



RECORD DRAWING
 THIS IS A CONSTRUCTION RECORD DRAWING BASED ON INFORMATION SUPPLIED BY THE CONTRACTOR TO MEAD & HUNT. MEAD & HUNT, INC. ASSUMES NO LIABILITY FOR ACCURACY OF THE INFORMATION SUPPLIED.



BORDER SIZE	22"x34"
DESIGNED	AMB
DRAWN	SOB
CHECKED	KDN/SAS
APPROVED	TSG
NO.	01
ADDENDUM NO.	04
DESCRIPTION	ISSUED FOR CONSTRUCTION
DATE	06/04/2021
	07/14/2021

Mead & Hunt
 Mead and Hunt, Inc.
 411 1st Avenue South
 Suite 610
 Seattle, WA 98104
 phone: 888-364-7272
 meadhunt.com

PANGBORN MEMORIAL AIRPORT
 TERMINAL APRON RECONSTRUCTION
 DRAINAGE STRUCTURE AND PIPE TABLE

ATTENTION:
 0 1/2 1
 IF THIS BAR DOES NOT MEASURE
 1" ON 22x34 SHEET or 1/2" ON
 11x17 SHEET, THEN DRAWING IS
 NOT TO SCALE

DATE: JANUARY 2024
 PROJECT: 1622900-210084.01
 SHEET:
44 OF 66

STORM DRAIN STRUCTURE TABLE						
Structure #	Type	Detail Reference	Northing	Easting	RIM	Notes
S0	FES	2/SHEET 47	148433.28	1794243.88	1216.50	FLARED END SECTION, 12"
S1	CATCH BASIN	4/SHEET 45	148411.67	1794265.84	1223.47	HS-20 RATED
S3	CPS OWS	1/SHEET 47	148395.27	1794282.54	1223.93	COALESCING PLATE SEPARATOR, H-20 RATED
S4	CATCH BASIN	4/SHEET 45	148323.74	1794357.67	1222.76	AIRCRAFT RATED
S5	INLET	1/SHEET 45	148332.43	1794366.19	1222.76	AIRCRAFT RATED
S6	CATCH BASIN	4/SHEET 45	148113.27	1794571.37	1223.67	AIRCRAFT RATED
S7	INLET	1/SHEET 45	148122.94	1794579.07	1223.65	AIRCRAFT RATED
S8	CATCH BASIN	4/SHEET 45	148029.08	1794656.98	1223.65	AIRCRAFT RATED
S9	INLET	1/SHEET 45	148038.74	1794664.58	1223.65	AIRCRAFT RATED
S10	CATCH BASIN	4/SHEET 45	148444.85	1794298.75	1222.79	HS-20 RATED
S11	CATCH BASIN	4/SHEET 45	148234.23	1794511.65	1223.24	HS-20 RATED
S12	FES	2/SHEET 47	147843.36	1794720.92	1223.27	FLARED END SECTION, 8"
S13	FES	2/SHEET 47	147796.04	1794768.96	1226.48	FLARED END SECTION, 8"
S14	BUTTERFLY VALVE		148333.65	1794363.75	1222.79	12" BUTTERFLY VALVE WITH AIRCRAFT RATED COVER
S15	BUTTERFLY VALVE		148330.99	1794363.42	1222.80	12" BUTTERFLY VALVE WITH AIRCRAFT RATED COVER
EX SSMH T04	EXISTING MANHOLE	N/A	148439.09	1794384.98	1223.84	EXISTING MANHOLE, INVERT 1214.45
S2 VALVE 1	VALVE	N/A	148406.18	1794271.57	1223.24	TOP CENTER VALVE BOX TO INFILTRATION TRENCH 1
S2 VALVE 2	VALVE	N/A	148403.79	1794271.58	1223.24	TOP CENTER VALVE BOX TO GLYCOL TANK
GLYCOL 1	36" ACCESS MANHOLE	2/SHEET 49	148341.13	1794268.94	1223.29	TOP CENTER HATCH
GLYCOL 2	36" ACCESS MANHOLE	2/SHEET 49	148349.94	1794259.69	1223.47	TOP CENTER HATCH

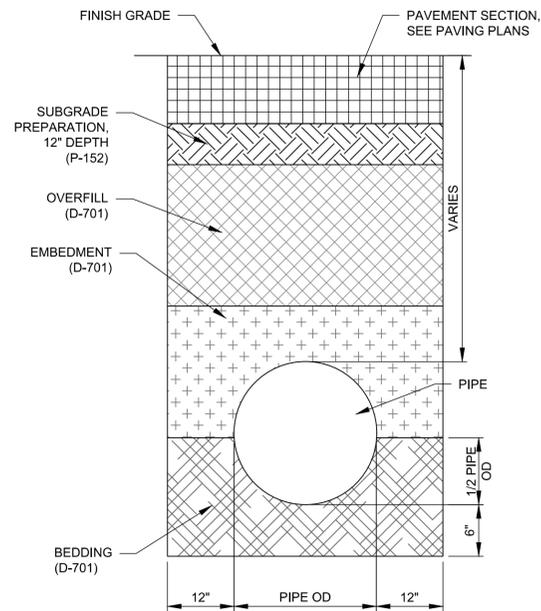
PIPE TABLE								
Pipe #	Type	Size	Length	Slope	US Structure	US Invert	DS Structure	DS Invert
TD1A	Trench Drain	8" MIN	87	0.68%	N/A	1221.98	S9	1221.39
TD1B	Trench Drain	8" MIN	87	0.68%	N/A	1221.98	S7	1221.39
TD2	Trench Drain	8" MIN	117	0.60%	N/A	1222.08	S5	1221.37
P1	C-900 PVC	12"	30	0.30%	S1	1216.47	S0	1216.38
P2A	C-900 PVC	12"	10	0.50%	S2	1218.25	S1	1218.20
P2B	C-900 PVC	12"	18	0.50%	S2	1218.25	GLYCOL TANK	1215.65
P3	C-900 PVC	12"	6	0.40%	S3	1218.28	S2	1218.25
P4	RCP	12"	91	0.40%	S4	1218.97	S3	1218.61
P5	C-900 PVC	12"	14	0.40%	S5	1219.75	S4	1219.69
P6	RCP	12"	300	0.40%	S6	1220.17	S4	1218.97
P7	RCP	12"	14	0.40%	S7	1220.65	S6	1220.59
P8	RCP	12"	120	0.35%	S8	1220.59	S6	1220.17
P9	RCP	12"	14	0.40%	S9	1220.65	S8	1220.59
P10*	C-900 PVC	8"	47	0.30%	S10	1216.61	S1	1216.47
P11*	C-900 PVC	8"	313	0.30%	S11	1217.55	S10	1216.61
P12	C-900 PVC	12"	50	0.40%	S5	1219.75	CAPPED	1219.55
P13	C-900 PVC	8"	65	4.94%	S13	1226.48	S12	1223.27
FM	HDPE DR11	3"	71	0.35%	VALVE VAULT	1219.50	EXMH	1219.75
P15	HDPE	12"			GLYCOL TANK	1207.33	WET WELL	1207.16

*Estimated inverts, field verify

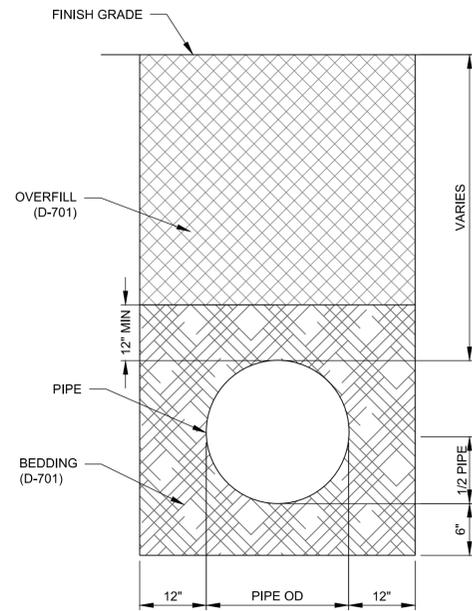
1 DRAINAGE STRUCTURE AND PIPE TABLE
 NO SCALE

RECORD DRAWING

THIS IS A CONSTRUCTION RECORD DRAWING BASED ON INFORMATION SUPPLIED BY THE CONTRACTOR TO MEAD & HUNT. MEAD & HUNT, INC. ASSUMES NO LIABILITY FOR ACCURACY OF THE INFORMATION SUPPLIED.



3 STORM DRAIN RCP TRENCH IN PAVED AREA
NTS



2 PVC/HDPE PIPE TRENCH IN NON-PAVED AREA
NTS

- STORM STRUCTURE NOTES:**
- ALL CONCRETE TO HAVE 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
 - ALL STEEL REINFORCING TO BE GRADE 60. TYPICAL REINFORCING SIZES AND LAYOUTS SHOWN SHALL BE VERIFIED OR MODIFIED BY INLET STRUCTURE DESIGN.
 - STRUCTURES SHALL BE DESIGNED TO SUPPORT AIRCRAFT LOADING UNLESS OTHERWISE NOTED. STRUCTURES REQUIRED TO BE AIRCRAFT-RATED SHALL SUPPORT 100,000-LB AIRCRAFT WHEEL LOADS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS STAMPED BY A REGISTERED WASHINGTON ENGINEER TO ENGINEER FOR APPROVAL.
 - CASTINGS SHALL BE DESIGNED TO SUPPORT AIRCRAFT LOADING UNLESS OTHERWISE NOTED. CASTINGS FOR AIRCRAFT-RATED STRUCTURES SHALL BE DESIGNED TO SUPPORT 100,000 LB WHEEL LOADS WITH 250 PSI TIRE PRESSURE.
 - FLEXIBLE CONNECTION TO STRUCTURES SHALL BE PROVIDED FOR PLASTIC PIPE CONNECTIONS. ALL OTHER PIPE CONNECTIONS TO STRUCTURES MAY USE GROUT AND MORTAR.
 - PRECAST CONCRETE STRUCTURES SHALL HAVE A BEDDING SURFACE CONSISTING OF A BED OF GRANULAR MATERIAL HAVING A THICKNESS AT LEAST 6 INCHES BELOW THE BOTTOM OF THE STRUCTURE BASE. THE BEDDING SURFACE SHALL PROVIDE A FIRM FOUNDATION OF UNIFORM DENSITY FOR THE ENTIRE FOOTPRINT OF THE STRUCTURE. THE BEDDING SHALL BE BEDDING MATERIAL MEETING THE GRADATION REQUIREMENTS OF ITEM D-701.

