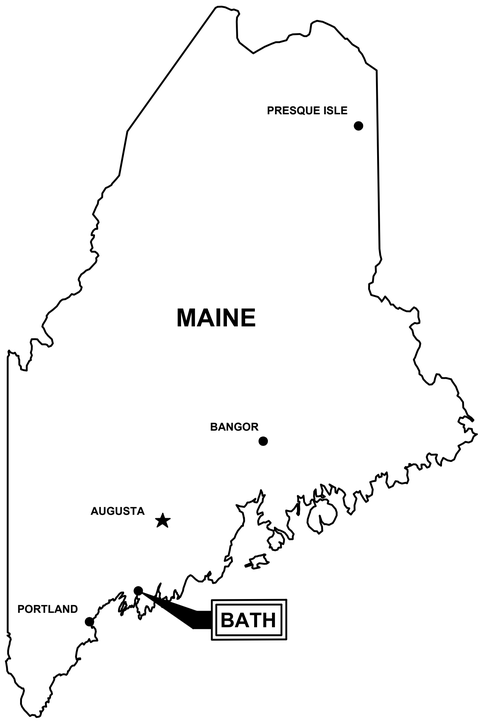
CITY OF BATH, MAINE

CONTRACT DRAWINGS FOR

HARWARD STREET PUMP STATION AND SEWER INTERCEPTOR UPGRADE

MAY 2025

CONTRACT DRAWINGS



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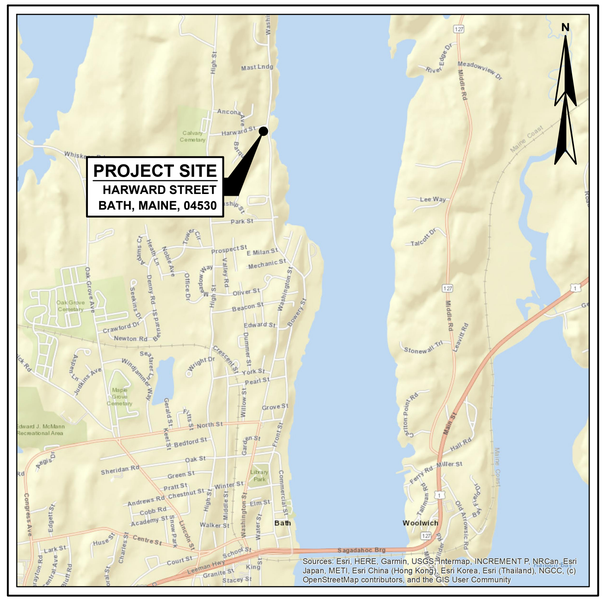
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LOCATION PLAN
SCALE: 1"=2,000'

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STATE OF MAINE
MAEVE M. CARLSON
No. 18190
LICENSED PROFESSIONAL ENGINEER
07/11/2025

STATE OF MAINE
MATTHEW D. BURNS
14223
LICENSED PROFESSIONAL ENGINEER
07/11/2025

WP PROJECT No. 21119

LAST SAVED BY: ASHLEY.NESBIT 5/16/2025 6:59 AM

PIPE SCHEDULE

ABBREVIATION	DESCRIPTION/ SERVICE	LOCATION	SIZE	MATERIAL	SPECIFICATION SECTION	JOINT SYSTEM	TEST CLASS	DELEGATED PE DESIGN OF PIPE SUPPORTS
PIPE SCHEDULE PART 1: PART 1 OF THIS PIPE SCHEDULE APPLIES TO ALL PIPING EXCEPT FOR PLUMBING AND MECHANICAL PIPING. REFER TO PART 2 AT THE END OF THIS TABLE FOR PLUMBING/MECHANICAL SCHEDULE.								
FM	FORCE MAIN	EXPOSED	≤14"	CLASS 53 D.I.	15062	FLANGED	CLASS IV	NO
		BURIED	≤14"	CLASS 52 D.I.	02615	MJ AND PUSH-ON		N/A
S	SEWER	BURIED (RAILROAD CROSSING)	36"	SDR 35 PVC WITH STEEL CASING PIPE	02622 AND 02654	PUSH-ON	CLASS II	N/A
		BURIED	≤36"	SDR 35 PVC UNLESS OTHERWISE NOTED	02622	PUSH-ON	CLASS II	N/A
OF	OVERFLOW	BURIED	≤ 24"	SDR 35 PVC	02622	PUSH-ON	CLASS II	N/A
PIPE SCHEDULE PART 2: PART 2 OF THIS PIPE SCHEDULE APPLIES TO ALL PLUMBING AND MECHANICAL PIPING.								
PIPE SCHEDULE								
CW	DOMESTIC COLD WATER	ALL	ALL	SEE SPECIFICATION 15401			-	NO
HW	DOMESTIC HOT WATER	ALL	ALL	SEE SPECIFICATION 15401			-	N/A
V/VX	SANITARY VENT	ALL	ALL	SEE SPECIFICATION 15401			-	N/A
W/WXE	WASTE	ALL	ALL	SEE SPECIFICATION 15401			-	N/A
SPD	SUMP PUMP DISCHARGE	ALL	ALL	SEE SPECIFICATION 15401			-	N/A

NOTES

1. REFER TO CIVIL SITE PIPING NOTES, PROCESS GENERAL NOTES, AND AS REFERENCED FOR ADDITIONAL REQUIREMENTS. PRESSURE TESTING AND DISINFECTION REQUIREMENTS ARE ADDRESSED IN THE SPECIFICATIONS BASED ON TEST CLASS.
2. ALL PIPING THAT IS NOT BURIED SHALL BE CONSIDERED "EXPOSED", INCLUDING PIPING IN TANKAGE AND VAULTS, UNLESS OTHERWISE SPECIFICALLY.
3. ALL JOINTS IN PRESSURE PIPE SYSTEMS (CLASS I, IV and V) SHALL BE FULLY RESTRAINED.
4. ALL EXPOSED PIPING REQUIRES SUPPORT. REFER TO SECTION 15094 FOR PIPE SUPPORT REQUIREMENTS.
5. MATERIALS SHALL BE AS INDICATED IN THE TABLE ABOVE UNLESS INDICATED OTHERWISE ON THE DRAWINGS.

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

PROJECT NO: 21119
DESIGNED: M.CARLSON
CAD COORD: A.NESBIT
CAD: A.NESBIT
CHECKED: M.BURNS
DATE: 05/2025
APPROVED: M.CARLSON
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE — MAEVE M. CARLSON No. 18190 — LICENSED PROFESSIONAL ENGINEER

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CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

PIPE SCHEDULE

DRAWING
G-02

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LAST SAVED BY: DANIEL.METZ 5/15/2025 10:18 AM

GENERAL NOTES

1. THE OWNER WILL BE RESPONSIBLE FOR OBTAINING THE PERMITS LISTED IN THE SUPPLEMENTARY OR SPECIAL CONDITIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE FAMILIAR WITH THE APPLICABLE PROVISIONS OF EACH PERMIT AS THEY APPLY TO THE WORK PRIOR TO BIDDING AND ABIDE BY THOSE PROVISIONS DURING CONSTRUCTION . COPIES OF ALL OBTAINED PERMITS ARE AVAILABLE FOR REVIEW FROM THE OWNER. ALL OTHER PERMITS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
2. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY RIGHTS OF WAY AND EASEMENTS. THE CONTRACTOR SHALL VERIFY THAT THE NECESSARY EASEMENTS HAVE BEEN SECURED BY THE OWNER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE FAMILIAR WITH THE APPLICABLE PROVISIONS OF EACH EASEMENT AS THEY APPLY TO THE WORK PRIOR TO BIDDING AND ABIDE BY THOSE PROVISIONS DURING CONSTRUCTION . COPIES OF ALL RIGHTS-OF-WAY AND EASEMENTS ARE AVAILABLE FOR REVIEW FROM THE OWNER.
3. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRAFFIC FLOW AT ALL TIMES. CONTRACTOR SHALL INSTALL AND MAINTAIN TRAFFIC CONTROL SIGNS IN ACCORDANCE WITH THE MUTCD AND ALL STATE AND LOCAL REGULATIONS. THE CONTRACTOR IS REQUIRED TO SUBMIT A TRAFFIC CONTROL PLAN TO THE OWNER PRIOR TO COMMENCING CONSTRUCTION.
4. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
5. CONTRACTOR SHALL COMPLY WITH THE COORDINATION REQUIREMENTS AND RELATED COSTS, IF ANY, AS SPECIFIED IN SPECIFICATION SECTION 01050.
6. CONTRACTOR SHALL NOTE THAT, IN GENERAL, ALL EXISTING CONDITION INFORMATION ON THE DRAWINGS ARE SHOWN WITH A LIGHTER LINE WEIGHT AND WITH A SLANTED TYPE TEXT.
7. ALL EXISTING SEWER AND STORM DRAIN LINES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE. ANY EXISTING SEWERS, STORM DRAIN LINES OR CULVERTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER, EXCEPT WHEN IN DIRECT CONFLICT WITH THE NEW SEWER OR WHEN NOT SHOWN OR INDICATED.
8. ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. INJURY TO ANY SUCH STRUCTURES CAUSED BY OR RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE . ALL UTILITIES REQUIRING REPAIR, RELOCATION OR ADJUSTMENT AS A RESULT OF THE PROJECT SHALL BE COORDINATED THROUGH THE RESPECTIVE UTILITY.
9. IN THOSE INSTANCES WHERE POWER OR TELEPHONE POLE SUPPORT IS REQUIRED, THE CONTRACTOR SHALL PROVIDE A MINIMUM 48-HOUR NOTICE TO THE RESPECTIVE UTILITY POLE OWNER. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR TEMPORARY BRACING OF UTILITIES.
10. ALL TEST PITS SHALL BE EXCAVATED PRIOR TO CONSTRUCTION LAYOUT AND RESULTS REPORTED TO THE ENGINEER FOR REVIEW FOR CONFORMANCE WITH THE PLANS. TESTS PITS ARE REQUIRED WHERE SHOWN ON THE DRAWINGS AND AS DIRECTED BY THE ENGINEER.

EXISTING SITE CONDITIONS

1. THE LOCATIONS OF UNDERGROUND UTILITIES AND STRUCTURES, AS SHOWN ON THE DRAWINGS, ARE APPROXIMATE AND MAY NOT BE COMPLETE. NO GUARANTEE IS MADE THAT UTILITIES OR STRUCTURES WILL BE ENCOUNTERED WHERE SHOWN, OR THAT ALL UNDERGROUND UTILITIES AND STRUCTURES ARE SHOWN. ALL LOCATIONS AND SIZES OF EXISTING UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD WITH TEST PITS AS REQUIRED PRIOR TO BEGINNING CONSTRUCTION OF NEW FACILITIES OR PIPING THAT MAY BE AFFECTED. THE CONTRACTOR WILL REALIGN NEW PIPE LOCATIONS AS REQUIRED TO CONFORM TO EXISTING LINES AND AS APPROVED BY THE ENGINEER.
2. BELOW GRADE UTILITY INFORMATION IS BASED ON INFORMATION PROVIDED BY EACH UTILITY. LOCATION OF PUBLIC UTILITIES SHOWN IS ONLY APPROXIMATE AND MAY NOT BE COMPLETE. PRIVATE UNDERGROUND UTILITIES SUCH AS, BUT NOT LIMITED TO, SEWER LINES, WATER LINES AND BURIED ELECTRICAL SERVICE ENTRANCES ARE NOT SHOWN. THE CONTRACTOR SHALL ASCERTAIN THE LOCATION AND SIZE OF EXISTING UTILITIES IN THE FIELD WITH THE RESPECTIVE UTILITY COMPANY REPRESENTATIVE PRIOR TO COMMENCING WORK. REFER TO SPECIFICATION SECTION 01050. ADDITIONAL TEST PITS, BEYOND THOSE SHOWN, MAY BE REQUIRED. UTILITY CONTACTS ARE AS FOLLOWS:

ELECTRIC:
CENTRAL MAINE POWER
AUGUSTA, ME
800-565-3181

SEWER/STORM DRAINS:
BATH PUBLIC WORKS
207-443-8357

TELEPHONE:
GWI, INC
BIDDEFORD, ME
207-286-8686

DIG SAFE:
WILMINGTON, MA
888-344-7233

NATURAL GAS:
MAINE NATURAL GAS
207-729-0420

WATER:
BATH WATER DISTRICT
207-443-2391

EMERGENCY:
BATH FIRE AND RESCUE
207-443-5034
BATH POLICE DEPARTMENT
207-443-5563

3. HAZARDOUS MATERIALS HAVE BEEN DETECTED IN THE AREA OF WORK AT 1090 HIGH STREET. THE HAZARDOUS MATERIALS HAVE BEEN DETERMINED TO BE BELOW THE APPROPRIATE THRESHOLD FOR CONSTRUCTION WORK AND EXCAVATION. REFER TO SPECIFICATION SECTION 02080A. THERE HAVE ALSO BEEN ASBESTOS PIPES DETECTED WITHIN THE DEMOLITION SCOPE. REFER TO SPECIFICATION SECTION 02076. IF THE PRESENCE OF HAZARDOUS ENVIRONMENTAL CONDITIONS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER IMMEDIATELY. ALL ACTIVITIES, HANDLING AND DISPOSAL OF HAZARDOUS ENVIRONMENTAL CONDITIONS AND MATERIALS SHALL BE IN ACCORDANCE WITH OSHA, FEDERAL, STATE, AND LOCAL REGULATIONS.

SITE DEMOLITION

1. REFER TO THE EXISTING SITE PLAN, FOR ADDITIONAL INFORMATION REGARDING EXISTING FACILITIES. REFER TO THE SITE PLAN FOR LIMITS OF WORK.
2. REFER TO SPECIFICATION SECTION 01010A, WHICH CONTAINS INFORMATION ON CONSTRAINTS OF CONSTRUCTION SEQUENCING.
3. DEMOLISH/REMOVE EXISTING PIPING AS REQUIRED FOR CONSTRUCTION OF NEW FACILITIES. ALL PIPING, EQUIPMENT AND MATERIALS TO BE DEMOLISHED AND/OR REMOVED FROM SERVICE SHALL BE COORDINATED WITH THE OWNER AND ENGINEER BEFORE COMMENCING THAT WORK. EXISTING PIPING THAT NEEDS TO BE REMOVED TO CONSTRUCT THE NEW FACILITIES, BUT IS TO REMAIN, SHALL BE REINSTALLED/REPLACED AS NEEDED. EXISTING PIPES AND CONDUIT DESIGNATED AS "ABANDONED" MAY BE REMOVED IF THE CONTRACTOR SO CHOOSES. IF ABANDONED PIPE CONFLICTS WITH NEW SITE PIPING OR FACILITIES, THEN A PORTION OF THE ABANDONED PIPE SHALL BE REMOVED, AND THE NEW ENDS OF ABANDONED PIPE CAPPED OR PLUGGED WITH CONCRETE.
4. SEVERING OF EXISTING UTILITIES FOR ABANDONMENT, OR REMOVAL OF A SEGMENT FROM SERVICE, SHALL BE PERFORMED IN SUCH A MANNER AS TO ALLOW THE REMAINING ACTIVE SEGMENT TO CONTINUE IN ITS INTENDED SERVICE. CAP ACTIVE SEGMENTS WITH APPROPRIATE FITTINGS, JOINT RESTRAINT, ETC. TO ENSURE THEIR INTEGRITY. PLUG ENDS OF ABANDONED PIPE SEGMENTS WITH CONCRETE UNLESS SPECIAL CIRCUMSTANCES DICTATE PLUGGING ABANDONED PIPES WITH BLIND FLANGES, RESTRAINED MECHANICAL JOINT PLUGS, ETC. AS APPROPRIATE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND DISPOSING OF ALL DEMOLISHED PIPING, EQUIPMENT AND MATERIALS. DISPOSAL SHALL BE IN ACCORDANCE WITH ALL STATE AND LOCAL REGULATIONS. THE OWNER RESERVES THE RIGHT TO RETAIN ANY SUCH PIPING, EQUIPMENT AND MATERIALS DESIGNATED FOR DEMOLITION. SUCH MATERIALS TO BE RETAINED SHALL BE PROPERLY STORED IN AN ON-SITE LOCATION. COORDINATE LOCATION AND MATERIALS TO BE SALVAGED WITH THE OWNER/ENGINEER. REFER TO SPECIFICATION SECTION 02050A.
6. THE CONTRACTOR SHALL KEEP A RECORD OF DEMOLITION AS PART OF THE PROJECT RECORD DOCUMENTS IN ACCORDANCE WITH SPECIFICATION SECTION 01720.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE APPROPRIATE DISPOSAL OF FLOWS RESULTING FROM PRECIPITATION AND GROUNDWATER DEWATERING OPERATIONS.
8. COORDINATE WITH THE OWNER REGARDING RELOCATION OF EXISTING PARK EQUIPMENT AND STORAGE/SALVAGE OF DEMOLISHED EQUIPMENT.

SITE CLEARING, GRUBBING AND GRADING

1. STRIPPING OF TOPSOIL (LOAM) SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 02115. REFER TO THE CIVIL DRAWINGS FOR LIMIT OF WORK.
2. CONTRACTOR SHALL MINIMIZE CLEARING OPERATIONS. CLEARING AND GRUBBING SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 02110. CLEARING LIMITS SHALL BE WITHIN THE CONSTRUCTION EASEMENT AT THE ADVISEMENT OF THE CITY ARBORIST, BUT AT ALL TIMES WITHIN EXISTING ROAD RIGHTS-OF-WAY AND PROPERTY LINES ON STATE OR COUNTY-OWNED PROPERTY OR EASEMENTS. ALL CLEARING AND GRUBBING MATERIAL SHALL BE THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF AT A SITE PROVIDED BY THE CONTRACTOR IN COMPLIANCE WITH ALL STATE AND LOCAL LAWS.
3. THE CONTRACTOR SHALL FOLLOW ALL ENDANGERED SPECIES ACT 4(D) RULES REGARDING THE NORTHERN LONG EARED BAT. THIS INCLUDES AVOIDANCE OF TREE REMOVAL DURING THE MONTHS OF JUNE AND JULY. CONTRACTOR SHALL PLAN ACCORDINGLY.
4. CONTRACTOR SHALL PROVIDE PROPER EROSION CONTROL AND DRAINAGE MEASURES IN ALL AREAS OF WORK, AND CONFINE SOIL SEDIMENT TO WITHIN THE LIMITS OF EXCAVATION AND GRADING. PRIOR TO BEGINNING EXCAVATION WORK, EROSION CONTROL FENCE SHALL BE INSTALLED AT THE DOWN GRADIENT PERIMETER OF THE ACTUAL LIMITS OF GRUBBING AND/OR GRADING, AND AS SHOWN ON THE DRAWINGS. EROSION CONTROL MEASURES SHOWN ON THE DRAWINGS ARE A MINIMUM, CONTRACTOR SHALL TAKE ALL OTHER NECESSARY MEASURES. EROSION CONTROL FENCE SHALL ALSO BE INSTALLED AT THE DOWN GRADIENT PERIMETER OF THE TOPSOIL STOCKPILES. ALL DISTURBED EARTH SURFACES SHALL BE STABILIZED IN THE SHORTEST PRACTICAL TIME AND TEMPORARY EROSION CONTROL DEVICES SHALL BE EMPLOYED UNTIL SUCH TIME AS ADEQUATE SOIL STABILIZATION HAS BEEN ACHIEVED. TEMPORARY STORAGE OF EXCAVATED MATERIAL SHALL BE STABILIZED IN A MANNER THAT WILL MINIMIZE EROSION. ALL INSTALLED EROSION CONTROL FACILITIES SHALL BE REMOVED AT THE END OF THE PROJECT. REFER TO SPECIFICATION SECTION 02270.
5. ALL STORM DRAINAGE INLETS SHALL BE PROTECTED BY HAY BALE FILTERS TO PREVENT ENTRY OF SEDIMENT FROM RUNOFF WATERS DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL COLLECTED SEDIMENT, AND THAT WHICH COLLECTS IN THE STORM DRAIN SYSTEM. REFER TO THE CIVIL DETAIL DRAWINGS.
6. CONTRACTOR SHALL CONTROL DUST ON THE CONSTRUCTION SITE TO A REASONABLE LIMIT, AS DETERMINED BY THE ENGINEER, AND AS OUTLINED IN SPECIFICATION SECTION 01562.
7. CONTRACTOR SHALL NOT TRACK OR SPILL EARTH, DEBRIS OR OTHER CONSTRUCTION MATERIAL ON PUBLIC OR PRIVATE STREETS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE ASSOCIATED CLEAN UP.
8. ALL CATCH BASINS, MANHOLES, VALVE PITS, VALVE BOXES AND OTHER BURIED FACILITIES WITH SURFACE ACCESS SHALL BE ADJUSTED TO MATCH FINAL GRADES, UNLESS OTHERWISE INDICATED.
9. THE CONTRACTOR SHALL NOT HAVE ANY RIGHT OF PROPERTY IN ANY MATERIALS TAKEN FROM ANY EXCAVATION. SUITABLE EXCAVATED MATERIAL MAY BE INCORPORATED IN THE PROJECT, WITH EXCESS MATERIAL DISPOSED OF AT A LOCATION PROVIDED BY THE CONTRACTOR. THESE PROVISIONS SHALL IN NO WAY RELIEVE THE CONTRACTOR OF OBLIGATIONS TO PROPERLY DISPOSE OF AND REPLACE ANY MATERIAL DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING. THE CONTRACTOR SHALL DISPOSE OF UNSUITABLE AND EXCESS MATERIAL IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE CONTRACT DOCUMENTS.
10. CONTRACTOR SHALL REMOVE AND REPLACE, OR REPAIR, ALL CURBS, SIDEWALKS, PAVEMENT AND OTHER ITEMS DAMAGED BY CONSTRUCTION ACTIVITIES TO AT LEAST THEIR ORIGINAL CONDITION, TO THE SATISFACTION OF THE OWNER AND ENGINEER.
11. WHERE EXISTING PAVEMENT IS REMOVED AND REPLACED, MATCH EXISTING GRADES TO THE EXTENT POSSIBLE. COORDINATE FINE GRADING WITH THE ENGINEER.
12. ALL ROAD AND DRIVE CROSS SLOPES SHALL PITCH 1/4-INCH PER FOOT MINIMUM. ALL PAVED SURFACES SHALL PITCH 1% UNLESS OTHERWISE NOTED. REFER TO THE CIVIL DETAIL DRAWINGS.
13. ALL NON-ROADWAY AREAS THAT ARE EXCAVATED, FILLED, OR OTHERWISE DISTURBED BY THE CONTRACTOR SHALL BE LOAMED, GRADED, LIMED, FERTILIZED, SEEDED AND MULCHED, UNLESS OTHERWISE NOTED. THE TOP 4-INCHES OF SOIL SHALL BE LOAM . REFER TO SPECIFICATION SECTION 02485, LANDSCAPING/LOAM AND SEED.

CIVIL SITE LAYOUT

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE PROVIDED LAYOUT INFORMATION THROUGHOUT THE COURSE OF CONSTRUCTION. REPORT ANY LAYOUT DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
2. IN GENERAL, THE GIVEN STRUCTURE LOCATIONS ARE TO THE OUTSIDE FACE OF THE STRUCTURE FOUNDATION WALL, NOT FOOTINGS. RADII SHOWN FOR ROADS ARE TO EDGE OF PAVEMENT.
3. THE LOCATIONS AND LIMITS OF ALL ON-SITE WORK AND STORAGE AREAS SHALL BE REVIEWED/COORDINATED WITH, AND ACCEPTABLE TO, THE OWNER AND ENGINEER. THE CONTRACTOR SHALL LIMIT ACTIVITIES TO THESE AREAS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RE-ESTABLISHING AND RESETTING ALL EXISTING PROPERTY MONUMENTATION DISTURBED BY CONSTRUCTION. THIS WORK SHALL BE DONE BY A LAND SURVEYOR REGISTERED IN THE STATE OF MAINE, AT NO ADDITIONAL COST TO THE OWNER.
5. DO NOT SCALE DRAWINGS UNLESS OTHERWISE NOTED. WRITTEN DIMENSIONS AND STATIONING SHALL PREVAIL. TOPOGRAPHY BASED ON SURVEY DATED MARCH 5, 2024 BY DOUCET SURVEY. HORIZONTAL DATUM IS NAD 83, AND VERTICAL DATUM IS NAVD 88. TBM'S ARE PROVIDED ON THE DRAWINGS. ELECTRONIC FILES OF ENGINEER'S DRAWINGS WILL BE PROVIDED TO THE SUCCESSFUL CONTRACTOR AFTER CONTRACT AWARD FOR LAYOUT OF THE PROPOSED WORK, ALL LAYOUT INFORMATION PROVIDED ON THE SEALED COPIES OF THE CONTRACT DRAWINGS SHALL PREVAIL IN CASE OF DISCREPANCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT OF THE WORK BASED ON EXISTING CONTROL POINTS PROVIDED BY THE ENGINEER AND ITS CONSULTANTS. ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER.

