



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0016

Paul R. LePage
GOVERNOR

David Bernhardt
COMMISSIONER

April 13, 2018
Subject: Maintenance & Operations
Building
State WINs: 021942.02 & 022998.00
Location: **Portland**
Amendment No. 3

Dear Sir/Ms.:

Please make the following changes to the Bid Documents:

In the Bid Book:

ADD the attached Lighting & Electrical Specifications, 4 pages, dated April 13, 2018.

On page 69 "SPECIAL PROVISION – SECTION 107 – TIME", Section 107.4.7 Limitation of Operations, third paragraph, **CHANGE** third line that reads; "...connection of the natural gas and sanitary sewer to existing utilities..." to read as follows; "...connection of the natural gas, water and sanitary sewer to existing utilities...". Make this change in pen and ink.

On page 69 "SPECIAL PROVISION – SECTION 107 – TIME", Section 107.8.2 Limitation of Operations, second paragraph, **CHANGE** the date on the second and forth line from December 28, 2018 to read "May 17, 2019". Make this change in pen and ink.

On page 402 "SECTION 22 00 00 – PLUMBING", **ADD** paragraph 2.01.B which reads "Water piping associated with the 10-inch service entrance for domestic and sprinkler systems and supplying water to the rest of the facility shall be cement-lined ductile iron per NFPA." Make this change in pen and ink.

On page 455 "SECTION 23 30 00 – DUCTWORK & ACCESSORIES", **ADD** paragraph 2.01.E which reads "Double-wall ductwork for the outside air intake and exhaust to the Energy Recovery Ventilators shall have 2-inch thick fiberglass insulation." Make this change in pen and ink.

On page 575 "SECTION 33 11 00 – WATER UTILITY DISTRIBUTION PIPING", Section 1.4 SUBMITTALS, **DELETE** paragraph B which reads "Submit design of thrust block for 16" diameter water main as shown on plans. Coordinate location and design requirements with Portland Water District. Submittal shall be approved by Portland Water District prior to installation of thrust block." Make this change in pen and ink.



PRINTED ON RECYCLED PAPER

In the Plan Set:

On Sheet Number 56 of 58, E1.1 POWER PLAN, **ADD** a fire alarm audio/visual notification appliance centered on the rear wall of Training Room 112. The appliance shall have a strobe rated at 60cd. Make these changes in pen and ink.

REMOVE the following PLAN SHEETS: C-03(5 of 58), C-05(7 of 58), C-06(8 of 58), C-07(9 of 58), S1.1(41 of 58), M1(50 of 58), M2(51 of 58), M3(52 of 58), M4(53 of 58), and M5(54 of 58) and **REPLACE** with the attached PLAN SHEETS: C-03(5 of 58), C-05(7 of 58), C-06(8 of 58), C-07(9 of 58), S1.1(41 of 58), M1(50 of 58), M2(51 of 58), M3(52 of 58), M4(53 of 58), and M5(54 of 58).

The following questions have been received:

Question: Will dry dense pack cellulose be accepted in lieu of wet applied cellulose? The install method with steel studs would be to drill and fill through the sheet rock or to full cavities from the tops of the walls. The advantage of the wet applied is that it is visible. The advantage of the dry packed cellulose is that it does not get knocked out of the cavities after installation, is much less messy during installation, and sheet rock may be installed immediately without waiting for moisture to evaporate

Response: Dry dense pack cellulose insulation is acceptable in lieu of wet applied. Wet applied was specified because it is easier to confirm full coverage and proper installation because the material remains exposed until GWB is later installed. With the dry application, GWB needs to be in place to support the material during installation so it is difficult to assure complete distribution and density of the placed material in the stud space. If dry dense pack is used, the contractor shall provide evidence that all installers are certified and experienced in the dry application product, and a pre-installation conference with the architect and owner's representative shall be scheduled to review installation procedures and equipment.

Question: Which pay items are building excavation, backfill and structural aggregates paid under?

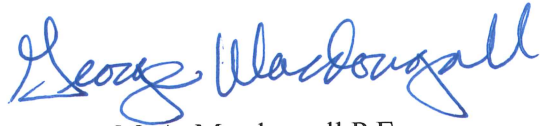
Response: Both building and site work excavation, backfill and structural aggregates are paid under the same Pay Items. Refer to General Construction Notes on Sheet G2 (02 of 58).

Question: "Typical Column Base Plate Detail" on S3.3 calls out for 1/2x3"x3" plate washers for 1 1/4" diameter anchor rods. None of the base plate details on the same page call out 1 1/4" diameter anchor rods. Can you please clarify if there are any locations where the 1 1/4" diameter anchor rods are required?

Response: There are no locations with 1 1/4" diameter anchor rods.

Consider these changes and information prior to submitting your bid on **April 25, 2018**.

Sincerely,



George M. A. Macdougall P.E.
Contracts & Specifications Engineer

April 13, 2018

**Portland International Marine Terminal
Maintenance and Operations Building**
WIN 021942.02

BID AMENDMENT #3

SPECIFICATIONS

Section 26 00 00 GENERAL ELECTRICAL REQUIREMENTS

REVISE the following paragraph:

1.01 SECTION INCLUDES:

- A. Furnish all materials, labor, tools, transportation, incidentals, and appurtenances to complete in every detail and leave in working order all items of work called for herein or shown on the accompanying drawings, including work related to:
 - 1. Electrical site utilities including electrical service from Central Maine Power Company.
 - 2. Electrical distribution including new circuit breaker panelboards, and associated feeders.
 - 3. Electrical branch circuits, including wiring and devices.
 - 4. Interior lighting including luminaires, lamps, wiring and controls.
 - 5. Exterior lighting including luminaires and wiring and controls.
 - 6. Raceways and boxes for voice/data network system provided under Division 27.
 - 7. Raceways and conductors for Owner furnished door access control system.
 - 8. Raceways and conductors for Owner furnished surveillance system.
 - 9. Electrical and communications manholes.

Section 26 00 00 GENERAL ELECTRICAL REQUIREMENTS

ADD the following paragraph:

3.04 TEMPORARY POWER DURING INTERRUPTION OF THE EXISTING ELECTRICAL UTILITY SERVICES:

- A. Notify the owner in writing not less than 48 hours in advance of any planned shutdown of electrical power to the site.

**Portland International Marine Terminal
Maintenance and Operations Building
BID AMENDMENT #3**

Page 2 of 4

- B. For shutdown of the existing electrical utility service of four-hour duration or less:
 - 1. Prior to any shutdown of the existing electrical utility service, the contractor shall review the existing standby generator at the existing Administration Office Building, and the existing standby generator at the existing Electrical Utility Building at the pier to confirm that they are in full working order and are ready to transfer electrical service upon shutdown of the *Central Maine Power Company* utility services. The contractor shall confirm that both existing generators are operating properly during the entire period of the shutdown of the existing electrical utility services.

- C. For shutdown of the existing electrical utility service for greater than four hours:
 - 1. Prior to any shutdown of the existing electrical utility service, the contractor shall review the existing standby generator at the Electrical Utility Building at the pier to confirm that it is in full working order and is ready to transfer electrical service upon shutdown of the *Central Maine Power Company* utility service. The contractor shall confirm that the existing generator is operating properly during the entire period of the shutdown of the existing electrical utility services.
 - 2. The contractor shall provide a temporary trailer-mounted standby generator to operate the entire Administration Office Building during the entire period of the shutdown of the existing electrical utility service. The contractor shall provide all necessary temporary wiring and temporary wiring connections to connect the generator to the line side of the existing main distribution panel in Electrical Room 119 in the Office Building. The contractor shall provide all necessary fuel to operate the temporary generator for the entire period of the shutdown of the existing electrical utility service. The temporary standby generator shall be rated 100 kVA, 120/208 volts, 3-phase, and shall be equipped with a transfer switch. *(Note: the existing standby generator located outside the existing Administration Office Building only serves essential circuits. The temporary standby generator being provided as part of the project scope of work shall operate the entire Office Building).*

Section 26 00 00 GENERAL ELECTRICAL REQUIREMENTS

ADD the following paragraph:

3.05 COORDINATION WITH EXISTING UTILITIES

- A. Extreme care shall be taken when excavating for the new electrical and communications manholes to avoid existing underground utilities. The contractor shall confirm the location and depth of all existing underground utility lines within the area of the new manhole prior to excavation.

**Portland International Marine Terminal
Maintenance and Operations Building
BID AMENDMENT #3**

Page 3 of 4

Section 27 00 00 GENERAL COMMUNICATIONS REQUIREMENTS

REVISE the following paragraph:

1.01 SECTION INCLUDES:

- A. Furnish all materials, labor, tools, transportation, incidentals, and appurtenances to complete in every detail and leave in working order all items of work called for herein or shown on the accompanying drawings, including work related to:
 - 1. Voice/data network system including wiring, equipment racks, outlets and wiring.
 - 2. Modification of existing fiber optic utility service from *Oxford Networks*.
 - 3. Modification of existing telephone utility service from *FairPoint*.

Section 27 00 00 GENERAL COMMUNICATIONS REQUIREMENTS

REVISE the following paragraph:

1.10 COORDINATION WITH WORK PROVIDED UNDER DIVISION 26.

- A. Telecommunications work shall be coordinated with associated work being provided under Division 26. Work provided under Division 26 shall include the following:
 - 1. Raceway and boxes for wiring.
 - 2. Wiring support means.
 - 3. 120-volt power circuits.
 - 4. Communications manhole

Section 27 00 00 GENERAL COMMUNICATIONS REQUIREMENTS

ADD the following paragraph:

3.02 INTERRUPTION OF THE EXISTING TELCOM UTILITY SERVICES:

- A. Notify the owner in writing not less than 48 hours in advance of any planned shutdown of telecommunications services to the site.
- B. Arrange with *Oxford Networks* to modify the existing fiber optic communications utility service as indicated on the plans. Limit the interruption of the fiber optic communications to a maximum of 4 hours.
- C. Arrange with *FairPoint* to modify the existing telephone communications utility service as indicated on the plans. Limit the interruption of the telephone communications to a maximum of 4 hours.

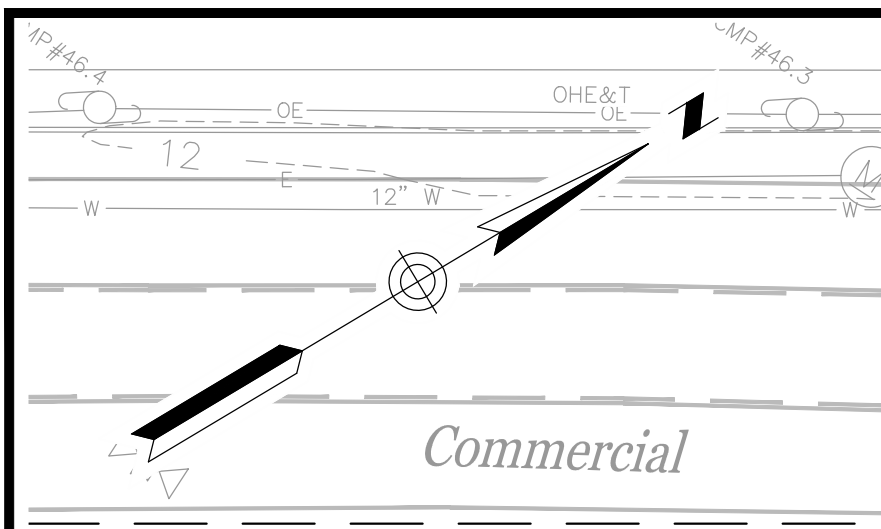
**Portland International Marine Terminal
Maintenance and Operations Building
BID AMENDMENT #3**

Page 4 of 4

DRAWINGS

Drawing E1.1 Power Plan

ADD a fire alarm audio/visual notification appliance centered on the rear wall of Training Room 112. The appliance shall have a strobe rated at 60cd.



GENERAL PHASING NOTES:

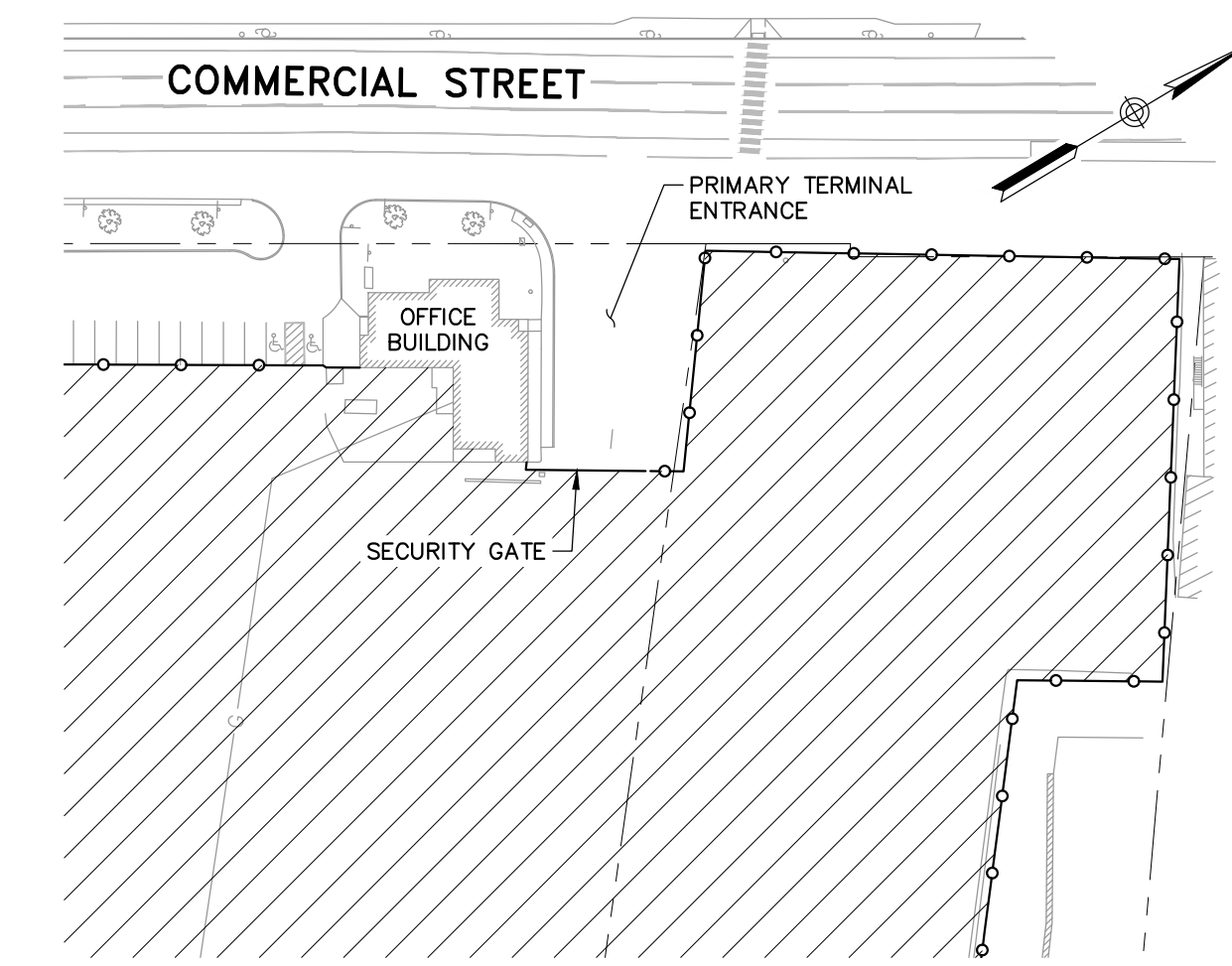
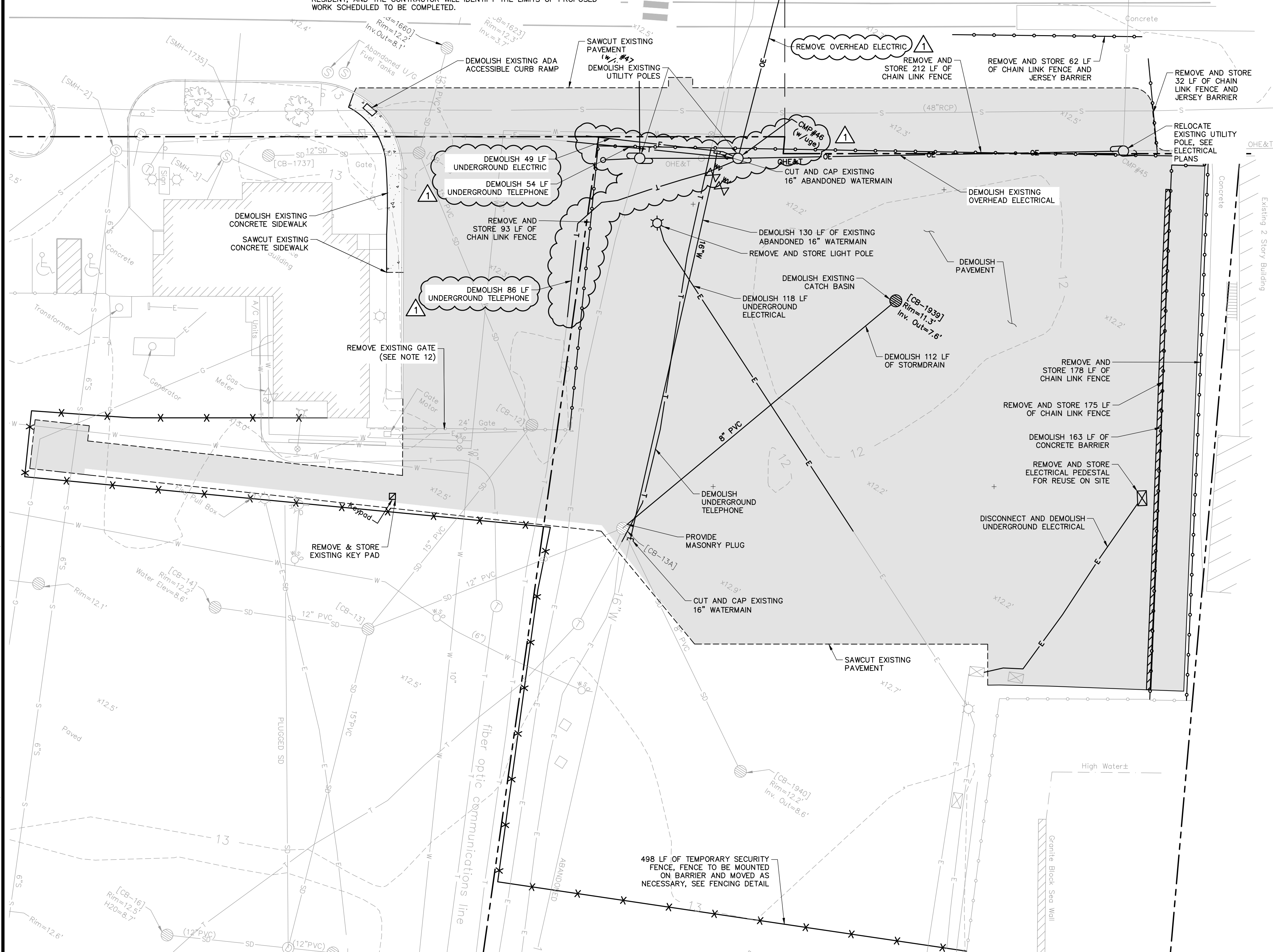
1. THE INTERNATIONAL MARINE TERMINAL IS IDENTIFIED AS A MARINE TRANSPORTATION SECURITY ACT (MTSA) 105 SITE DEFINED BY HOMELAND SECURITY. WORK BY THE CONTRACTOR IN THE RESTRICTED ZONE WILL BE POSSIBLE BY THE CONTRACTOR ONLY ON A SCHEDULED BASIS AND BY EMPLOYEES WITH PROPER SECURITY CLEARANCE SUCH AS WITH TWC CARDS (TRANSPORTATION WORKER IDENTIFICATION CREDENTIAL) AND TERMINAL ID'S.
2. THE WORK DEFINED IN THE CONTRACT DOCUMENTS IMPACTS THE RESTRICTED AREA AND THE PRIMARY TERMINAL ENTRANCE. THE PHASING SEQUENCE SHOWN ACCOMMODATES THE FACILITY OPERATIONS, SECURITY ANTICIPATED CONSTRUCTION SEQUENCE, AND MINIMIZES THE DURATION OF THE PRIMARY TERMINAL ENTRANCE SHUT DOWN.
3. SCHEDULING OF ALL WORK SHALL BE COORDINATED WITH THE TERMINAL MANAGER, THE PORT AUTHORITY, AND THE RESIDENT. COORDINATION MEETINGS WITH THE TERMINAL MANAGER, THE PORT AUTHORITY, THE RESIDENT, AND THE CONTRACTOR WILL IDENTIFY THE LIMITS OF PROPOSED WORK SCHEDULED TO BE COMPLETED.

PRE-DEMOLITION

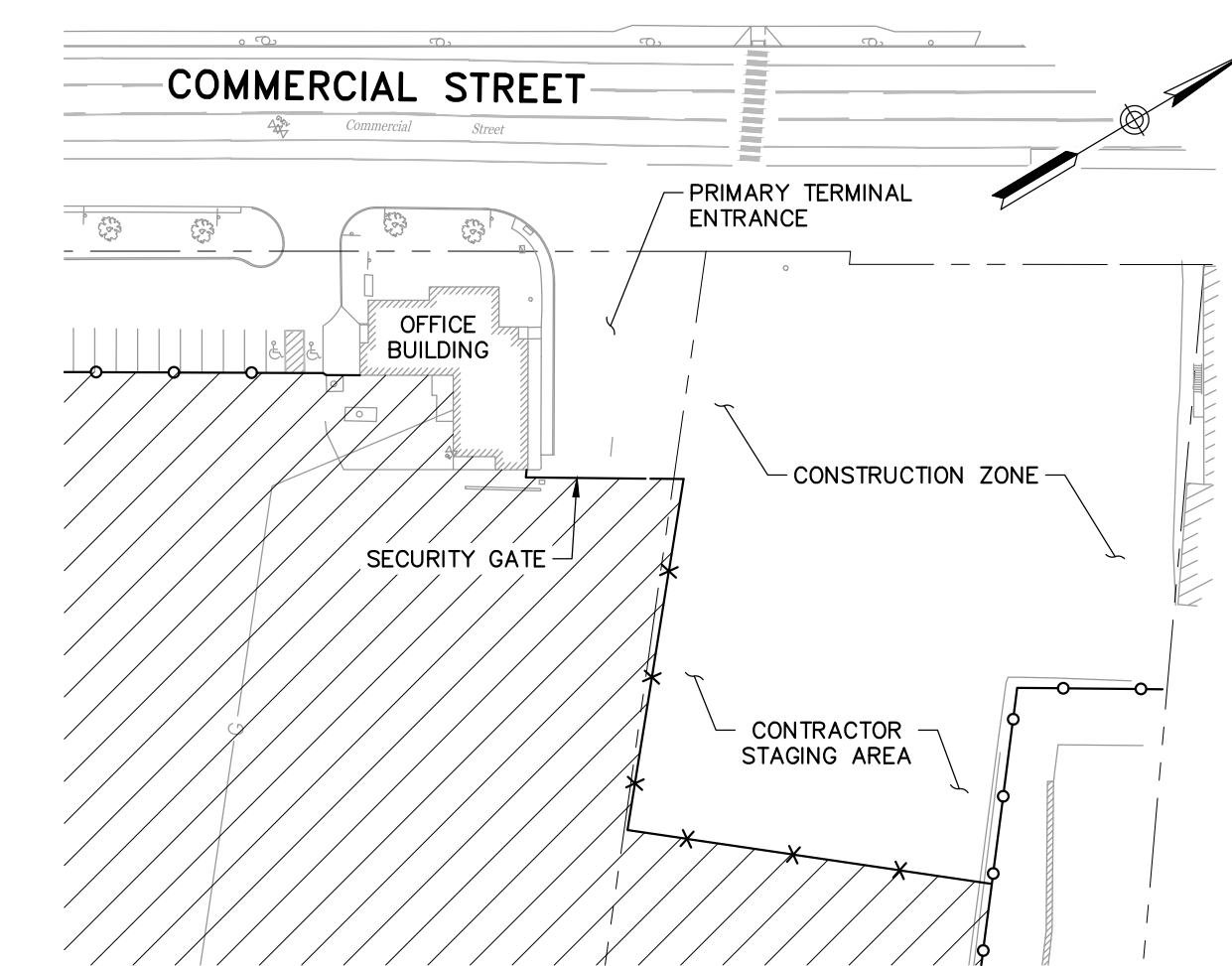
1. THE PRIMARY TERMINAL ENTRANCE, EXISTING SECURITY FENCING AND RESTRICTED AREAS ARE SHOWN IN THE PRE-DEMOLITION PLAN.
- CONSTRUCTION PHASE 1**
1. THE SECURITY OF THE INTERNATIONAL MARINE TERMINAL SHALL BE MAINTAINED AT ALL TIMES. INSTALL SECURITY FENCE ON TEMPORARY CONCRETE BARRIERS WITHIN THE RESTRICTED AREA AS SHOWN IN THE CONTRACT DRAWINGS AND THE CONSTRUCTION PHASE 1 PLAN PRIOR TO REMOVING THE IDENTIFIED SECTIONS OF EXISTING SECURITY FENCING.
 2. THE CONTRACTOR SHALL BE LIMITED TO THE CONSTRUCTION ZONE AND CONTRACTOR STAGING AREA IDENTIFIED EXCEPT DURING SCHEDULED CONSTRUCTION ACTIVITIES WHICH MAY OCCUR IN THE RESTRICTED AREA.

CONSTRUCTION PHASE 2

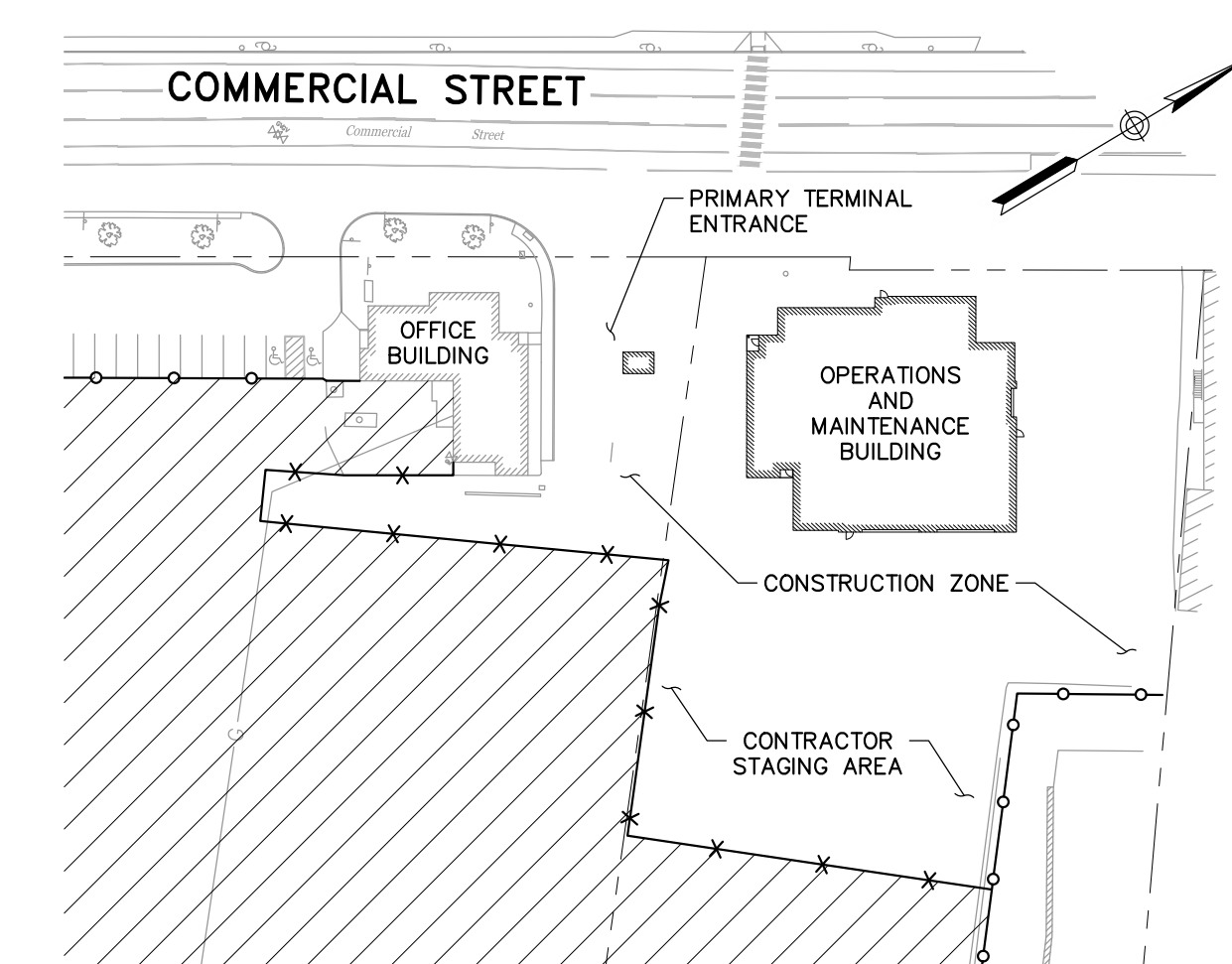
1. THE CONTRACTOR SHALL COORDINATE AND SCHEDULE THE SHUTDOWN OF PRIMARY TERMINAL ENTRANCE FOUR WEEKS IN ADVANCE WITH THE TERMINAL MANAGER, THE PORT AUTHORITY, AND THE RESIDENT.
2. THE SECURITY OF THE INTERNATIONAL MARINE TERMINAL SHALL BE MAINTAINED AT ALL TIMES. INSTALL SECURITY FENCE ON TEMPORARY CONCRETE BARRIERS WITHIN THE RESTRICTED AREA AS SHOWN IN THE CONSTRUCTION PHASE 2 PLAN PRIOR TO REMOVING THE EXISTING PRIMARY ENTRANCE SECURITY GATE.
3. THE NEW SECURITY GATE, GUARD HOUSE, AND SECURITY FENCING SHALL BE INSTALLED AND OPERATIONAL PRIOR TO THE REMOVAL OF THE SECURITY FENCE ON TEMPORARY CONCRETE BARRIERS.