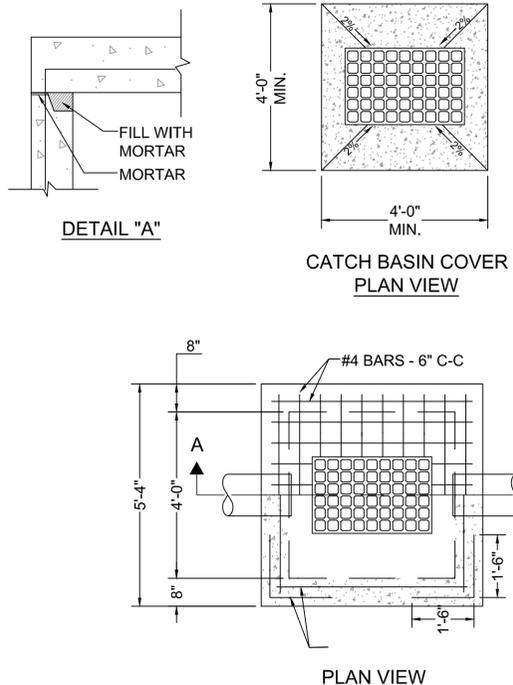


NO.	DATE	DESCRIPTION	REVISIONS				
			DESIGNED	DRAWN	CHECKED	APPROVED	TSG
04	07/14/2021	ISSUED FOR CONSTRUCTION					

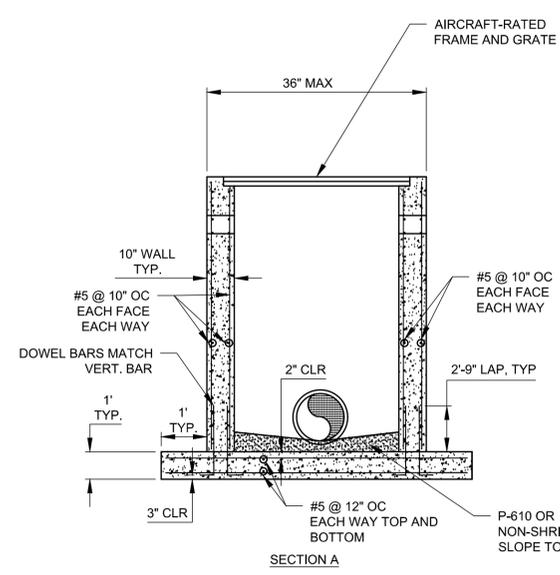
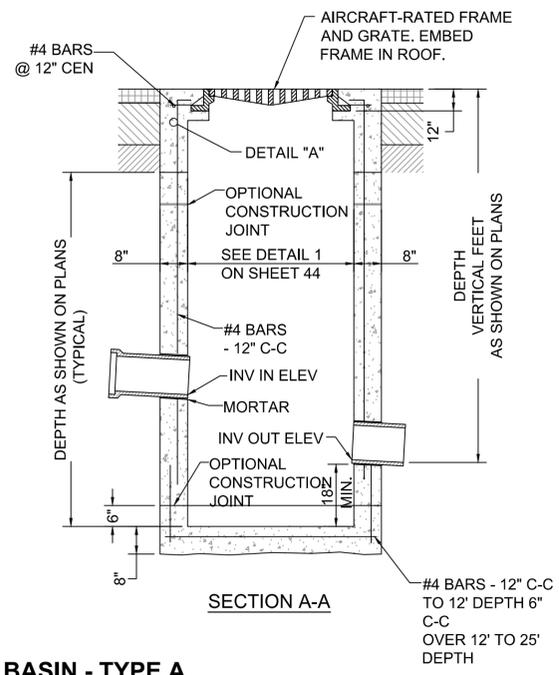
411 1st Avenue South
Suite 610
Seattle, WA 98104
phone: 888-364-7272
meadhunt.com

Mead & Hunt
Mead and Hunt, Inc.

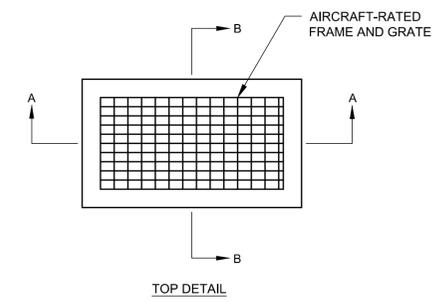
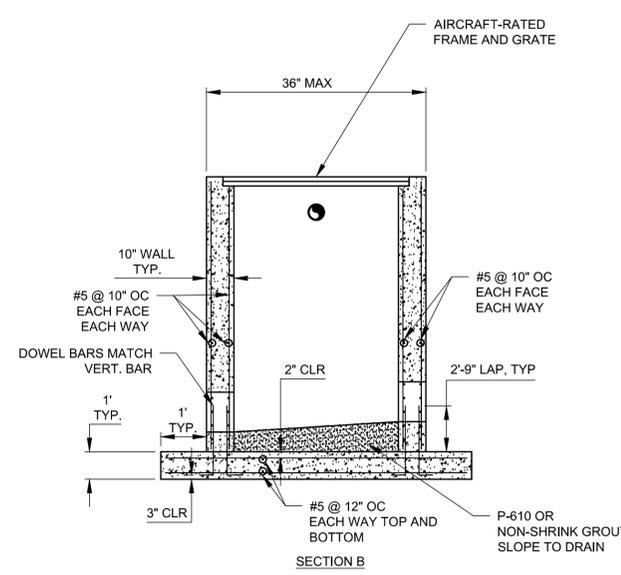
**PANGBORN MEMORIAL AIRPORT
TERMINAL APRON RECONSTRUCTION
DRAINAGE DETAILS**



4 CATCH BASIN - TYPE A
NTS



1 INLET DETAIL
NTS

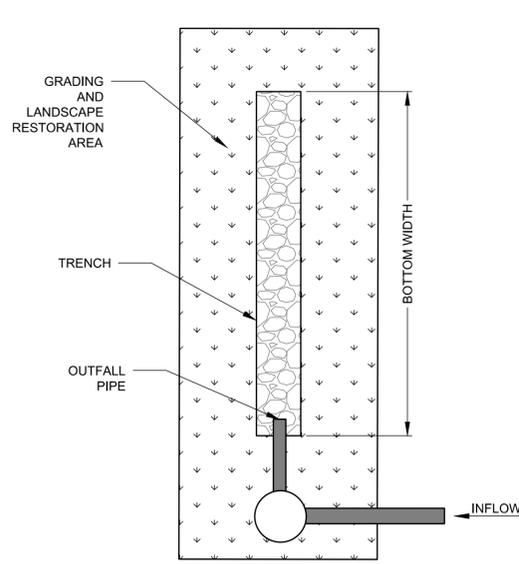


© 2019 T-O ENGINEERS. THIS INSTRUMENT IS THE PROPERTY OF T-O ENGINEERS. ANY REPRODUCTION, REUSE OR MODIFICATION OF THIS INSTRUMENT OR ITS CONTENTS WITHOUT SPECIFIC WRITTEN PERMISSION OF T-O ENGINEERS IS STRICTLY PROHIBITED.

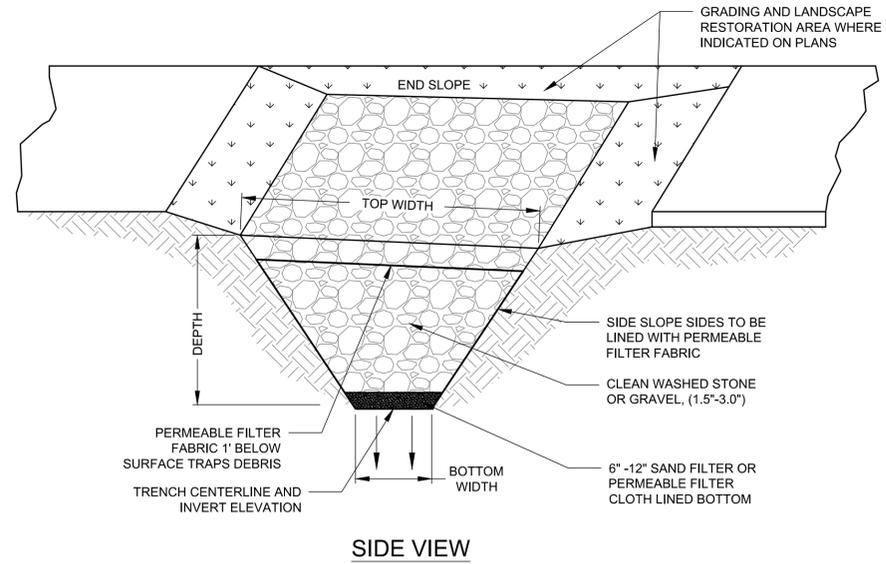
I:\CORP\MEADHUNT\COM\SHARED\FOLDERS\ENTR\1622900\210084\01\TECH\CAD\DRAWINGS\DRAINAGE DETAILS.DWG, 1/21/2024

RECORD DRAWING

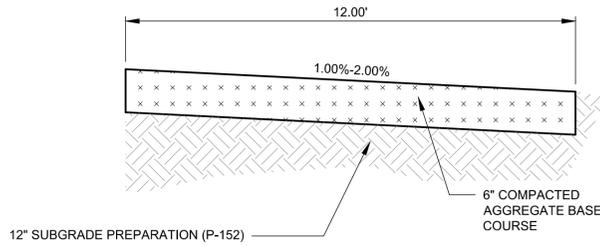
THIS IS A CONSTRUCTION RECORD DRAWING BASED ON INFORMATION SUPPLIED BY THE CONTRACTOR TO MEAD & HUNT. MEAD & HUNT, INC. ASSUMES NO LIABILITY FOR ACCURACY OF THE INFORMATION SUPPLIED.



