITH (1) TSP CABLE BETWEEN TERMINAL BOX AND MAIN CONTROL PANEL IN VTT. INCLUDE NOTIFICATION OF "INTRINSICALLY SAFE" DUTY ON TERMINAL BOX LABELING.
 - PROVIDE AN 18" X 18" X 6" DEEP NEMA 4 TERMINAL BOX EQUIPPED WITH A BACKPANEL AND A MINIMUM OF 50 TERMINALS SUITABLE FOR TERMINATING TWISTED SHIELDED PAIR INSTRUMENTATION CABLE. MOUNT TERMINAL BOX TO THE PIPE SUPPORT STRUCTURE USING FRAMING CHANNEL. LOCATE THE TERMINAL BOX APPROXIMATELY 36" TO 60" ABOVE GRADE AND IMMEDIATELY OUTSIDE THE CLASSIFIED SPACE. CONDUIT ENTRY INTO THE TERMINAL BOX SHALL BE PROVIDED BY BOTTOM ENTRY FLEX CONNECTIONS INCLUDING THE INSTRUMENTATION CONDUIT COMING FROM VTT CONTAINER NO. 2 AND GOING TO THE WELL HEADS. CAP SPARE CONDUIT FROM VTT CONTAINER NO. 2 OUTSIDE THE TERMINAL BOX. PROVIDE CONDUIT SEAL AT BOUNDARY OF CLASSIFIED AREA FOR CONDUIT(S) ENTERING CLASSIFIED AREA. INCLUDE NOTIFICATION OF "INTRINSICALLY SAFE" DUTY ON TERMINAL BOX LABELING. TERMINATE ALL CABLE INCLUDING SPARE TSP.
 - AREAS LOCATED WITHIN 15 FEET (ANY DIRECTION) OF THE SEVEN WELL HEADS SHOWN IN DETAIL 1 AND/OR WITHIN HATCHED AREAS ARE CLASSIFIED AS CLASS 1, DIVISION 2, GROUP D, TEMPERATURE CLASS T2. PROVIDE CONDUIT SEALS WHERE REQUIRED BY NFPA (NEC) 70.
 - REFERENCE DRAWING M6.0, DETAILS 1 AND 2. PROVIDE A 12" X 12" X 6" DEEP NEMA 4 TERMINAL BOX EQUIPPED WITH A BACKPANEL AND A MINIMUM OF 10 TERMINALS SUITABLE FOR TERMINATING TWISTED SHIELDED PAIR INSTRUMENTATION CABLE. MOUNT TERMINAL BOX TO THE PIPE SUPPORT STRUCTURE USING FRAMING CHANNEL. LOCATE THE TERMINAL BOX APPROXIMATELY 36" TO 60" ABOVE GRADE AND AS CLOSE AS POSSIBLE TO THE WELL HEAD. PROVIDE WEATHERPROOF STAINLESS STEEL CORD GRIP ASSEMBLY AT TERMINAL BOX TO RECEIVE CABLE FROM SUBMERSIBLE WELL LEVEL TRANSMITTER (LT). INCLUDE NOTIFICATION OF "INTRINSICALLY SAFE" DUTY ON TERMINAL BOX LABELING. PROVIDE BOTTOM ENTRY FOR CONDUIT FROM THE PRESSURE TRANSDUCER (PT) AND CONDUIT TO THE WELL FIELD TB #1. LABEL TERMINAL BOX WITH WELL #.



NO.	REVISIONS	DATE	BY	DESIGNED
1	ISSUED FOR BID	6/2/16	BP	G. WHITE
				K. TAYLOR
				O. AGUSTSSON
				B. PIPPIN

ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY.
 FILE NAME: PS1860012-E2.0
 JOB No.: 553-1860-012 (01/01)
 DATE: JUNE 2016