CIVIL SITE PIPING

1. TRENCH INSULATION SHALL BE USED WHERE DEPTH OF COVER IS LESS THAN 5-FEET. REFER TO THE CIVIL DETAIL DRAWINGS FOR THE TRENCH INSULATION DETAIL.
2. TRENCH INSULATION SHALL BE USED WHEN THERE IS LESS THAN 2-FEET BETWEEN THE SEWER OR FORCE MAIN AND A CULVERT. REFER TO THE CIVIL DETAIL DRAWINGS FOR THE TRENCH INSULATION DETAIL.
3. REFER TO SPECIFICATION SECTION 02200 FOR PIPE AND STRUCTURE BEDDING AND BACKFILL REQUIREMENTS.
4. COMPACTION TESTS WILL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTION 02200. ANY SETTLEMENT OCCURRING WITHIN ONE-YEAR OF FINAL COMPLETION OF THE WORK SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST.
5. OPEN TRENCHES IN THE ROADWAY MUST BE BACKFILLED AT THE END OF THE WORKDAY. OPEN TRENCHES OUTSIDE OF THE WAY MAY BE LEFT OPEN IF THE CONTRACTOR PROVIDES ADEQUATELY SAFE BARRICADING AND LIGHTS.
6. WHERE NEW PIPING IS TO BE CONNECTED TO EXISTING PIPING, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ADAPTERS, FITTINGS, AND ADDITIONAL PIPE AS REQUIRED TO COMPLETE THE CONNECTION. CONTRACTOR SHALL VERIFY LOCATION, ELEVATION, ORIENTATION AND MATERIAL OF CONSTRUCTION. TEST PITS SHALL BE USED AS REQUIRED .
7. ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE UNLESS OTHERWISE NOTED ON THE CIVIL EXISTING CONDITIONS AND DEMOLITION PLAN. ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL DEMOLITION MATERIALS IN ACCORDANCE WITH SPECIFICATION SECTION 02050.
9. LOCATION OF EXISTING SEWER LATERALS SHOWN ARE APPROXIMATE BASED ON CCTV INSPECTIONS WHERE AVAILABLE. CONTRACTOR SHALL LOCATE EXISTING SEWER LATERALS AND SUBMIT PROPOSED ROUTING OF EXISTING SEWER LATERALS TO NEW SEWER MAIN FOR REVIEW BY THE ENGINEER AS NECESSARY.

CIVIL ABBREVIATIONS

&	AND
Ø, DIA	DIAMETER
#, NO	NUMBER
AC	ASBESTOS CEMENT
APP'D	APPROVED
BB	BITUMINOUS BERM
BR	BRICK
BLDG	BUILDING
CB	CATCH BASIN
CEN	CENTER
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CIPP	CURED-IN-PLACE-PIPE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
CONC	CONCRETE
COR	CORNER
CY	CUBIC YARD
DEMO	DEMOLITION
DMH	DRAIN MANHOLE
DI	DUCTILE IRON
DR	DRAIN
DWG	DRAWING
DYL	DOUBLE YELLOW LINE
DWD	DETECTABLE WARNING DEVICE
EL	ELEVATION
EMH	ELECTRIC MANHOLE
EP	EDGE OF PAVEMENT
FM	FORCE MAIN
FT	FEET
G	GAS
HDPE	HIGH DENSITY POLYETHYLENE
HYD	HYDRANT
IN	INCH
INF	INFLUENT
INV	INVERT
LBS	POUNDS
LF	LINEAR FOOT
LSCAPE	LANDSCAPE
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MW	MONITORING WELL
N	NORTH
NGVD	NATIONAL GEODETIC VERTICAL DATUM
N/A	NOT AVAILABLE/APPLICABLE
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
OF	OVERFLOW
OUT	OUTFALL
PC	PERFORATED CLAY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PS	PRIMARY SLUDGE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
REQ'D	REQUIRED
S	SLOPE, SEWER
SD	STORM DRAIN
SF	SQUARE FEET
SMH	SANITARY SEWER MANHOLE
SQ	SQUARE
STA	STATION
SWL	SINGLE WHITE LINE
T, XFMR	TRANSFORMER
TBM	TEMPORARY BENCH MARK
THK	THICKNESS
TOS	TOP OF STRUCTURE
TYP	TYPICAL
UD	UNDERDRAIN
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRIC
VC	VITRIFIED CLAY
VF	VERTICAL FOOT
W/	WITH
W	POTABLE WATER

LEGEND

EXISTING		PROPOSED
	PROPERTY/ROW LINE	
	SETBACK LINE	
	EASEMENT LINE	
	CENTERLINE	
	EDGE OF PAVEMENT	
	CURBING	
	EDGE OF GRAVEL	
	EDGE OF CONCRETE	
122	CONTOUR	123
	BUILDING	
	STONEWALL	
	TREELINE	
	CHAIN LINK FENCE	
	STOCKADE FENCE	
	BARB WIRE FENCE	
	RETAINING WALL	
	GUARDRAIL	
8"	SEWER	8"S
4" FM	SEWER FORCE MAIN	4"FM
4" G	GAS	4"G
8" W	WATER	8"W
15" SD	STORM DRAIN	15"SD
6" UD	UNDERDRAIN	6"UD
12" CMP	CULVERT	12" CMP
UGE	UNDERGROUND ELECTRIC	UGE
OHE	OVERHEAD ELECTRIC	OHE
UGT	UNDERGROUND TELEPHONE	UGT
CATV	UNDERGROUND CABLE TV	CATV
	IRON PIPE/REBAR	●
	DRILLHOLE	◉
	MONUMENT	■
	SURVEY CONTROL POINT	
124.6	SPOT ELEVATION	134.5
SMH	SEWER MANHOLE	●SMH
DMH	DRAINAGE MANHOLE	●DMH
CB CB CB	CATCH BASIN	●CB ■CB
EMH	ELECTRIC MANHOLE	■EMH
TMH	TELEPHONE MANHOLE	■TMH
	SHUTOFF VALVE	
	WATER SERVICE SHUTOFF	
	YARD HYDRANT	
	HYDRANT	
	GAS SERVICE SHUTOFF	
	GAS GATE VALVE	
	UTILITY POLE	
	UTILITY POLE W/ GUY	
	UTILITY POLE W/ LIGHT	
	LIGHT POLE	
	BOLLARD	
	FLAGPOLE	
	CONIFEROUS TREE	
	DECIDUOUS TREE	
	SHRUB	
	WETLAND FLAG	
	EDGE OF WATER	
	STREAM	
	EDGE OF WETLANDS	
	FLOODPLAIN	
	WETLANDS	
	DRAINAGE FLOW	
	DRAINAGE SWALE	
	PAVEMENT MARKINGS	
	SIGN	
MB	MAILBOX	
	TEMPORARY BENCH MARK	
TP	TEST PIT	
B	TEST BORING	
P	TEST PROBE	
MW	MONITORING WELL	
	LIMIT OF WORK	
	SILT FENCE	
	RIPRAP	
	RAILROAD	
	MATCHLINE	
	ROCK OUTCROP	
6"XX	PIPING TO ABANDON	
	WATERPROOF MANHOLE COVER	

NO	REVISIONS	APP'D	DATE
1			
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PROJECT NO: 21119
DESIGNED: A.GRAHAM
CAD COORD: A.NESBIT
CAD: D.METZ
CHECKED: K.OBERY
DATE: 04/2025
APPROVED: M.BURNS
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE · MATTHEW D. BURNS · 14223 · LICENSED PROFESSIONAL ENGINEER · 5/15/2025

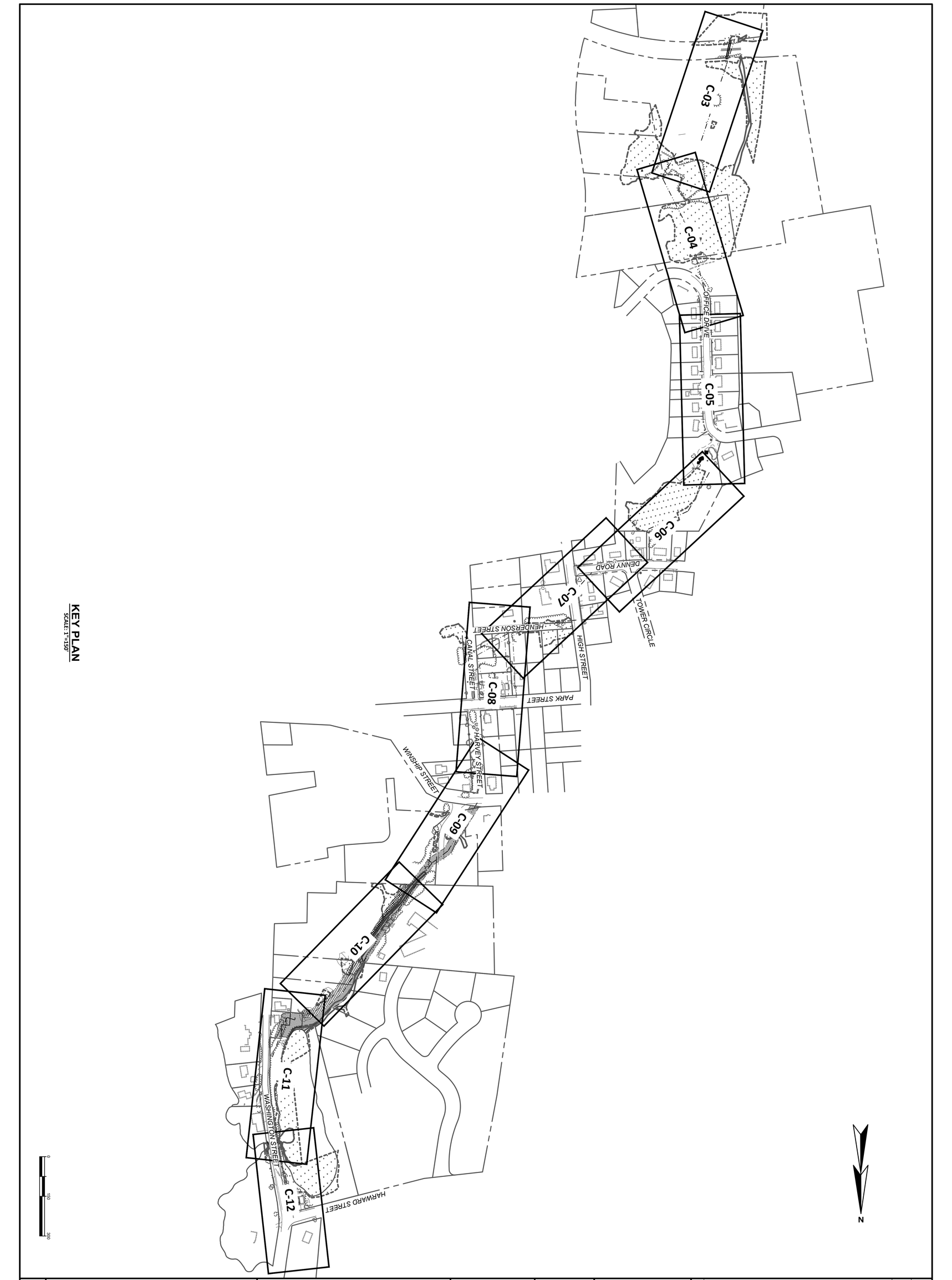
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CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

GENERAL NOTES, LEGEND AND ABBREVIATIONS

DRAWING
C-01

J:\ENGVME\BATH\21119-HARWARDINFOSWMM-MODEL_DRAWINGS\CIV\21119-CS-NOTESLEGENDABBREV.DWG | 21119-CS-NotesLegendAbbrev | 1:2.5849 | — | 5/15/2025 11:34:34 AM | DANIEL.METZ



KEY PLAN
SCALE: 1"=150'

CITY OF BATH, MAINE
HARWARD STREET PUMP STATION AND SEWER INTERCEPTOR UPGRADE

KEY PLAN

DRAWING C-02

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STATE OF MAINE
MATTHEW D. BURNS
14223
LICENSED PROFESSIONAL ENGINEER
DO NOT ERASE

PROJECT NO:	21119
DESIGNED:	A.GRAHAM
CAD COORD:	A.NESBIT
CAD:	D.METZ
CHECKED:	K.OBERY
DATE:	04/2025
APPROVED:	M.BURNS
DATE:	05/2025
SUBMISSION:	CONTRACT DRAWINGS

NO	REVISIONS	APP'D	DATE
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INSTALL ADDITIONAL COURSINGS OF BRICK ON THE EXISTING WEIR WALL SUCH THAT DMH-2007 RECEIVES NO FLOW FROM SMH-1142

SMH 1142*
RIM ELEV.=29.74'
DIVIDING WALL**=25.94'
SHELF ELEV.=25.04'
(2007) 18" DIP INV.=24.97'
(A) ACP*** INV.=24.39'
(B) RCP*** INV.=24.10'
*CONTAINS FLOW AREA VELOCITY MODULE LABELED "DIKE"
**BETWEEN SEWER & STORMWATER STRUCTURES
***TOO RECESSED TO CONFIRM SIZE

DMH 2007*
RIM ELEV.=29.13'
SUMP ELEV.=21.48'
(2008) 18" DIP INV.=24.03'
(A) 30" RCP INV.=21.53'
(2005) 54" RCP CC.=21.43'
*SEWER LID

5/8" REBAR FND. UP 12" W/ID CAP ILLEGIBLE

DMH 2005*
RIM ELEV.=30.18'
SUMP ELEV.=20.83'
(2003)** 54" RCP INV.=21.39'
(2007)** 54" RCP INV.=21.39'
*COVERED BY FALLEN TREE, ACCESS TO STRUCTURE LIMITED
**MEASUREMENTS TAKEN AT CENTER OF CHANNEL

36" x 24" GRAN. BLOCK BOX CULVERT (INVERT FROZEN) INV.=26.9'

36" x 24" GRAN. BLOCK BOX CULVERT INV.=25.0'

BROKEN BOX WIRE FENCE W/ WOODEN POSTS

MOSTLY STANDING BROKEN BOX WIRE FENCE W/ WOODEN POSTS

CAP AND FLOWABLE FILL

20' PERMANENT EASEMENT

CLEAN, CAP, AND DECOMMISSION PIPE

SMH 325
RIM ELEV.=29.25'
SHELF ELEV.=24.20'
(1508) 18" UNK INV.=23.20'
(242) 18" UNK INV.=23.10'

SMH-1143

SMH-100

SMH-101

36" S

MAIN SEWER STRUCTURE W/ LOCKED STEEL TRAP DOOR

CONTRACTOR TO RELOCATE EXISTING CSO SIGN TO NEW CSO LOCATION AND COORDINATE INSTALLATION LOCATION WITH OWNER

AFTER INSTALLATION OF NEW CSO STRUCTURE, CONTRACTOR TO SALVAGE EXISTING GATE AND RETURN TO OWNER. CONTRACTOR TO PATCH WATERTIGHT EXISTING STRUCTURE GATE STEM PENETRATION.

40'X6' LAUNCHING PIT, CONTRACTOR TO COORDINATE ACTUAL DIMENSIONS REQUIRED WITH PIPE JACKING SUBCONTRACTOR

48" CASING PIPE, SEE DETAILS

8'x8' RECEIVING PIT, CONTRACTOR TO COORDINATE ACTUAL DIMENSIONS REQUIRED WITH PIPE JACKING SUBCONTRACTOR

SMH-1143* (TO BE REMOVED)
RIM ELEV.=29.06'
SHELF ELEV.=24.56'
(1508)** 15" UNK INV.=24.01'
(A) 18" VCP INV.=23.99'
(B) 15" UNK INV.=23.90'
*UNLABELED LID, FILLED W/ WATER
**APPEARS TO BE 3 PIPES SLEEVED TOGETHER, UNK INSIDE RCP INSIDE PVC

TBM 8370AI
CHISELED BOX IN CORNER OF CONC. PAD
ELEV.=29.59'

21-080-000
REGIONAL SCHOOL UNIT NUMBER 1
3 WRIGHT DRIVE
BATH, ME 04530
(NO REFERENCE)

27-137-000
STATE OF ME
AUGUSTA, ME 04333
S.C.R.D. BOOK 326, PAGE 68

CHAIN LINK FENCE

21-087-001
BRYAN J SIMON// DEBORAH DION-SIMON
1090 HIGH STREET
BATH, ME 04530
S.C.R.D. BOOK 2022R-257

SMH 1508
RIM ELEV.=30.79'
SHELF ELEV.=25.49'
(1143) 18" RCP INV.=23.89'
(325) 18" RCP INV.=23.79'

CONSTRUCTION EASEMENT AND LIMIT OF WORK (TYP). INSTALL EROSION CONTROL MEASURES ALONG LIMIT OF WORK IN ALL AREAS.

30' CONSTRUCTION EASEMENT

20' PERMANENT EASEMENT

SMH 242
RIM ELEV.=27.74'
SHELF ELEV.=24.24'
(243) 18" UNK INV.=23.04'
(325) 18" UNK INV.=22.76'

BROKEN BOX WIRE FENCE

8" STUB, 4' LONG WITH CAP

CLEAN, CAP, AND DECOMMISSION PIPE

SMH-102 3+00 4+00 5+00 6+00 SMH-103

36" S

4' CHAIN LINK FENCE W/ WOODEN POST

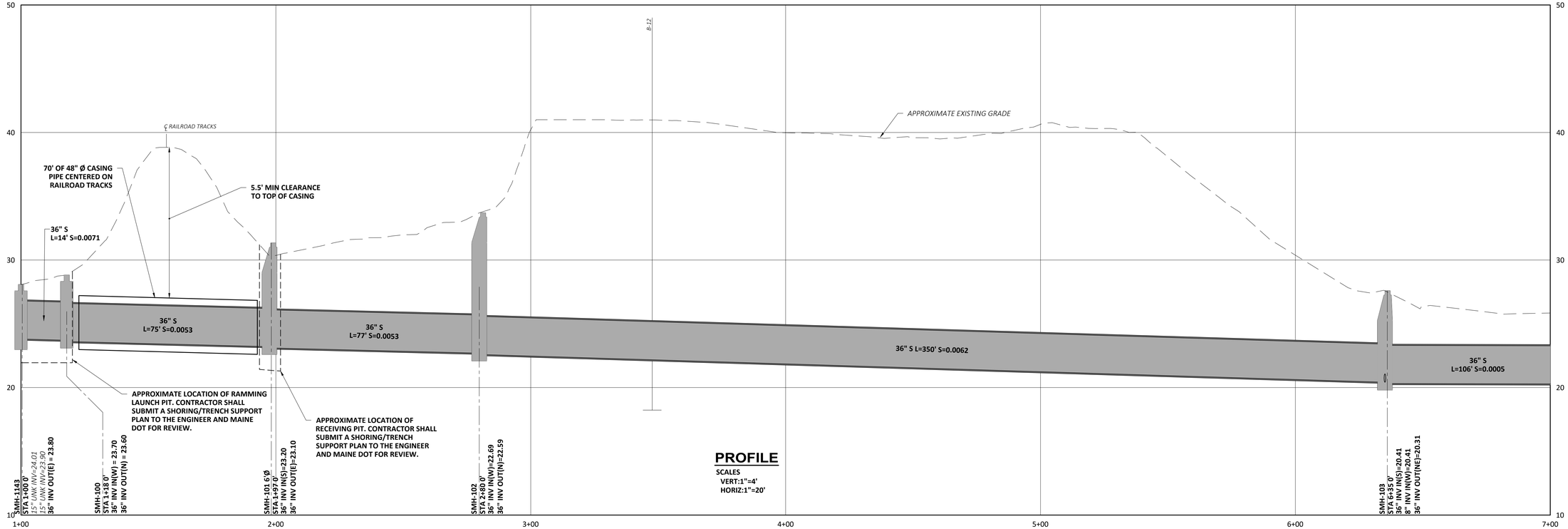
INTERCEPT SEWER SERVICE TO SEWER MAIN AS SHOWN, CONNECT TO NEW SEWER MAIN WITH FITTINGS AND ADAPTERS AS NECESSARY

C-03 C-04

MATCH

0 20 40

PLAN
SCALE: 1"=20'



PROFILE
SCALES
VERT:1"=4'
HORIZ:1"=20'

NOTE:
ALL MANHOLES TO BE 5' DIAMETER UNLESS NOTED OTHERWISE.

NO	REVISIONS	APP'D	DATE
1			
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PROJECT NO: 21119
DESIGNED: A.GRAHAM
CAD COORD: A.MESBIT
CAD: D.METZ
CHECKED: K.OBERY
DATE: 04/2025
APPROVED: M.BURNS
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE
MATTHEW D. BURNS
14223
LICENSED PROFESSIONAL ENGINEER

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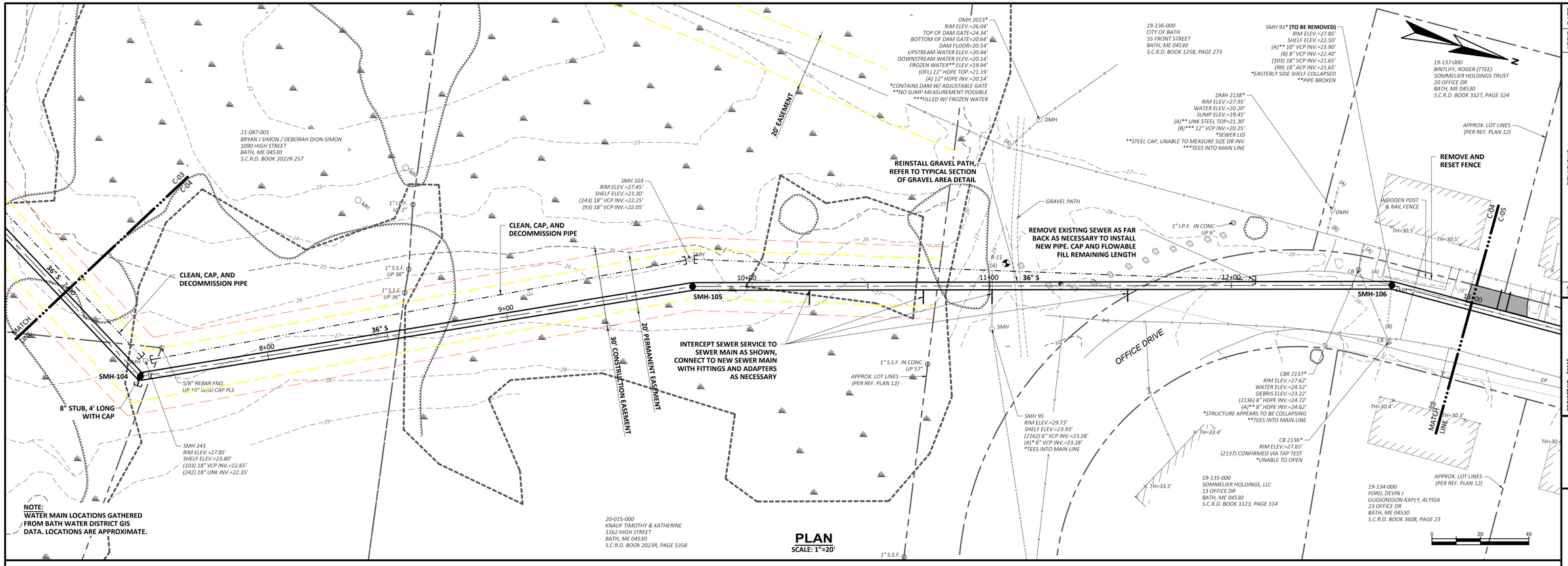
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

PLAN AND PROFILE
STA. 1+00 TO STA. 7+00

DRAWING
C-03

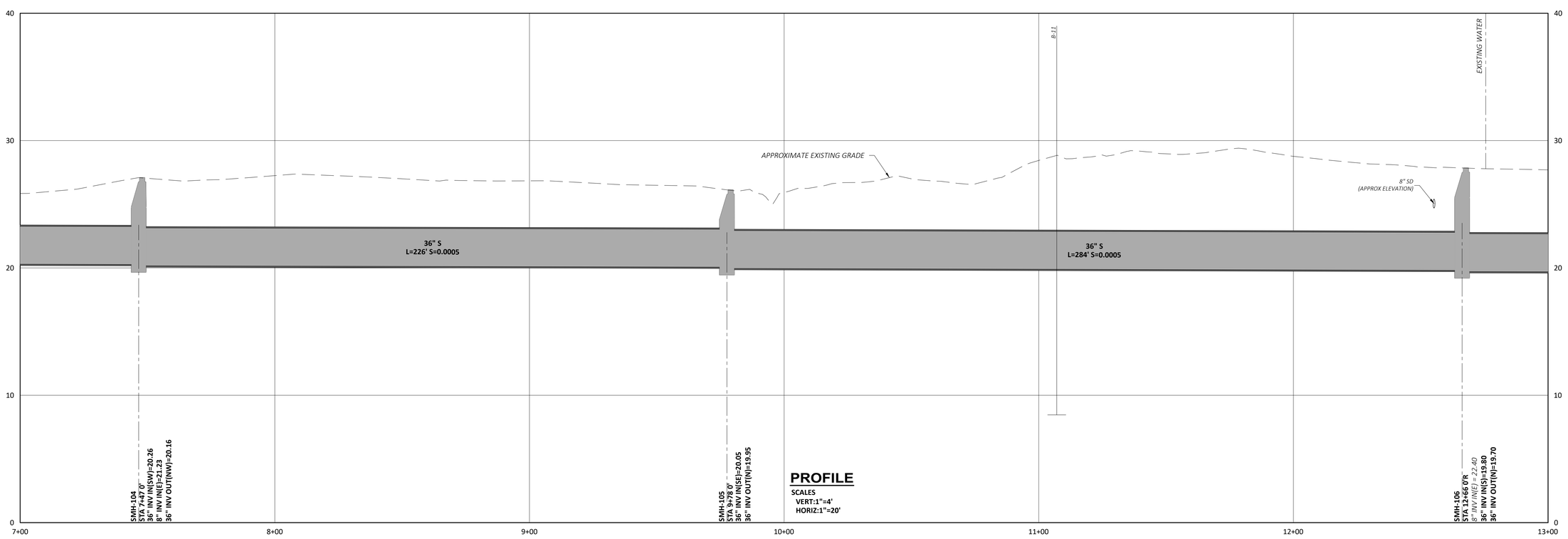
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LAST SAVED BY: DANIEL.METZ 5/15/2025 10:26 AM



PLAN
SCALE: 1"=20'

NOTE:
WATER MAIN LOCATIONS GATHERED FROM BATH WATER DISTRICT GIS DATA. LOCATIONS ARE APPROXIMATE.