PRE DEMOLITION PLAN
SCALE: N.T.S.

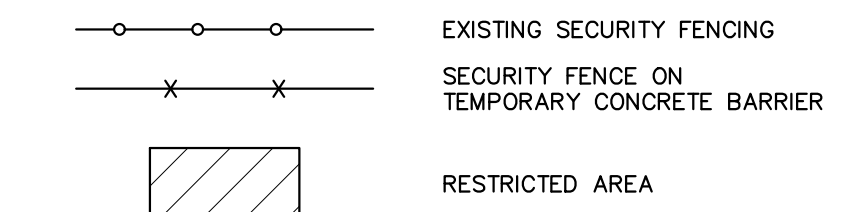


CONSTRUCTION PHASE 1 PLAN
SCALE: N.T.S.



CONSTRUCTION PHASE 2 PLAN
SCALE: N.T.S.

CONSTRUCTION PHASING LEGEND



BAR SCALE
1" = 20'
CHECK GRAPHIC SCALE BEFORE USING

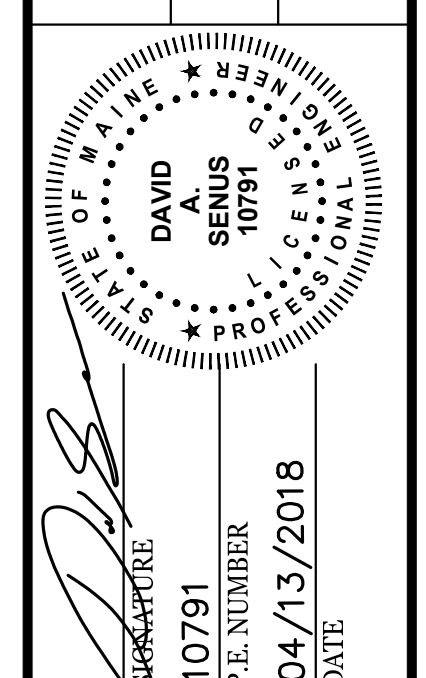
GENERAL NOTES:

1. THE UNDERGROUND UTILITIES INFORMATION SHOWN ON THESE PLANS HAVE BEEN COMPILED BY NADEAU LAND SURVEYORS FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE UTILITY LOCATIONS SHOWN IN PLAN ARE APPROXIMATE AND REQUIRE FIELD VERIFICATION BY THE CONTRACTOR. ALL INVERTS AND PIPE SIZES SHALL BE VERIFIED PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ALL UTILITIES PRIOR TO COMMENCING WORK, ALLOWING SUFFICIENT TIME TO LOCATE AND MARK THE LOCATION OF BURIED UTILITIES. CONTRACTOR SHALL CONTACT "DIG SAFE", TELEPHONE 888-344-7233, PRIOR TO EXCAVATION.
2. CONTRACTOR SHALL PROVIDE AND MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES, IN ACCORDANCE WITH THESE PLANS AND THE LATEST EDITION OF THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION'S BEST MANAGEMENT PRACTICES MANUAL. KEEP ALL STREETS FREE OF DUST, MUD AND DEBRIS. STREETS AND WALKWAYS SHALL BE SWEEPED REGULARLY, AND TEMPORARY CONSTRUCTION ENTRANCES SHALL BE UTILIZED DURING CONSTRUCTION.
3. CONTRACTOR SHALL MAINTAIN A SECURE WORKSITE, AND SHALL INSTALL AND MAINTAIN SAFETY AND SECURITY MEASURES, SUCH AS FENCING, BARRIERS, SIGNAGE, AND TRAFFIC CONTROL DEVICES. APPROPRIATE SECURITY AND SAFETY MEASURES SHALL BE IN PLACE DURING NON-WORKING HOURS. NO TRENCH SHALL BE LEFT OPEN DURING NON-WORKING HOURS. SITE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR, DURING BOTH WORKING AND NON-WORKING HOURS.
4. EXISTING FACILITIES WITHIN THE CITY RIGHT-OF-WAY (I.E. GRANITE CURBING, SIDEWALK BRICKS, TREES, POLES, LIGHT POSTS, CATCH BASINS, SIGNS, PLAY EQUIPMENT, ETC) ARE THE PROPERTY OF THE CITY'S DEPARTMENT OF PUBLIC SERVICES. CONTRACTOR TO COORDINATE REMOVAL/DISPOSAL WITH THE CITY AND OWNER. AT THE DIRECTION OF THE CITY AND OWNER, CONTRACTOR SHALL DELIVER REMOVED FACILITIES TO THE CITY'S MATERIAL STOCKYARD ON OUTER CONGRESS STREET. CONTRACTOR TO DISPOSE OF ANY REMOVED FACILITY AT THE REQUEST OF THE CITY OR OWNER, AT NO ADDITIONAL COST TO THE CONTRACT.
5. MAINTAIN VEHICULAR AND PEDESTRIAN FLOW THROUGH CITY STREETS AT ALL TIMES. COORDINATE ALL SIDEWALK AND LANE CLOSURES WITH THE CITY.
6. ALL LAWN AREAS, WALKWAYS, DRIVEWAYS, FACILITIES, UTILITIES, AND AMENITIES TO REMAIN SHALL BE PROTECTED AND REPAIRED/REPLACED IF DAMAGED BY CONTRACTOR AT NO ADDITIONAL EXPENSE TO OWNER.
7. EXISTING PAVEMENT SHALL BE REMOVED FROM SITE. PAVEMENT SHALL NOT BE MIXED WITH CONCRETE.
8. MATERIAL STORAGE, TEMPORARY FACILITIES, AND LAYDOWN AREAS SHALL BE LOCATED WITHIN THE TEMPORARY CONSTRUCTION FENCING. NO STORAGE OR TEMPORARY FACILITIES MAY BE LOCATED WITHIN THE CITY RIGHT-OF-WAY OR ON ABUTTING PROPERTIES WITHOUT WRITTEN APPROVAL FROM THE OWNER.
9. ITEMS TO BE REMOVED SHALL BE KEPT ON SITE FOR FUTURE REUSE. COORDINATE WITH OWNER FOR STORAGE LOCATION. ITEMS TO BE DEMOLISHED SHALL BE DISPOSED OFFSITE.
10. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES TO REMAIN DURING CONSTRUCTION. IF ANY UTILITY IS DAMAGED DURING CONSTRUCTION THE CONTRACTOR SHALL REPLACE AT NO EXPENSE TO THE OWNER.
11. UTILITIES WITHIN THE LIMITS OF THE PROPOSED BUILDING THAT WILL BE DEMOLISHED SHALL BE BACKFILLED WITH TYPE D SUBBASE AND COMPACTED TO 95% MAXIMUM DRY DENSITY.
12. EXISTING SLIDING TRAFFIC GATE AND ALL ASSOCIATED CONTROL AND OPERATORS ARE TO BE REMOVED AND TURNED OVER TO THE OWNER FOR RE-USE AT ANOTHER LOCATION ON SITE. FENCE POSTS ASSOCIATED WITH THE EXISTING GATE THAT ARE SET IN CONCRETE FOUNDATIONS WILL NOT BE RE-USED. CONTRACTOR SHALL CUT POSTS AND REMOVE CONCRETE FOUNDATION TO AT LEAST 2 FEET BELOW FINISH GRADE. CONTRACTOR SHALL COORDINATE THE TIME OF REMOVAL AND LOCATION ON SITE FOR STORAGE OF GATE AND COMPONENTS UNTIL GATE IS RE-INSTALLED BY THE OWNERS VENDOR AT THE NEW LOCATION.

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STATE OF MAINE
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2194202
WIN
021942.02
CIVIL PLANS



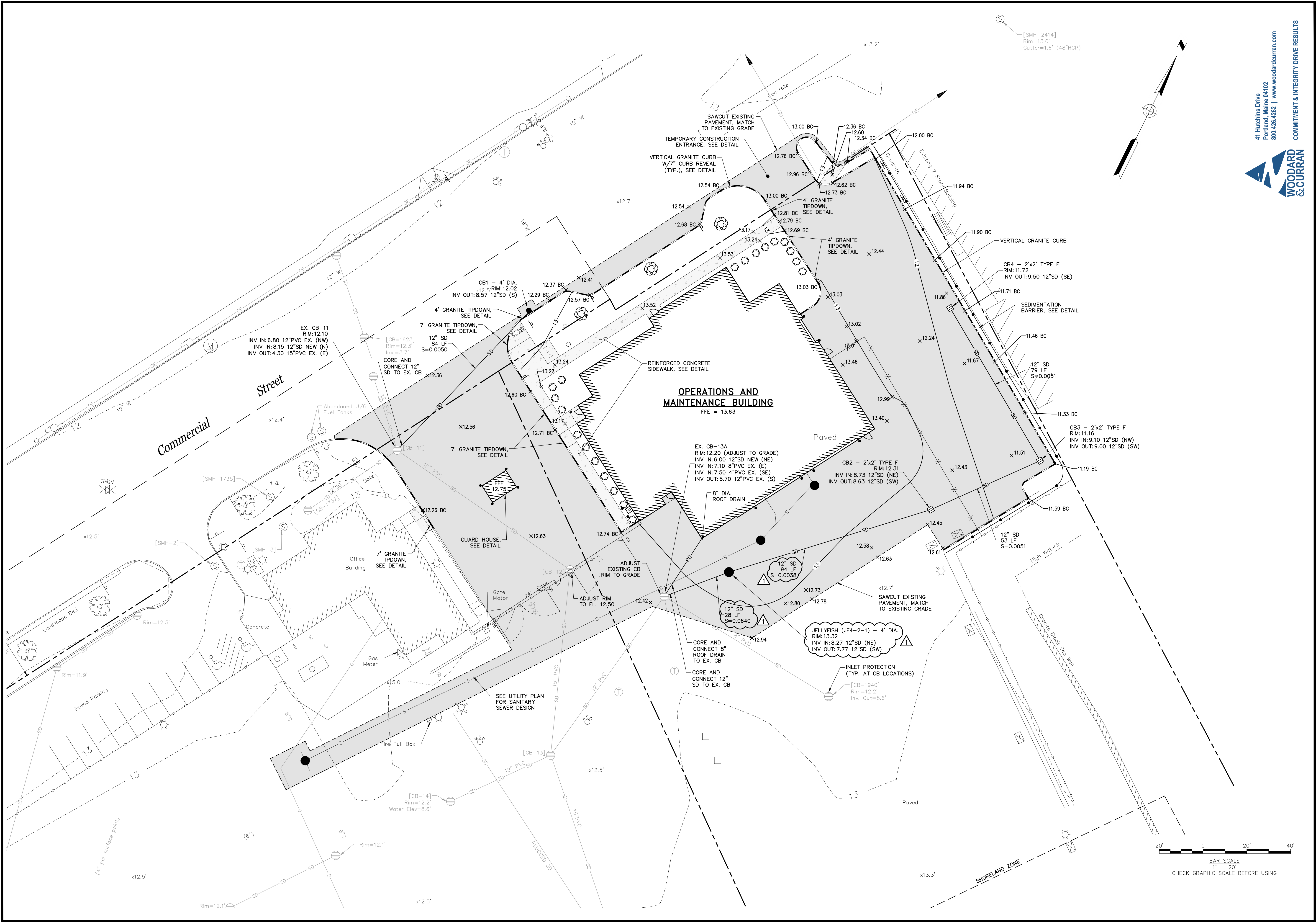
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DESIGN-DETAILED	02-15-18	CMS/JBC	02-15-18
CHECKED-REVIEWED	02-15-18	DAS	02-15-18
DESIGN-DETAILED	02-15-18		
DESIGNS-DETAILED			
REVISIONS 1	BID ADDENDUM #3	P.E. NUMBER	10791
REVISIONS 2		DATE	04/13/2018
REVISIONS 3			
REVISIONS 4			
			FIELD CHANGES

PORTLAND INTERNATIONAL MARINE TERMINAL
MAINTENANCE & OPERATIONS BUILDING
PORTLAND
CUMBERLAND COUNTY
DEMOLITION PLAN

SHEET NUMBER
C-03
5 OF 58

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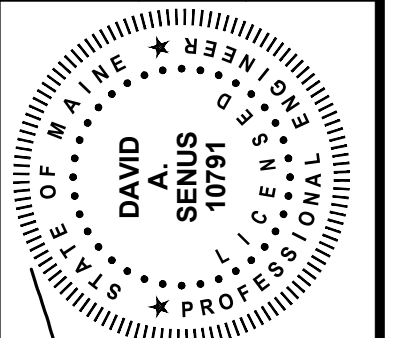
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STATE OF MAINE
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 CIVIL PLANS

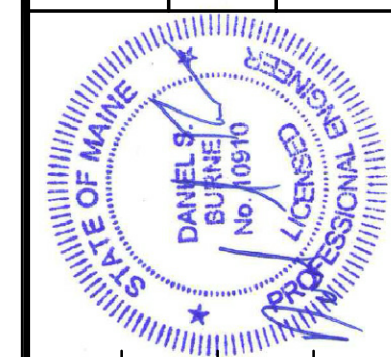


PROJ. MANAGER: JOEL KITTREDGE
 DESIGN-DETAILED: 02-15-18 CWS/JBC
 CHECKED-REVIEWED: 12-15-18 DAS
 DESIGN-DETAILED: 02-15-18 DAS
 DESIGN-DETAILED: 02-15-18 DAS
 REVISIONS: 1
 REVISIONS: 2
 REVISIONS: 3
 FIELD CHANGES

DATE	BY	DESCRIPTION
12-15-18	JBC	DESIGN-DETAILED
02-15-18	DAS	CHECKED-REVIEWED
02-15-18	DAS	DESIGN-DETAILED
02-15-18	DAS	DESIGN-DETAILED
04/13/2018		DATE

PORTLAND INTERNATIONAL MARINE TERMINAL
 MAINTENANCE & OPERATIONS BUILDING
 PORTLAND
 CUMBERLAND COUNTY
 GRADING, DRAINAGE, &
 EROSION CONTROL PLAN