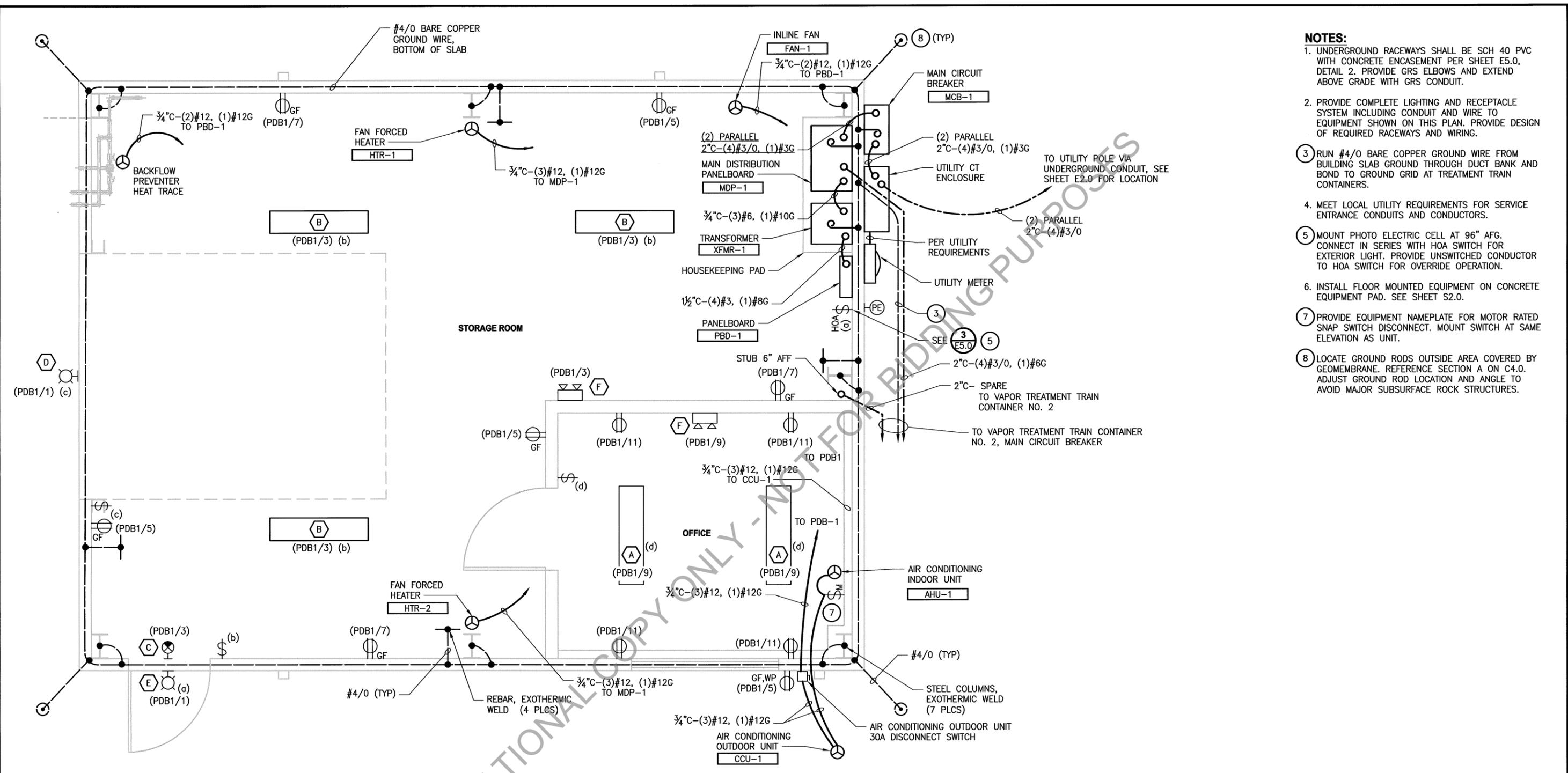
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PROJECT NAME
**EPHRATA LANDFILL
 MPE PILOT STUDY
 PRETREATMENT FACILITY AND POND**
 EPHRATA, WASHINGTON

**PRETREATMENT BUILDING
 ELECTRICAL SITE PLAN**

DRAWING NO.
 24 OF 28
E2.0

LAYOUT: E3.0
 PATH: U:\VSO\Projects\Clients\B80-HellerEhmanWhite\B80-012 PH7 MPE Pilot Study\99Specs\CADD\DWG
 PLOTTED BY: peterden DATE: Thursday, June 02, 2016 2:40:11 PM