PROFILE
SCALES
VERT:1"=4'
HORIZ:1"=20'

NOTE:
ALL MANHOLES TO BE 5' DIAMETER UNLESS NOTED OTHERWISE.

NO	REVISIONS	APP'D	DATE
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DATE: 04/2025
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DATE: 05/2025
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STATE OF MAINE
MATTHEW D. BURNS
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LICENSED PROFESSIONAL ENGINEER
5/15/2025

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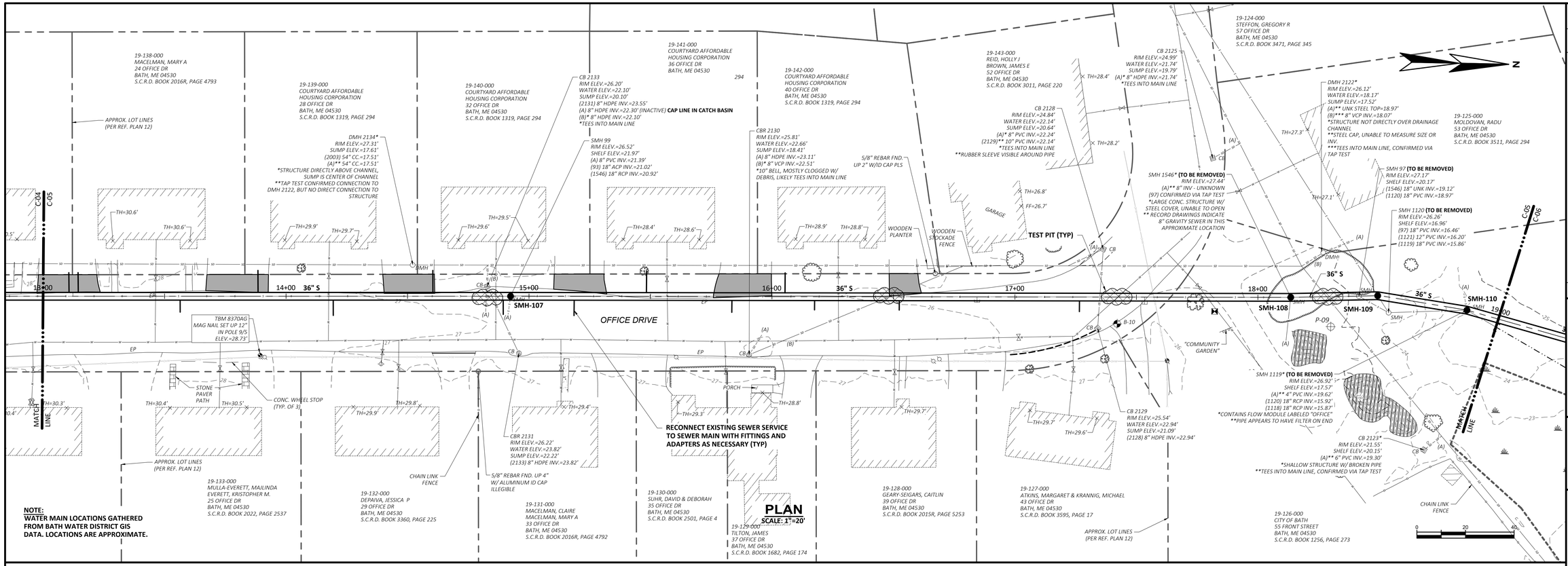
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

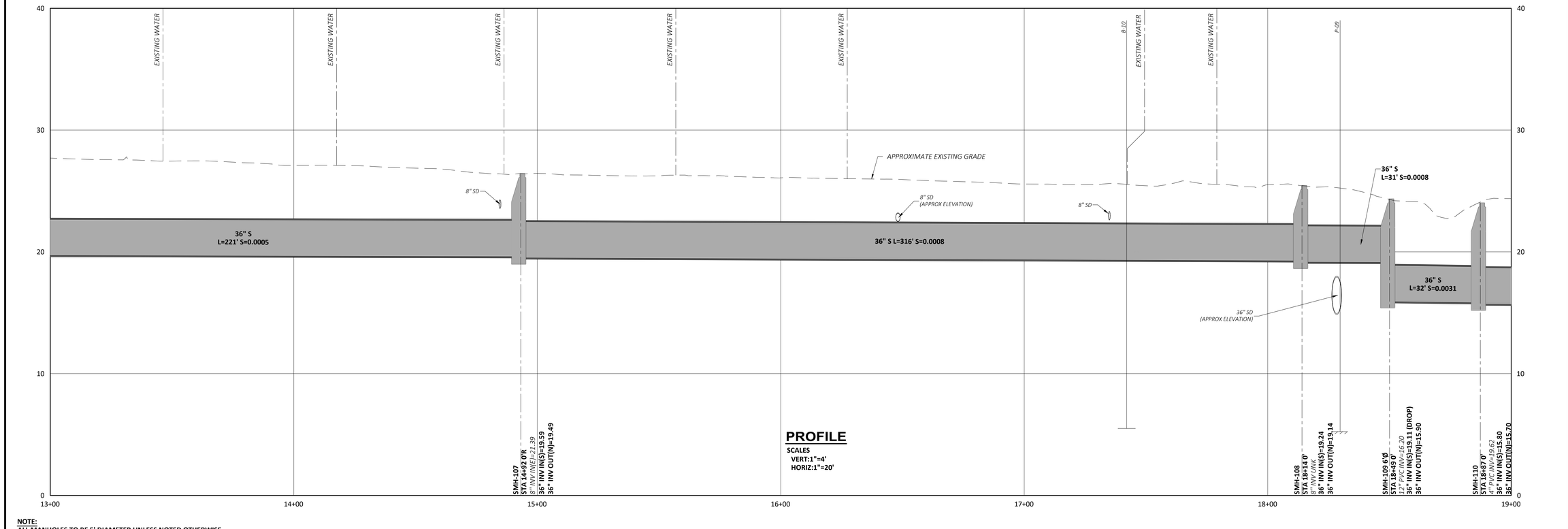
PLAN AND PROFILE
STA. 7+00 TO STA. 13+00

DRAWING
C-04

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NO	REVISIONS	APP'D	DATE
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PROJECT NO: 21119
DESIGNED: A.GRAHAM
CAD COORD: A.MESBIT
CAD: D.METZ
CHECKED: K.OBERY
DATE: 04/2025
APPROVED: M.BURNS
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE ★ MATTHEW D. BURNS 14223 ★ LICENSED PROFESSIONAL ENGINEER ★ 5/15/2025

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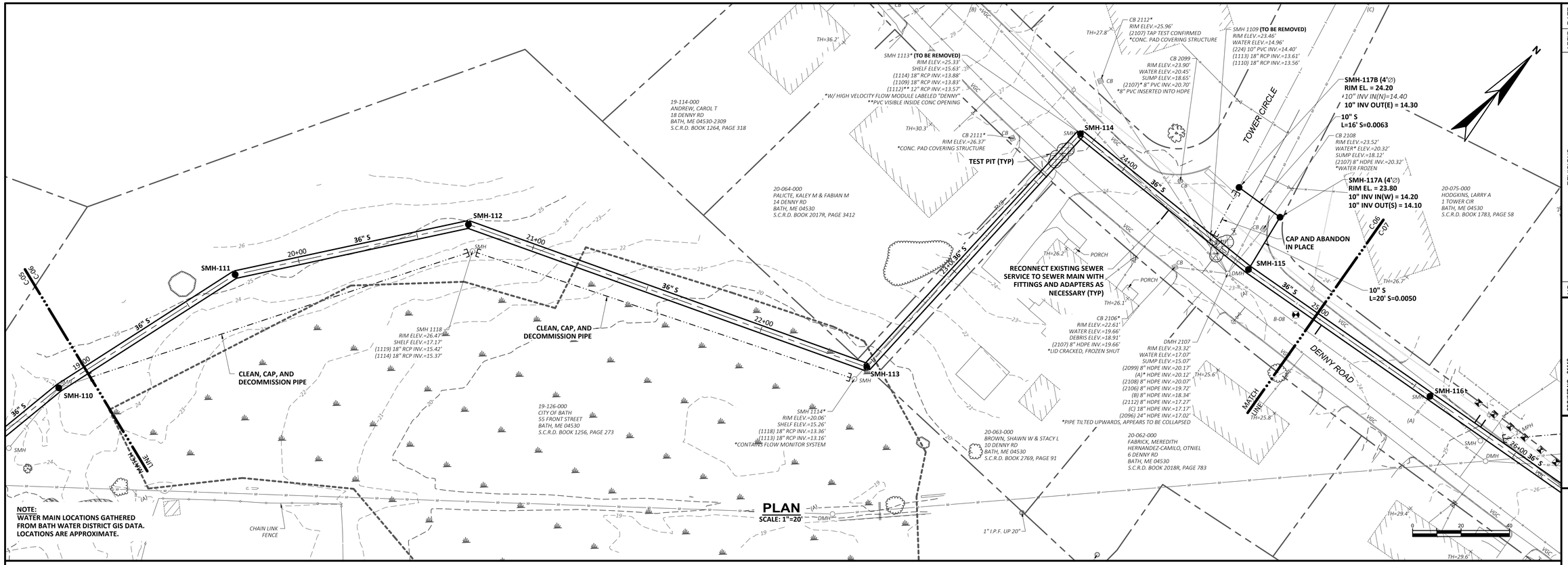
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

PLAN AND PROFILE
STA. 13+00 TO STA. 19+00

DRAWING
C-05

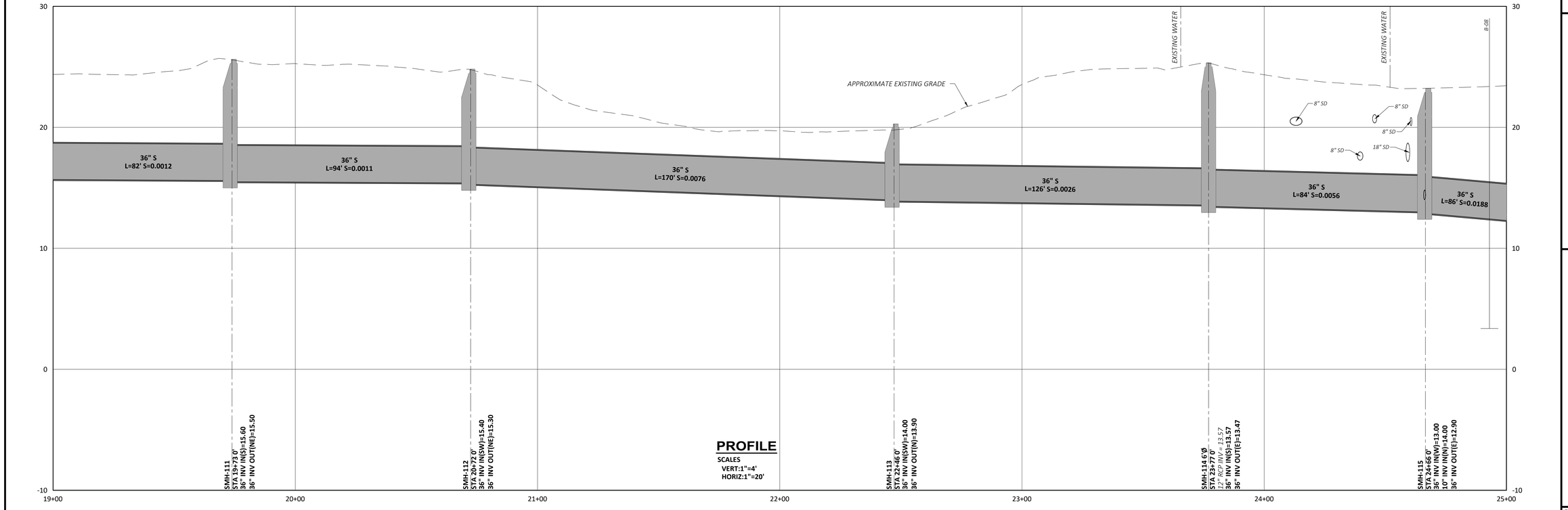
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NOTE:
WATER MAIN LOCATIONS GATHERED FROM BATH WATER DISTRICT GIS DATA. LOCATIONS ARE APPROXIMATE.

PLAN
SCALE: 1"=20'



PROFILE
SCALES
VERT:1"=4'
HORIZ:1"=20'

NOTE:
ALL MANHOLES TO BE 5' DIAMETER UNLESS NOTED OTHERWISE.

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NO	REVISIONS	APP'D	DATE
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PROJECT NO: 21119
DESIGNED: A.GRAHAM
CAD COORD: A.MESBIT
CAD: D.METZ
CHECKED: K.OBERY
DATE: 04/2025
APPROVED: M.BURNS
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE
MATTHEW D. BURNS
14223
LICENSED PROFESSIONAL ENGINEER
05/15/2025

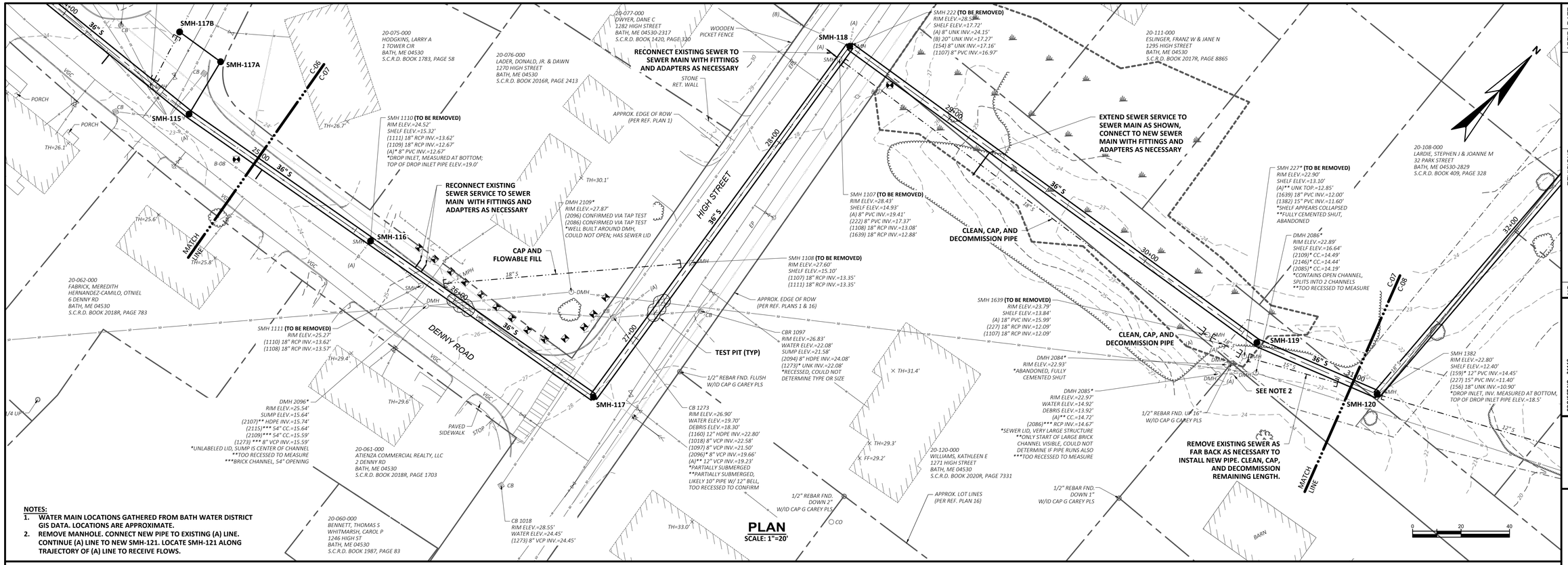
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CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

PLAN AND PROFILE
STA. 19+00 TO STA. 25+00

DRAWING
C-06

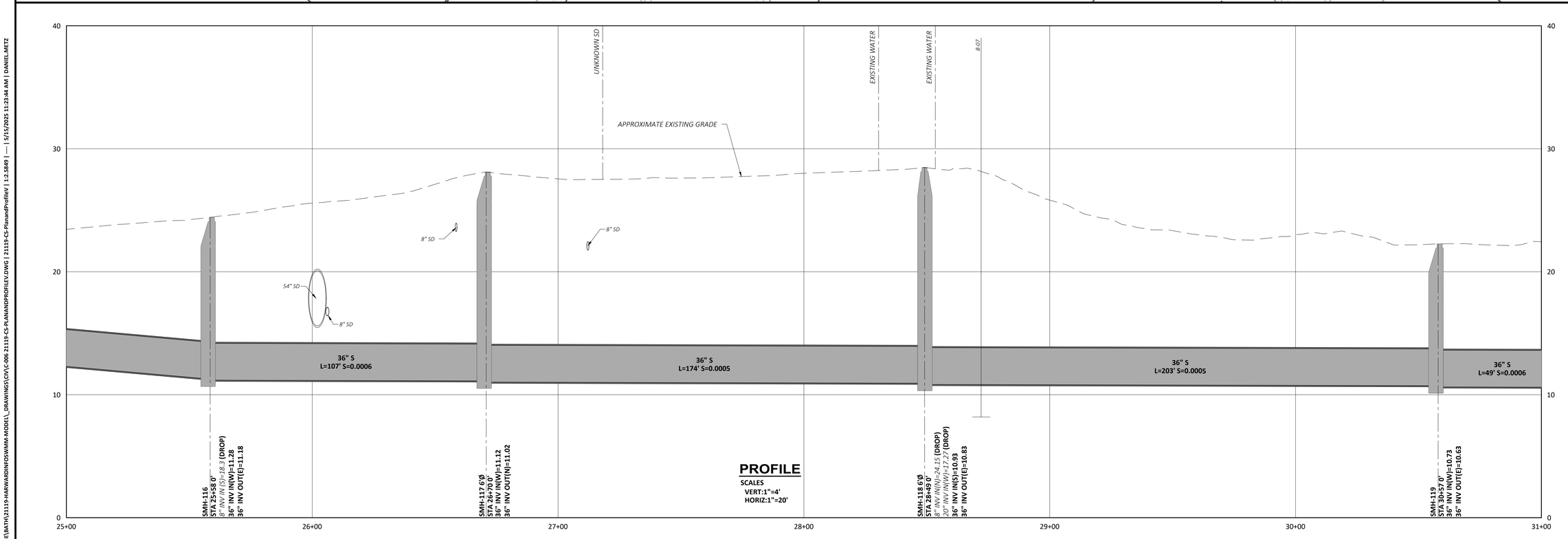
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NOTES:

1. **WATER MAIN LOCATIONS GATHERED FROM BATH WATER DISTRICT GIS DATA. LOCATIONS ARE APPROXIMATE.**
2. **REMOVE MANHOLE. CONNECT NEW PIPE TO EXISTING (A) LINE. CONTINUE (A) LINE TO NEW SMH-121. LOCATE SMH-121 ALONG TRAJECTORY OF (A) LINE TO RECEIVE FLOWS.**

PLAN
SCALE: 1"=20'



NOTE:
ALL MANHOLES TO BE 5' DIAMETER UNLESS NOTED OTHERWISE.

NO	REVISIONS	APP'D	DATE
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PROJECT NO: 21119
DESIGNED: A.GRAHAM
CAD COORD: A.MESBIT
CAD: D.METZ
CHECKED: K.OBERY
DATE: 04/2025
APPROVED: M.BURNS
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE
MATTHEW D. BURNS
14223
LICENSED PROFESSIONAL ENGINEER
5/15/2025

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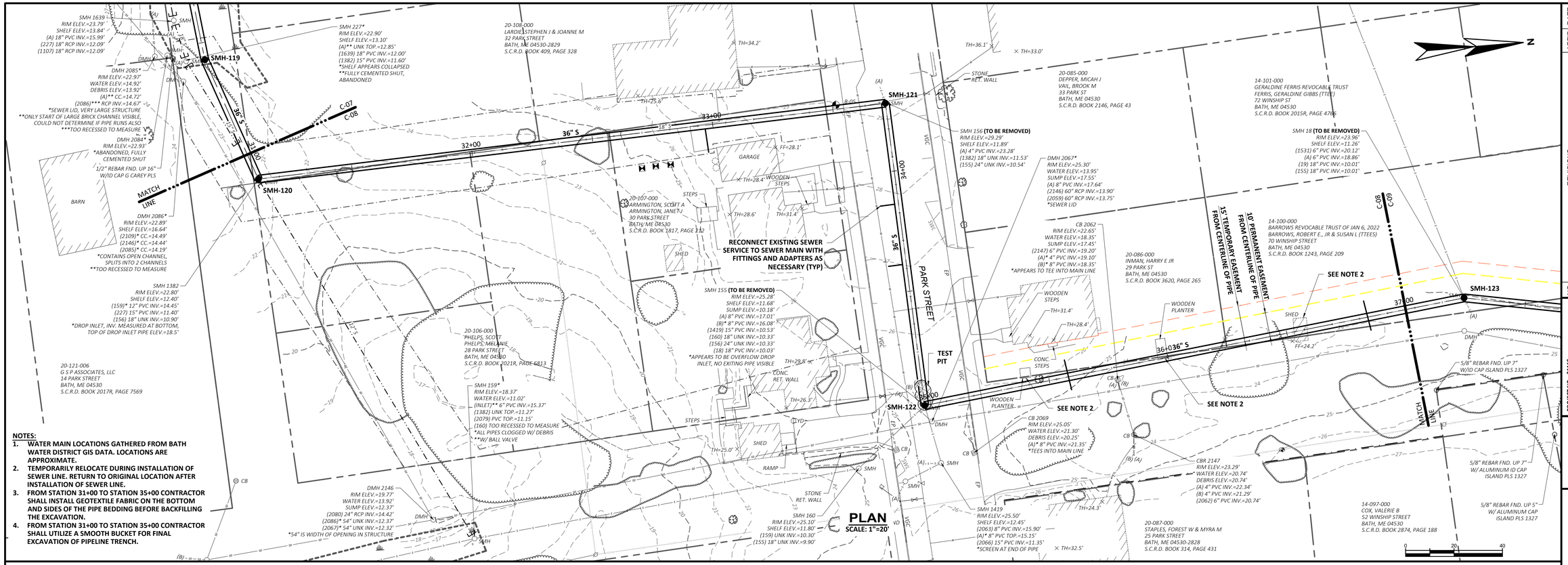
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

PLAN AND PROFILE
STA. 25+00 TO STA. 31+00

DRAWING
C-07

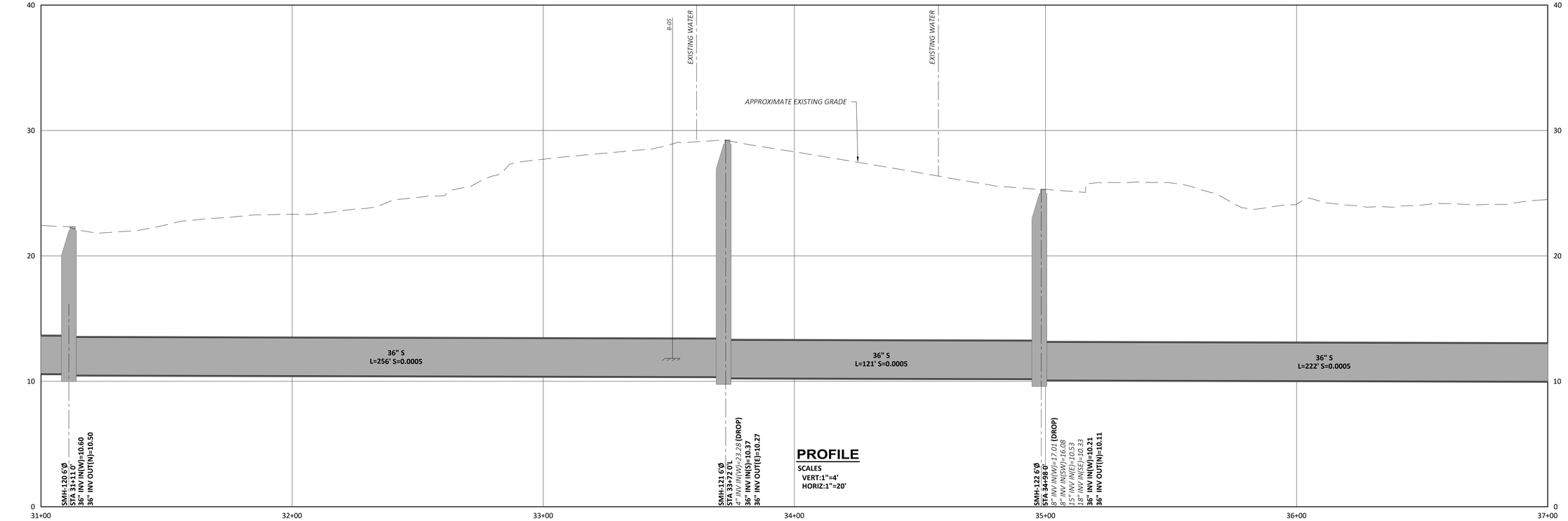
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NOTES:

1. **WATER MAIN LOCATIONS GATHERED FROM BATH WATER DISTRICT GIS DATA. LOCATIONS ARE APPROXIMATE.**
2. **TEMPORARILY RELOCATE DURING INSTALLATION OF SEWER LINE. RETURN TO ORIGINAL LOCATION AFTER INSTALLATION OF SEWER LINE.**
3. **FROM STATION 31+00 TO STATION 35+00 CONTRACTOR SHALL INSTALL GEOTEXTILE FABRIC ON THE BOTTOM AND SIDES OF THE PIPE BEDDING BEFORE BACKFILLING THE EXCAVATION.**
4. **FROM STATION 31+00 TO STATION 35+00 CONTRACTOR SHALL UTILIZE A SMOOTH BUCKET FOR FINAL EXCAVATION OF PIPELINE TRENCH.**



NOTE:
ALL MANHOLES TO BE 5' DIAMETER UNLESS NOTED OTHERWISE.