SHEET NUMBER
C-05
 7 OF 58

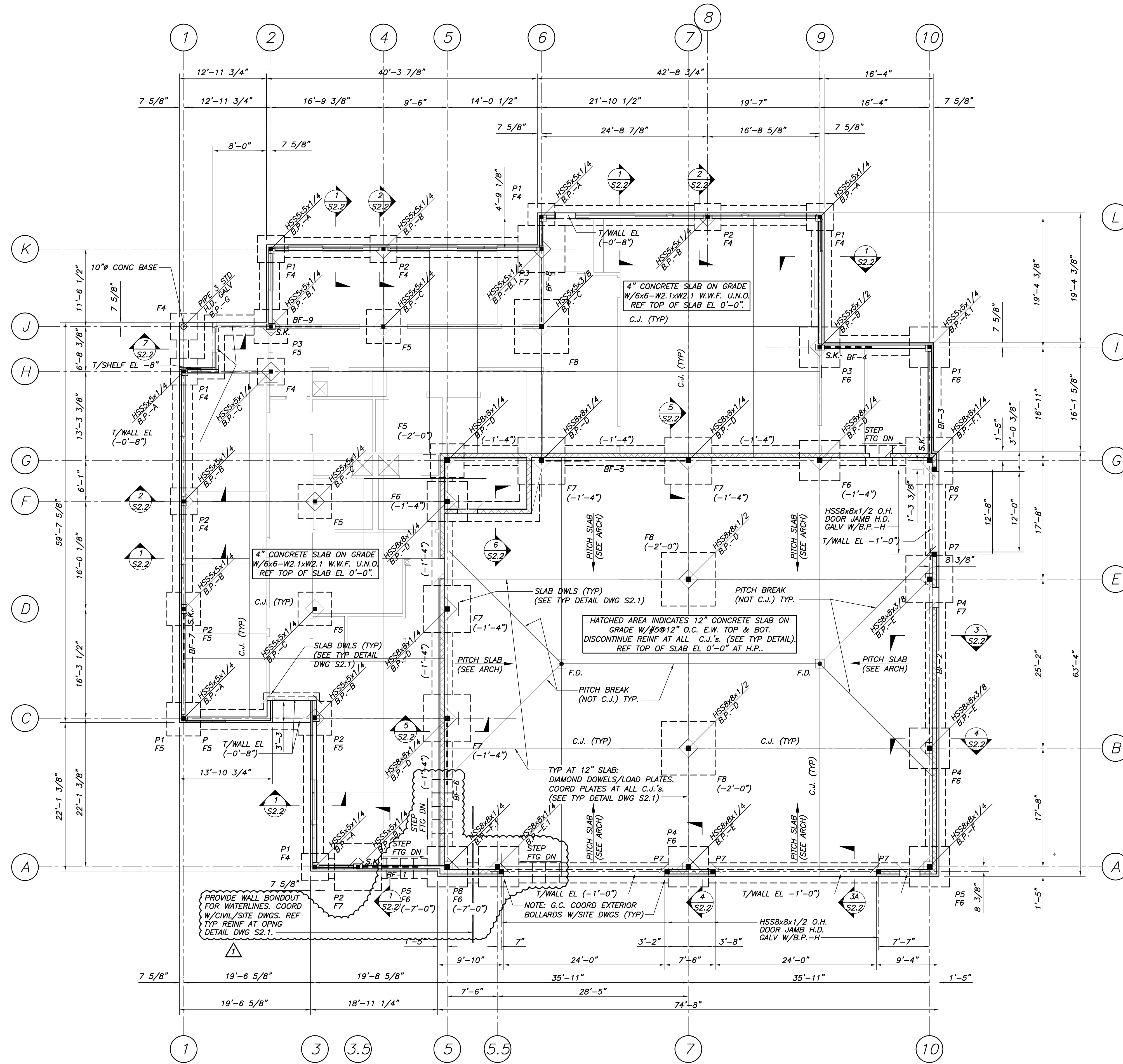


DATE	BY	APP	CHKD	DES	REV	DATE	DESCRIPTION
2/16/18	JOB KITTREDGE	DBS	DBS	DBS	10910	02/16/2018	DATE
2/16/18							SIGNATURE
							P.E. NUMBER
							BID AMENDMENT #3
							REVISIONS 1
							REVISIONS 2
							REVISIONS 3
							REVISIONS 4
							FIELD CHANGES

PORTLAND INTERNATIONAL MARINE TERMINAL
MAINTENANCE & OPERATIONS BUILDING
PORTLAND
CUMBERLAND COUNTY
FOUNDATION PLAN

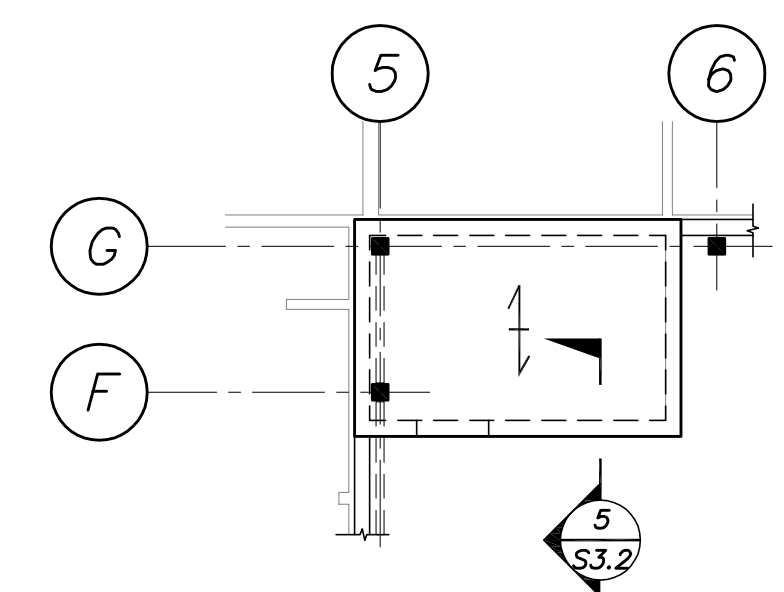
SHEET NUMBER

S1.1



GUARD HOUSE SLAB PLAN

1/8"=1'-0"
NOTES:
1. COORD SITE LOCATION W/CIVIL/SITE PLANS.
2. 1" RAISED T/SLAB TO MATCH GUARD HOUSE FOOTPRINT (8'x12').



PLATFORM SLAB PLAN

1/8"=1'-0"
NOTES:
1. \leftrightarrow INDICATES SPAN DIRECTION OF 2 1/2" CONCRETE ON
1.5VL20 COMPOSITE DECK (4" TOTAL) W/6x6-W2.1xW2.1 W.W.F.
2. TOP OF SLAB EL 10'-4".

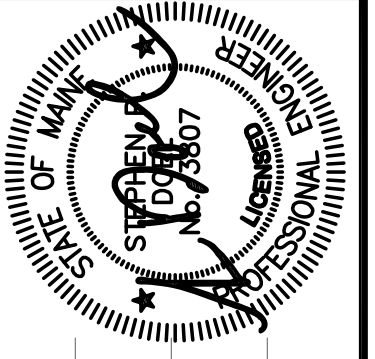
FOOTING SCHEDULE

MARK	SIZE	REINF
F4	4'-0"x4'-0"x1'-0"	4#5 E.W.B.
F5	5'-0"x5'-0"x1'-0"	5#5 E.W.B.
F6	6'-0"x6'-0"x1'-6"	6#6 E.W.B.
F7	7'-0"x7'-0"x1'-6"	7#6 E.W.B.
F8	8'-0"x8'-0"x1'-9"	8#6 E.W.B.

FOUNDATION PLAN

1/8"=1'-0"
NOTES:
1. TOP OF WALL EL 0'-0" U.N.O.
2. TOP OF SHELF EL -0'-1 1/2" U.N.O.
3. Fx INDICATES CONCRETE FOOTING. SEE SCHEDULE FOR SIZE & REINF.
4. TOP OF INTERIOR FOOTING EL (-1'-0") U.N.O.
5. TOP OF EXTERIOR FOOTING EL (-4'-0") U.N.O.
6. Fx INDICATES REINF CONCRETE PIER. SEE PIER DETAILS DWG S2.2.
7. TOP OF PIER EL (-0'-8") AT OFFICE, AND (-1'-0") AT GARAGE U.N.O.
8. BOND OUT TOP OF FDN WALL AS READ AT DIAG BRACES.
9. BP-x INDICATES COLUMN BASE PLATE. SEE DWG S3.3 FOR BASE PLATE DETAILS.
10. C.J. INDICATES SLAB CONTRACTION/CONSTRUCTION JOINT. SEE TYP DETAILS DWG S2.1 FOR ADDL INFO.
11. BF-1, BF-2, ETC INDICATES BRACED FRAME. SEE BRACED FRAME ELEVATIONS DWG S1.3.
12. S.K. INDICATES SHEAR KEY IN CONC PIER OR FOOTING. SEE TYP DETAIL DWG S3.3 FOR ADDL INFO.
13. \square INDICATES APPROX AREA OF SLAB TO BE POLISHED CONCRETE. G.C. COORD EXTENTS W/ARCH DWGS AND REFERENCE PROJECT SPECIFICATIONS.
14. F.D. INDICATES FLOOR DRAIN. G.C. COORD LOCATIONS & SLOPE REQMENTS W/ARCH & MEP DWGS.
15. REFER TO DWG S1.0 FOR FOUNDATION C.J. NOTES. AT STONE VENEER, COORDINATE FOUNDATION C.J. LOCATIONS WITH ARCHITECTURAL DWG A9.1.

- General Mechanical Notes**
1. Exhaust fan duct terminations thru the roof shall be Van Packer Model DCR Double Cone Rain Cap, or equal, with flashing boot, stainless steel construction.
 2. 90 degree elbows shall be mitered with single thickness turning vanes or radiused with a 4" radius = 1.5 x the duct width.
 3. Exhaust stacks at EF-1 and 2 shall extend to 8'-0" above the roof deck (to the top of the stackhead) with an 18" H. roof curb. The fans shall have a "No-Loss Stackhead" by US Duct, or equal, to prevent water from coming down the stack. Stack construction shall be Type 316 SS, welded. Fans shall be set on 12" H. galvanized steel equipment rails by Greenock or Kess.
 4. Refrigerant pipe sizes listed are estimated and shall be verified with the heat pump equipment manufacturer.



DATE	01/11/18	SIGNATURE	3807
BY	SPD	P.E. NUMBER	02/16/18
PROJ. MANAGER	JOEL KITTREDGE	DATE	
DESIGN-DETAILED	SPD	REVISIONS 1	
CHECKED-REVIEWED	SPD	REVISIONS 2	
DESIGN-DETAILED	SPD	REVISIONS 3	
DESIGN-DETAILED	SPD	REVISIONS 4	
REVISIONS 1	Bid Amendment #3	FIELD CHANGES	

PORTLAND INTERNATIONAL MARINE TERMINAL
MAINTENANCE & OPERATIONS BUILDING
PORTLAND
CUMBERLAND COUNTY
MECHANICAL

SHEET NUMBER

M1

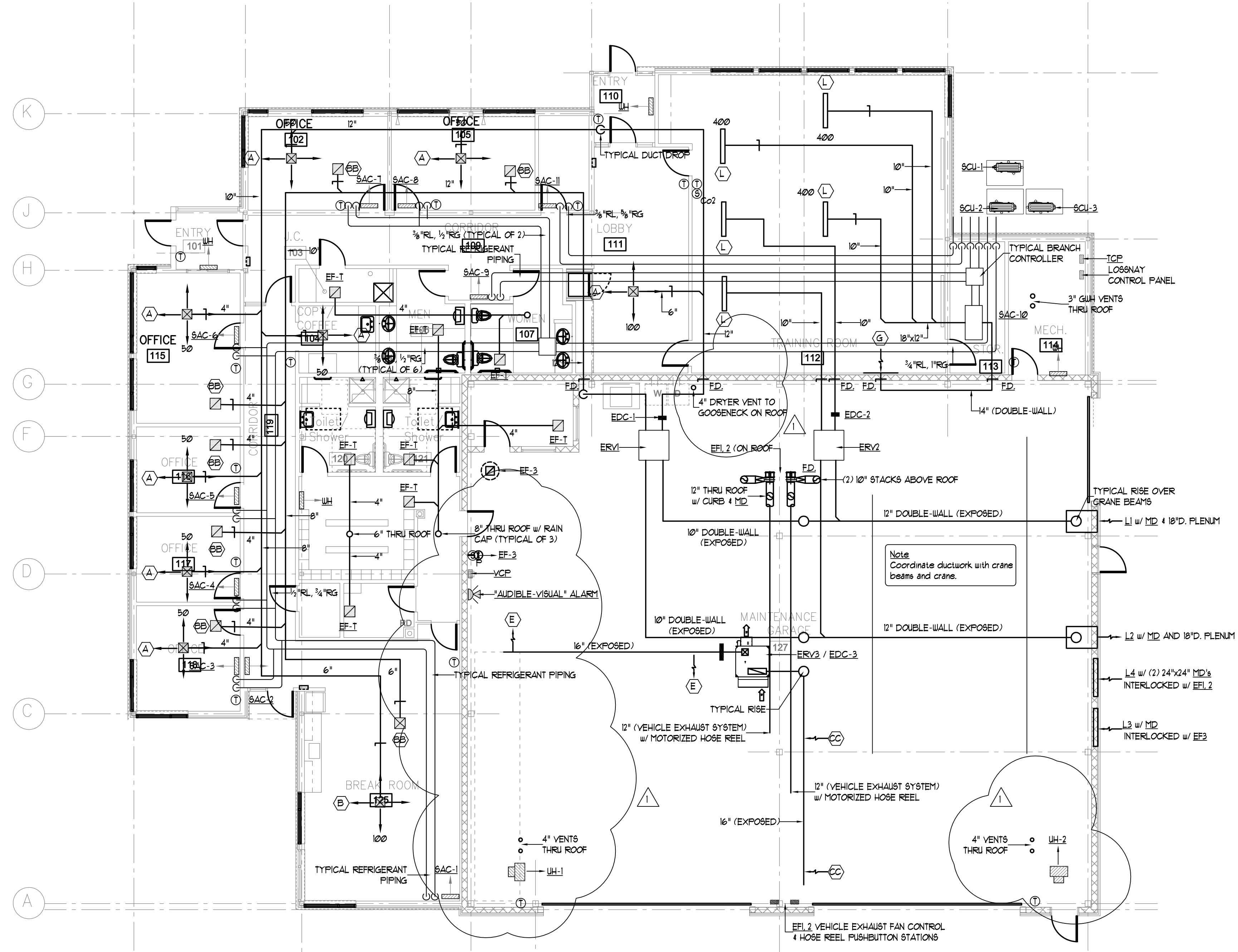
LINEAR BAR GRILLE PERFORMANCE SCHEDULE

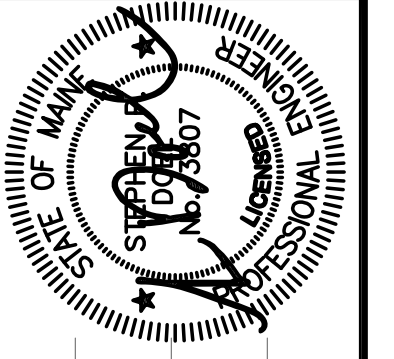
TAG	SIZE (INCHES)	AIRFLOW (CFM)	SP LOSS (INWG)	THROW (FEET)	NC	FRAME STYLE	PATTERN	BASIS OF DESIGN PRICE		
								FASTENING	SPACING	SERIES
(E)	30x4	300	0.03	20	25	1" FLANGE	B*	SCREWS	1/2"	LBPH 26C
(G)	36x8	1000	0.04	25	20	1" FLANGE	B*	SCREWS	1/2"	LBPH 26C
(K)	48x8	1250	0.04	-	20	1" FLANGE	B*	SCREWS	1/2"	LBPH 26C

LINEAR SLOT DIFFUSER PERFORMANCE SCHEDULE

TAG	SIZE (INCHES)	AIRFLOW (CFM)	SP LOSS (INWG)	THROW (FEET)	NC	FRAME STYLE	PATTERN	BASIS OF DESIGN PRICE		
								NO. OF SLOTS	SLOT WIDTH	MODEL
(J)	48	250	0.05	10-30	30	T-BAR	ADJ.	2	1"	SDS100
(L)	48	400	0.05	1-22	30	T-BAR	ADJ.	4	1"	SDS100 / SDR100

Note: Provide insulated boot plenums. Coordinate border style with ceiling construction.