TOP VIEW



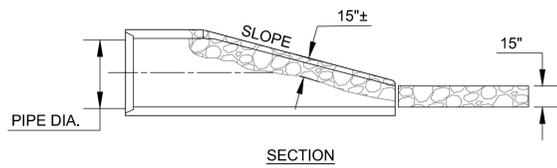
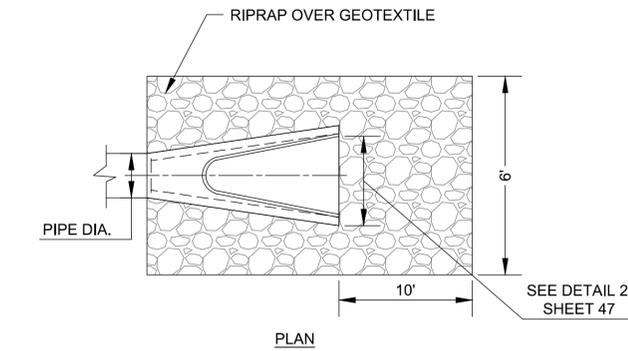
SIDE VIEW



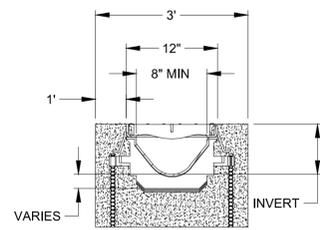
4 GRAVEL ACCESS ROAD
NTS

INFILTRATION TRENCH DIMENSIONS						
Infiltration Trench ID	Bottom Width	Bottom Length	Depth	Side Slope	End Slope	Top Width
1 - Trench	10'	120'	6'	1.5H:1V	0	28'
1 - Grading/Landscape	28'	120'	6.5'	SEE PLAN	SEE PLAN	90'
2A - Trench	2'	130'	3'	1.5H:1V	0	11'
2B - Trench	2'	59'	3'	1.5H:1V	0	11'
3A - Trench	4'	50'	3'	1.5H:1V	0	13'
3B - Trench	4'	34'	3'	1.5H:1V	0	13'

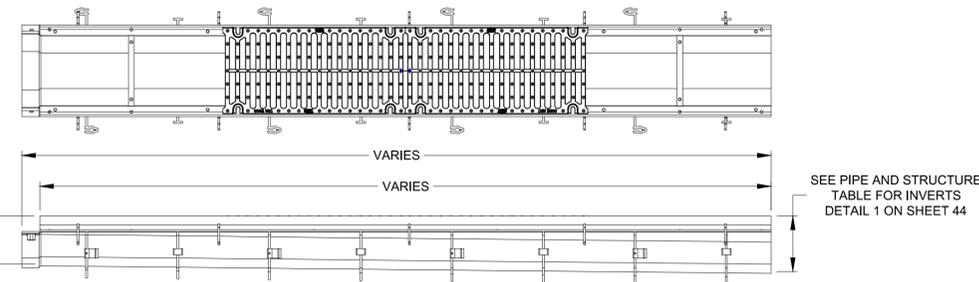
Infiltration Trench ID	TRENCH CENTERLINE AND INVERTS					
	TRENCH START			TRENCH END		
	Centerline		Invert	Centerline		Invert
Northing	Easting	Northing		Easting		
1 - Trench	148433.28	1794243.88	1210.40	148517.66	1794158.22	1210.40
1 - Grading/Landscape	148419.73	1794257.57	1216.40	148531.34	1794144.33	1216.40
2A	147843.49	1794720.33	1220.27	147936.11	1794811.55	1220.27
2B	147817.97	1794665.43	1221.30	147818.18	1794693.16	1221.30
3A	148160.39	1794195.25	1219.00	148125.30	1794230.87	1219.00
3B	147830.20	1794530.03	1221.00	147805.64	1794554.97	1221.00



3 FLARED END WITH RIPRAP PROTECTION
NTS

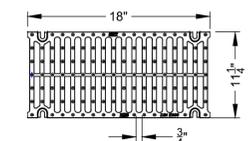


2 INFILTRATION TRENCH
NTS



1 TRENCH DRAIN DETAIL
NOT TO SCALE

- NOTES:
- JOINTS SHALL BE PLACED PER MANUFACTURER'S SPECIFICATIONS.
 - TRENCH DRAIN AND GRATE SHALL BE DESIGNED TO SUPPORT 100,000 LB AIRCRAFT WHEEL LOADS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS STAMPED BY A REGISTERED WASHINGTON ENGINEER TO ENGINEER FOR APPROVAL. SHOP DRAWINGS SHALL INCLUDE REINFORCEMENT CALLOUTS FOR CONCRETE ENCASUREMENT.
 - TRENCH DRAIN SHALL BE A MODULAR DESIGN WITH TRENCH DRAIN CHANNEL.
 - SEE DETAIL 4 ON SHEET 34 FOR IN-PAVEMENT DETAILS.



BORDER SIZE	DATE	DESIGNED	DRAWN	CHECKED	KONINKS	APPROVED	TSG
22"x34"	07/14/2021	AMB					
	12/01/2021						

NO.	DESCRIPTION
04	ISSUED FOR CONSTRUCTION
05	REVISED PER RFI #4

Mead & Hunt
411 1st Avenue South
Suite 610
Seattle, WA 98104
phone: 888-364-7272
meadhunt.com

PANGBORN MEMORIAL AIRPORT
TERMINAL APRON RECONSTRUCTION
DRAINAGE DETAILS

© 2019 T-O ENGINEERS. THIS INSTRUMENT IS THE PROPERTY OF T-O ENGINEERS. ANY REPRODUCTION, REUSE OR MODIFICATION OF THIS INSTRUMENT OR ITS CONTENTS WITHOUT SPECIFIC WRITTEN PERMISSION OF T-O ENGINEERS IS STRICTLY PROHIBITED.
\\CORP.MEADHUNT.COM\SHAREDFOLDERS\ENR\1622900\210084\01\TECH\CAD\DRAWINGS\DRAINAGE DETAILS.DWG, 1/2/2024
\\CORP.MEADHUNT.COM\SHAREDFOLDERS\ENR\1622900\210084\01\TECH\CAD\DRAWINGS\DRAINAGE DETAILS.DWG

RECORD DRAWING

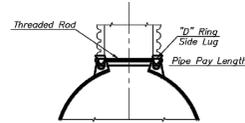
THIS IS A CONSTRUCTION RECORD DRAWING BASED ON INFORMATION SUPPLIED BY THE CONTRACTOR TO MEAD & HUNT. MEAD & HUNT, INC. ASSUMES NO LIABILITY FOR ACCURACY OF THE INFORMATION SUPPLIED.

END SECTIONS FOR HDPE PIPE								
Dia.	Gauge	Weight	* A	* H	* L	* W	Slope	Overall Width
8"	18	14	5-3/4	4	14 1/2	16	2 1/4	27 1/2"
10"	18	17	7 5/8	6	14 1/2	20	2 1/2	35 1/4"
12"	16	25	7	6	21	24	2 1/2	38"
15"	16	33	8	6	26	30	2 1/2	46"
18"	16	42	8	6	31	36	2 1/2	52"

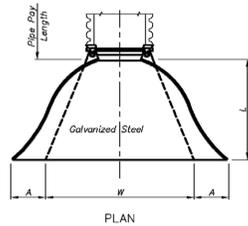
Toe plate extensions where specified, to be punched to match holes in apron lip. 3/8" bolts to be furnished. The length of toe plate to be as follows: W + 10" for 12" to 30" diameter pipes inclusive. W + 20" for 36" to 60" diameter pipes inclusive.

Multiple panel end sections shall have lap seams which are to be lightly jointed by bolts. Corner plate, and toe plate to be same gauge as end section.

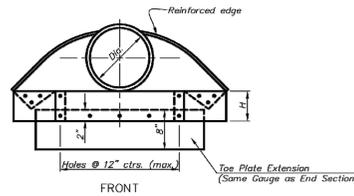
* - Dimensions in Inches Plus or Minus Standard Shop Tolerance.



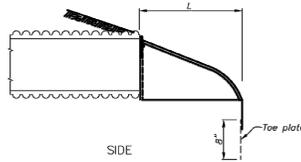
TYPE 2 CONNECTIONS
(12" & Larger)