NO	REVISIONS	APPD	DATE
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PROJECT NO: 21119
DESIGNED: A.GRAHAM
CAD COORD: A.MESBIT
CAD: D.METZ
CHECKED: K.COBERY
DATE: 04/2025
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DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE
MATTHEW D. BURNS
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5/15/2025

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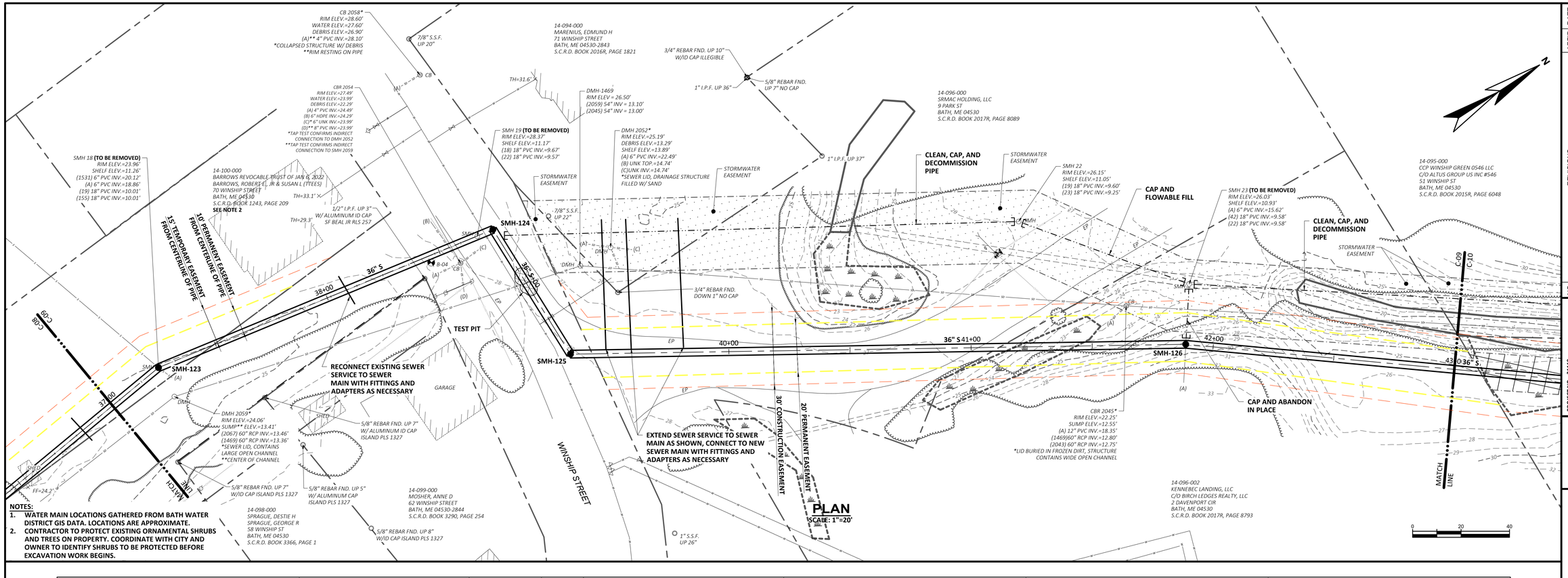
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

PLAN AND PROFILE
STA. 31+00 TO STA. 37+00

DRAWING
C-08

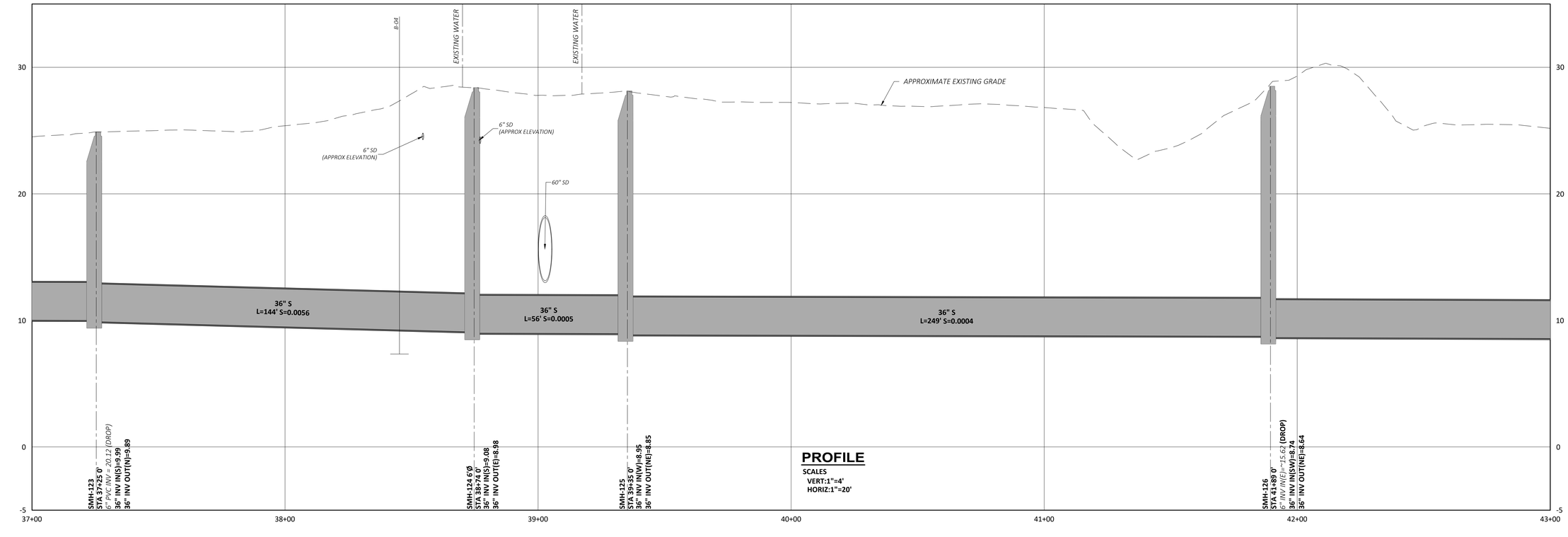
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PLAN
SCALE: 1"=20'

NOTES:
1. **WATER MAIN LOCATIONS GATHERED FROM BATH WATER DISTRICT GIS DATA. LOCATIONS ARE APPROXIMATE.**
2. **CONTRACTOR TO PROTECT EXISTING ORNAMENTAL SHRUBS AND TREES ON PROPERTY. COORDINATE WITH CITY AND OWNER TO IDENTIFY SHRUBS TO BE PROTECTED BEFORE EXCAVATION WORK BEGINS.**



PROFILE
SCALES
VERT:1"=4'
HORIZ:1"=20'

NOTE:
ALL MANHOLES TO BE 5' DIAMETER UNLESS NOTED OTHERWISE.

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

PROJECT NO: 21119
DESIGNED: A.GRAHAM
CAD COORD: A.MESBIT
CAD: D.METZ
CHECKED: K.OBERY
DATE: 04/2025
APPROVED: M.BURNS
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE
MATTHEW D. BURNS
14223
LICENSED PROFESSIONAL ENGINEER
5/15/2025

WRIGHT-PIERCE
207.725.8721 | www.wright-pierce.com
11 BOWDOIN MILL ISLAND, SUITE 140, TOPSHAM, ME 04086

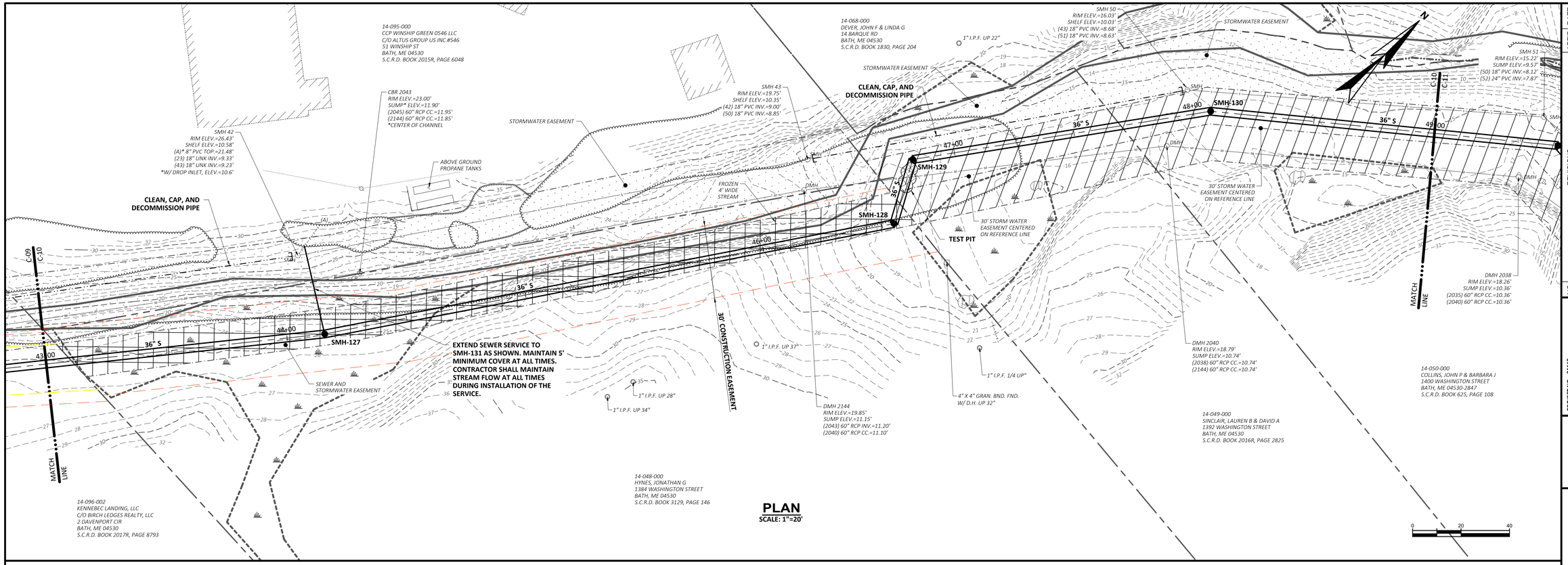
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

PLAN AND PROFILE
STA. 37+00 TO STA. 43+00

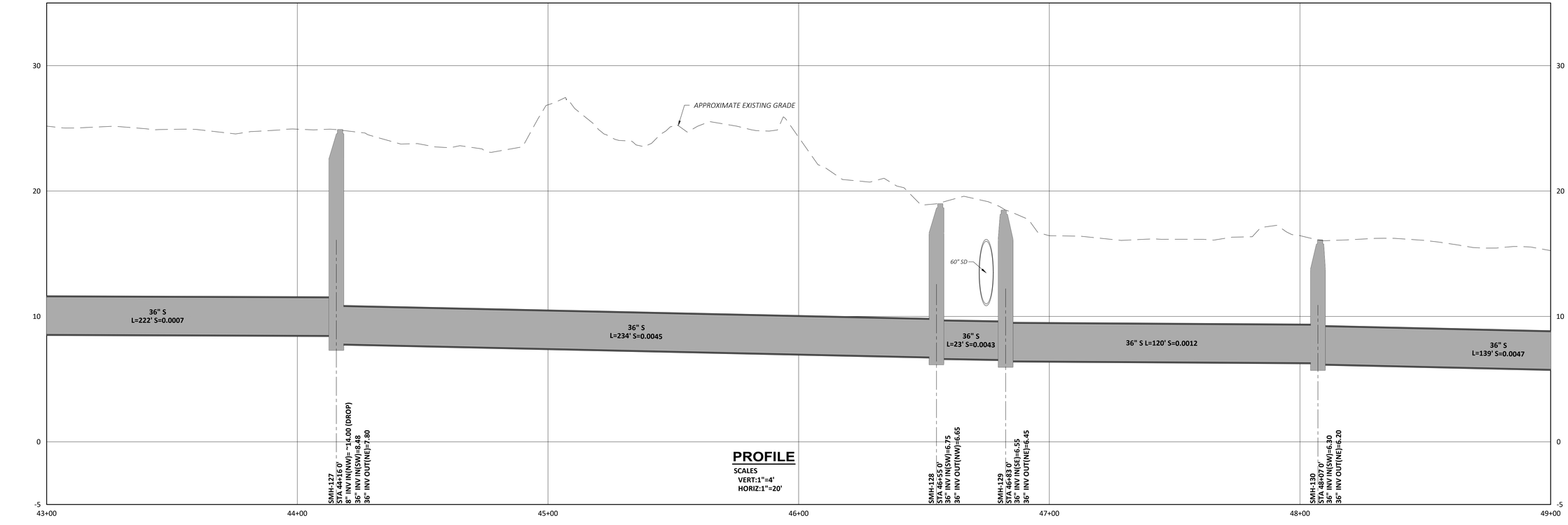
DRAWING
C-09

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PLAN
SCALE: 1"=20'



PROFILE
SCALES
VERT:1"=4'
HORIZ:1"=20'

NOTE:
ALL MANHOLES TO BE 5' DIAMETER UNLESS NOTED OTHERWISE.

NO	DATE	APP'D	REVISIONS
1			
2			
3			
4			
5			

PROJECT NO: 21119
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STATE OF MAINE
MATTHEW D. BURNS
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05/15/2025

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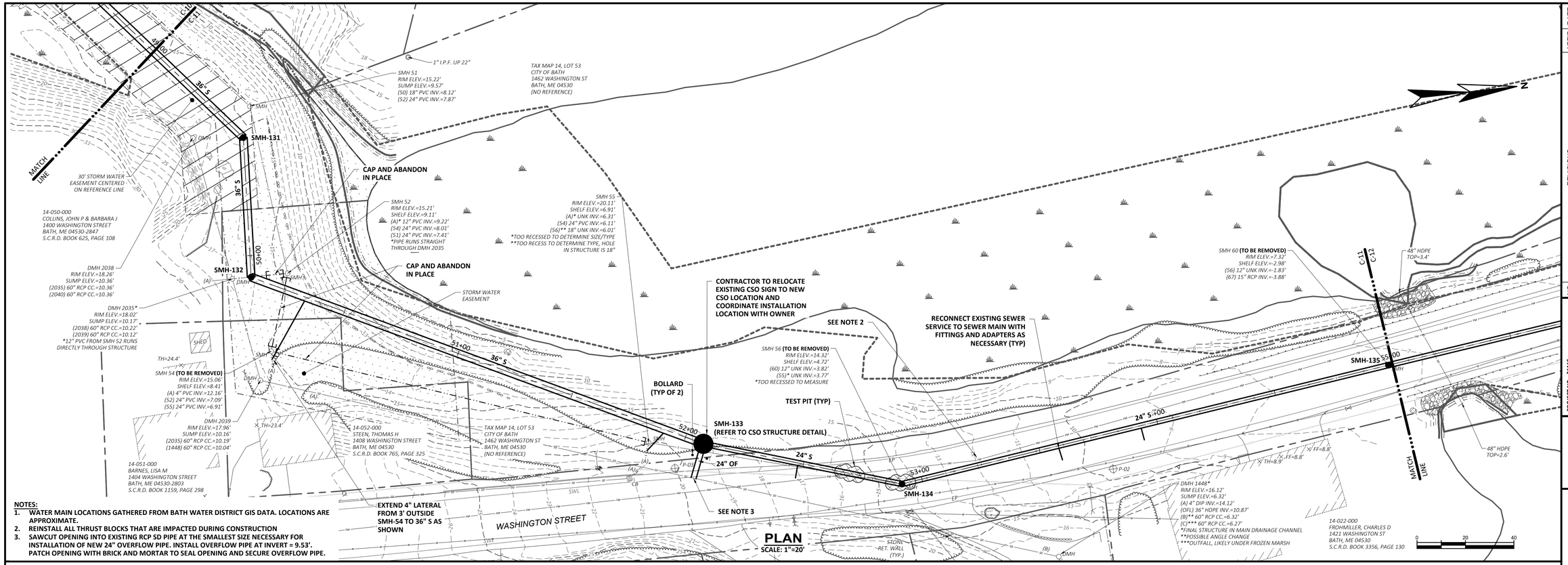
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

PLAN AND PROFILE
STA. 43+00 TO STA. 49+00

DRAWING
C-10

J:\ENGV\BATH\21119-HARWARDINFOSWMM-MODEL_DRAWINGS\CIV\21119-CS-PLANANDPROFILEVIII.DWG | 21119-CS-PlanandProfileVIII | 12.5849 | --- | 5/15/2025 11:25:13 AM | DANIEL.METZ

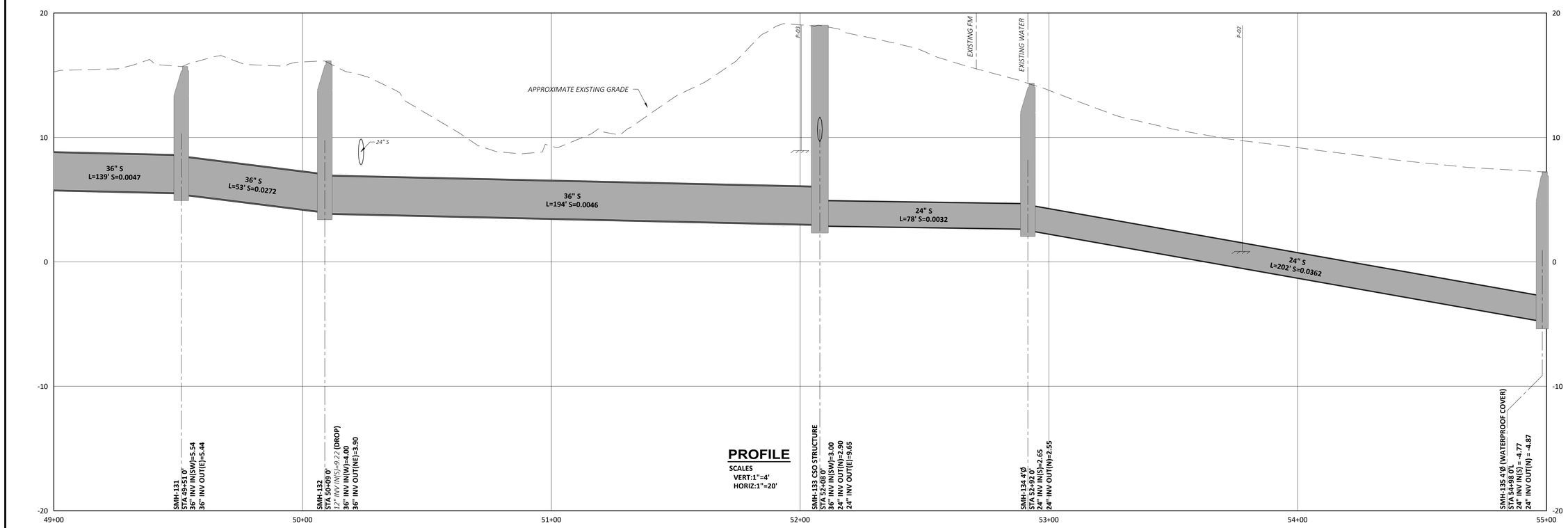
LAST SAVED BY: DANIEL.METZ 5/15/2025 10:17 AM



NOTES:

1. **WATER MAIN LOCATIONS GATHERED FROM BATH WATER DISTRICT GIS DATA. LOCATIONS ARE APPROXIMATE.**
2. **REINSTALL ALL THRUST BLOCKS THAT ARE IMPACTED DURING CONSTRUCTION**
3. **SAWCUT OPENING INTO EXISTING RCP SD PIPE AT THE SMALLEST SIZE NECESSARY FOR INSTALLATION OF NEW 24" OVERFLOW PIPE. INSTALL OVERFLOW PIPE AT INVERT = 9.53'. PATCH OPENING WITH BRICK AND MORTAR TO SEAL OPENING AND SECURE OVERFLOW PIPE.**

PLAN
SCALE: 1"=20'



PROFILE
SCALES
VERT:1"=4'
HORIZ:1"=20'

NOTE:
ALL MANHOLES TO BE 5' DIAMETER UNLESS NOTED OTHERWISE.