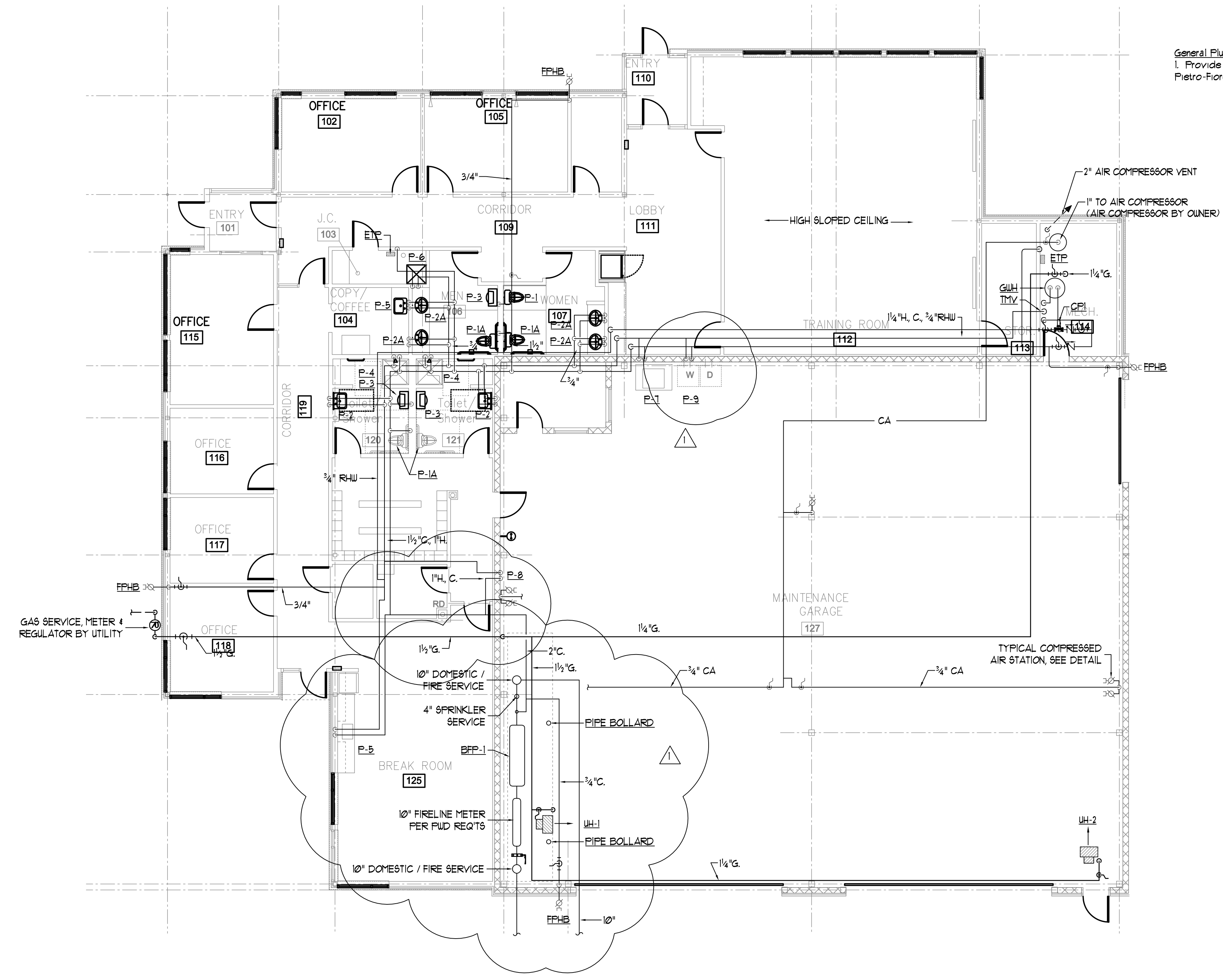


PROJ. MANAGER	JOEL KITTREDDGE	DATE	01/11/18
DESIGN-DETAILED	SPD	BY	SPD
CHECKED-REVIEWED	SPD		SPD
DESIGN-DETAILED2	SPD		SPD
DESIGN-DETAILED3	SPD		SPD
REVISIONS 1	Bid Amendment #3	DATE	4/13/18
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

PORTLAND INTERNATIONAL MARINE TERMINAL
MAINTENANCE & OPERATIONS BUILDING
PORTLAND
CUMBERLAND COUNTY
DOMESTIC PIPING PLAN

SHEET NUMBER

M3



General Plumbing Notes
1. Provide a gas pressure regulator at each gas appliance. Regulators shall be Maxitrol, Pietro-Fiorntini or Iltron with vent limiter or vent to atmosphere per Code.

DOMESTIC PIPING FLOOR PLAN

SCALE: 1/8" = 1'-0"

ERV PERFORMANCE SCHEDULE									
TAG	AIRFLOW (CFM)	E.S.P. (IN. WG.)	MCA / MOCP	VOLTAGE	EFFECTIVENESS (WINTER)	OFFER WEIGHT (LBS)	BASIS OF DESIGN Mitsubishi "Losseny"		
							FILTERS	DUCT CONN.	MODEL
ERV1	600	0.3	3.6 / 15	208/1	67%	132	WASHABLE	10"	LGH-F600RX3-E
ERV2	400	0.3	3.1 / 15	208/1	74%	119	WASHABLE	10"	LGH-F410RX3-E
ERV3	See the Appendix in the Specifications for performance information.								

Notes: Provide a FZ-60DR Losseny Controller for Mitsubishi units.

FAN PERFORMANCE SCHEDULE

TAG	AIRFLOW (CFM)	T.S.P. (IN.WG.)	NOISE (SONES)	RPM	DRIVE	ELECTRICAL REQUIREMENTS					BASIS OF DESIGN = (P) Panasonic, (G) Greenheck, (V) Venetiaire		
						HP	BHP	WATTS	AMPS	V/PH/Hz	SERVICE	ARRANGEMENT	MODEL
EF-T	50 / 110	0.25	0.4	-	DIRECT	-	-	11.0	0.2	120/1/60	TOILETS / JANITOR	CEILING	FV-05-11V-KLI
EF1, 2	1200	6.0	-	-	-	3.0	-	-	-	208/3/60	VEHICLE EXHAUST	UTILITY	(V) JRL180TF-3-3
EF3	6000	0.25	24	1135	BELT	2.0	1.75	-	-	208/3/60	REPAIR GARAGE EXHAUST	UPBLAST	CUBE-200-20

Notes: EF-T shall come with motion sensors and be multi-speed with time delay and multi-speed plug n' play modules. See Plans for quantities.
Notes: Furnish each fan-light unit with gravity operated backdraft damper and two (2) 7W LED lamps.

PLUMBING FIXTURE CONNECTION SCHEDULE

TAG	DESCRIPTION	SAN	VENT	CW	HU
P-1	FLOOR MOUNTED FV WATER CLOSET	3"	2"	1"	-
P-1A	ADA FLOOR MOUNTED FV WATER CLOSET	3"	2"	1"	-
P-2	WALL MOUNTED LAVATORY	1 1/2"	1 1/2"	1/2"	1/2"
P-2A	ADA COUNTER LAVATORY	1 1/2"	1 1/2"	1/2"	1/2"
P-3	URINAL	2"	1 1/2"	3/4"	-
P-4	SHOWER	2"FD	1 1/2"	1/2"	1/2"
P-5	SINGLE BOWL KITCHEN SINK	1 1/2"	1 1/2"	1/2"	1/2"
P-6	MOP BASIN	3"	2"	1/2"	1/2"
P-7	S.S. STEEL UTILITY SINK	1 1/2"	1 1/2"	1/2"	1/2"
P-8	EMERGENCY EYE / FACE WASH	1 1/2"	1 1/2"	1/2"	1/2"
P-9	WASHING MACHINE CONNECTION	2"	1 1/2"	1/2"	1/2"
FD-1	FLOOR DRAIN (w/ TRAP PRIMER)	3"	2"	-	-
FD-2	HEAVY DUTY FLOOR DRAIN w/ TRAP PRIMER	4"	2"	-	-
HB	HOSE BIBB	-	-	3/4"	-
FPFB	FREEZE PROOF HOSE BIBB	-	-	3/4"	-
IW	INDIRECT WASTE	3"	2"	-	-

MINIMUM SIZE OF BELOW SLAB SANITARY & VENT PIPING SHALL BE 2". PROVIDE TRAP PRIMERS ON FLOOR DRAINS. CONNECT TO NEAREST ETP. UNITS SCHEDULED MAY REPRESENT MULTIPLE UNITS, COORDINATE WITH DRAWINGS.

SPLIT-SYSTEM HEAT PUMP PERFORMANCE SCHEDULE

TAG	TOTAL COOLING (MBH)	AIRFLOW (CFM)	HEATING CAPACITY (BTUH@5F)	COND. DRAIN (IN)	EER (BTUH/WATT)	SOUND RATING (DB)	WEIGHT (LBS)	REFRIGERANT PIPE SIZE (IN)		ELECTRICAL REQUIREMENTS				BASIS OF DESIGN MITSUBISHI "Hyperheat H2"		
								LIQUID	GAS	MCA	MAX RISE	V/PH/Hz	SERVICE	ARRANGEMENT	MODEL	
SAC1	12.0	300	13.6	3/4"	13.8	40	62	3/8"	3/8"	1.0	15.0	208/1/60	HEATING / COOLING	WALL	MSZ-FH2NA-UI	
SAC2-B	6.0	250	8.7	3/4"	13.8	40	50	3/8"	3/8"	1.0	15.0	208/1/60	HEATING / COOLING	WALL	MSZ-FH06NA-UI	
SAC3	15.0	350	18.0	3/4"	13.8	40	62	3/8"	3/8"	1.0	15.0	208/1/60	HEATING / COOLING	WALL	MSZ-FH18NA-UI	
SAC10	36.0	1150	40.0	3/4"	13.8	40	62	3/8"	3/8"	1.0	15.0	208/1/60	HEATING / COOLING	DUCTED	FEAD-A36AA	
SAC11	12.0	300	-	3/4"	13.8	40	62	3/8"	3/8"	1.0	15.0	208/1/60	COOLING	WALL	FKA-A12HA	

Notes: 1. All data based on medium speed operation. Provide condensate overflow safety switches and pumps. Provide 24" H stands, "Quick-Sling", or equal. Units shall provide 80% of their rated heating performance at -15F outside ambient.
2. Provide a PAC-UKFR2001-CN-1 BMS interface and connect to the BAS system. Provide "BlueFin" corrosion resistant coating.

SPLIT-SYSTEM OUTDOOR UNIT PERFORMANCE SCHEDULE

TAG	TOTAL COOLING (MBH)	TOTAL HEATING (MBH @ 5F)	EER	MINIMUM AMBIENT TEMPERATURE (°F)	FOOTPRINT DIMENSION (INCHES)	OPERATING WEIGHT (LBS)	ELECTRICAL REQUIREMENTS		BASIS OF DESIGN MITSUBISHI "Hyperheat H2"				
							MCA	MOP	V/PH/Hz	REFRIGERANT	SOUND (BEL)	SERVICE	MODEL
SQU-1/2	48.0	54.0	13.1	-	37x13	276	42	50	208/1/60	R-410A	-	SAC-1-B / 9.10	MXZ-8C48NAHZ
SQU-3	12.0	-	13.1	0	37x13	90	11	28	208/1/60	R-410A	-	SAC-11	FUT-A12NHA6(-B5)

Note: Provide SQU-3 with wind baffles and 0F low ambient controls.

LOUVER PERFORMANCE SCHEDULE

TAG	AIR FLOW (CFM)	SF LOSS (IN. WG.)	AIR VEL. (FPM)	SIZE (INCHES)	FREE AREA (SQ. FT)	DRAINABLE (Y) OR (N)	BLADE ANGLE (°)	BASIS OF DESIGN RUSKIN		
								SERVICE	MODEL	VISIBL MULLION
L1, 2	1000	.05	-	24x24	2.0	Y	35.6°	ERV1, 2 INTAKE / EXHAUST	ELF63TBDX	N
L3	4500	.05	-	48x24	4.5	Y	35.6°	EP3 INTAKE	ELF63TBDX	N
L4	2400	.05	-	48x24	4.5	Y	35.6°	EF1, 2 INTAKE	ELF63TBDX	N

Note: Provide Kynar 500 finish with color selection by Architect.