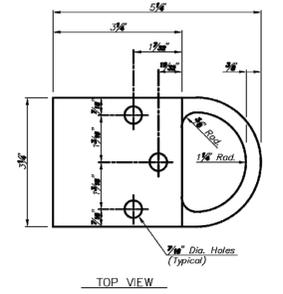
PLAN



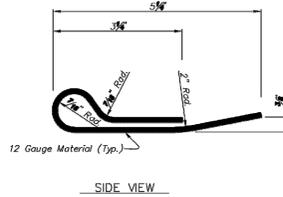
FRONT



SIDE



TOP VIEW

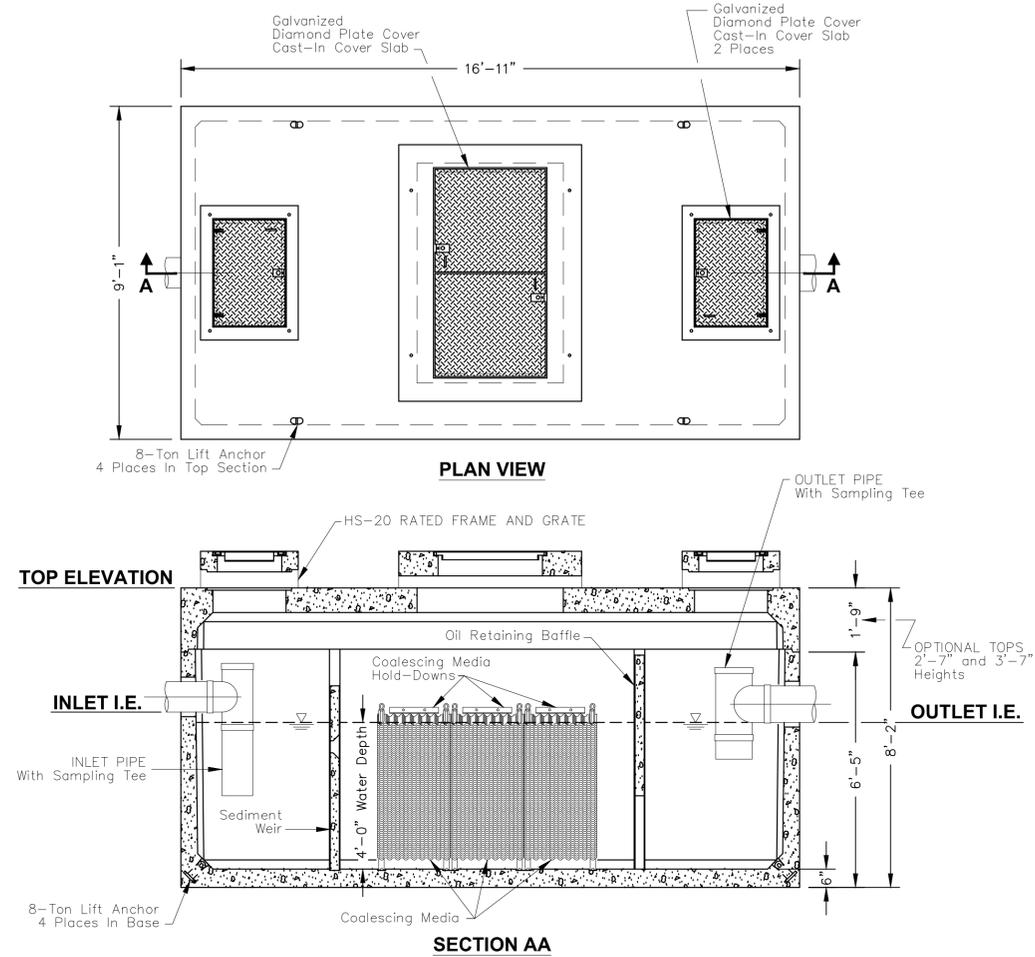


SIDE VIEW

"D" RING SIDE LUG
TYPE 2 ATTACHMENT DETAILS

2 STANDARD END SECTION

NOT TO SCALE



PLAN VIEW

TOP ELEVATION

SECTION AA

- STRUCTURAL NOTES:
- Concrete: 28 Day Compressive Strength $f'c = 7000$ psi
 - Rebar: ASTM A-615 Grade 60
 - Mesh: ASTM A-185 Grade 65
 - Design: ACI-318-05 Building Code
90C-857 "Minimum Structural Design Loading For Underground Precast Concrete Water and Wastewater Structures"
 - Loads: Aircraft Rated Wheel w/ 30% Impact Per AASHTO

- GENERAL NOTES:
- All Baffles and Weirs To Be Precast Concrete
 - Static Water Depth = 4'-0"
 - Contractor to:
Supply and Install All Piping & Sampling Tees
Grout In All Pipes
Fill With Clean Water Prior To "Start-Up" Of System
Verify All Blockout Sizes and Locations

INFORMATION NEEDED:
Top Of Separator Elevation: 1223.00
Inlet Pipe Size: 12"
Inlet Pipe Elevation: 1218.61
Outlet Pipe Size: 12"
Outlet Pipe Elevation: 1218.28

BASIC DESIGN INFORMATION:
INFLUENT CHARACTERISTICS:
Oil Specific Gravity: 0.88
Operating Temperature: 50°
Influent Oil Concentration: 100 ppm
Mean Oil Droplet Size: 130 Microns
0.033 ft/min Oil Rise Rate
Designed Per Washington State Department Of Ecology

FLOW RATE	EFFLUENT QUALITY	100% COLLECTED SIZE
877 GPM	10 ppm	60 Micron

1 COALESCING PLATE SEPARATOR

NOT TO SCALE



BORDER SIZE	DESIGNED	DRAWN	CHECKED	KONINKS	APPROVED	TSG
22"x34"	AMB	SOB				
DATE	ISSUED FOR CONSTRUCTION	NO.	DESCRIPTION	NO.	DESCRIPTION	NO.
07/14/2021	04		ISSUED FOR CONSTRUCTION			

411 1st Avenue South
Suite 610
Seattle, WA 98104
phone: 888-364-7272
meadhunt.com
Mead and Hunt, Inc.

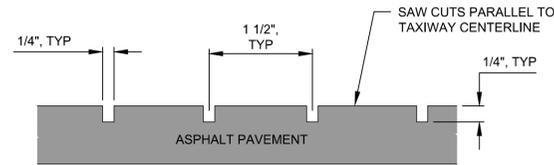
PANGBORN MEMORIAL AIRPORT TERMINAL APRON RECONSTRUCTION DRAINAGE DETAILS

ATTENTION:
1" ON 22x34 SHEET or 1/2" ON 11x17 SHEET, THEN DRAWING IS NOT TO SCALE

DATE: JANUARY 2024
PROJECT: 1622900-210084.01
SHEET: 47 OF 66

RECORD DRAWING

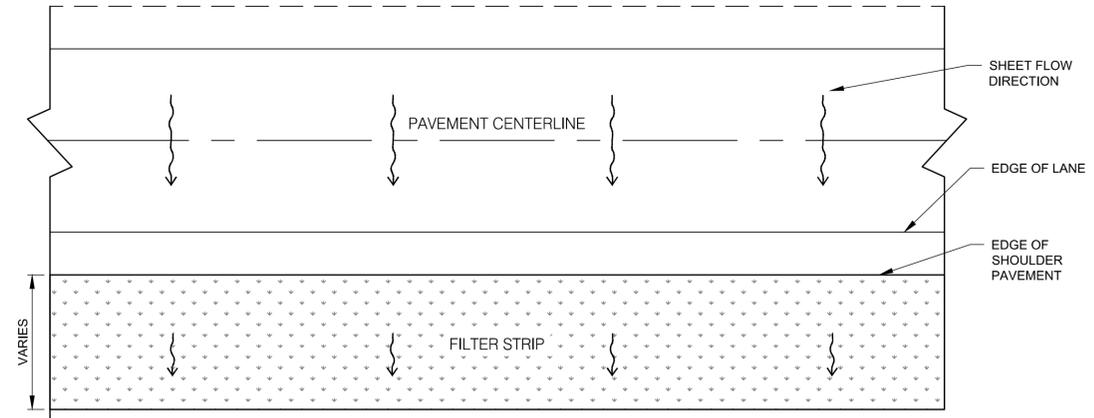
THIS IS A CONSTRUCTION RECORD DRAWING BASED ON INFORMATION SUPPLIED BY THE CONTRACTOR TO MEAD & HUNT. MEAD & HUNT, INC. ASSUMES NO LIABILITY FOR ACCURACY OF THE INFORMATION SUPPLIED.



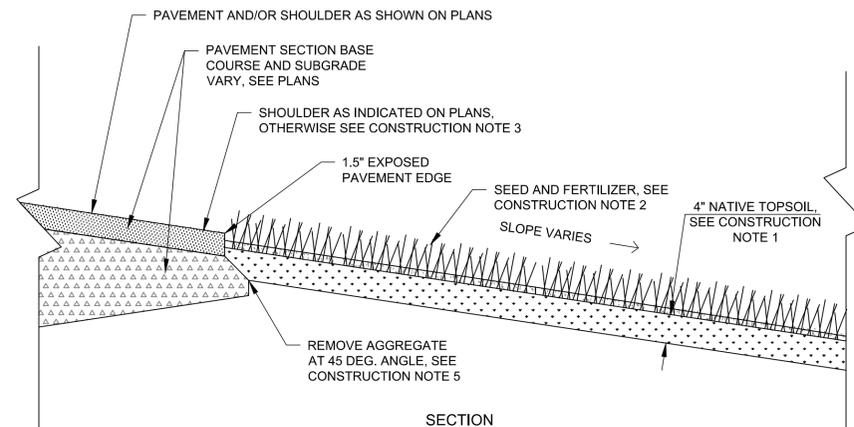
NOTES:

1. NEW BITUMINOUS PAVEMENT SHALL BE ALLOWED TO CURE FOR A MINIMUM OF 30 DAYS BEFORE GROOVING.
2. ANY DEVIATIONS THAT MAY BE NECESSARY SHALL BE COORDINATED WITH THE ENGINEER AT LEAST 14 DAYS PRIOR TO PLANNED DAY OF CONSTRUCTION. ANY DAMAGE CAUSED BY GROOVING EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND COULD INCLUDE REMOVAL AND REPLACEMENT OF TOP MAT OF ASPHALT.
3. GROOVING OPERATIONS SHALL OCCUR PRIOR TO APPLICATION OF PERMANENT PAVEMENT MARKINGS.