- NOTES:**
- UNDERGROUND RACEWAYS SHALL BE SCH 40 PVC WITH CONCRETE ENCASUREMENT PER SHEET E5.0, DETAIL 2. PROVIDE GRS ELBOWS AND EXTEND ABOVE GRADE WITH GRS CONDUIT.
 - PROVIDE COMPLETE LIGHTING AND RECEPTACLE SYSTEM INCLUDING CONDUIT AND WIRE TO EQUIPMENT SHOWN ON THIS PLAN. PROVIDE DESIGN OF REQUIRED RACEWAYS AND WIRING.
 - RUN #4/0 BARE COPPER GROUND WIRE FROM BUILDING SLAB GROUND THROUGH DUCT BANK AND BOND TO GROUND GRID AT TREATMENT TRAIN CONTAINERS.
 - MEET LOCAL UTILITY REQUIREMENTS FOR SERVICE ENTRANCE CONDUITS AND CONDUCTORS.
 - MOUNT PHOTO ELECTRIC CELL AT 96" AFG. CONNECT IN SERIES WITH HOA SWITCH FOR EXTERIOR LIGHT. PROVIDE UNSWITCHED CONDUCTOR TO HOA SWITCH FOR OVERRIDE OPERATION.
 - INSTALL FLOOR MOUNTED EQUIPMENT ON CONCRETE EQUIPMENT PAD. SEE SHEET S2.0.
 - PROVIDE EQUIPMENT NAMEPLATE FOR MOTOR RATED SNAP SWITCH DISCONNECT. MOUNT SWITCH AT SAME ELEVATION AS UNIT.
 - LOCATE GROUND RODS OUTSIDE AREA COVERED BY GEOMEMBRANE. REFERENCE SECTION A ON C4.0. ADJUST GROUND ROD LOCATION AND ANGLE TO AVOID MAJOR SUBSURFACE ROCK STRUCTURES.

PLAN
 SCALE: 1/2"=1'-0"

LIGHTING FIXTURE SCHEDULE					
NO.	VOLTS	INPUT WATTS	LAMPS	MOUNT	REMARKS
A	120	39	LED	SURFACE MOUNT TO CEILING	4' LED WRAPAROUND, 4542 LUMEN, 3500K
B	120	100	LED	CHAIN MOUNT AT 13' AFF	4' LED, 9000 LUMEN, WIDE DISTRIBUTION, SEMI-DIFFUSE ACRYLIC LENS, 4000K, HANGER CHAIN
C	120	4	LED	WALL SURFACE AT 8' AFF	THERMOPLASTIC COMBINATION EXIT, STENCIL FACE, LED, GREEN, BATTERY BACKUP
D	120	13	LED	WALL SURFACE AT 9' AFF	EXTERIOR WALLPACK, 548 LUMEN, 4000K, DARK SKY COMPLIANT, BRONZE FINISH
E	120	30	LED	WALL SURFACE AT 14' AFF	EXTERIOR WALLPACK, 2662 LUMEN, 4000K, DARK SKY COMPLIANT, BRONZE FINISH
F	120	2	LED	WALL SURFACE AT 7'-6" AFF	THERMOPLASTIC EMERGENCY LIGHT, LED, TWO HEAD

REVISIONS	DATE	BY	DESIGNED
1 ISSUED FOR BID	6/2/16	BP	G. WHITE
			D. PETERSON
			O. AGUSTSSON
			B. PIPPIN

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 JOB No.: 583-1860-012 (01/01)
 DATE: JUNE 2016