GAS UNIT HEATER PERFORMANCE SCHEDULE

TAG	OUTPUT (MBH)	FLOW RATE (GPM)	SOUND (DBA)	AIRFLOW (CFM)	THRU	HTG. HT.	ELECTRICAL REQUIREMENTS			BASIS OF DESIGN REZNOR		
							HP	RPM	V/PH/Hz	SERVICE	ARRANGEMENT	MODEL
UH1, 2	99.6	-	55	1345	30"	12'-0"	1/4	1050	120/1/60	REPAIR GARAGE	HORIZONTAL	UDAP 125

ELECTRIC WALL HEATER PERFORMANCE SCHEDULE

TAG	OUTPUT (KW)	FLOW RATE (GPM)	WPD (FT/LG)	AIRFLOW (CFM)	HTG. HT.	ELECTRICAL REQUIREMENTS			BASIS OF DESIGN QMARK		
						HP	AMPS	V/PH/Hz	SERVICE	ARRANGEMENT	MODEL
WH	2.0	-	-	65	8'	-	9.6	208/1/60	VARIOUS	WALL-MOUNTED	CUH108D5AG

GAS WATER HEATER PERFORMANCE SCHEDULE

TAG	STORAGE (GALS)	INPUT (MBH)	WPD (FT/LG)	RECOVERY 100°F RISE (GPH)	WORKING PRESSURE (PSIG)	INPUT CW TEMP (DEG F)	OUTLET HW TEMP (DEG F)	ELECTRICAL REQUIREMENTS			BASIS OF DESIGN A.O. SMITH		
								AMPS	WATTS	V/PH/Hz	SERVICE	FUEL	MODEL
GH1	60	120	-	138	1600	400	1400	5	-	120/1/60	BUILDING DHW	NATURAL GAS	BTH20(A)

GH1 SHALL BE PROVIDED WITH CONDENSATE NEUTRALIZATION KIT, ASME CODE CONSTRUCTION

PUMP PERFORMANCE SCHEDULE

TAG	FLOW RATE (GPM)	HEAD (FT/LG)	IMPEL. SIZE	RPM	EFF %	ELECTRICAL REQUIREMENTS					BASIS OF DESIGN TACO		
						HP	BHP	VFD / ECM	AMPS	V/PH/Hz	SERVICE	ARRANGEMENT	MODEL
CP1	5	6	-	3250	-	1/8	-	-	1.2	120/1/60	DOMESTIC RHW	IN-LINE	006B

All bronze or stainless steel construction.

TEMPERATURE MIXING VALVE PERFORMANCE SCHEDULE

TAG	FLOW RATE (GPM)	INLET CONNECTION (INCHES)	OUTLET CONNECTION (INCHES)	WPD (PSIG)	SET POINT (DEGREES F)	PROVIDE SPARE CARTRIDGE (Y) OR (N)	BASIS OF DESIGN LEONARD "ECO-MIX"		
							SERVICE	ARRANGEMENT	MODEL
TMV	20	3/4"	3/4"	10	115	N	DOMESTIC HW	INLINE	LV-981A-LF-BDT

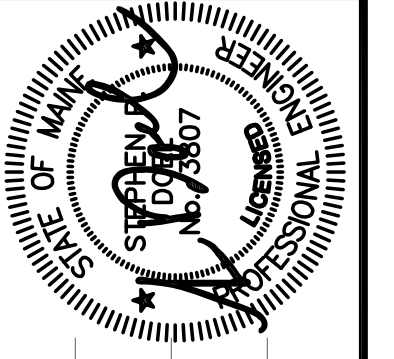
BFP PERFORMANCE SCHEDULE

TAG	SIZE	FLOW RATE (GPM)	WPD (PSI)	MAX. WORK'G. TEMPERATURE (DEGREES F)	MAX. WORK'G. PRESSURE (PSI)	TESTABLE (Y) OR (N)	BASIS OF DESIGN APOLLO VALVE		
							BODY STYLE	SERVICE	MODEL
BFP1	10"	2300	13.0	180	115	Y	RPZ	WATER SERVICE	4ALF-200 LBF
BFP2	1 1/2"	50.0	11.0	180	115	Y	RPZ	WATER ENTRANCE	4ALF-200

MECHANICAL AND PLUMBING SYMBOLS AND ABBREVIATIONS LEGEND

NOTE - USE SYMBOLS AND ABBREVIATIONS AS APPLICABLE FOR THIS MECHANICAL DRAWING SET. SOME SYMBOLS AND ABBREVIATIONS IN THIS LEGEND MAY NOT APPLY.

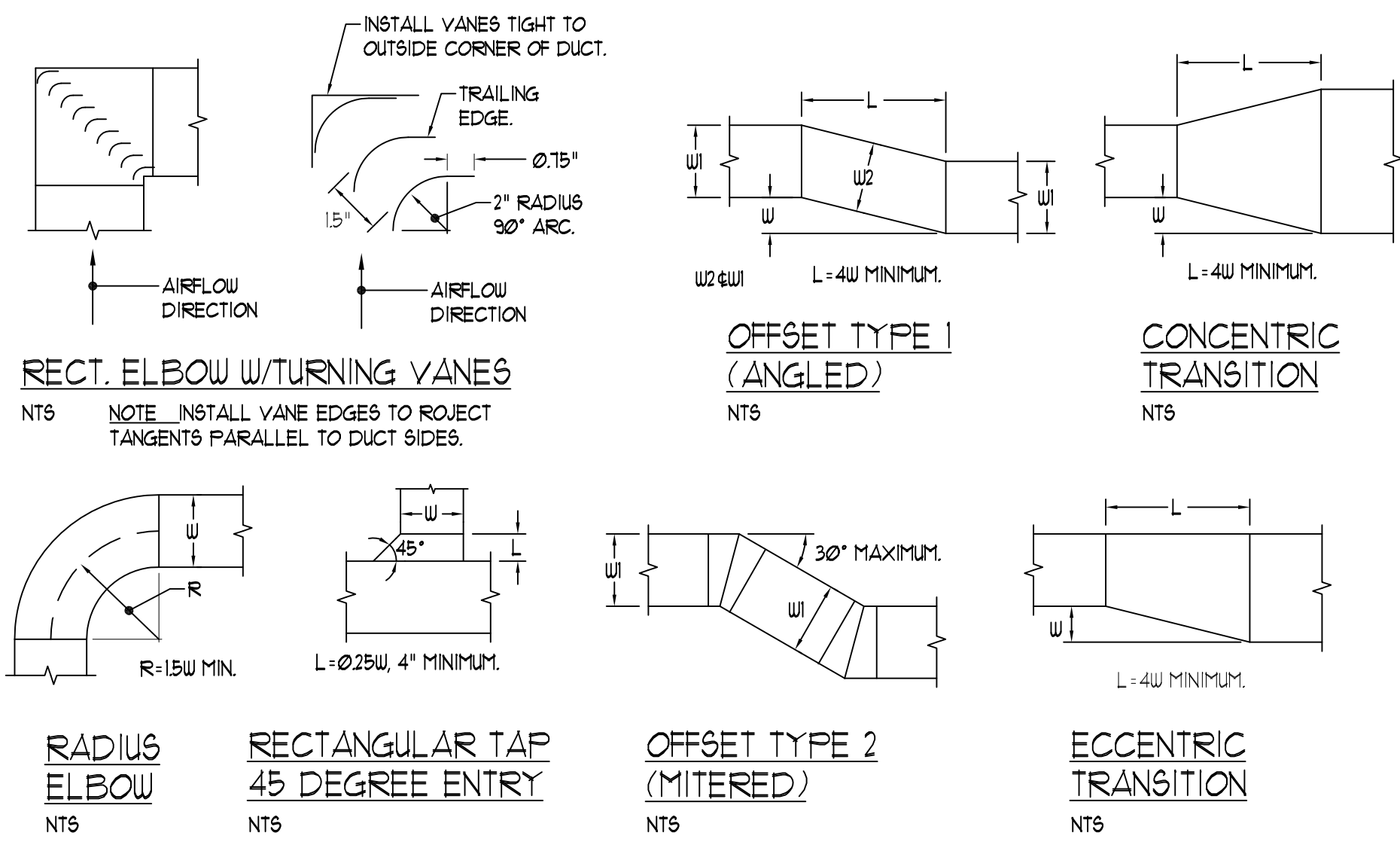
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
	COMPRESSED AIR PIPING (CA)		BALL VALVE	B-*	BOILER TAG	EUB-*	ENTERING WET BULB	LB	POUNDS	RPZ	REDUCED PRESSURE ZONE
	CONDENSATE DRAIN PIPING (C)		3/4" BALL VALVE WITH 3/4" HOSE END	BD-*	BYPASS DAMPER TAG	EWH-*	ELECTRIC WATER HEATER TAG	LD-*	LINEAR DIFFUSER TAG	RR-*	RETURN REGISTER TAG
	CHILLED WATER RETURN PIPING (CWR)		GATE VALVE	BFP-*	BACKFLOW PREVENTER TAG	EWT	ENTERING WATER TEMPERATURE	LTHW/S/R	LOW TEMPERATURE HOT WATER	RTU	ROOM TEMPERATURE SENSOR
	CHILLED WATER SUPPLY PIPING (CWS)		PRESSURE REDUCING VALVE	BHP	BRAKE HORSEPOWER	EXG	EXISTING	LRA	LOCKED ROTOR AMPS	RV	RELIEF VALVE
	FUEL OIL RETURN PIPING (FOR)		PRESSURE REDUCING VALVE	BTUH	BRITISH THERMAL UNITS PER HOUR	EXH	EXHAUST	LWCO	LOW WATER CUTOFF	RUL	RAINWATER LEADER
	FUEL OIL SUPPLY PIPING (FOS)		FUSIBLE VALVE	CBD	COUNTER BALANCED DAMPER	FC	FLEXIBLE CONNECTION	LWT	LEAVING WATER TEMPERATURE	SA	SUPPLY AIR
	GAS PIPING (G)		STRAINER W/ BLOWDOWN BALL VALVE	CC-*	COOLING COIL TAG	FCO	FLOOR CLEANOUT	MAX	MAXIMUM	SAN	SANITARY (DRAIN & WASTE)
	HOT WATER RETURN PIPING (HWR)		2-WAY CONTROL VALVE	CFM	CUBIC FEET PER MINUTE	FD	FIRE DAMPER	MBH	THOUSANDS OF BTU PER HOUR	SD	SMOKE DAMPER
	HOT WATER SUPPLY PIPING (HWS)		SOLENOID VALVE	CHLR-*	CHILLER TAG	FD-*	FLOOR DRAIN TAG	MCA	MINIMUM CIRCUIT AMPACITY	SEER	SEASONAL ENERGY EFFICIENCY RATIO
	REFRIGERANT LIQUID PIPING (RL)		3-WAY CONTROL VALVE	CO	CLEANOUT	FLA	FULL LOAD AMPS	MIN	MINIMUM	SF	SUPPLY FAN
	REFRIGERANT GAS PIPING (RG)		3-WAY CONTROL VALVE (TOP VIEW)	CUH-*	CABINET UNIT HEATER TAG	FOR	FUEL OIL RETURN	NC	NOISE CRITERION	SP	STATIC PRESSURE
	SANITARY PIPING BELOW FLOOR (SAN)		DUCT W/ SQUARE-TO-ROUND TRANSITION	CP-*	CIRCULATING PUMP TAG	FOS	FUEL OIL SUPPLY	NIC	NOT IN CONTRACT	SP-*	SUMP PUMP TAG
	SANITARY PIPING ABOVE FLOOR (SAN)		DUCT W/ FLEXIBLE CONNECTION (FC)	CT-*	COOLING TOWER TAG	FPFB	FROST PROOF HOSE BIBB	NTS	NOT TO SCALE	SR-*	SUPPLY REGISTER TAG
	SANITARY VENT PIPING		DUCT W/ ACOUSTIC LINING	CV	VALVE COEFFICIENT	FFM	FEET PER MINUTE	OA	OUTSIDE AIR	SQFT	SQUARE FEET
	RAINWATER LEADER ABOVE SLAB (RWL)		DIAMETER IN	CW	COLD WATER	FS-*	FLOOR SINK TAG	OBD	OPPOSED BLADE DAMPER	TEMP.	TEMPERATURE
	COLD WATER PIPING (CW)		DIAMETER ON FLAT OVAL	CHWS/R	CHILLED WATER SUPPLY AND RETURN	FT	FEET	OD	OUTSIDE DIAMETER	TEMP.	TEMPERATURE
	HOT WATER PIPING (HW)		FIRE DAMPER	DB	DRY BULB	FTR-*	FINTUBE RADIATION TAG	OED	OPEN ENDED DUCT	TCP	TEMPERATURE CONTROL PANEL
	RECIRCULATED HOT WATER PIPING (RHW)		DECIBELS RELATIVE TO DOUBLE CHECK	DB RE	DECIBELS RELATIVE TO	GA	GAGE	OFRWL	OVERFLOW RAINWATER LEADER	TMV-*	THERMOSTATIC MIXING VALVE TAG
	PIPE CAP		DOUBLE CHECK ATMOSPHERIC DEGREES FAHRENHEIT	DC	DOUBLE CHECK	GAL	GALLONS	ORWH-*	OIL FIRED WATER HEATER TAG	TSP	TOTAL STATIC PRESSURE
	DIRECTION OF FLUID FLOW		DOUBLE CHECK ATMOSPHERIC DEGREES FAHRENHEIT	DCA	DOUBLE CHECK ATMOSPHERIC DEGREES FAHRENHEIT	GFWH-*	GAS FIRED WATER HEATER TAG	OFRD	OVERFLOW ROOF DRAIN	TYP	TYPICAL
	ELBOW UP		DEGREES FAHRENHEIT	DEG F	DEGREES FAHRENHEIT	GPH	GALLONS PER HOUR	OPD	OVERCURRENT PROTECTIVE DEVICE	UH-*	UNIT HEATER TAG
	ELBOW DOWN		DIAMETER	DIA	DIAMETER	GPM	GALLONS PER MINUTE	P-*	PLUMBING FIXTURE TAG	UNO	UNLESS NOTED OTHERWISE
	PIPE TEE UP		DIAMETER ON FLAT OVAL	DIW	DOWN IN WALL	GPM	GAS UNIT HEATER TAG	PENETN	PENETRATION	VAV-*	VARIABLE AIR VOLUME BOX TAG
	PIPE TEE DOWN		DIAMETER ON FLAT OVAL	DN	DOWN	GUH-*	GAS UNIT HEATER TAG	FF-*	FADDLE FAN TAG	VB	VACUUM BREAKER
	PIPE REDUCER		DIAMETER ON FLAT OVAL	EA	EXHAUST AIR	HC-*	HEATING COIL TAG	HP	HORSEPOWER	VFD	VARIABLE FREQUENCY INVERTER DRIVE
	PIPE WITH GUIDE		DIAMETER ON FLAT OVAL	EAT	ENTERING AIR TEMPERATURE	HS/R	HOT WATER SUPPLY AND RETURN	PSIA	POUNDS PER SQUARE INCH ABSOLUTE	VTR	VENT THRU ROOF
	PIPE WITH ANCHOR		DIAMETER ON FLAT OVAL	EDB	ENTERING DRY BULB	I-B-R	INSTITUTE OF BOILER AND RADIATOR MANUFACTURERS	PSIG	POUNDS PER SQUARE INCH GAGE	VPH/Hz	VOLTS/PHASES/HERTZ
	BUTTERFLY VALVE		DIAMETER ON FLAT OVAL	EDC-*	ELECTRIC DUCT COIL TAG	IN	INCHES	PVC	POLYVINYL CHLORIDE (PIPE)	W/B	WET BULB
	OS & Y GATE VALVE		DIAMETER ON FLAT OVAL	EER	ENERGY EFFICIENCY RATIO	IN	INCHES	RA	RETURN AIR	WCO	WALL CLEANOUT
	BACKFLOW PREVENTER (BFP)		DIAMETER ON FLAT OVAL	EP-*	EXHAUST FAN TAG	IN	INCHES	RD	ROOF DRAIN	UG	UNDERGROUND
	CHECK VALVE		DIAMETER ON FLAT OVAL	EFF	EFFICIENCY	IV-*	INTAKE VENT TAG	RL			