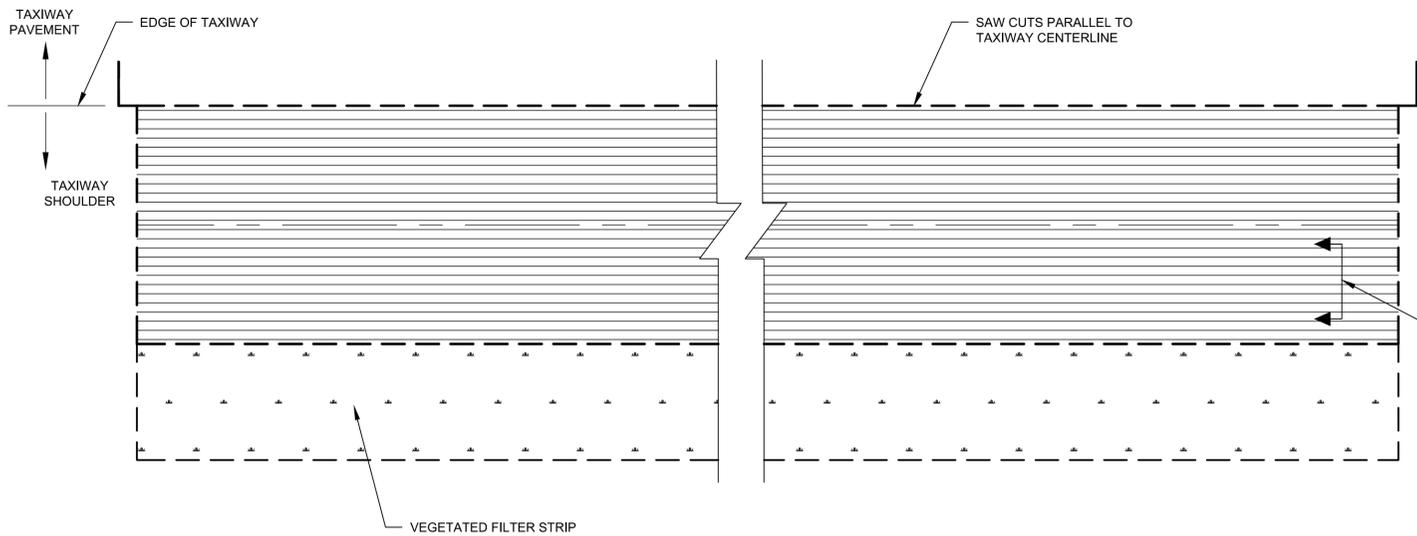
3 TYPICAL SHOULDER FLOW SPREADER GROOVING - PROFILE
NO SCALE



PLAN

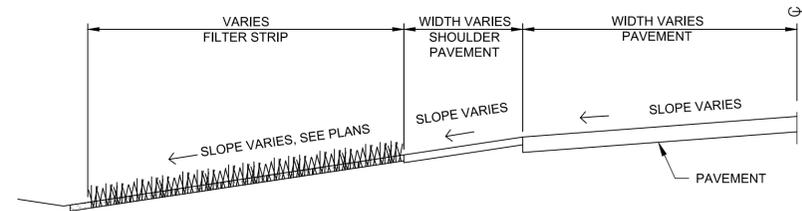


SECTION



VEGETATED FILTER STRIP

SEE DETAIL 2, TYP



VEGETATED FILTER STRIP CONSTRUCTION NOTES:

1. CONTRACTOR TO COMPACT FILTER STRIP AREA AS REQUIRED IN SECTION P-152 EXCAVATION AND EMBANKMENT. COMPACT TOP 4" ENOUGH TO SUPPORT RUBBER Tired EQUIPMENT, BUT DO NOT OVER COMPACT AND HINDER PLANT ESTABLISHMENT.
2. CONTRACTOR TO APPLY SEED, FERTILIZER, AND BONDED FIBER MATRIX MATERIAL ON FULL WIDTH OF VEGETATED FILTER STRIP. CONTRACTOR TO APPLY SEED AND FERTILIZER WITH MULCH AND TACKIFIER TO ALL OTHER DISTURBED AREAS. SEED MIX SHALL BE AS SPECIFIED IN THE SPECIFICATIONS (T-901).
3. CONTRACTOR TO CONSTRUCT A SMOOTH EVEN SURFACE THAT WILL MAINTAIN SHEET FLOW OF WATER INTO THE FILTER STRIP AT THE EDGE OF THE TAXIWAY SHOULDER OR ACCESS ROAD PAVEMENT. THIS SMOOTH AND EVEN SURFACE TO ACT AS FILTER STRIP LEVEL SPREADER. PROVIDE GROOVING IN PAVEMENT AS SPECIFIED TO PROVIDE A LEVEL SPREADER.
4. FILTER STRIP CONSTRUCTION WILL CORRESPOND WITH PAVEMENT CONSTRUCTION PHASING.
5. REMOVE AGGREGATE BASE COURSE ABOVE 45° ANGLE (PROJECTED DOWN AND AWAY FROM EDGE OF PAVEMENT) PRIOR TO PLACEMENT OF TOPSOIL.
6. CONTRACTOR SHALL STABILIZE ALL SOIL STOCKPILE AREAS.

1 TYPICAL VEGETATED FILTER STRIP
NTS

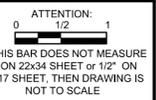
2 TYPICAL SHOULDER FLOW SPREADER GROOVING - PLAN
NO SCALE



BORDER SIZE	22"x34"
DESIGNED	TSG
DRAWN	BRE
CHECKED	TSG
APPROVED	TSG
DATE	07/14/2021
ISSUED FOR CONSTRUCTION	
NO.	04

Mead & Hunt
411 1st Avenue South
Suite 610
Seattle, WA 98104
phone: 888-364-7272
meadhunt.com

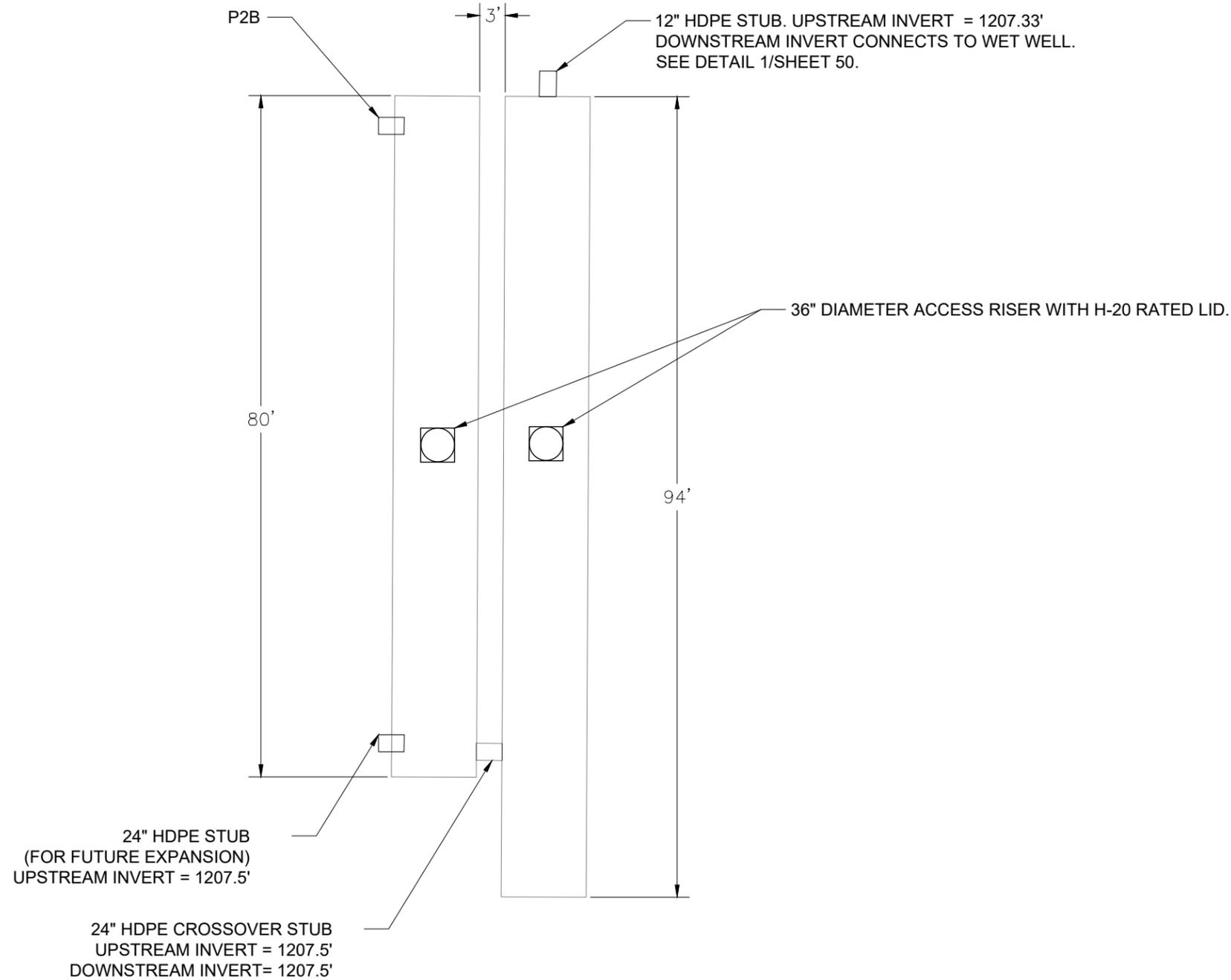
**PANGBORN MEMORIAL AIRPORT
TERMINAL APRON RECONSTRUCTION
DRAINAGE DETAILS**



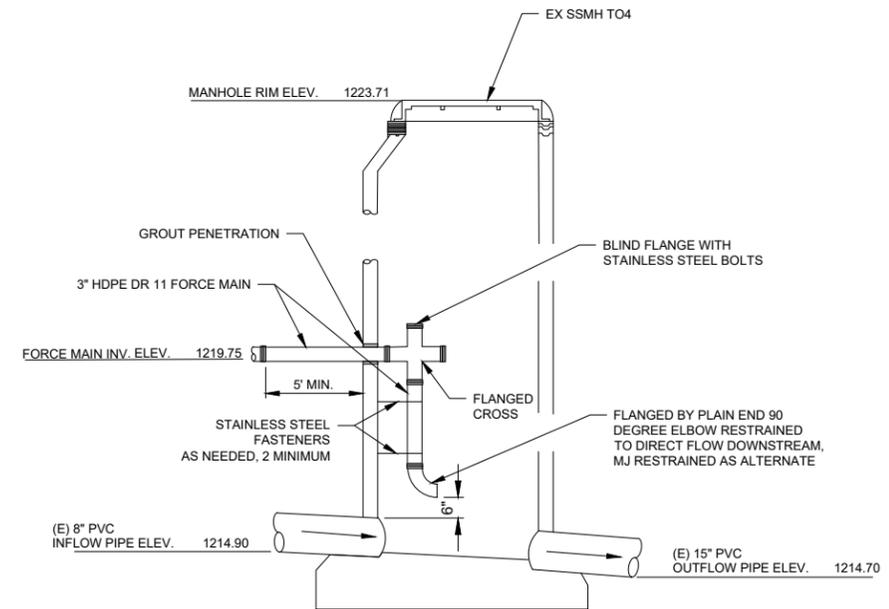
ATTENTION:
DATE: JANUARY 2024
PROJECT: 1622900-210084.01
SHEET:
48 OF 66