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NO	REVISIONS	APP'D	DATE
1			
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PROJECT NO: 21119
DESIGNED: A.GRAHAM
CAD COORD: A.MESBIT
CAD: D.METZ
CHECKED: K.OBERY
DATE: 04/2025
APPROVED: M.BURNS
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE
MATTHEW D. BURNS
14223
LICENSED PROFESSIONAL ENGINEER

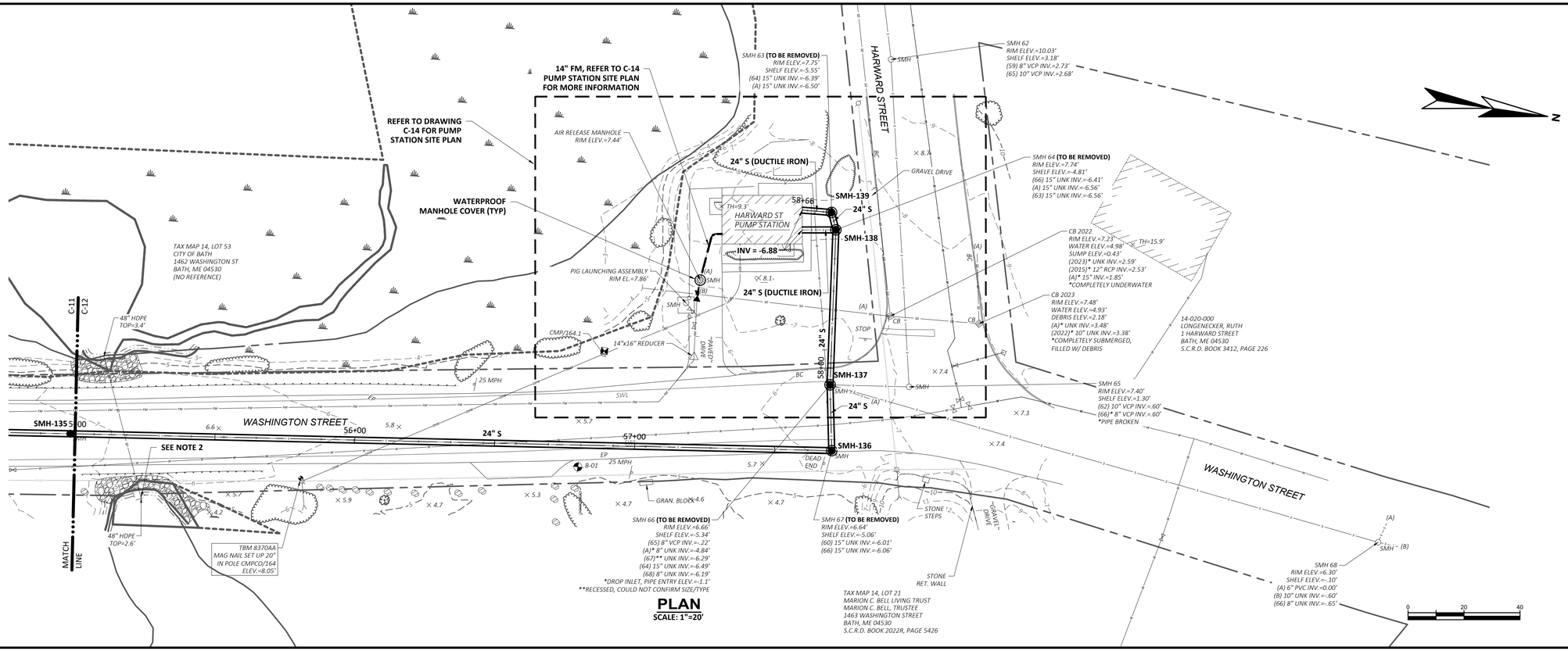
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CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

PLAN AND PROFILE
STA. 49+00 TO STA. 55+00

DRAWING
C-11

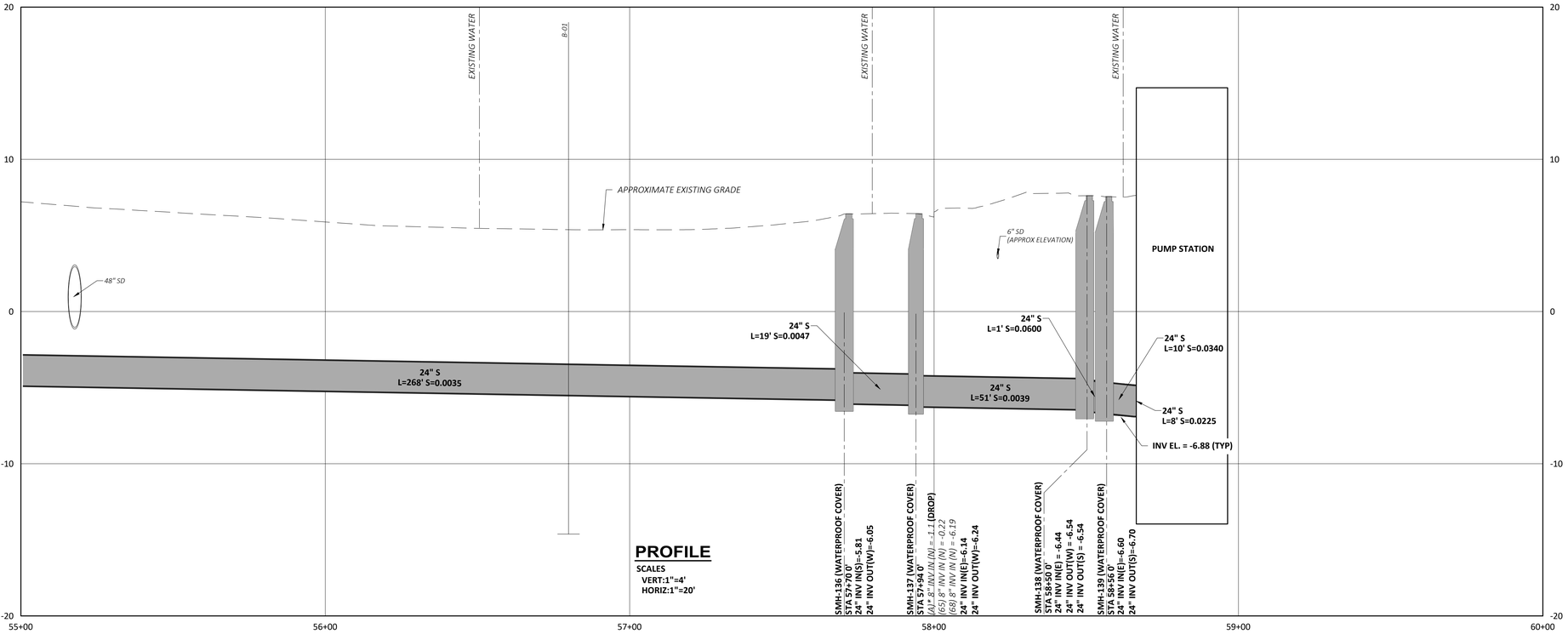
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NOTES:

1. **WATER MAIN LOCATIONS GATHERED FROM BATH WATER DISTRICT GIS DATA. LOCATIONS ARE APPROXIMATE.**
2. **CONTRACTOR SHALL MAINTAIN TIDAL RIVER FLOW UNDERNEATH ROAD AT ALL TIMES WHILE INSTALLING THE NEW SEWER PIPE**

PLAN
SCALE: 1"=20'



PROFILE
SCALES
VERT:1"=4'
HORIZ:1"=20'

NOTE:
ALL MANHOLES TO BE 5' DIAMETER UNLESS NOTED OTHERWISE.

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			
6			

PROJECT NO: 21119
DESIGNED: A.GRAHAM
CAD COORD: A.MESBIT
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APPROVED: M.BURNS
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE
MATTHEW D. BURNS
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5/15/2025

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CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

PLAN AND PROFILE
STA. 55+00 TO END

DRAWING
C-12

J:\ENGV\ME\BATH\21119-HARWARDINFOSWMM-MODEL_DRAWINGS\CIV\21119-CS-PLANANDPROFILEX.DWG | 21119-CS-PlanandProfileX | 1:2.5849 | — | 5/15/2025 11:26:10 AM | DANIEL.METZ

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DEMOLITION NOTES:

1. REMOVE WOODEN FENCE IN ITS ENTIRETY.
2. DEMOLISH/REMOVE CONCRETE PAD. REMOVE EXISTING GENERATOR. OWNER TO SALVAGE GENERATOR. CONTRACTOR TO REMOVE AND RELOCATE TO CITY OF BATH WASTEWATER TREATMENT FACILITY.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARING AND GRUBBING AND REMOVAL OF ALL TREES IN THIS AREA NEEDED TO FACILITATE REMOVAL OF EXISTING GENERATOR AND INSTALLATION OF NEW GENERATOR. CITY TO IDENTIFY SELECT TREES TO REMAIN IF POSSIBLE. CONTRACTOR TO COORDINATE WITH THE CITY TO SALVAGE TREES TO THE GREATEST EXTENT POSSIBLE.
4. REMOVE/DEMOLISH EXISTING FORCE MAIN TO THE EXTENTS SHOWN.
5. EXISTING PAVEMENT TO BE REMOVED.
6. EXISTING CONCRETE WALKWAY TO BE REMOVED.
7. ABANDON SUMP PUMP DISCHARGE IN PLACE.
8. REMOVE/DEMOLISH EXISTING SUMP PUMP (SP-2) AND ALL APPURTENANCES.

GENERATOR AND CONCRETE PAD
CONCRETE ENTRY PAD (TYP)
CONCRETE WALKWAY (TYP)
TH=9.3'
HARWARD ST PUMP STATION
PAVED DRIVE
SMH 63
RIM ELEV.=7.75'
SHELF ELEV.=5.55'
(64) 15" UNK INV.=-6.39'
(A) 15" UNK INV.=-6.50'
INV=-6.46
(A)
SMH
SMH 64
RIM ELEV.=7.74'
SHELF ELEV.=-4.81'
(66) 15" UNK INV.=-6.41'
(A) 15" UNK INV.=-6.56'
(63) 15" UNK INV.=-6.56'
FLOW METER STRUCTURE
RIM ELEV.=7.44'
WATER ELEV.=-2.86'
SUMP ELEV.=-4.41'
(A) 14 DIP TOP.=-3.71'
(B) 14 DIP TOP.=-3.71'
*FORCE MAIN, RUNS STRAIGHT THROUGH STRUCTURE
SP-2
OUTLET INV = 1.25'*
BOLLARD (TYP)
SUMP PUMP DISCHARGE
PIG LAUNCHING ASSEMBLY
RIM EL.=7.86'
15" SD
LIMIT OF WORK
CMP/164.1
14"x16" REDUCER
"PAVED" DRIVE
SMH 66
RIM ELEV.=6.66'
SHELF ELEV.=-5.34'
(65) 8" VCP INV.=-.22'
(A)* 8" UNK INV.=-4.84'
(67)** UNK INV.=-6.29'
(64) 15" UNK INV.=-6.49'
(68) 8" UNK INV.=-7.09'
*DROP INLET, PIPE ENTRY ELEV.=-1.1'
**RECESSED, COULD NOT CONFIRM SIZE/TYPE
CB 2022
RIM ELEV.=7.23'
WATER ELEV.=4.98'
SUMP ELEV.=0.43'
(2023)* UNK INV.=2.59'
(2015)* 12" RCP INV.=2.53'
(A)* 15 INV.=1.85'
*COMPLETELY UNDERWATER
CB 2023
RIM ELEV.=7.48'
WATER ELEV.=4.93'
DEBRIS ELEV.=2.18'
(A)* UNK INV.=3.48'
(2022)* 10" UNK INV.=3.38'
*COMPLETELY SUBMERGED, FILLED W/ DEBRIS
10" SD
CB
STOP
SMH 65
RIM ELEV.=7.40'
SHELF ELEV.=1.30'
(62) 10" VCP INV.=.60'
(66)* 8" VCP INV.=.60'
*PIPE BROKEN
8" S
HARWARD STREET
WASHINGTON STREET
SWL
14" FM
BC
× 8.1
× 8.7
× 7.4

EXISTING CONDITIONS AND DEMOLITION PLAN
SCALE: 1"=5'

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

PROJECT NO: 21119
DESIGNED: A.GRAHAM
CAD COORD: A.MESBIT
CAD: D.METZ
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DATE: 04/2025
APPROVED: M.BURNS
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE
MATTHEW D. BURNS
14223
LICENSED PROFESSIONAL ENGINEER
05/14/2025

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CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

EXISTING CONDITIONS AND DEMOLITION PLAN

DRAWING
C-13

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NOTES:
1. CONTRACTOR TO SHIM DRIVEWAY WITH AGGREGATE BASE AS NECESSARY TO PITCH DRIVEWAY AT 1% SLOPE TOWARDS GUTTER LINE OF ROAD. REFER TO PAVEMENT DETAIL.
2. ALL MJ DUCTILE IRON FITTINGS ARE TO BE RESTRAINED WITH MJ FOLLOWER GLAND PIPE RESTRAINTS. REFER TO SECTION 02615.

EXTERIOR CONCRETE PAD (TYP), TOC = 8.25'. COORDINATE LOCATION WITH GENERATOR MANUFACTURER. REFER TO STRUCTURAL DRAWINGS FOR DETAILS.

15'-10" X 4'-2" GENERATOR PAD, TOC = 11.0'. VERIFY PAD SIZE WITH GENERATOR MANUFACTURER, REFER TO STRUCTURAL DRAWINGS FOR DETAILS

WALKWAY PAVEMENT

16'-6"

7'-0"

WALKWAY PAVEMENT

MATCH EXISTING GRADE (TYP)

8.00

8.38

8.38

LIMIT OF WORK

SILT FENCE

TH=9.3'

HARWARD ST PUMP STATION

INV=-6.88

INV=-6.88

24" S (DUCTILE IRON, PUSH ON JOINT)

1% SLOPE (SEE NOTE 1)

SMH-139

SMH-138

24" S

15'-0"

R15'

MATCH EXISTING GRADE

45° BEND

INV EL= 0.30

24" S (DUCTILE IRON, PUSH ON JOINT)

1% SLOPE (SEE NOTE 1)

DRIVEWAY PAVEMENT - TYPE II

8.15

8.15

8.15

UGE

14" FM

AIR RELEASE MH
(SEE DETAIL DRAWING C-16)
RIM ELEV.=7.44'
SUMP ELEV.=-4.41'
14" INV IN(W)=0.32
14" INV OUT(E)=0.32

CONNECT NEW FM TO EXISTING FM AT EL -3.71 WITH FITTINGS AS REQUIRED

SMH

WALKWAY PAVEMENT

× 8.1

DUCT BANK (TYP)
(SEE ELECTRICAL DRAWINGS)

REFER TO DRAWING C-12 FOR GRAVITY SEWER PLAN/PROFILE

UTILITY POLE
(PROVIDED BY CMP)

BOLLARD (TYP)

PIG LAUNCHING ASSEMBLY
RIM EL.=7.86'

PIG LAUNCHING ASSEMBLY CONSISTS OF AN 18" RISER PIPE WITH BLIND FLANGE THAT CONTRACTOR MAY USE FOR BYPASS PUMPING. CONTRACTOR TO PROVIDE FITTINGS AND ADAPTERS AS NECESSARY. CONTRACTOR TO TURN OVER BYPASS PUMPING FITTINGS AND ADAPTERS TO OWNER AFTER COMPLETION OF PROJECT.

SMH

TEST PIT

14" GATE VALVE

12'-0"

15" SD

1.5% W

24" S

CB 2022
RIM ELEV.=7.23'
WATER ELEV.=4.98'
SUMP ELEV.=0.43'
(2023)* UNK INV.=2.59'
(2015)* 12" RCP INV.=2.53'
(A)* 15 INV.=1.85'
*COMPLETELY UNDERWATER

CB 2023
RIM ELEV.=7.48'
WATER ELEV.=4.93'
DEBRIS ELEV.=2.18'
(A)* UNK INV.=3.48'
(2022)* 10" UNK INV.=3.38'
*COMPLETELY SUBMERGED, FILLED W/ DEBRIS

(A)

CB

10" SD

CB

DRIVEWAY PAVEMENT - TYPE I

STOP

CMP/164.1

14"x16" REDUCER

R15'

R15'

BC

MATCH EXISTING GRADE

SMH-137

8" S

SMH

8" S

8" S

(A)

× 7.4

WASHINGTON STREET

SWL

14" FM

HARWARD STREET

× 8.7

N

0 5 10

SITE PLAN
SCALE: 1"=5'

NO	REVISIONS	APP'D	DATE
1			
2			
3			
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5			
6			

PROJECT NO: 21119
DESIGNED: A.GRAHAM
CAD COORD: A.MESBIT
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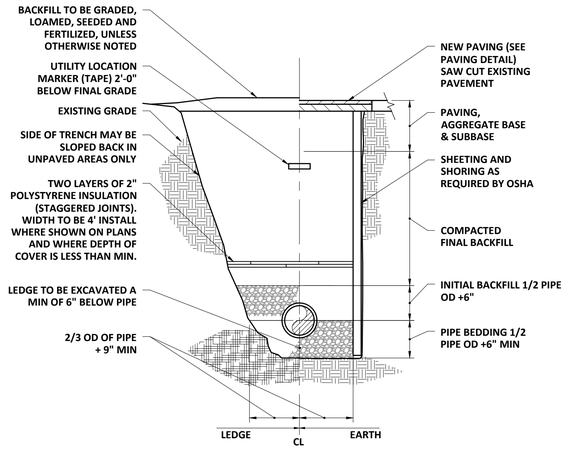
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

SITE PLAN

DRAWING
C-14

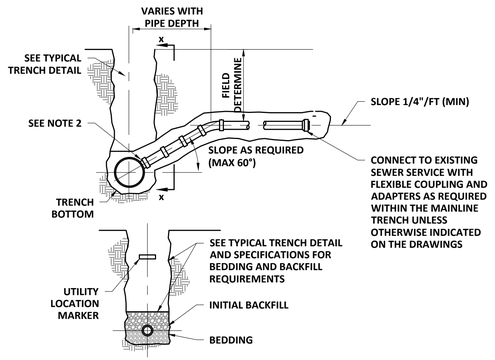
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NOTES:
1. ALL EXCAVATION MUST MEET OSHA STANDARDS.
2. INSTALL 3 FOOT LONG IMPERVIOUS MATERIAL DAM IN BEDDING/INITIAL BACKFILL MATERIAL EVERY 100' AND WHERE SHOWN ON PLANS TO PREVENT TRENCH GROUNDWATER FROM BEING CHANNELED ALONG BEDDING/INITIAL BACKFILL.
3. SEE SPECIFICATIONS FOR BEDDING AND BACKFILL REQUIREMENTS.
4. SEE SPECIFICATIONS FOR PAYMENT LIMITS ON UNIT PRICE WORK.

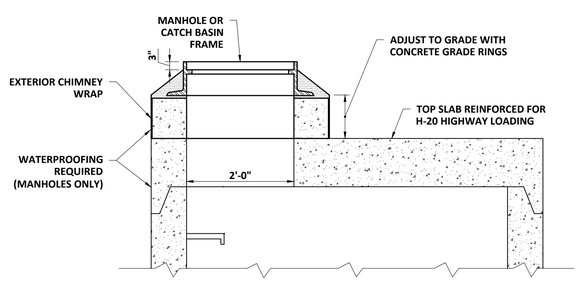
PIPE TRENCH
SCALE: "NTS"



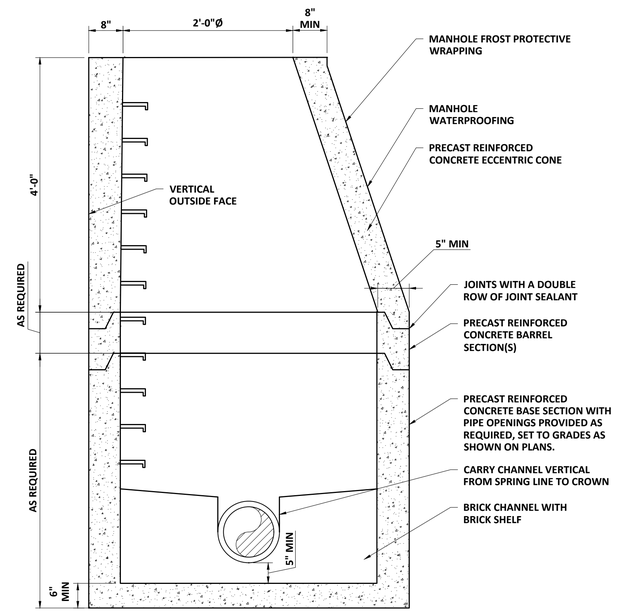
SECTION X-X

NOTES:
1. ALL SERVICE CONNECTIONS TO BE 6"Ø UNLESS OTHERWISE SHOWN ON THE PLANS.
2. ON 36" SEWER MAIN, CONNECT SERVICE PIPE TO MAIN WITH INSERTION STYLE TEE. ON 24" SEWER MAIN, USE EITHER PVC WYE FITTING OR INSERTION STYLE TEE.

SEWER SERVICE CONNECTION
SCALE: "NTS"



FLAT SLAB TOP MANHOLE AND CATCH BASIN FRAME INSTALLATION
SCALE: NTS

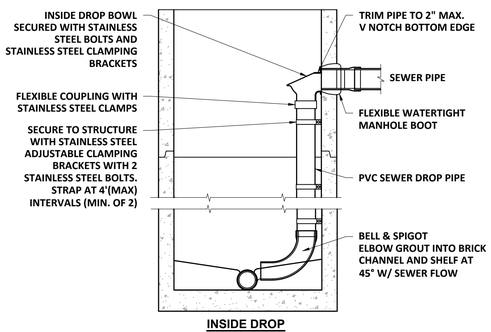


NOTES:
1. MANHOLE CHANNELS REQUIRING A CHANGE IN DIRECTION ARE TO BE BUILT ON A SMOOTH CURVE OF THE LONGEST POSSIBLE RADIUS. IF SIDE PIPES ENTER CHANNEL, SHAPE TO RECEIVE ADDED SIDE FLOW.
2. USE A FLAT SLAB TOP MANHOLE WHEN THE HEIGHT DIFFERENCE BETWEEN THE HIGHEST INVERT AND RIM IS LESS THAN 6'-0" AND WHEN MANHOLE DIAMETER IS GREATER THAN 4'-0".

TYPICAL 4-FT MANHOLE
SCALE: "NTS"



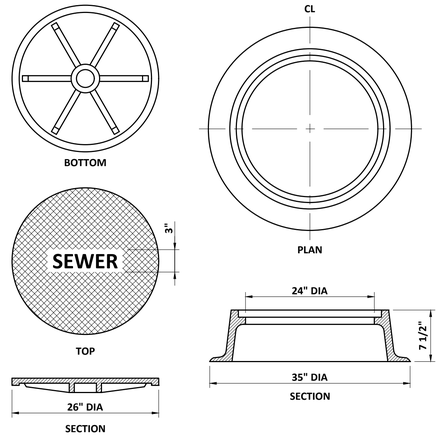
INSIDE DROP - PLAN



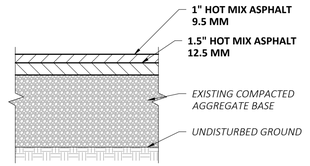
INSIDE DROP CONNECTION

NOTE:
ALL INSIDE DROP CONNECTIONS GREATER THAN 24" OF VERTICAL DROP FOR COLLECTOR SEWERS SHALL USE THE DROP BOWL AS SHOWN.

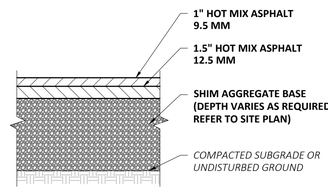
INSIDE DROP MANHOLE DETAIL WITH DROP BOWL
SCALE: NTS



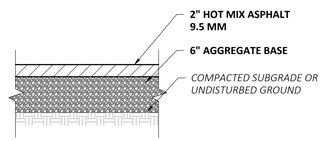
MANHOLE STANDARD COVER AND FRAME
SCALE: "NTS"



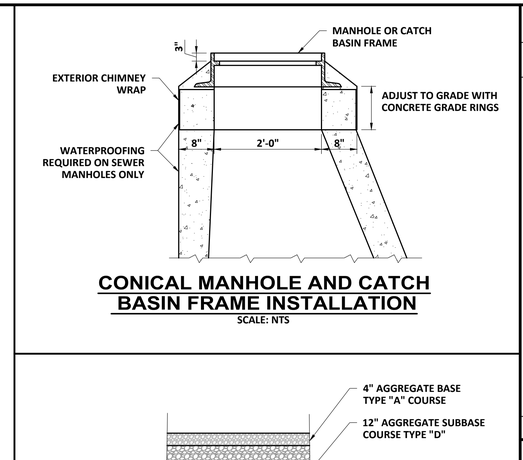
DRIVEWAY PAVEMENT TYPE I AT PUMP STATION (REPLACE PAVEMENT ONLY - WASHINGTON ST SIDE)
SCALE: NTS



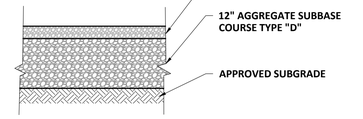
DRIVEWAY PAVEMENT - TYPE II AT PUMP STATION (HARWARD SIDE)
SCALE: NTS



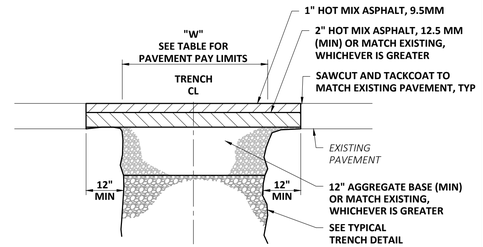
WALKWAY PAVEMENT
SCALE: "NTS"



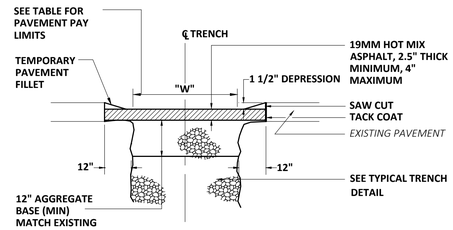
CONICAL MANHOLE AND CATCH BASIN FRAME INSTALLATION
SCALE: NTS



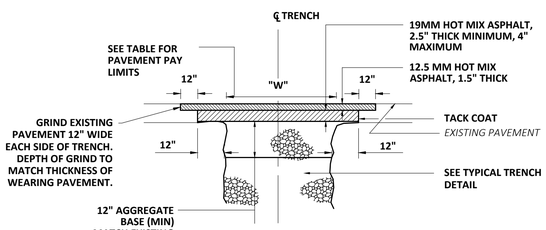
TYPICAL SECTION OF GRAVEL AREAS
SCALE: NTS



DRIVEWAY PAVEMENT ALONG SEWER ROUTE
SCALE: "NTS"



INITIAL TRENCH PAVING ALONG SEWER ROUTE
SCALE: NTS



FINAL TRENCH PAVING ALONG SEWER ROUTE
SCALE: NTS

TRENCH PAVEMENT PAY LIMITS	
	"W"
PIPE I.D.	(FOR 0' - 10' DEEP)
6" - 15"	7'-0"
16" - 36"	8'-0"

"W" SHALL BE INCREASED BY 1'-0" FOR TRENCHES 10' - 15', BY 2'-0" FOR TRENCHES 15' - 20' DEEP, AND BY 3'-0" FOR TRENCHES 20'-25' DEEP.