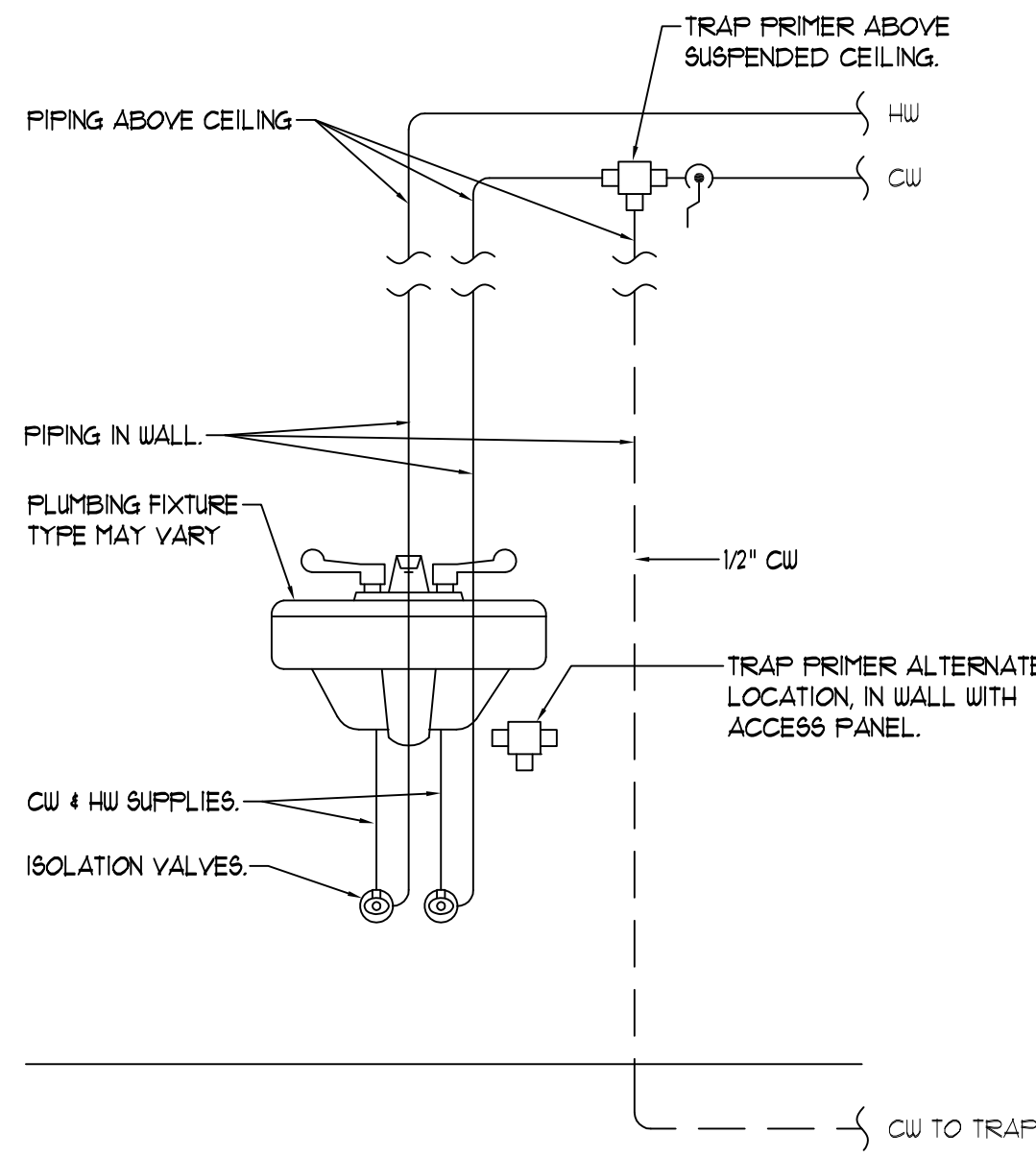
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4/13/18	SPD	DESIGN/REVIEWED
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		REVISIONS 2
		REVISIONS 3
		REVISIONS 4
		FIELD CHANGES

PORTLAND INTERNATIONAL MARINE TERMINAL
MAINTENANCE & OPERATIONS BUILDING
PORTLAND
CUMBERLAND COUNTY
MECHANICAL DETAILS

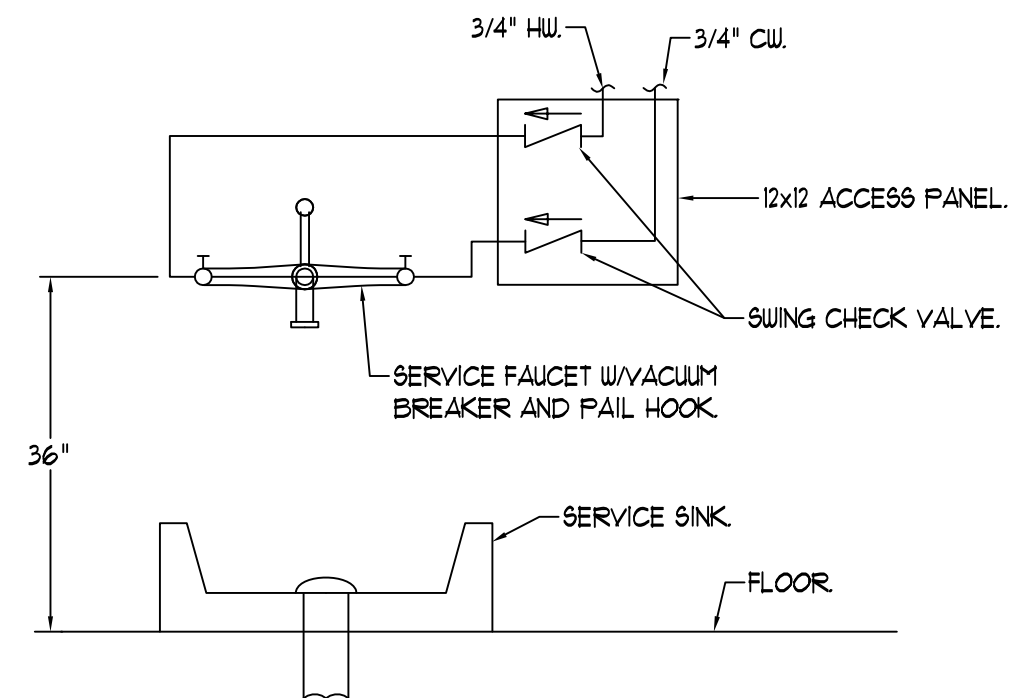
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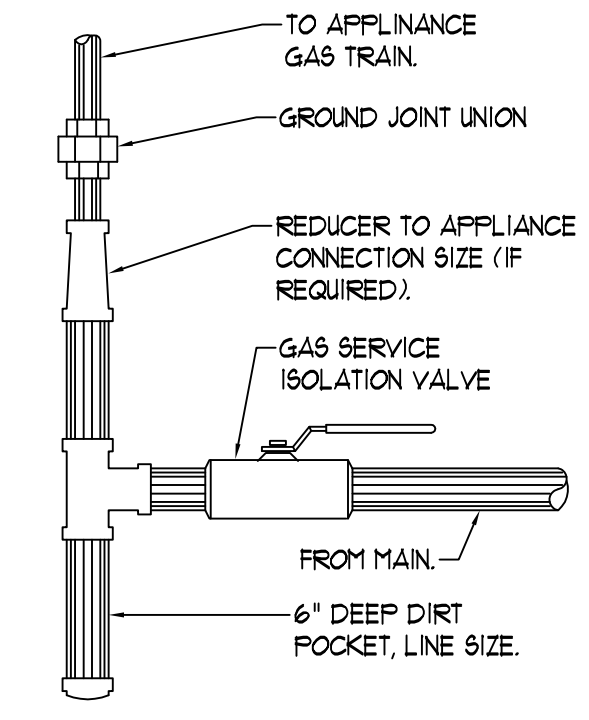
LOW PRESSURE DUCT CONSTRUCTION DETAILS - TYPICAL
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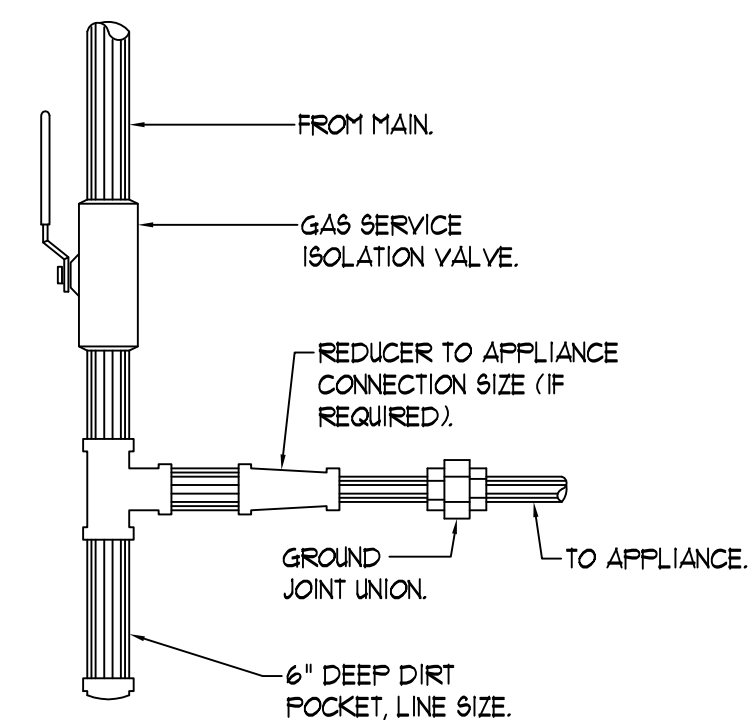
TRAP PRIMER CONNECTION DETAIL
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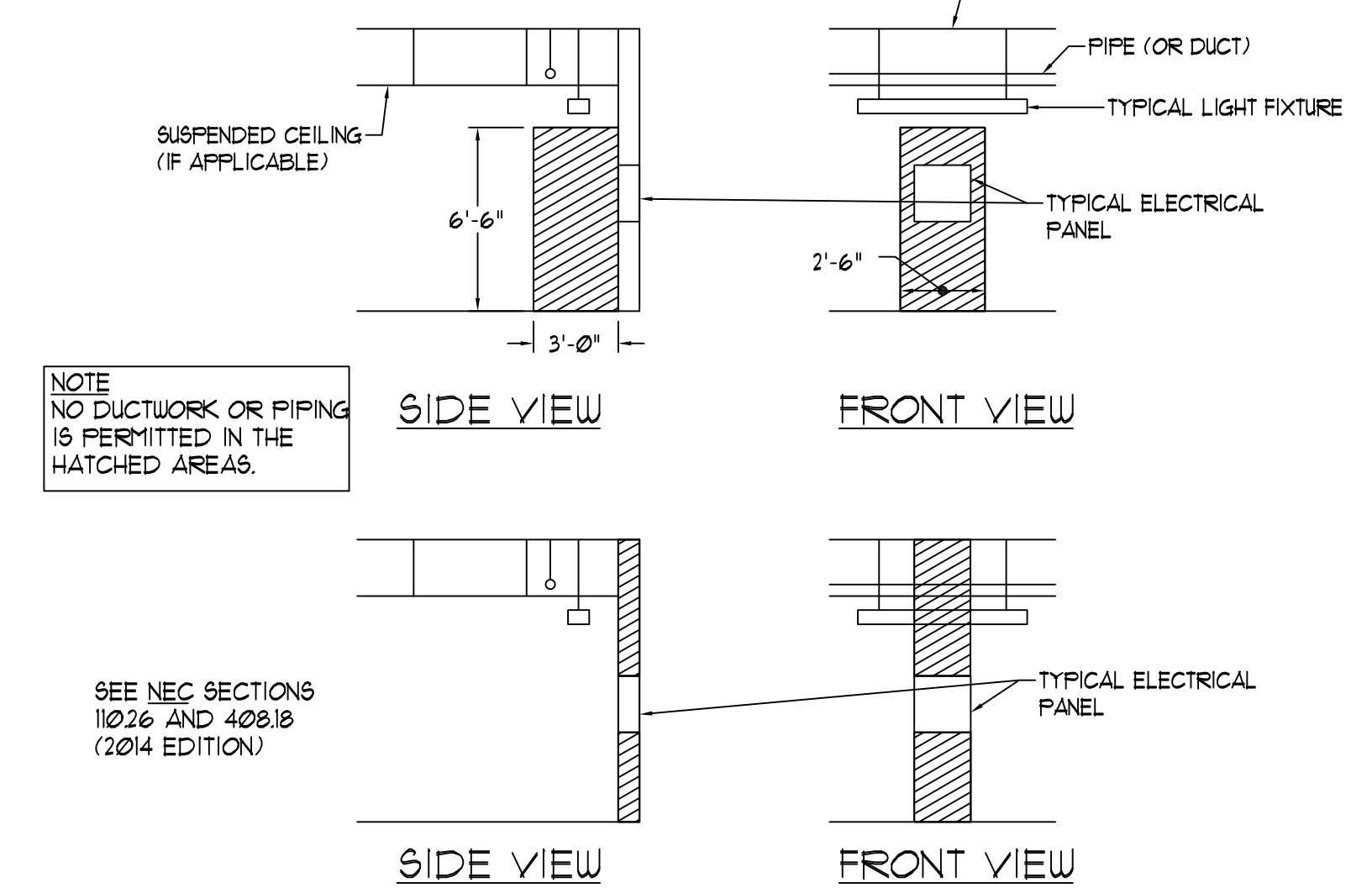
MOP BASIN INSTALLATION DETAIL
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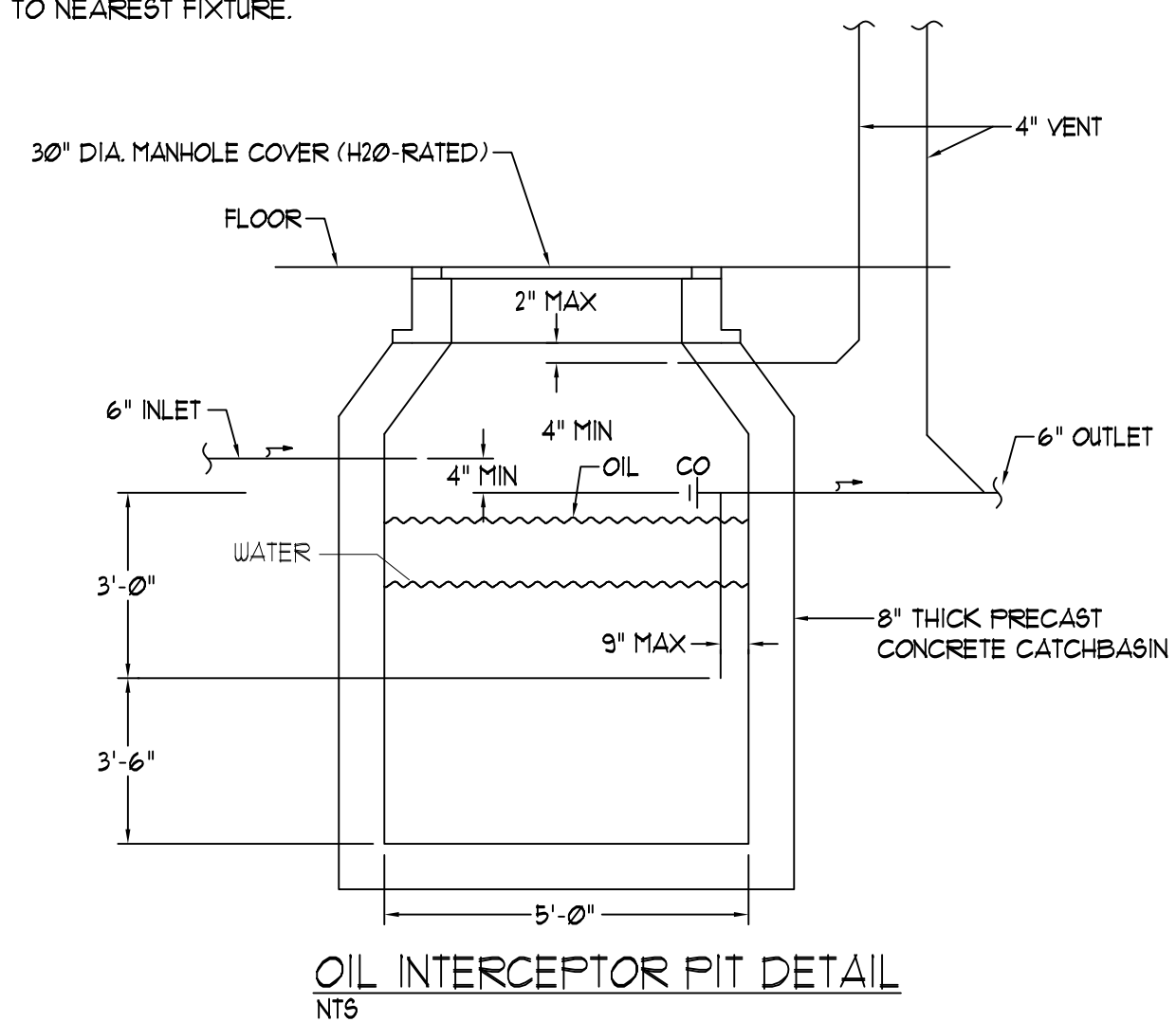
UPFEED GAS PIPING CONNECTION DETAIL
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NOTE: APPLIANCES WITH REGULATORS LOCATE PIPING SHOWN HEREIN UPSTREAM OF THE APPLIANCE REGULATOR. PROVIDE A TEST PLUG DOWNSTREAM OF THE APPLIANCE REGULATOR.