\CORP\MEADHUNT\COM\SHARED\FOLDERS\ENTR\162290\210084\01\TECH\CAD\DRAWINGS\48 GL\YCOL TREATMENT DETAILS.DWG, 1/22/2024
 \CORP\MEADHUNT\COM\SHARED\FOLDERS\ENTR\162290\210084\01\TECH\CAD\DRAWINGS\48 GL\YCOL TREATMENT DETAILS.DWG

© 2019 T-O ENGINEERS. THIS INSTRUMENT IS THE PROPERTY OF T-O ENGINEERS. ANY REPRODUCTION, REUSE OR MODIFICATION OF THIS INSTRUMENT OR ITS CONTENTS WITHOUT SPECIFIC WRITTEN PERMISSION OF T-O ENGINEERS IS STRICTLY PROHIBITED.



2 10' DIAMETER HDPE GLYCOL STORAGE PIPES
 NO SCALE



- NOTE:**
1. STAINLESS STEEL FASTENERS TO GRADE 310.
 2. DISCHARGE OUTLET SHALL NEVER BE BELOW CROWN OF DOWNSTREAM PIPE

1 FORCE MAIN TIE-IN DETAIL
 NOT TO SCALE

RECORD DRAWING

THIS IS A CONSTRUCTION RECORD DRAWING BASED ON INFORMATION SUPPLIED BY THE CONTRACTOR TO MEAD & HUNT. MEAD & HUNT, INC. ASSUMES NO LIABILITY FOR ACCURACY OF THE INFORMATION SUPPLIED.



NO.	REVISIONS DESCRIPTION	BORDER SIZE		DATE	DESIGNED	DRAWN	CHECKED	APPROVED	TSG
		22"x34"	AMB						
04	ISSUED FOR CONSTRUCTION			07/14/2021					

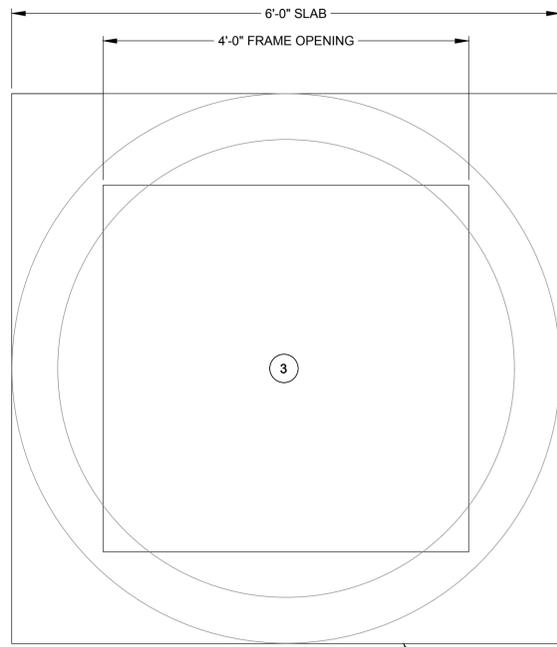
Mead & Hunt
 Mead and Hunt, Inc.
 411 1st Avenue South
 Suite 610
 Seattle, WA 98104
 phone: 888-364-7272
 meadhunt.com

PANGBORN MEMORIAL AIRPORT
 TERMINAL APRON RECONSTRUCTION
 GLYCOL TREATMENT DETAILS

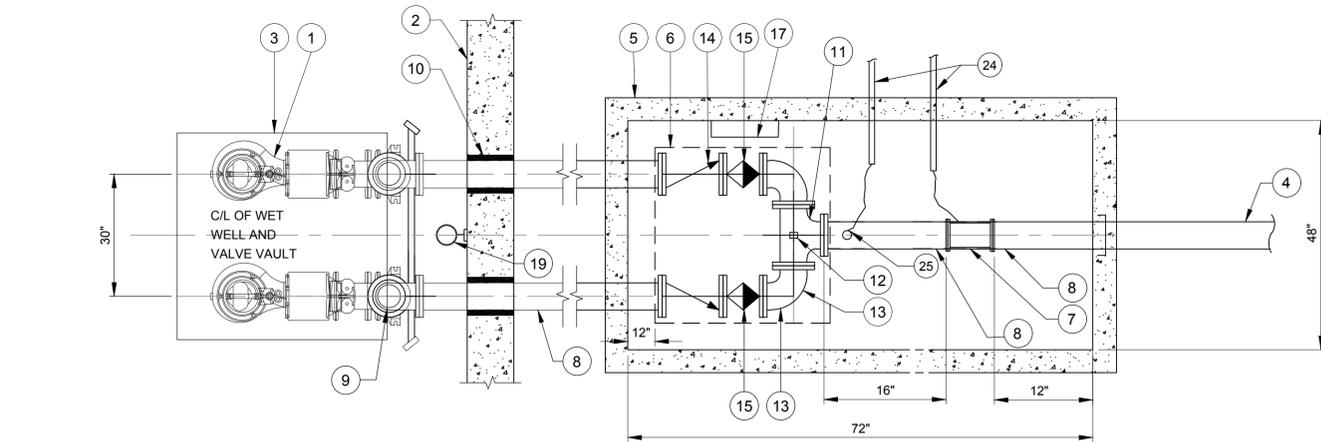
ATTENTION:
 1/2" = 1'
 IF THIS BAR DOES NOT MEASURE 1" ON 22x34 SHEET or 1/2" ON 11x17 SHEET, THEN DRAWING IS NOT TO SCALE.

DATE: JANUARY 2024
 PROJECT: 1622900-210084.01

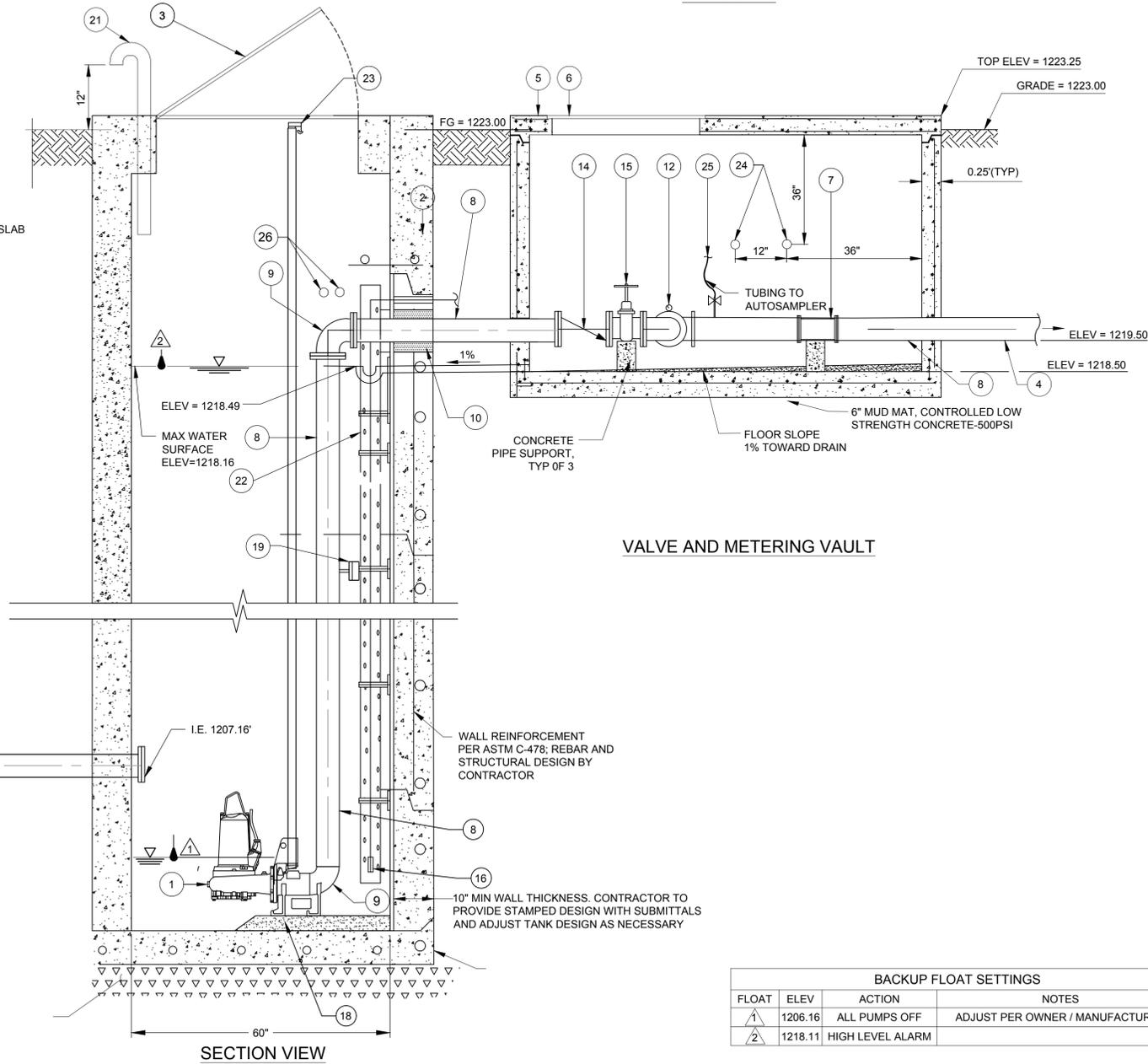
© 2019 T-O ENGINEERS. THIS INSTRUMENT IS THE PROPERTY OF T-O ENGINEERS. ANY REPRODUCTION, REUSE OR MODIFICATION OF THIS INSTRUMENT OR ITS CONTENTS WITHOUT SPECIFIC WRITTEN PERMISSION OF T-O ENGINEERS IS STRICTLY PROHIBITED.