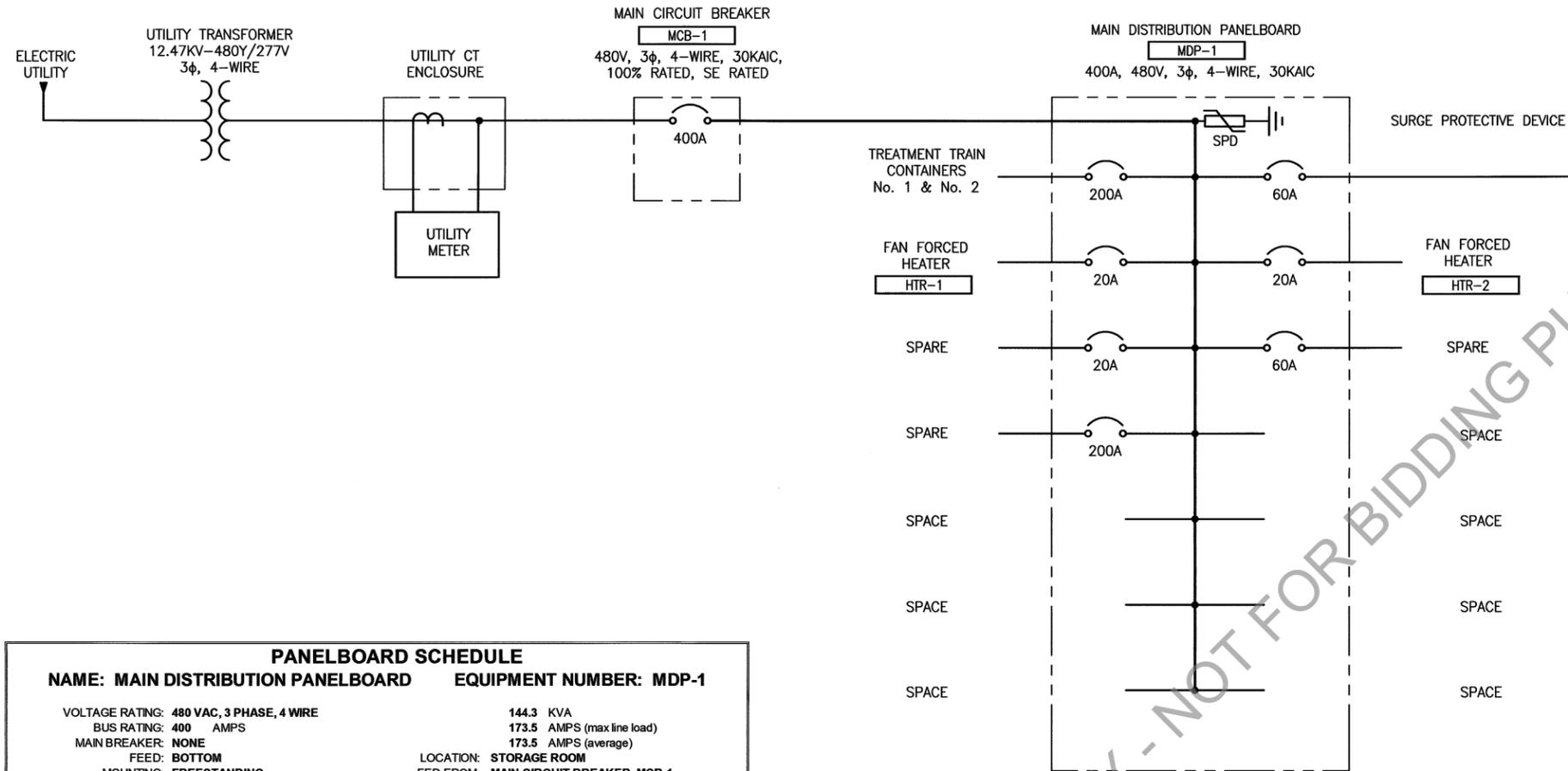
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PROJECT NAME
**EPHRATA LANDFILL
 MPE PILOT STUDY
 PRETREATMENT FACILITY AND POND**
 EPHRATA, WASHINGTON

**OFFICE / STORAGE BUILDING
 ELECTRICAL PLAN**

DRAWING NO.
 25 OF 28
E3.0

NOTES:
 1 PROVIDE EQUIPMENT GROUND FAULT PROTECTION PER HEAT TRACE MANUFACTURER AND NEC REQUIREMENTS.