NO	REVISIONS	APP'D	DATE
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PROJECT NO: 21119
DESIGNED: A.GRAHAM
CAD COORD: A.MESBIT
CAD: D.METZ
CHECKED: K.OBERY
DATE: 04/2025
APPROVED: M.BURNS
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE
MATTHEW D. BURNS
14223
LICENSED PROFESSIONAL ENGINEER
5/15/2025

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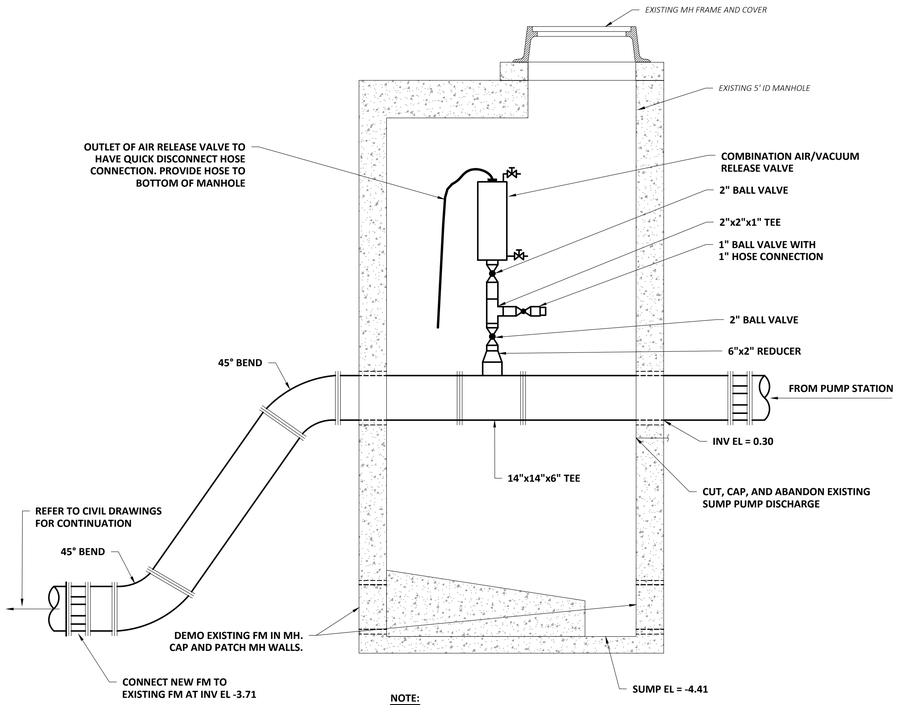
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

DETAILS I

DRAWING
C-15

J:\ENG\WLR\BATH\21119-HARWARDINFOSWMM-MODEL_DRAWINGS\CIV\21119-CS-DETAILS1.DWG | 21119-CS-Details1 | 12.5849 | --- | 5/15/2025 11:27:02 AM | DANIEL.METZ

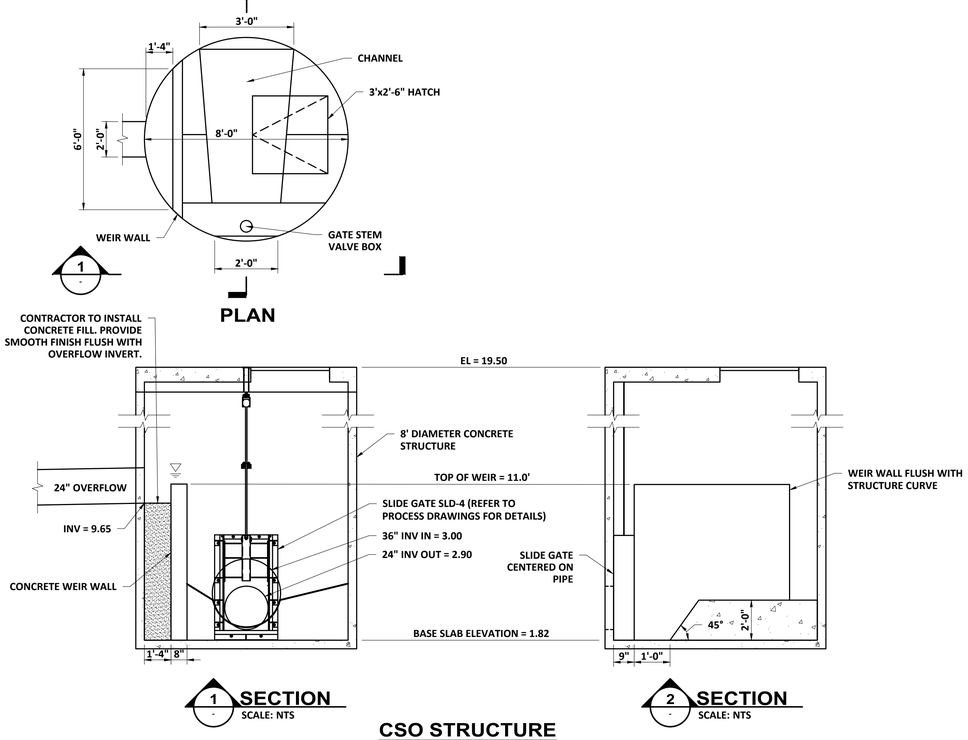
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NOTE:
PROVIDE PIPE SUPPORTS FOR 14" FORCE MAIN AS REQUIRED

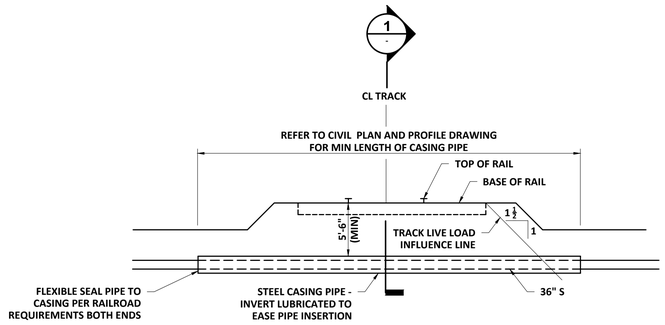
COMBINATION AIR/VACUUM RELEASE MANHOLE AND FORCE MAIN CONNECTION DETAIL (DUCTILE IRON FM)

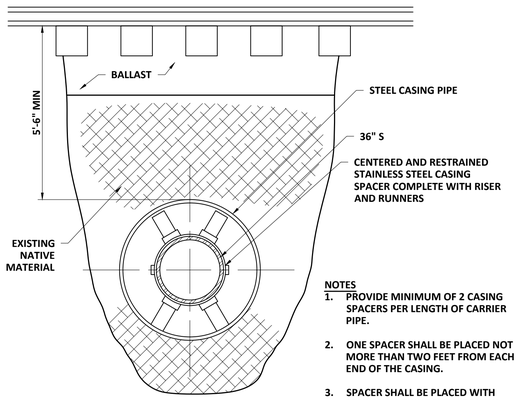
SCALE: NTS



CSO STRUCTURE

SCALE: NTS





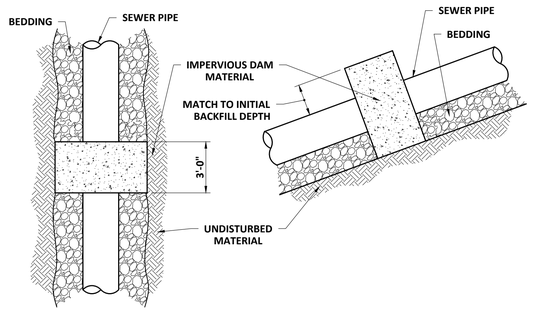
NOTES
1. PROVIDE MINIMUM OF 2 CASING SPACERS PER LENGTH OF CARRIER PIPE.
2. ONE SPACER SHALL BE PLACED NOT MORE THAN TWO FEET FROM EACH END OF THE CASING.
3. SPACER SHALL BE PLACED WITH MAXIMUM EIGHT FEET SPACING INTERVALS.
4. CASING END SEALS SHALL BE PLACED AT EACH END OF CASING PIPE.

1 SECTION
SCALE: NTS

NOTE: JACKING PIT DIMENSIONS AS REQUIRED BY CONTRACTOR

PIPE BORING AND JACKING

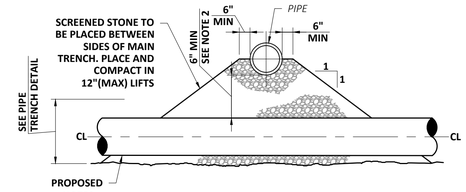
SCALE: NTS



IMPERVIOUS DAM DETAIL

SCALE: NTS

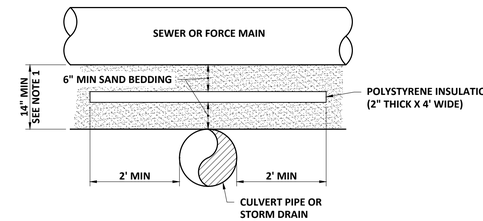
NOTE:
INSTALL IMPERVIOUS DAMS EVERY 100 FT AND WHERE REQUIRED BY ENGINEER.

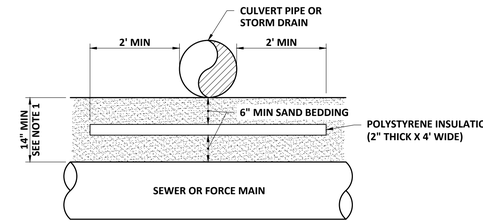


NOTES:
1. JOINTS ON EACH PIPE TO BE AS FAR FROM INTERSECTION AS POSSIBLE.
2. IF LESS THAN 12", FLOWABLE FILL MAY BE REQUIRED RATHER THAN SCREENED STONE TO FACILITATE PROPER PIPE BEDDING AND COMPACTION AT ENGINEER'S DISCRETION. REFER TO SPECIFICATIONS SECTION 02225 FOR ADDITIONAL INFORMATION.

PIPE CROSSING

SCALE: NTS





NOTE:
INSULATION TO BE USED WHERE PIPE SEPARATION IS 24" OR LESS

CULVERT/STORM DRAIN PIPE CROSSING

SCALE: NTS

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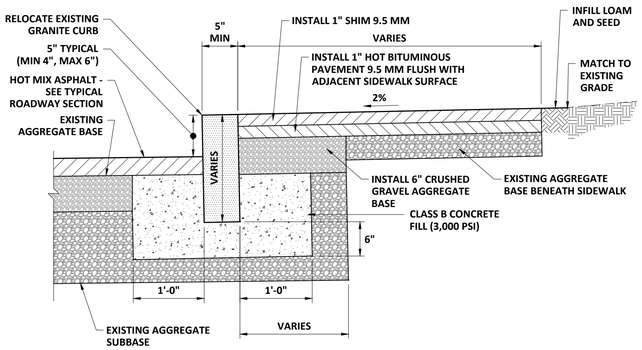
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

DETAILS II

DRAWING
C-16

J:\ENGM\BATH\21119-HARWARDINFOSWMM-MODEL_DRAWINGS\CIV\21119-CS-DETAILSII.DWG | 21119-CS-DetailsII | 12.5849 | ---- | 5/15/2025 11:27:06 AM | DANIEL.METZ

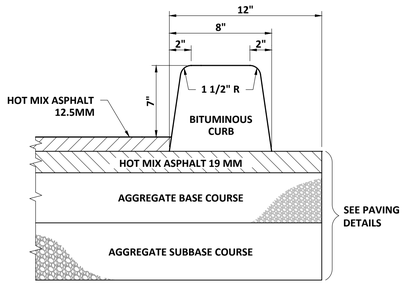
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CONCRETE FILL NOTE - CONCRETE FILL MIX PROPERTIES SHALL BE PROPORTIONED TO A MINIMUM STRENGTH OF 3,000 PSI AT 28 DAYS

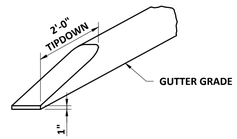
GRANITE CURB RESET WITH CONCRETE

SCALE: NTS



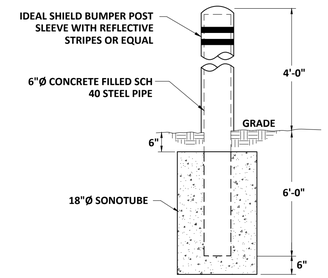
BITUMINOUS CURB

SCALE: NTS



BITUMINOUS TERMINAL CURB

SCALE: NTS



BOLLARD

SCALE: NTS

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CITY OF BATH, MAINE
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DETAILS III

DRAWING
C-17

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EROSION AND SEDIMENTATION CONTROL NOTES

THIS PLAN HAS BEEN DEVELOPED AS A STRATEGY TO CONTROL SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION. THIS PLAN IS BASED ON THE STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION IN DEVELOPING AREAS IN ACCORDANCE WITH OCTOBER 2016 REVISION TO THE 2003 MAINE EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPS) MANUAL FOR DESIGNERS AND ENGINEERS, OR LATEST EDITION. EROSION CONTROL MIX SHALL BE AS SPECIFIED IN THIS CITATION, PAGE 40.

THE PROPOSED LOCATIONS OF SILTATION AND EROSION CONTROL STRUCTURES ARE SHOWN ON THE SITE PLAN.

1. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE DONE IN ACCORDANCE WITH 2016 REVISION TO THE 2003 MAINE EROSION AND SEDIMENT CONTROL FIELD GUIDE FOR CONTRACTORS, OR LATEST EDITION. ALL TEMPORARY MEASURES SHALL NOT BE REMOVED UNTIL SITE IS FULLY STABILIZED.
2. IN AREAS ADJACENT TO NATURAL RESOURCES, LOCATIONS TO BE VEGETATED IN THEIR FINISH CONDITION SHALL BE STABILIZED WITH MULCH WITHIN 7 DAYS OF MOST RECENT DISTURBANCE.
3. AREAS THAT WILL NOT RECEIVE FINAL GRADING FOR UP TO ONE YEAR SHALL BE STABILIZED WITH MULCH WITHIN 7 DAYS OF MOST RECENT DISTURBANCE.
4. THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE MAINTAINED IN AN UNTREATED OR UNVEGETATED CONDITION FOR THE MINIMUM TIME REQUIRED. IN GENERAL AREAS TO BE VEGETATED SHALL BE PERMANENTLY STABILIZED WITHIN 15 DAYS OF FINAL GRADING AND TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE OF THE SOIL.
5. SEDIMENT BARRIERS (SILT FENCE, STONE CHECK DAMS, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF UPGRADIENT DRAINAGE AREAS. SEDIMENT BARRIERS SHALL BE INSTALLED DOWNGRADIENT OF STOCKPILES, AND STORMWATER SHALL BE PREVENTED FROM RUNNING ONTO THE STOCKPILES. PLASTIC SHEETING OR OTHER MATERIAL, WOVEN OR NON-WOVEN GEOTEXTILE FABRIC, MAY BE USED TO COVER STOCKPILES.
6. INSTALL SILT FENCE AT TOE OF SLOPES TO FILTER SILT FROM RUNOFF. SEE SILT FENCE DETAIL FOR PROPER INSTALLATION. SILT FENCE WILL REMAIN IN PLACE PER NOTE #5.
7. ALL EROSION CONTROL STRUCTURES WILL BE INSPECTED, REPLACED AND/OR REPAIRED EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT OR WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DECOMPOSURE. IF REPAIRS ARE IDENTIFIED, THEY SHALL BEGIN NO LATER THAN THE END OF THE FOLLOWING WORK DAY AND BE COMPLETE WITHIN 7 DAYS FROM INSPECTION. SEDIMENT DEPOSITS MUST BE REMOVED WHEN THEY REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE PERMANENTLY STABILIZED.
8. NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2 TO 1) UNLESS STABILIZED WITH RIPRAP OR OTHER STRUCTURAL MEANS. NO SLOPES IN EXCESS OF 1.5H:1V SHALL BE ALLOWED UNLESS STAMPED BY A PROFESSIONAL ENGINEER.
9. IF FINAL SEEDING AND SODDING IS NOT EXPECTED PRIOR TO THE ANTICIPATED DATE OF THE FIRST KILLING FROST, USE TEMPORARY ANNUAL RYEGRASS SEEDING AND MULCHING ON ROUGH GRADED SUBSOIL TO PROTECT THE SITE AND DELAY PERMANENT LOAMING, FINE GRADING, AND SEEDING OR SODDING UNTIL SPRING.
10. WHEN FEASIBLE, TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINISH GRADED SHALL BE COMPLETED 30 DAYS PRIOR TO THE FIRST KILLING FROST.
11. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO THE SITE AND REGRADED ONTO OPEN AREAS. POST SEEDING SEDIMENT, IF ANY, WILL BE DISPOSED OF IN AN ACCEPTABLE MANNER.
12. REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED ABOVE. ALL DISTURBED AREAS NOT OTHERWISE STABILIZED WILL BE GRADED, SMOOTHED, AND REVEGETATED.
13. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE IS STABILIZED.
14. EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
15. EXPOSED AREA SHOULD BE LIMITED SUCH THAT THE AREA CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT.
16. STABILIZATION SCHEDULE BEFORE WINTER:

SEPTEMBER 1:	ALL SLOPES GREATER THAN 15% MUST BE SEEDED AND MULCHED. ALL GRASS-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED.
SEPTEMBER 15	ALL DISTURBED AREAS MUST BE SEEDED AND MULCHED. ALL SLOPES MUST BE STABILIZED, SEEDED AND MULCHED. SLOPES 3:1 OR GREATER TO BE STABILIZED WITH EROSION CONTROL MATTING AND SEEDED. ALL DISTURBED AREAS TO BE PROTECTED WITH AN ANNUAL GRASS MUST BE SEEDED AT A SEEDING RATE OF 3 POUNDS PER 1,000 SQUARE FEET AND MULCHED.
OCTOBER 1	ALL DISTURBED AREAS TO BE PROTECTED WITH WINTER RYE MUST BE APPLIED AT A RATE OF 3LB PER 1000 SQUARE FEET, AND WITH HAY APPLIED AT A RATE OF 75LB PER 1000 SQUARE FEET OR WITH AN EROSION CONTROL BLANKET.
OCTOBER 15:	SOIL MUST BE SEEDED WITH WINTER RYE AND PROTECTED WITH EROSION CONTROL BLANKET IF NOT YET STABILIZED.
NOVEMBER 1:	AREA SHOULD BE STABILIZED IF RYE HAS NOT GROWN THREE INCHES AND DOES NOT HAVE 75% COVERAGE.
NOVEMBER 15	ALL STONE-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED. SLOPES THAT ARE COVERED WITH RIPRAP MUST BE CONSTRUCTED BY THAT DATE.
DECEMBER 1	ALL DISTURBED AREAS WHERE THE GROWTH OF VEGETATION FAILS TO BE AT LEAST THREE INCHES TALL OR AT LEAST 75% OF THE DISTURBED SOIL IS COVERED BY VEGETATION, MUST BE PROTECTED FOR OVER-WINTER.

17. MULCH MAY REQUIRE ANCHORING TO ENSURE THAT MULCH REMAINS IN-PLACE. MULCH NETTING, CRIMPING, OR PUNCHING ARE ACCEPTABLE METHODS. MULCH NETTING SHALL BE TENAX RADIX EROSION CONTROL NETS OR APPROVED EQUAL, AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS.
18. SPILL PREVENTION: CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM BEING DISCHARGED FROM MATERIALS AND EQUIPMENT ON-SITE, INCLUDING STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER, AND APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING AND IMPLEMENTATION.
19. GROUNDWATER PROTECTION: DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS, ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS.
20. MINIMIZE THE EXPOSURE OF CONSTRUCTION DEBRIS, BUILDING AND LANDSCAPING MATERIALS, TRASH, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS TO PRECIPITATION AND STORMWATER RUNOFF. THESE MATERIALS MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.
21. EXCAVATION DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.
22. AUTHORIZED NON-STORMWATER DISCHARGES: IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES. WHERE ALLOWED NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:
    - A. DISCHARGES FROM FIREFIGHTING ACTIVITY;
    - B. FIRE HYDRANT FLUSHINGS;
    - C. VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE AND TRANSMISSION WASHING IS PROHIBITED);
    - D. DUST CONTROL RUNOFF IN ACCORDANCE WITH SPECIFICATIONS AND ANY APPLICABLE PERMIT CONDITIONS;
    - E. ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS;
    - F. PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED;
    - G. UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE;
    - H. UNCONTAMINATED GROUNDWATER OR SPRING WATER;
    - I. FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED;
    - J. UNCONTAMINATED EXCAVATION DEWATERING;
    - K. POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND
    - L. LANDSCAPE IRRIGATION.
24. UNAUTHORIZED NON-STORMWATER DISCHARGES: THE MAINEDEP'S APPROVAL UNDER THIS CHAPTER DOES NOT AUTHORIZE A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON-STORMWATER, OTHER THAN THOSE DISCHARGES IN COMPLIANCE WITH APPENDIX C (6). SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:
    - A. WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;
    - B. FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;
    - C. SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND
    - D. TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.

EROSION CONTROL - WINTER CONSTRUCTION

1. WINTER CONSTRUCTION PERIOD DEFINED: NOVEMBER 1 THROUGH APRIL 15.
2. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED SUCH THAT NO LARGER AREA OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION AS LISTED IN ITEM 2 ABOVE.
3. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW AT A RATE OF 100 LB. PER 1,000 SQUARE FEET (WITH OR WITHOUT SEEDING) OR DORMANT SEEDED, MULCHED AND ADEQUATELY ANCHORED BY AN APPROVED ANCHORING TECHNIQUE. IN ALL CASES, MULCH SHALL BE APPLIED SUCH THAT SOIL SURFACE IS NOT VISIBLE THROUGH THE MULCH. OVERWINTER HAY MULCH SHOULD BE APPLIED AT A RATE OF 150 LB. PER 1,000 SQUARE FEET. MULCH SHOULD BE ANCHORED WITH NETTING OR TACKIFIER TO PREVENT MOVEMENT BEFORE FREEZING.
4. BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1ST, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE-FREEZING TEMPERATURES, THE SLOPES SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS BEEN LOAMED, FINAL GRADED AND IS SMOOTH, THEN THE AREA MUST BE STABILIZED WITH MULCH. IF CONSTRUCTION CONTINUES DURING FREEZING WEATHER, ALL EXPOSED AREAS SHALL BE GRADED BEFORE FREEZING AND THE SURFACE TEMPORARILY PROTECTED FROM EROSION BY THE APPLICATION OF MULCH. SLOPES SHALL NOT BE LEFT EXPOSED OVER THE WINTER OR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS TREATED IN THE ABOVE MANNER. UNTIL SUCH TIME AS WEATHER CONDITIONS ALLOW DITCHES TO BE FINISHED WITH THE PERMANENT SURFACE TREATMENT, EROSION SHALL BE CONTROLLED BY THE INSTALLATION OF BALES OF HAY OR STONE CHECK DAMS IN ACCORDANCE WITH THE STANDARD DETAILS.
5. THE APPLICATION OF MULCH TO FINE GRADED AREAS WILL BE STABILIZED AS FOLLOWS:
    - A. BETWEEN THE DATES OF NOVEMBER 1ST AND APRIL 15TH ALL MULCH SHALL BE ANCHORED BY EITHER PEG LINE, MULCH NETTING, ASPHALT EMULSION, CHEMICAL TACK OR WOOD CELLULOSE FIBER.
    - B. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GRATER THAN 8%. THIS SHALL BE IN ADDITION TO EROSION CONTROL MATTING-DITCHES DETAIL.
    - C. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15%. AFTER OCTOBER 1ST, THE SAME APPLIES FOR ALL SLOPES GREATER THAN 8%.
6. AFTER NOVEMBER 1ST THE CONTRACTOR SHALL APPLY MULCH AND ANCHORING ON ALL BARE EARTH AT THE END OF EACH WORKING DAY.
7. DURING WINTER CONSTRUCTION PERIODS ALL SNOW SHALL BE REMOVED FROM AREAS OF MULCHING PRIOR TO PLACEMENT.
8. THE INSPECTION FREQUENCY FOR AREAS BEING WORKED ON DURING WINTER CONSTRUCTION SHALL BE AFTER EACH RAINFALL, SNOWSTORM, OR THAWING, AND AT LEAST ONCE A WEEK.
    - A. CONTRACTOR SHALL NOT BE REQUIRED TO INSPECT AREAS OF THE SITE THAT ARE NOT VISIBLE DUE TO SNOW IF THOSE AREAS ARE NOT BEING ACTIVELY CONSTRUCTED, HAVE BEEN INSPECTED AND PROPERLY REPAIRED PRIOR TO THE SNOW EVENT.