1 60" WET WELL LID PLAN
NOT TO SCALE



PLAN VIEW



VALVE AND METERING VAULT

12" HDPE INLET FROM GLYCOL STORAGE PIPES. SEE DETAIL 2 ON SHEET 49.

WALL REINFORCEMENT PER ASTM C-478; REBAR AND STRUCTURAL DESIGN BY CONTRACTOR

10" MIN WALL THICKNESS. CONTRACTOR TO PROVIDE STAMPED DESIGN WITH SUBMITTALS AND ADJUST TANK DESIGN AS NECESSARY

BACKUP FLOAT SETTINGS			
FLOAT	ELEV	ACTION	NOTES
▲	1206.16	ALL PUMPS OFF	ADJUST PER OWNER / MANUFACTURER
▲	1218.11	HIGH LEVEL ALARM	

1 60" WET WELL, LIFT STATION AND METERING VAULT
NOT TO SCALE

EQUIPMENT KEY LIST

- 1 PROPOSED SUBMERSIBLE PUMPS (2) FLYGT NP 3085 SH OR EQUAL, 4 POLE, 3-PHASE, 60 HZ, 460V, 20 GPM; VFD AT 20 FT TDH, 2.2 HP, 1870 RPM. PUMP ASSEMBLIES TO INCLUDE (2) CAST IRON GUIDE BARS AND FLOAT HANGERS, (1) GASKETS BETWEEN PUMP DISCHARGED AND BASE ELBOW, ALL ATTACHMENT HARDWARE TO BE 316 S.S.
- 2 PROPOSED 88,600 GALLON PRECAST PANEL VAULT
- 3 TANK SPRING ASSISTED ACCESS HATCH BILCO OR HALLIDAY PRODUCTS H-20 LOADING. COORDINATE ACCESS HATCH LOCATION WITH PUMP MOUNTING LOCATIONS. MINIMUM CLEAR OPENING 48"x48" TO PROVIDE CLEARANCE ON ALL SIDES OF PUMP FOR REMOVAL. ALL HARDWARE TO BE 316 S.S. CONTRACTOR TO COORDINATE SIZE OF HATCH WITH SIZE OF RISER
- 4 3" HDPE DR 11
- 5 PRECAST VALVE VAULT. 4'X6' MINIMUM INTERIOR DIMENSION. FIELD INSTALL CONCRETE PIPE SUPPORTS
- 6 VALVE VAULT SPRING ASSISTED ACCESS HATCH BILCO OR HALLIDAY PROD OR EQUAL. H-20 LOADING 36"x36" MIN. CONTRACTOR TO VERIFY HATCH SIZE IS ADEQUATE. TO PROVIDE UNOBSTRUCTED ACCESS TO ALL VALVES (SEE NOTE 2)
- 7 3" MAG METER; 4-20mA SIGNAL TIED TO HISTORIAN AND MANUAL DISPLAY LOCATED IN ADJACENT SAMPLING SHELTER.
- 8 3" HDPE DR11 PIPE WITH WELDED FLANGES AND 316SS HARDWARE
- 9 3" FL HDPE 90° BEND (TYP. OF 2)
- 10 GROUT SEAL AROUND PIPES WITH H₂S RESISTANT NON-SHRINK GROUT
- 11 3" FL TEE, DIP EPOXY LINED
- 12 0-40 PSI GLYCERIN FILLED PRESSURE GAUGE IN TAPPED FLANGED CROSS BOSS WITH BRASS GATE VALVE
- 13 3" FL. 90° BEND. DIP EPOXY LINED
- 14 3" FL. CUSHIONED CHECK VALVE W/ SWING ARM. (TYP. OF 2)
- 15 3" FL. RESILIENT WEDGE GATE VALVE (TYP. OF 2)
- 16 LEVEL TRANSDUCER FOR PRIMARY PUMP CONTROL - ABS HSC2 OR EQUAL
- 17 ACCESS LADDER
- 18 ANCHOR BASE ELBOW TO WET WELL FLOOR. INSTALL 1/2" 316 STAINLESS STEEL PLATE WITH 3/4" STAINLESS STEEL ALL THREAD TO ANCHOR BASE ELBOWS TO ONE (1) BASE PLATE. BASE PLATE TO BE ANCHORED TO WETWELL WITH MIN. FOUR (4) 3/4" ALL THREAD WITH EPOXY ANCHORS (MIN. 4" EMBEDDED) IN CONCRETE FLOOR
- 19 RISER SUPPORT BRACKET; EVERY 3 FEET
- 20 2" SCH80 PVC VALVE VAULT DRAIN WITH TRAP
- 21 4" SCH80 PVC WET WELL VENT WITH 316 S.S. INSECT SCREEN. 6" PIPE SLEEVE TO BE CAST INTO WETWELL TOP. PIPE AND FITTINGS DRY-FIT, NOT GLUED
- 22 LEVEL TRANSDUCER STILLING WELL 6" PVC WITH 1/2" HOLES AS SHOWN. SUPPORT BRACKETS 316SS
- 23 48"x48" CONCRETE RISER, HS-20 RATED
- 24 (2) 2" ELECTRICAL CONDUIT FROM VALVE/METERING VAULT, TO FIBERGLASS SHELTER FOR MONITORING CONTROL WIRES
- 25 1/2" TAP WITH BALL VALVE FOR AUTOSAMPLER TUBING CONNECTION
- 26 (2) 2" ELECTRICAL CONDUIT FOR LIFT STATION POWER AND CONTROLS TO ADJACENT MCC PANEL

LIFT STATION NOTES:

1. PROVIDE HASP TYPE LOCKING MECHANISM ON ALL ACCESS HATCHES.
2. PUMPS TO BE FURNISHED WITH HIGH PRESSURE DISCHARGE COUPLING, STAINLESS STEEL SLIDERAIL SYSTEM, SEAL FAILURE AND THERMAL OVERLOAD INDICATORS.
3. ALL HARDWARE INSIDE WETWELL TO BE 316 STAINLESS STEEL.
4. MAXIMUM FLOW OF 20 GPM TO DOUGLAS COUNTY SEWER DISTRICT. ONLY ONE PUMP SHALL RUN AT A TIME. FLOWRATE AND DURATION OF DISCHARGE WILL DEPEND ON BOD CONCENTRATION AND PERMITTED DISCHARGE LOAD.
5. ALL JOINTS IN PANEL VAULT TO BE SEALED WITH HYDROPHILIC GROUT; CONSEAL OR EQUAL
6. AUTOSAMPLER TO ENGAGE WHEN LIFT STATION PUMP IS RUNNING, PULLING ONE ALIQUOT PER HOUR WHILE PUMP IS RUNNING;

RECORD DRAWING

THIS IS A CONSTRUCTION RECORD DRAWING BASED ON INFORMATION SUPPLIED BY THE CONTRACTOR TO MEAD & HUNT. MEAD & HUNT, INC. ASSUMES NO LIABILITY FOR ACCURACY OF THE INFORMATION SUPPLIED.



BORDER SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
22"x34"	AMB	SOB	KONASAS	TSG

NO.	DATE	DESCRIPTION
04	07/14/2021	ISSUED FOR CONSTRUCTION

411 1st Avenue South
Suite 610
Seattle, WA 98104
phone: 888-364-7272
meadhunt.com

Mead & Hunt
Mead and Hunt, Inc.

**PANGBORN MEMORIAL AIRPORT
TERMINAL APRON RECONSTRUCTION
LIFT STATION AND TANK DETAILS**

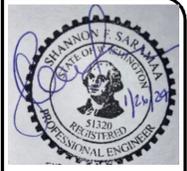
ATTENTION:
0 1/2 1
IF THIS BAR DOES NOT MEASURE
1" ON 22x34 SHEET or 1/2" ON
11x17 SHEET, THEN DRAWING IS
NOT TO SCALE.

DATE: JANUARY 2024
PROJECT: 1622900-210084.01
SHEET:
50 OF 66

X:\1622900\210084\01\TECH\CAD\DRAWINGS\48 GLYCOL TREATMENT DETAILS.DWG X:\1622900\210084\01\TECH\CAD\DRAWINGS\48 GLYCOL TREATMENT DETAILS.DWG 13/10/2024

\CORP\MEADHUNT\COM\SHARED\FOLDERS\BENTLEY\16229002\10084\01\TECHCAD\DRAWINGS\48 GLYCOL TREATMENT DETAILS.DWG, 1/22/2024
 \CORP\MEADHUNT\COM\SHARED\FOLDERS\BENTLEY\16229002\10084\01\TECHCAD\DRAWINGS\48 GLYCOL TREATMENT DETAILS.DWG

© 2019 T-O ENGINEERS. THIS INSTRUMENT IS THE PROPERTY OF T-O ENGINEERS. ANY REPRODUCTION, REUSE OR MODIFICATION OF THIS INSTRUMENT OR ITS CONTENTS WITHOUT SPECIFIC WRITTEN PERMISSION OF T-O ENGINEERS IS STRICTLY PROHIBITED.