PANELBOARD SCHEDULE
NAME: MAIN DISTRIBUTION PANELBOARD **EQUIPMENT NUMBER: MDP-1**

VOLTAGE RATING: 480 VAC, 3 PHASE, 4 WIRE 144.3 KVA
 BUS RATING: 400 AMPS 173.5 AMPS (max line load)
 MAIN BREAKER: NONE 173.5 AMPS (average)
 FEED: BOTTOM LOCATION: STORAGE ROOM
 MOUNTING: FREESTANDING FED FROM: MAIN CIRCUIT BREAKER, MCB-1
 SPECIAL FEATURES: 30 KAIC

LOAD TYPE	CIRCUIT DESCRIPTION	VA	CKT	BRKR	L1 L2 L3	BRKR	CKT	VA	CIRCUIT DESCRIPTION	LOAD TYPE
X	Treatment Train Containers No. 1 and no. 2	32,000	1	200 / 3	-A- -B- -C-	60 / 3	2	10,000	PBD-1 (VIA XFMR-1)	X
X		32,000	3				4	10,000		X
X		32,000	5				6	10,000		X
H	Fan Forced Heater HTR-1	3,046	7	20 / 3	-A- -B- -C-	20 / 3	8	3,046	Fan Forced Heater HTR-2	H
H		3,046	9				10	3,046		H
H		3,046	11				12	3,046		H
	Spare		13	20 / 3	-A- -B- -C-	60 / 3	14		Spare	
			15				16			
			17				18			
	Spare		19	200 / 3	-A- -B- -C-	1 / 3	20		Space	
			21				22			
			23				24			
	Space		25	1 / 3	-A- -B- -C-	1 / 3	26		Space	
			27				28			
			29				30			
	Space		31	1 / 3	-A- -B- -C-	1 / 3	32		Space	
			33				34			
			35				36			
	Space		37	1 / 3	-A- -B- -C-	1 / 3	38		Space	
			39				40			
			41				42			
LINE LOADS:		48.1 KVA(L1)	48.1 KVA(L2)	48.1 KVA(L3)						
TOTAL LOAD =		144.3 KVA	=	173.5 Amps Average						

LOAD CALCULATION:

	CONNECTED VA	METHOD	NEC DEMAND	CALC. VA
TOTAL LIGHTING (L) LOAD:	L 0	ALL @	100%	0
TOTAL RECEPTACLE (R) LOAD:	R 0	FIRST 10KVA @	100%	0
		REMAINDER OVER 10KVA	50%	0
TOTAL MOTOR (M) LOAD:	M 0	ALL @	100%	0
	LM 0	125% OF LARGEST	125%	0
TOTAL HVAC (H) LOAD:	H 18276	ALL @	100%	18276
TOTAL MISCELLANEOUS (X) LOAD:	X 128000	ALL @	100%	128000
TOTAL VA:	144276 VA			144276 VA
AVERAGE AMPS @	174 AMPS			174 AMPS
VOLTAGE PHASE TO PHASE=	480			

PANELBOARD SCHEDULE
NAME: PANELBOARD **EQUIPMENT NUMBER: PBD-1**

VOLTAGE RATING: 208Y/120 VOLTS, 3 PHASE, 4 WIRE 6.7 KVA
 BUS RATING: 100 AMPS 19.7 AMPS (max line load)
 MAIN BREAKER: 100 AMPS 18.5 AMPS (average)
 FEED: BOTTOM LOCATION: STORAGE ROOM
 MOUNTING: SURFACE FED FROM: MDP-1 (VIA XFMR-1)
 SPECIAL FEATURES: 10 KAIC