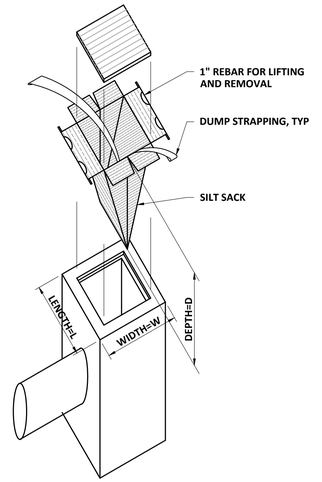
EROSION CONTROL - WETLAND NOTES

1. WETLANDS AND SURFACE WATERS (EXCEPTING THOSE WHICH ARE TO BE FILLED IN ACCORDANCE WITH STATE AND FEDERAL REGULATIONS) WILL BE PROTECTED WITH SILT FENCE INSTALLED AT THE EDGE OF THE WETLAND OR THE BOUNDARY OF WETLAND DISTURBANCE.
2. IF THE WORK INCLUDES CROSSING OF WETLANDS AND/OR STREAMS, THE CONTRACTOR SHALL TAKE SPECIAL PRECAUTIONS WORKING IN THESE AREAS.
3. ANY WETLAND CROSSING WORK SHALL BE COMPLETED BETWEEN THE PERIOD OF MAY 1 AND SEPTEMBER 30.
4. ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO COMMENCING CONSTRUCTION WITHIN OR ADJACENT TO WETLAND AREAS. ALL TEMPORARY MEASURES SHALL NOT BE REMOVED UNTIL SITE IS FULLY STABILIZED.
5. WETLAND VEGETATIVE LAYERS SHALL BE REMOVED AND SALVAGED FOR RESTORATION OF THE DISTURBED AREAS.
6. STORAGE AREAS FOR WETLAND MATERIALS SHALL BE PROPERLY PROTECTED AGAINST EROSION.
7. SEEDING OF THE DISTURBED AREAS WITHIN WETLAND AREAS SHALL UTILIZE MIXTURES APPROPRIATE FOR WETLAND AREAS AS OUTLINED IN THE SPECIFICATIONS.

INSPECTIONS

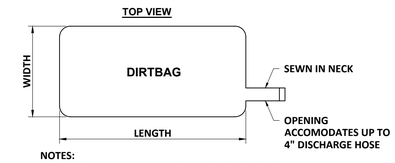
REGULAR INSPECTIONS OF ALL EROSION AND SEDIMENTATION CONTROLS SHALL BE MADE AT LEAST WEEKLY AND PRIOR TO AND FOLLOWING STORM EVENTS. MINIMUM INSPECTIONS SHALL BE MADE AS LISTED IN THE TABLE BELOW. SEE INSPECTIONS, MAINTENANCE AND HOUSEKEEPING PLAN FOR ADDITIONAL INFORMATION.

INSPECTED ITEM	EXAMPLE REPAIR INDICATORS
MULCHED SURFACES	THIN MULCH OR INADEQUATE APPLICATION. WIND MOVEMENT
SEEDED SURFACES	POOR SEED GERMINATION. LOSS OF MULCH. DEVELOPMENT OF RIVULETS.
SEDIMENT BARRIER	SEDIMENT BUILD-UP TO ONE HALF THE HEIGHT OF THE BARRIER. UNDERMINING OF THE BARRIER. SUPPORTING STAKES LOOSE, TOPPLED OR UNMARKED. BREAKS IN BARRIER.
PERIMETER DIVERSION	DISCHARGE IS TO STABILIZED AREA. EROSION OR BREAKS IN BARRIER. SUPPORTING STAKES LOOSE, TOPPLED OR UNMARKED.
CATCH BASIN PROTECTION	SEDIMENT BUILD-UP AND STRUCTURE BLOCKAGES. SLOW FLOW/PONDING WATER. BREAKS IN FABRIC OR VOIDS IN BARRIER.
DEWATERING FILTER	BREAKS IN FABRIC OR SUPPORTING STRUCTURE. SLOW FLOW, INDICATING HIGH SEDIMENT BUILD-UP.
CONSTRUCTION ENTRANCE	SEDIMENTATION OF ROADWAYS. OFF-SITE DUST COMPLAINTS.
STOCKPILE	BALLOONING OR BLOWOUTS, RUNOFF AND EROSION

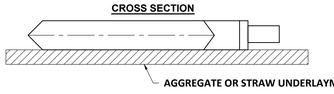


NOTE:
INSTALL SILT SACK PER MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. EMPTY OR REMOVE SEDIMENT FROM SILT SACK WHEN RESTRAINT CORD IS NO LONGER VISIBLE. CLEAN, RINSE, AND REPLACE AS NEEDED.

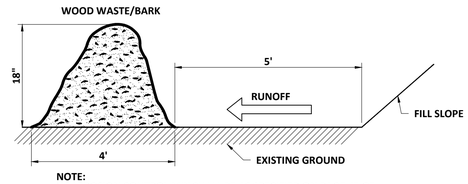
SILT SACK CATCH BASIN INLET
SCALE: NTS



NOTES:
1. DIRTBAG TO BE PLACED ON AGGREGATE OR STRAW.
2. SEAMS MUST BE HIGH STRENGTH DOUBLE STITCHED "J" SEAMS.
3. SEAM MUST BE TESTED UNDER ASTM D-4884. ACF TEST RESULTS AVAILABLE UPON REQUEST.

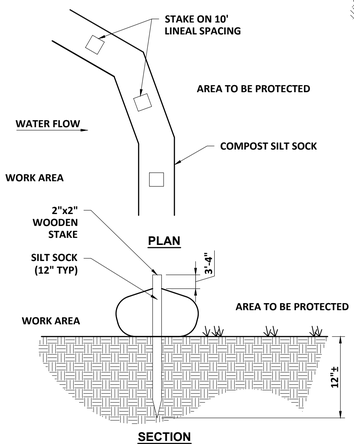


DIRT BAG
SCALE: "NTS"



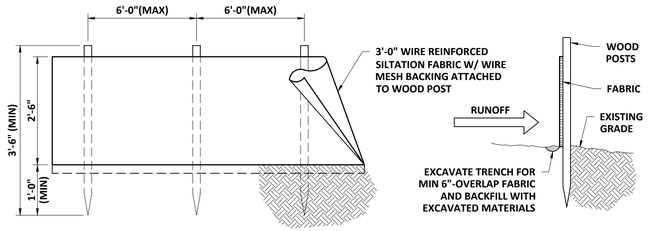
NOTE:
1. EROSION CONTROL MIX SHALL BE AS SPECIFIED ON PAGE 45 OF THE OCTOBER 2016 REVISION TO THE 2003 MAINE EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPS) MANUAL FOR DESIGNERS AND ENGINEERS, OR LATEST EDITION.

EROSION CONTROL MIX BERM
SCALE: "NTS"

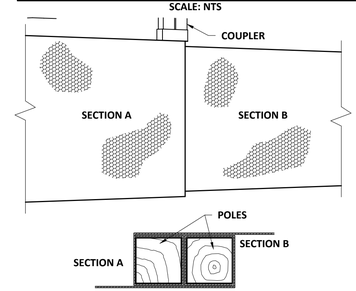


NOTES:
1. ALL MATERIAL TO MEET SPECIFICATIONS
2. SILT SOCK COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS
3. SILT SOCK DEPICTED IS FOR MINIMUM SLOPES. GREATER SLOPES MAY REQUIRE LARGER SOCKS PER THE ENGINEER
4. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

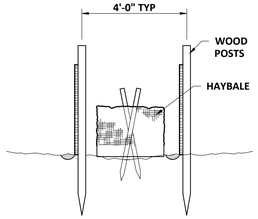
COMPOST SILT SOCK
SCALE: NTS



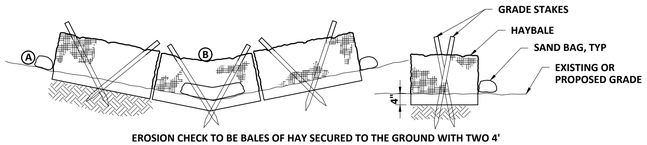
SILT FENCE INSTALLATION DETAIL
SCALE: NTS



JOINING SILT FENCE SECTIONS
SCALE: "NTS"



COMBINATION SILT FENCE AND HAY BALE BARRIER
SCALE: NTS



EROSION CHECK TO BE BALES OF HAY SECURED TO THE GROUND WITH TWO 4' LONG GRADE STAKES FOR EACH BALE. SAND BAG AS REQUIRED, PLACE SUFFICIENT BALES TO ESTABLISH ELEVATIONS AT (A) AT LEAST 6 INCHES ABOVE OVERFLOW AT (B)

HAY BALE CHECK DAM
SCALE: "NTS"

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

PROJECT NO: 21119
DESIGNED: A.GRAHAM
CAD COORD: A.MESBIT
CAD: D.METZ
CHECKED: K.OBERY
DATE: 04/2025
APPROVED: M.BURNS
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE
MATTHEW D. BURNS
14223
LICENSED PROFESSIONAL ENGINEER
5/15/2025

WRIGHT-PIERCE
207.725.8721 | www.wright-pierce.com
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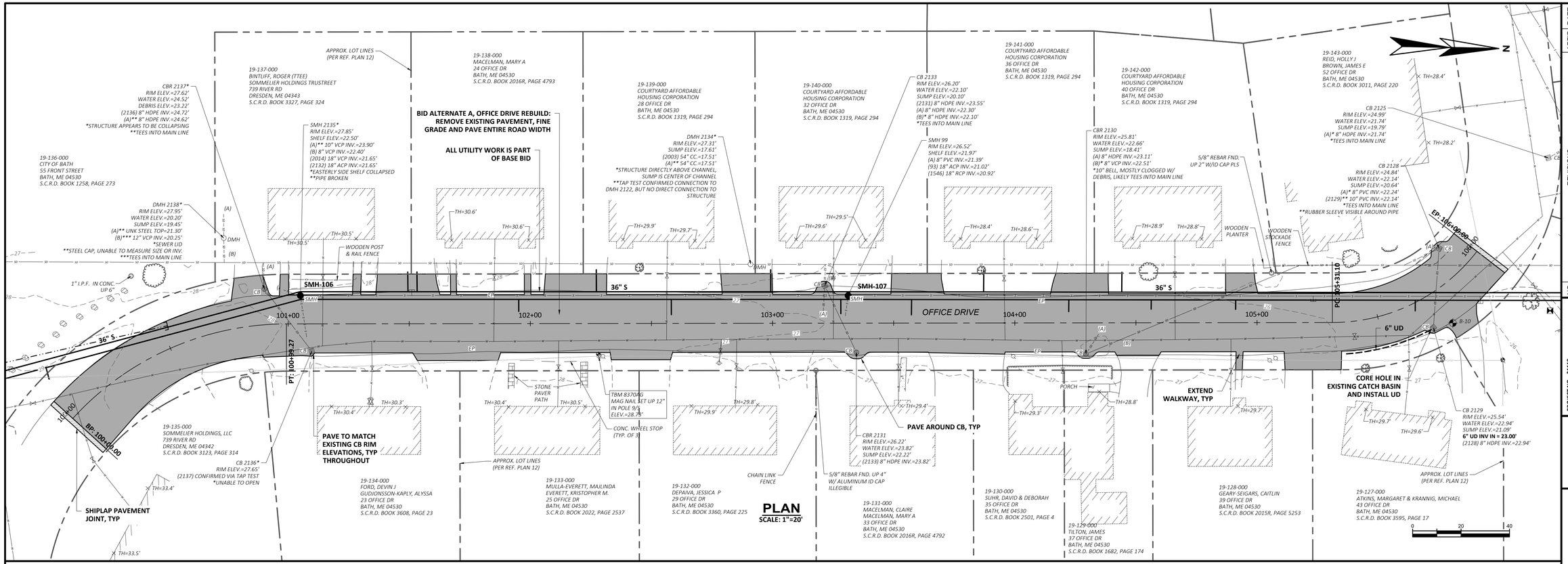
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

EROSION CONTROL NOTES AND DETAILS

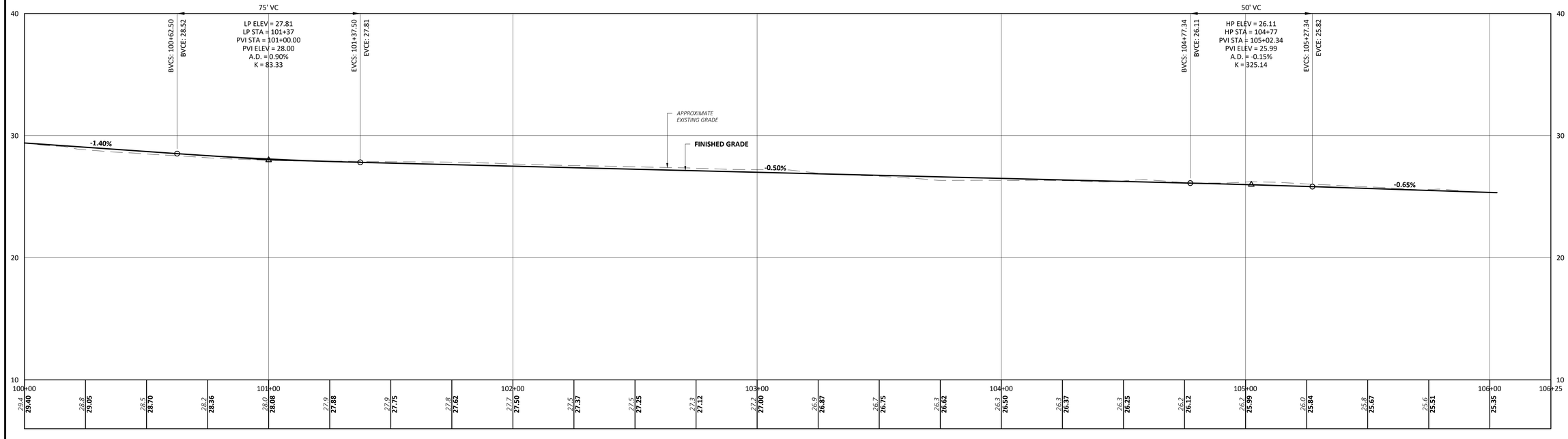
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LAST SAVED BY: DANIEL.METZ 5/15/2025 10:18 AM



PLAN
SCALE: 1"=20'



PROFILE
SCALES
VERT:1"=4'
HORIZ:1"=20'

NOTE:
ALL UTILITY WORK IS PART OF THE BASE BID. REFER TO BASE BID DRAWING PROFILES FOR UTILITY INFORMATION.

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

PROJECT NO: 21119
DESIGNED: N.EDWARDS
CAD COORD: A.MESBIT
CAD: D.METZ
CHECKED: J.WIEGMAN
DATE: 04/2025
APPROVED: N.EDWARDS
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE NATHAN S EDWARDS No. 12350 LICENSED PROFESSIONAL ENGINEER

WRIGHT-PIERCE
207.725.8721 | www.wright-pierce.com
11 BOWDOIN MILL ISLAND, SUITE 140, TOPSHAM, ME 04086

CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

OFFICE DRIVE PLAN AND PROFILE:
STA 100+00 TO STA 106+00

FULL SHEET
BID ALTERNATE "A"

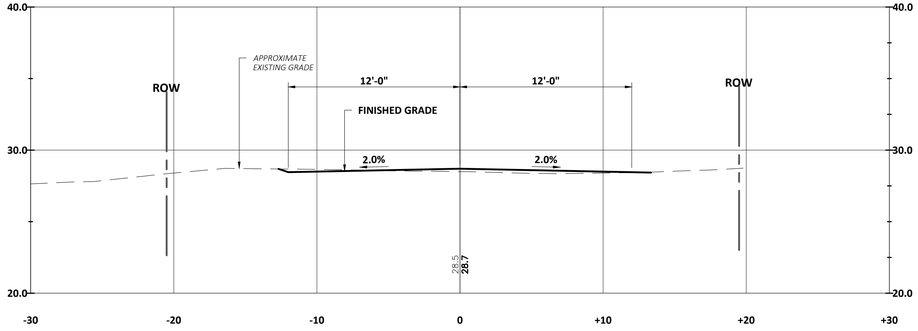
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C-19

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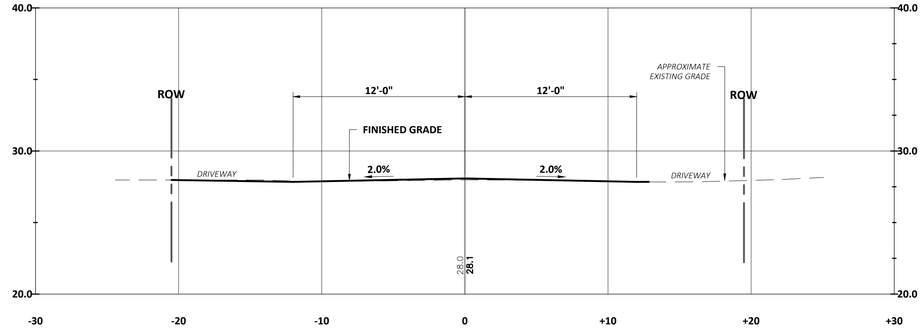
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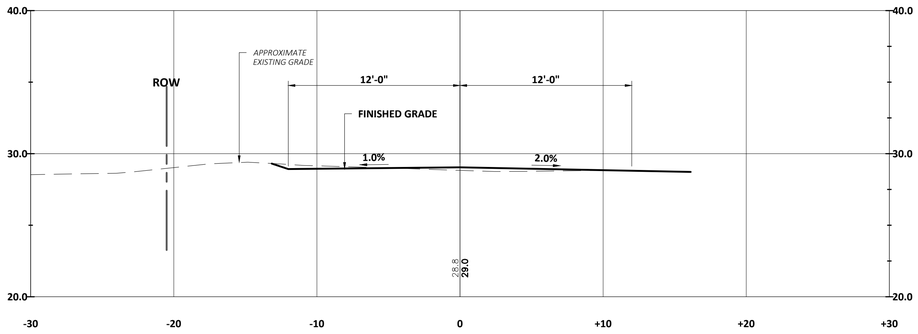
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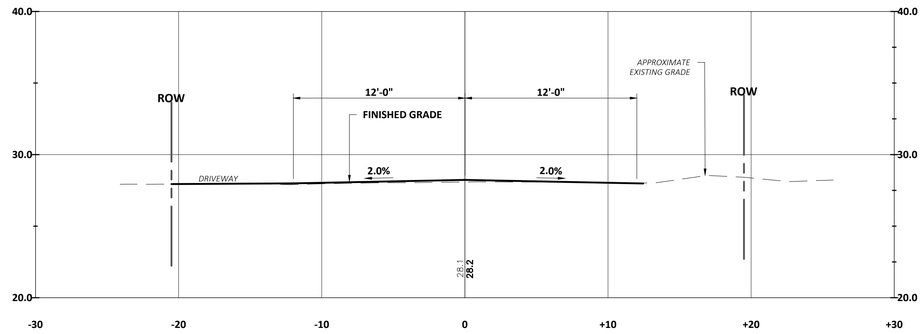
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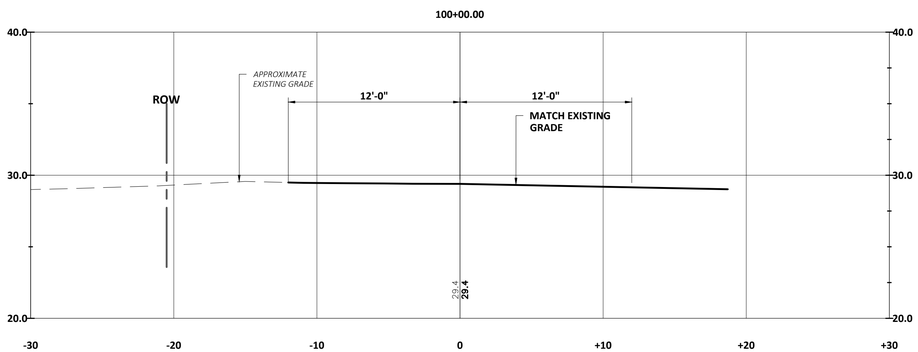
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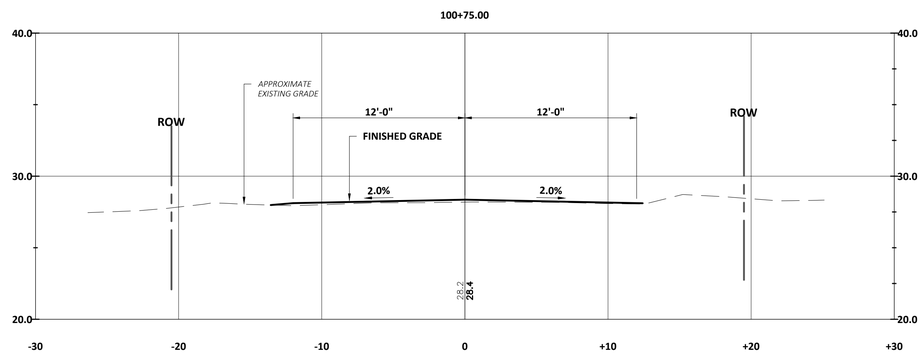
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100+00.00



100+75.00



X-SECTIONS

SCALES:
VERT: 1"=5'
HORIZ:1"=5'

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

PROJECT NO: 21119
DESIGNED: N.EDWARDS
CAD COORD: A.MESBIT
CAD: D.METZ
CHECKED: J.WIEGMAN
DATE: 04/2025
APPROVED: N.EDWARDS
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE
NATHAN S. EDWARDS
No. 12350
LICENSED PROFESSIONAL ENGINEER

WRIGHT-PIERCE
207.725.8721 | www.wright-pierce.com
11 BOWDOIN MILL ISLAND, SUITE 140, TOPSHAM, ME 04086

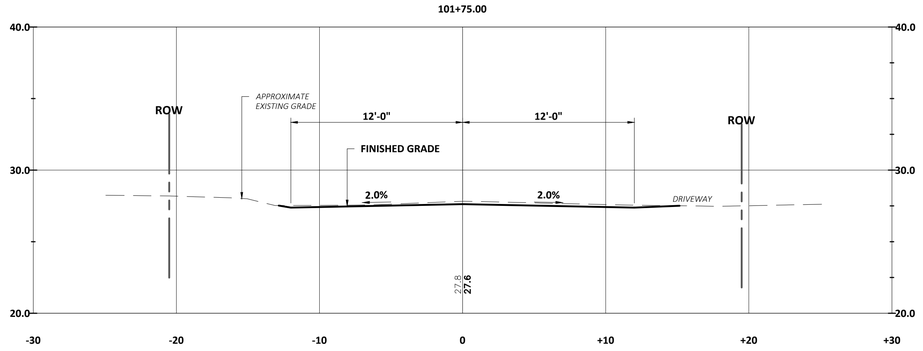
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

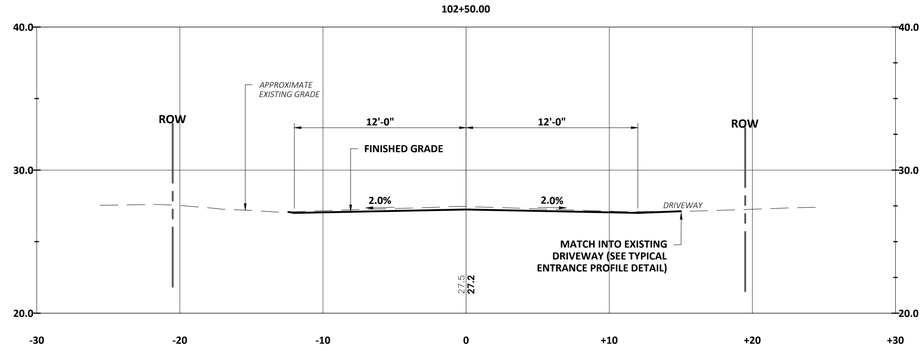
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STA 100+00 TO STA 101+00

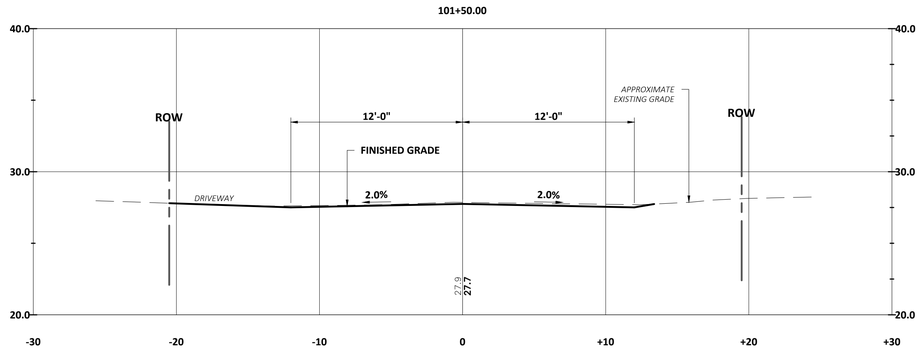
FULL SHEET
BID ALTERNATE "A"