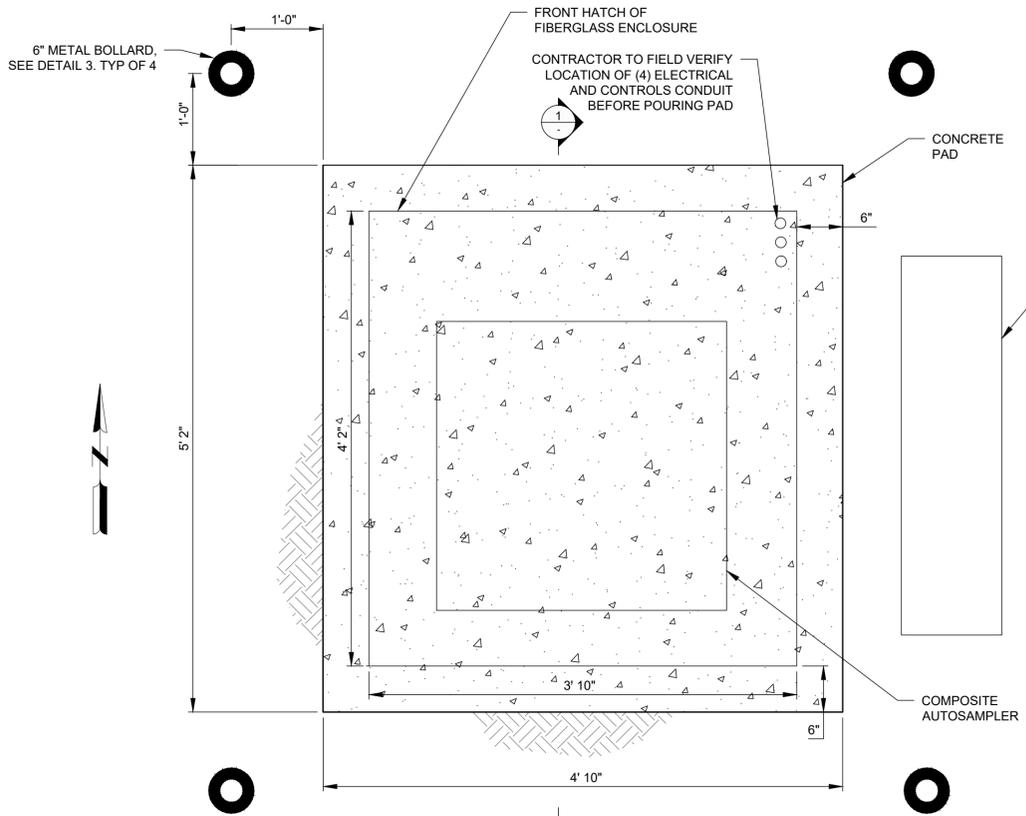


BORDER SIZE	22"x34"
DESIGNED	TSG
DRAWN	BRE
CHECKED	TSG
APPROVED	TSG
DATE	07/14/2021
ISSUED FOR CONSTRUCTION	
NO.	04

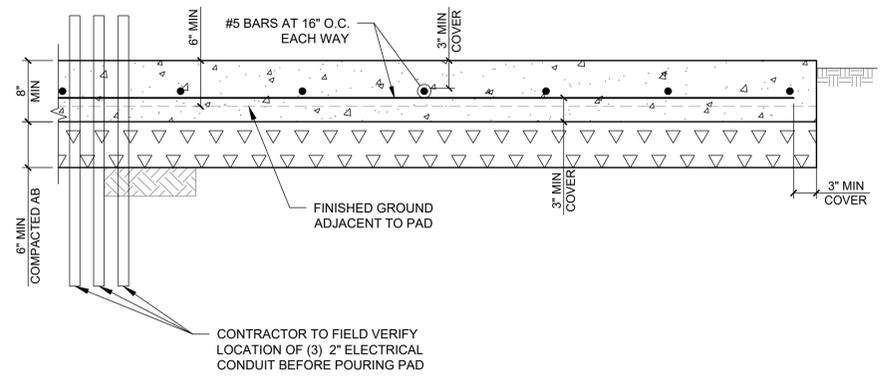
Mead & Hunt
 Mead and Hunt, Inc.
 411 1st Avenue South
 Suite 610
 Seattle, WA 98104
 phone: 888-364-7272
 meadhunt.com

**PANGBORN MEMORIAL AIRPORT
 TERMINAL APRON RECONSTRUCTION
 TESTING ENCLOSURE AND
 CONCRETE PAD DETAILS**

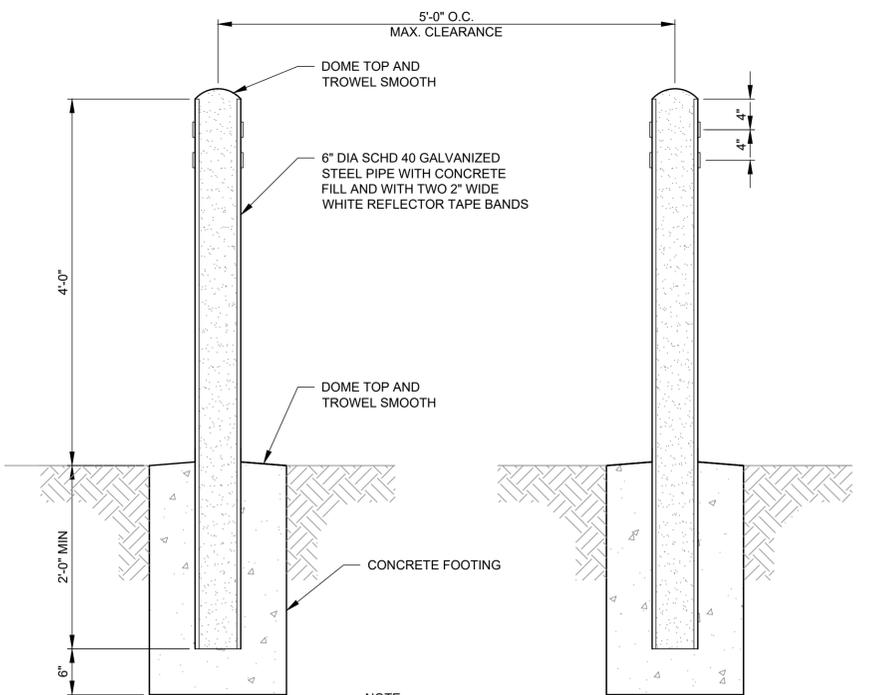
ATTENTION:	0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" ON 22x34 SHEET or 1/2" ON 11x17 SHEET, THEN DRAWING IS NOT TO SCALE.	
DATE:	JANUARY 2024
PROJECT:	1622900-210084.01
SHEET:	51 OF 66



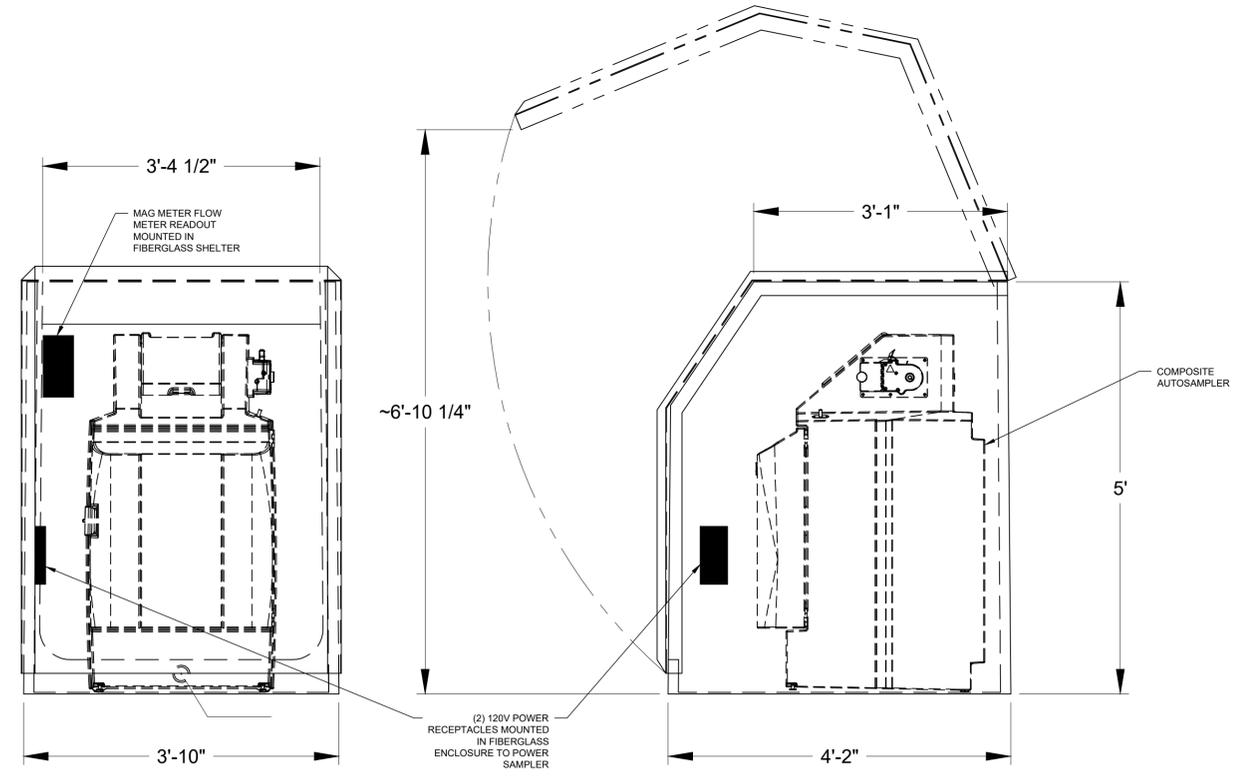
4 SAMPLING SHELTER PLAN EQUIPMENT PAD - PLAN
NOT TO SCALE



1 EXTERIOR EQUIPMENT PAD
NOT TO SCALE



3 METAL BOLLARD
NOT TO SCALE



2 SAMPLER AND ENCLOSURE
NOT TO SCALE

RECORD DRAWING
 THIS IS A CONSTRUCTION RECORD DRAWING BASED ON INFORMATION SUPPLIED BY THE CONTRACTOR TO MEAD & HUNT. MEAD & HUNT, INC. ASSUMES NO LIABILITY FOR ACCURACY OF THE INFORMATION SUPPLIED.