LOAD TYPE	CIRCUIT DESCRIPTION	VA	CKT	BRKR	L1 L2 L3	BRKR	CKT	VA	CIRCUIT DESCRIPTION	LOAD TYPE
L	Lights, Exterior	43	1	20 / 1	-A-	20 / 2	2	1,779	Air Conditioner, CCU-1	H
L	Lights, Storage Room; EXIT	204	3	20 / 1	-B-	20 / 1	4	1,779		H
R	RCPT, Storage Room & Exterior	720	5	20 / 1	-C-	20 / 1	6		Spare	
R	RCPT, Storage Room	540	7	20 / 1	-A-	20 / 1	8		Spare	
L	Lights, Office	168	9	20 / 1	-B-	20 / 1	10	100	Back Flow Preventer	X
R	RCPT, Office	720	11	20 / 1	-C-	20 / 1	12	600	Fan, Storage Room, FAN-1	H
	Spare		13	20 / 1	-A-	20 / 1	14		Spare	
	Spare		15	20 / 1	-B-	20 / 1	16		Spare	
	Spare		17	20 / 1	-C-	20 / 1	18		Spare	
	Space		19	1 / 1	-A-	1 / 1	20		Space	
	Space		21	1 / 1	-B-	1 / 1	22		Space	
	Space		23	1 / 1	-C-	1 / 1	24		Space	
	Space		25	1 / 1	-A-	1 / 1	26		Space	
	Space		27	1 / 1	-B-	1 / 1	28		Space	
	Space		29	1 / 1	-C-	1 / 1	30		Space	
	Space		31	1 / 1	-A-	1 / 1	32		Space	
	Space		33	1 / 1	-B-	1 / 1	34		Space	
	Space		35	1 / 1	-C-	1 / 1	36		Space	
	Space		37	1 / 1	-A-	1 / 1	38		Space	
	Space		39	1 / 1	-B-	1 / 1	40		Space	
	Space		41	1 / 1	-C-	1 / 1	42		Space	
LINE LOADS:		2,362 VA(L1)	2,251 VA(L2)	2,040 VA(L3)						
TOTAL LOAD =		6.65 KVA	=	18.5 Amps Average						

LOAD CALCULATION:

	CONNECTED VA	METHOD	NEC DEMAND	CALC. VA
TOTAL LIGHTING (L) LOAD:	L 415	ALL @	100%	415
TOTAL RECEPTACLE (R) LOAD:	R 1980	FIRST 10KVA @	100%	1980
		REMAINDER OVER 10KVA	50%	0
TOTAL MOTOR (M) LOAD:	M 0	ALL @	100%	0
	LM 0	125% OF LARGEST	125%	0
TOTAL HVAC (H) LOAD:	H 4158	ALL @	100%	4158
TOTAL MISCELLANEOUS (X) LOAD:	X 100	ALL @	100%	100
TOTAL VA:	8653 VA			8653 VA
AVERAGE AMPS @	18 AMPS			18 AMPS
VOLTAGE PHASE TO PHASE=	208			

LAYOUT: E4.0 PATH: U:\PSO\Projects\Clients\1860-Heller\Heller\White\553-1860-012-PH7 MPE Pilot Study\995sca\CADD\DWG PLOTTED BY: peterden DATE: Thursday, June 02, 2016 2:41:12 PM

REVISIONS	DATE	BY	DESIGNED
1 ISSUED FOR BID	6/2/16	BP	G. WHITE
			D. PETERSON
			O. AGUSTSSON
			B. PIPPIN

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 JOB NO: 553-1860-012 (01/01)
 DATE: JUNE 2016