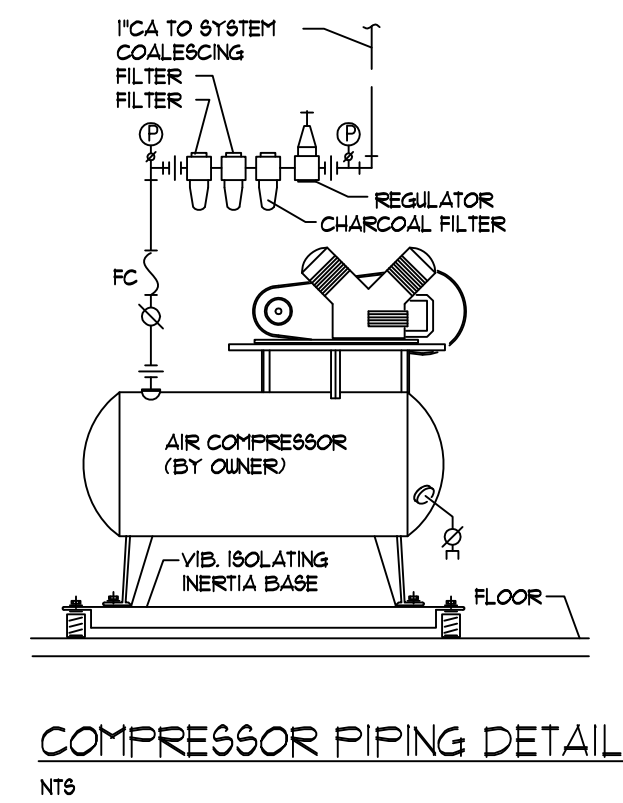
DOWNFEED GAS PIPING CONNECTION DETAIL
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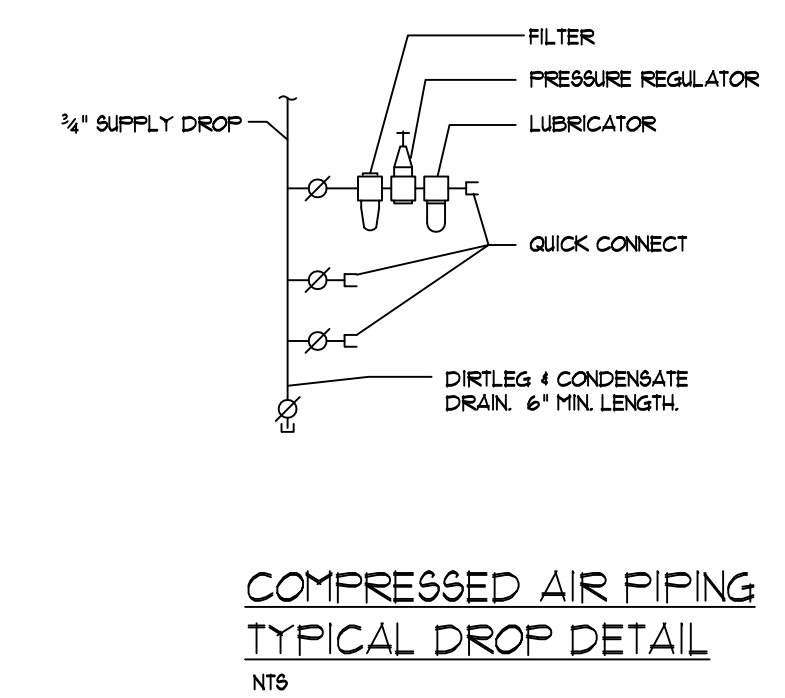
CLEARANCES AT ELECTRICAL PANELS



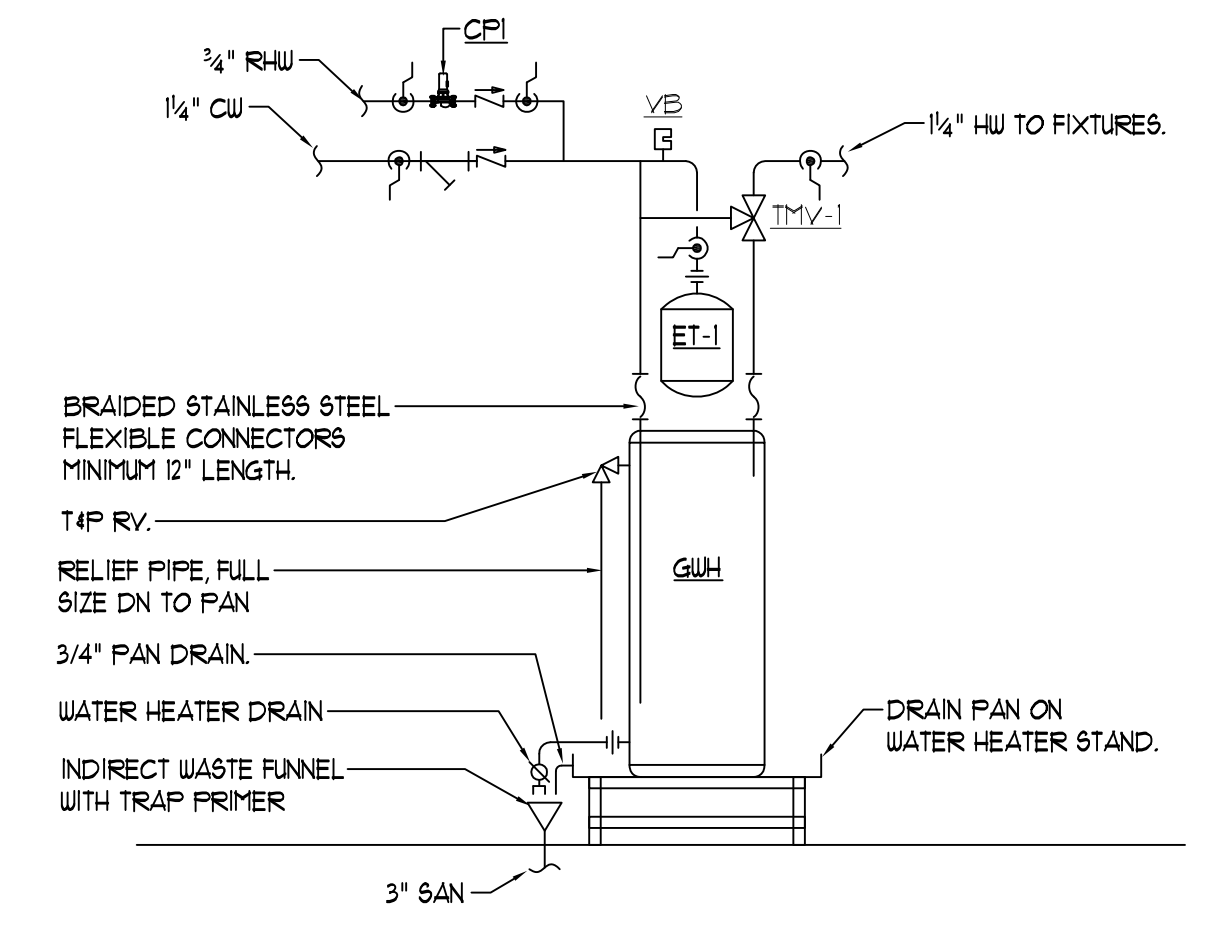
OIL INTERCEPTOR PIT DETAIL
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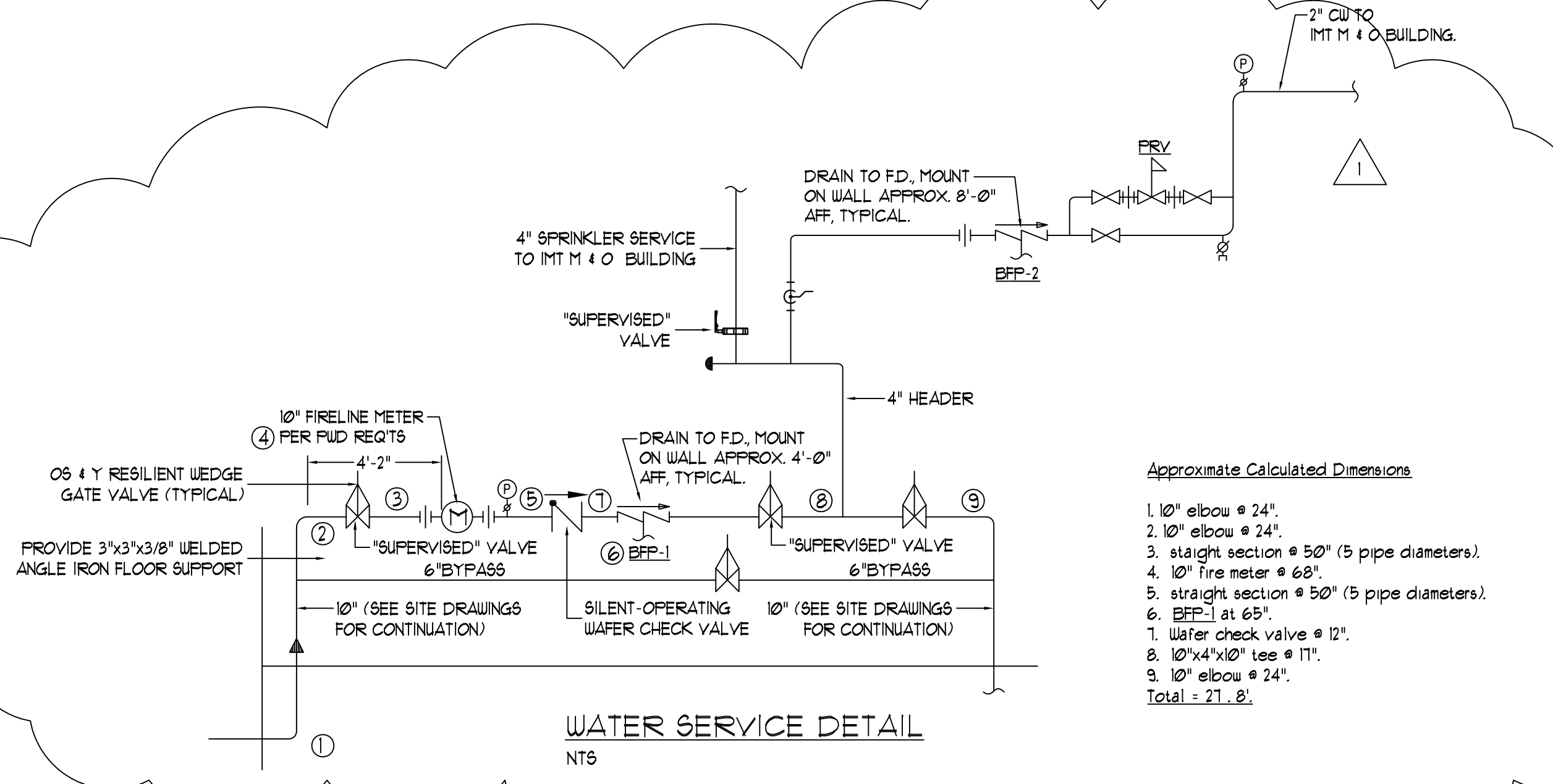
COMPRESSOR PIPING DETAIL
NTS



COMPRESSED AIR PIPING TYPICAL DROP DETAIL
NTS



WATER HEATER PIPING SYSTEM SCHEMATIC
NTS



WATER SERVICE DETAIL
NTS