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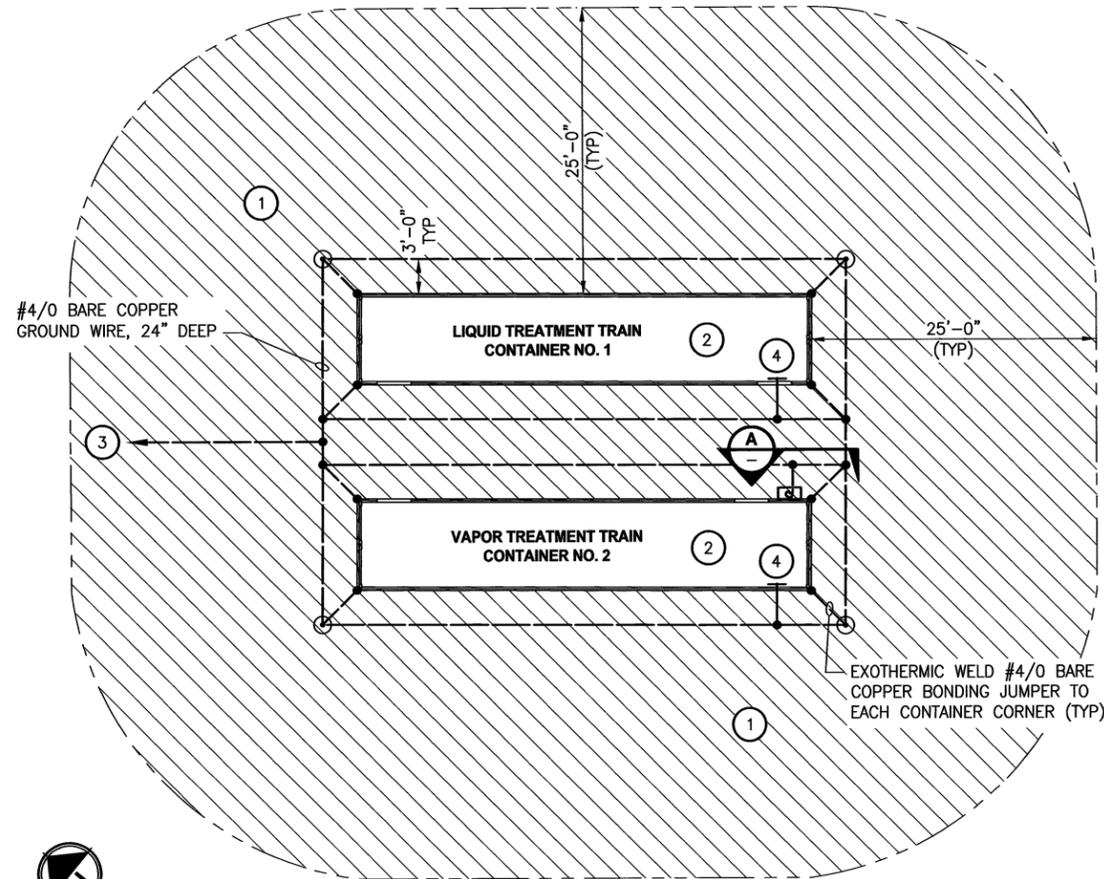
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 MPE PILOT STUDY
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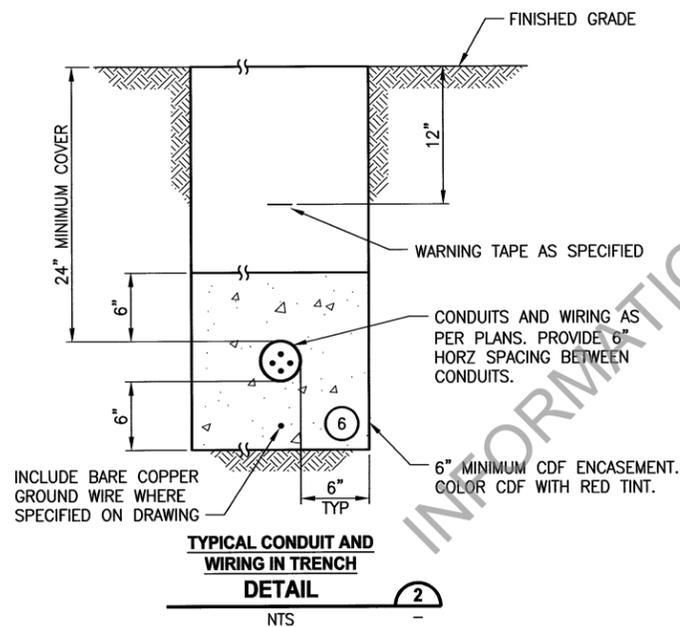
**ELECTRICAL ONE-LINE
 DIAGRAM**

DRAWING NO.
 26 OF 28
E4.0

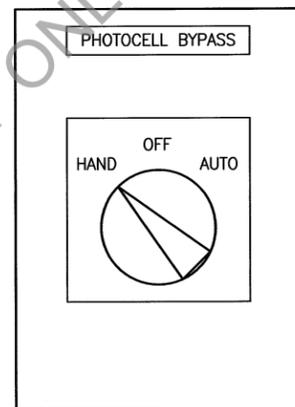
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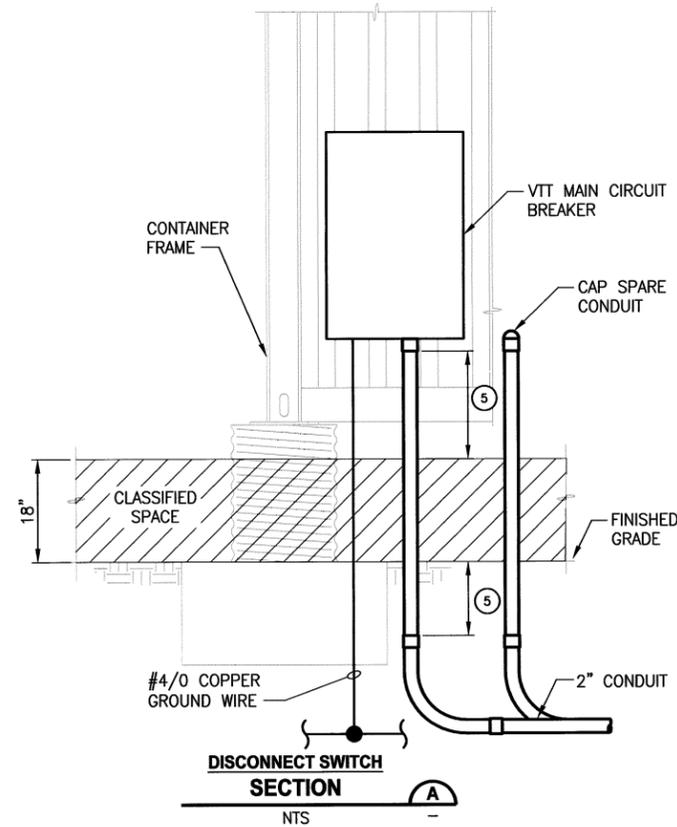
CLASSIFICATION AND GROUNDING PLAN DETAIL
 1/8"=1'-0" E2.0



TYPICAL CONDUIT AND WIRING IN TRENCH DETAIL
 NTS



PHOTOCELL BYPASS DETAIL
 NTS E3.0



DISCONNECT SWITCH SECTION
 NTS

NOTES:

- 1 HATCHED AREAS ARE CLASSIFIED AS: CLASS I, DIVISION 2, GROUP D, TEMPERATURE CLASS T2 FROM GRADE TO A VERTICAL DISTANCE 18 INCHES ABOVE GRADE.
- 2 THE SPACE WITHIN THE TREATMENT ENCLOSURES IS CLASSIFIED. SEE SECTION 02 62 16 AND SECTION 43 31 10 FOR SPECIFIC AREA CLASSIFICATION.
- 3 RUN #4/0 BARE COPPER GROUND WIRE TO OFFICE / STORAGE BUILDING VIA DUCT BANK TO PANEL BOARD MDP-1. BOND TO BUILDING SLAB GROUND WIRE, SEE SHEET E3.0.
- 4 PROVIDE 2" WIDE x 1/4" THICK x 18" LONG COPPER GROUND BUS IN EACH CONTAINER. BOND GROUND BUS TO BURIED GROUND RING WITH #4/0 BARE COPPER GROUND WIRE.
- 5 CONDUIT COUPLINGS, CAPS OR JOINTS MUST BE LOCATED A MINIMUM OF 15" FROM CONFINED SPACE BOUNDARY.
- 6 ADJUST TRENCH DEPTH TO REMAIN ABOVE GEOMEMBRANE. EXTEND CDF ENCASEMENT TO SURFACE WHERE CONDUIT EMERGES FROM GROUND.



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 PRETREATMENT FACILITY AND POND
 EPHRATA, WASHINGTON

ELECTRICAL DETAILS

DRAWING NO.
 27 OF 28
E5.0

REVISIONS	DATE	BY	DESIGNED
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