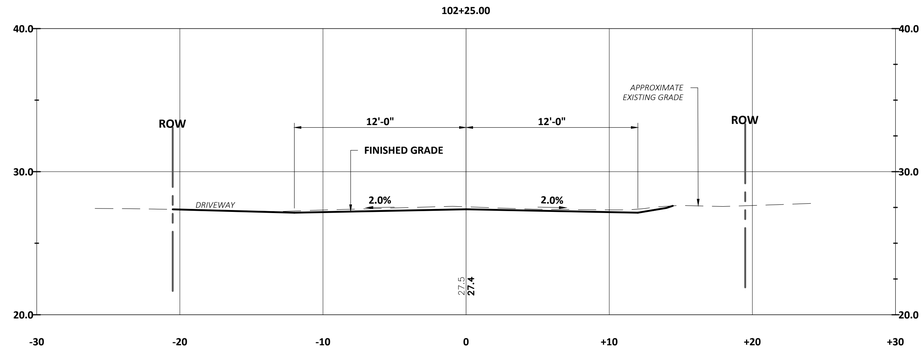
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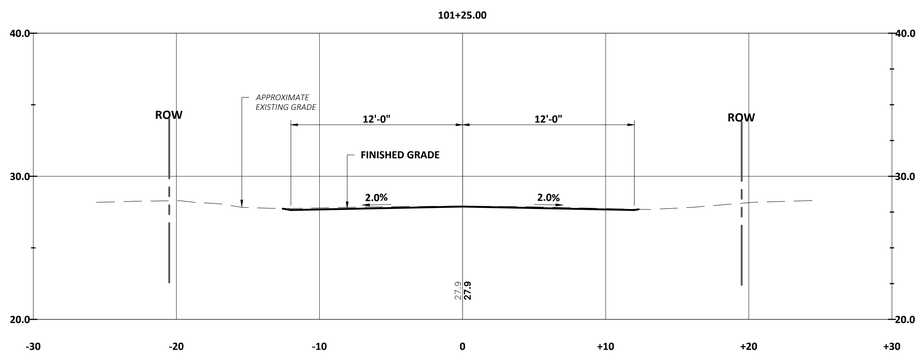
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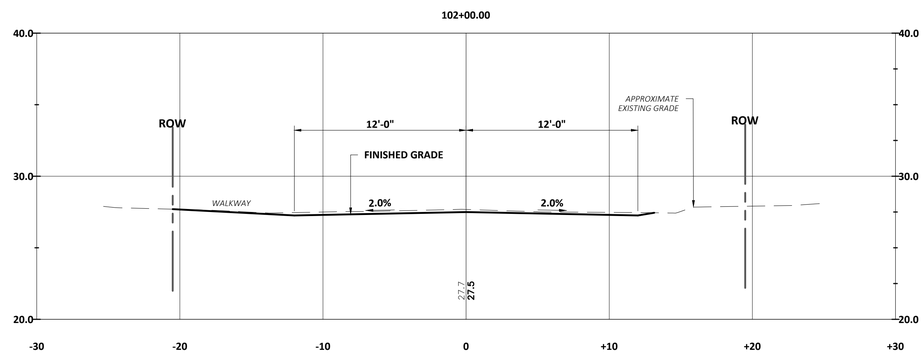












X-SECTIONS

SCALES:
VERT: 1"=5'
HORIZ:1"=5'

NO	REVISIONS	APP'D	DATE
1			
2			
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4			
5			

PROJECT NO: 21119
DESIGNED: N.EDWARDS
CAD COORD: A.NESBIT
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DATE: 04/2025
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STATE OF MAINE
NATHAN S. EDWARDS
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CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

OFFICE DRIVE CROSS SECTIONS:
STA 101+25 TO STA 102+50

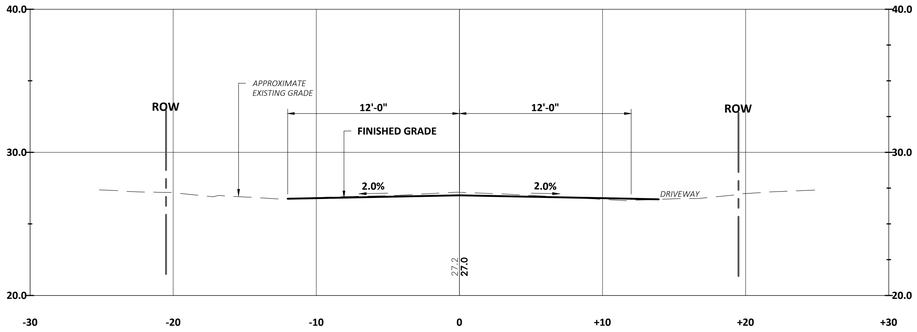
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DRAWING
C-21

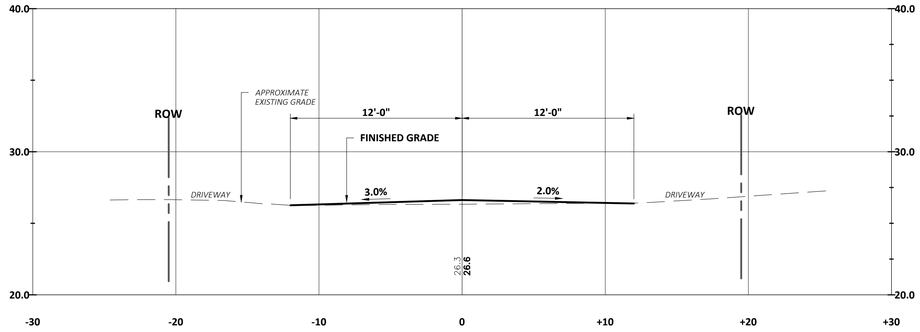
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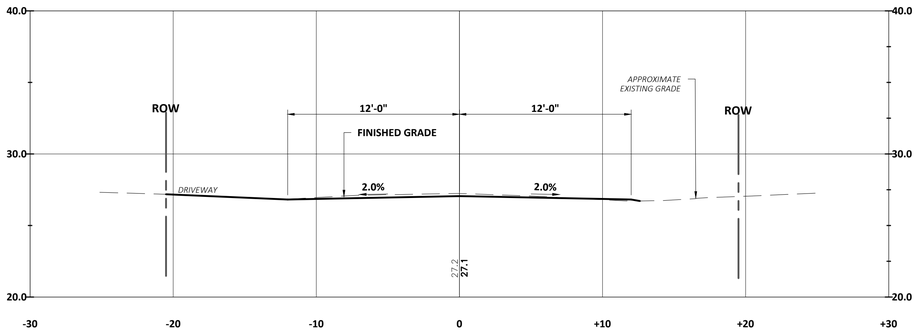
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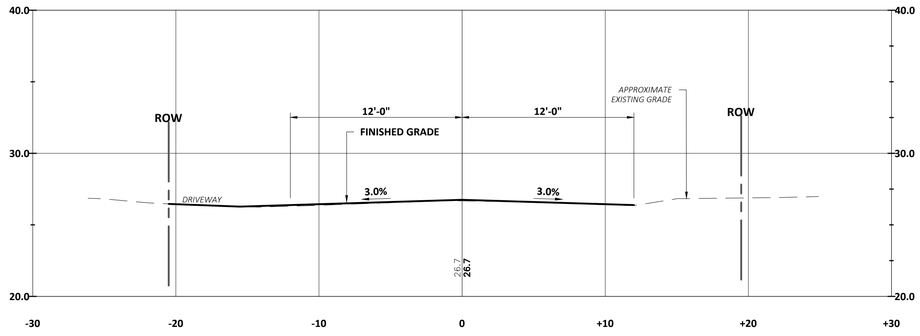
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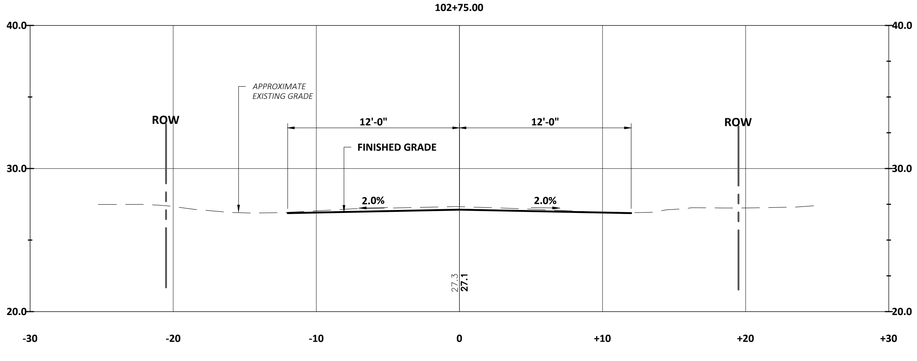
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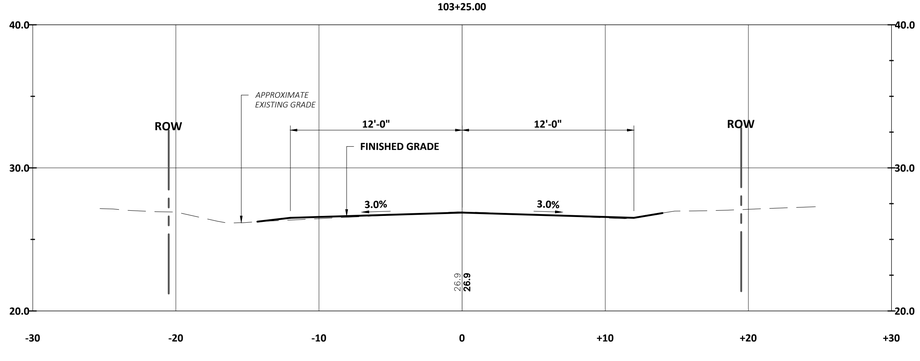
103+50.00



102+75.00



103+25.00



X-SECTIONS

SCALES:
VERT: 1"=5'
HORIZ:1"=5'

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

PROJECT NO: 21119
DESIGNED: N.EDWARDS
CAD COORD: A.MESBIT
CAD: D.METZ
CHECKED: J.WIEGMAN
DATE: 04/2025
APPROVED: N.EDWARDS
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE
NATHAN S. EDWARDS
No. 12350
LICENSED
PROFESSIONAL ENGINEER

WRIGHT-PIERCE
207.725.8721 | www.wright-pierce.com
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CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

OFFICE DRIVE CROSS SECTIONS:
STA 102+75 TO STA 103+75

FULL SHEET
BID ALTERNATE "A"

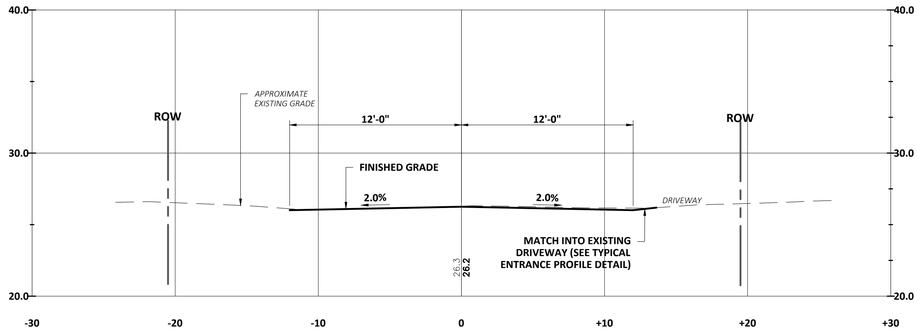
DRAWING
C-22

J:\ENG\METI.BATH\21119-HARWARDINFOSWMM-MODEL_DRAWINGS\CIV\21119-CS-CROSSSECTIONSIII-ALTA.DWG | 21119-CS-CrossSectionsIII-Alta | 1-2.5849 | --- | 5/15/2025 11:28:46 AM | DANIEL.METZ

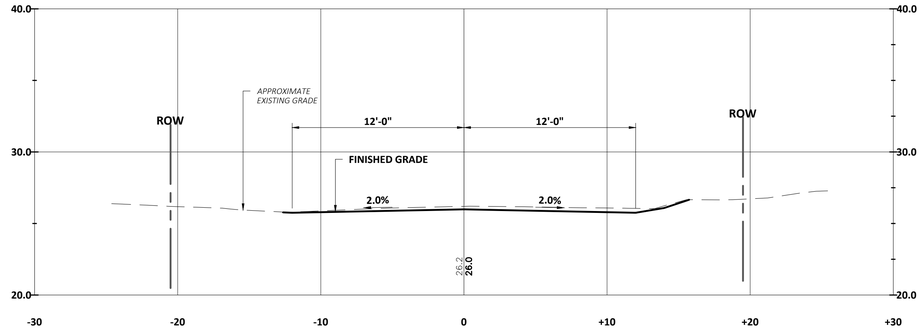
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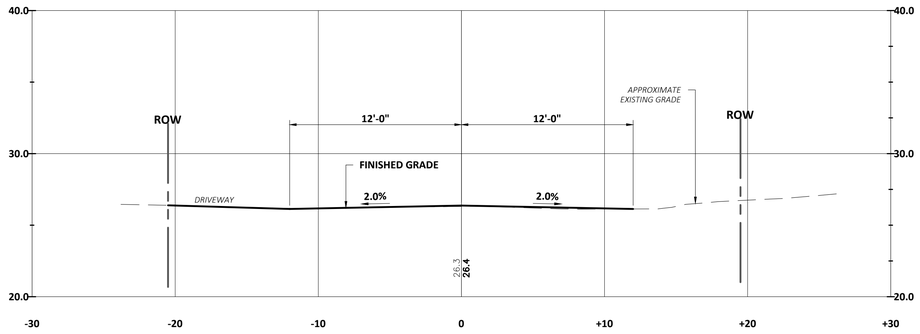
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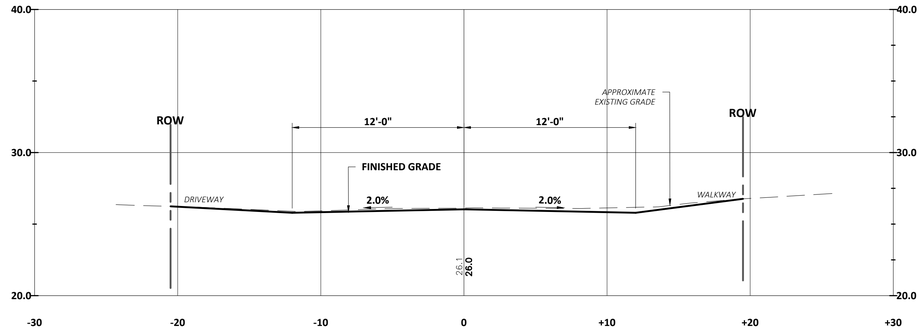
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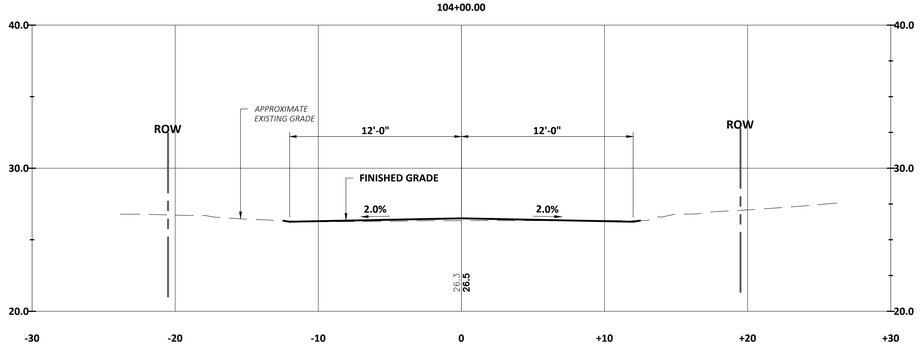
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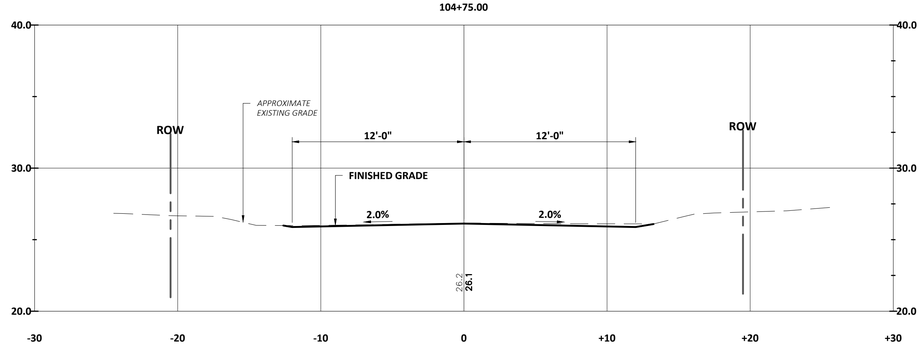
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104+00.00



104+75.00



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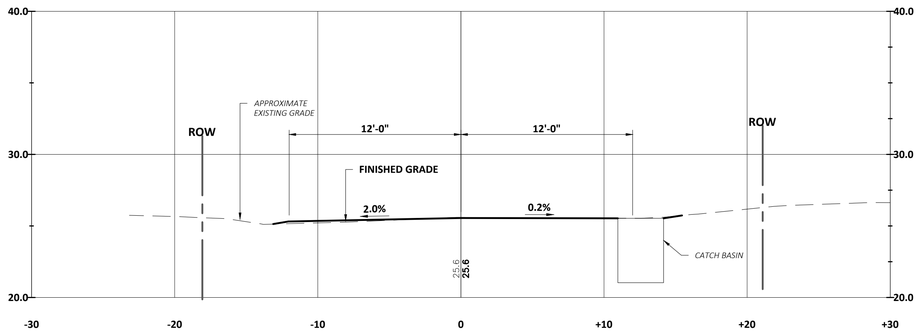
OFFICE DRIVE CROSS SECTIONS:
STA 104+00 TO STA 105+00

FULL SHEET
BID ALTERNATE "A"

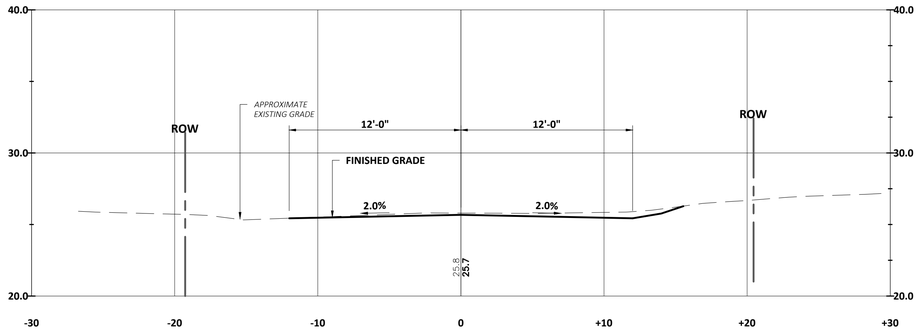
DRAWING
C-23

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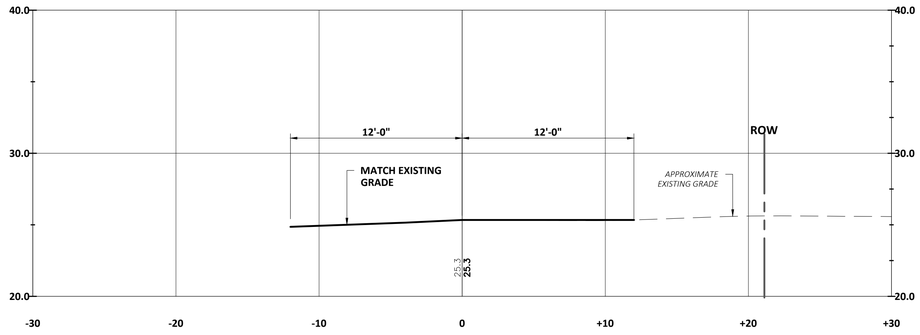
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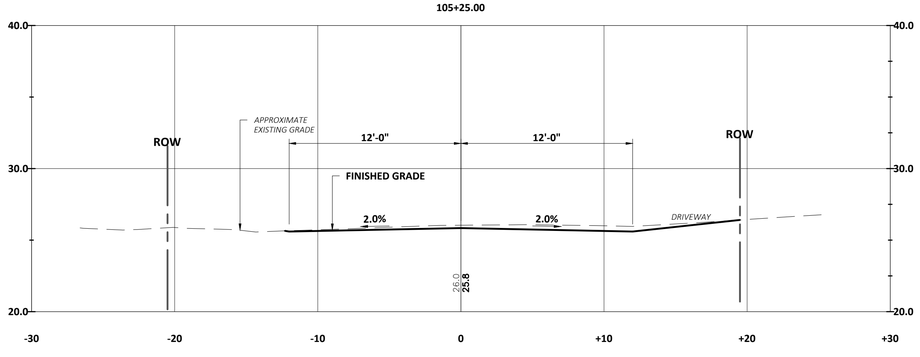
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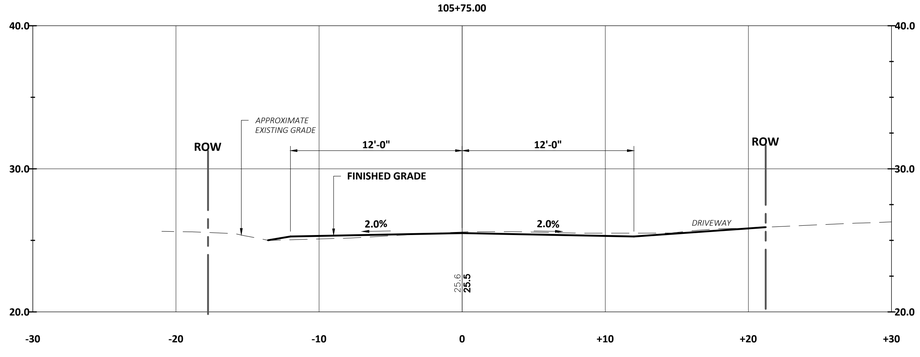
106+00.00



105+25.00



105+75.00



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HORIZ:1"=5'

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STATE OF MAINE
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REGISTERED PROFESSIONAL ENGINEER

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CITY OF BATH, MAINE
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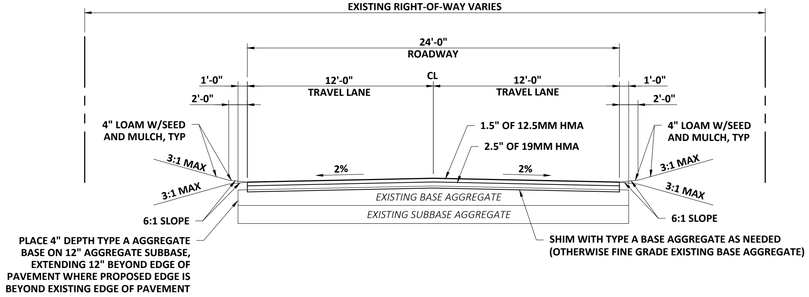
OFFICE DRIVE CROSS SECTIONS:
STA 105+25 TO STA 106+00

FULL SHEET
BID ALTERNATE "A"

DRAWING
C-24

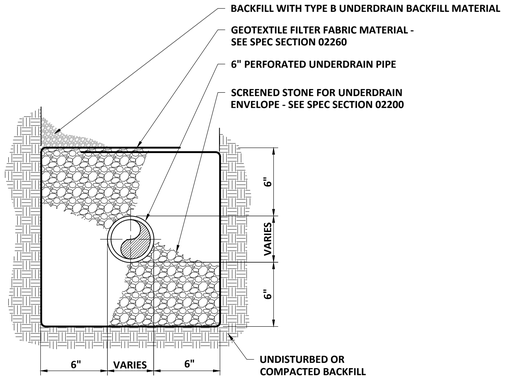
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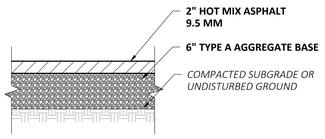
TYPICAL ROADWAY SECTION - OFFICE DRIVE

SCALE: "NTS"



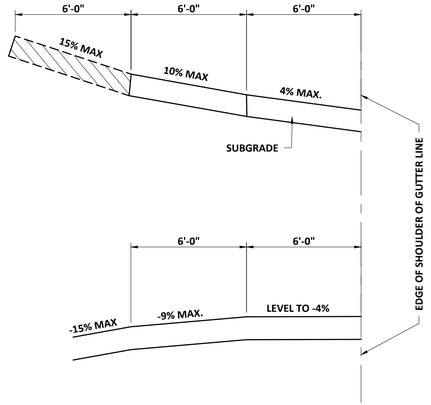
UNDERDRAIN BEDDING

SCALE: NTS



WALKWAY PAVEMENT

SCALE: "NTS"



GENERAL NOTES:

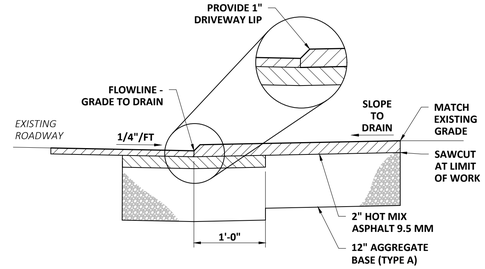
1. ALL RESIDENTIAL OR COMMERCIAL DRIVES 10% AND OVER WILL BE PAVED

NOTES ON MAXIMUM DRIVEWAY PROFILES:

1. THESE PROFILES ARE A GUIDE FOR THE MAJORITY OF CASES, BUT SHOULD BE FIELD CHECKED WHEN THE MAIN LINE GRADE IS STEEP (4% TO 6% OR GREATER) OR THE ANGLE OF APPROACH TO THE DRIVE IS UNUSUAL.
2. GENERALLY THE MAJORITY OF DRIVES ON A PROJECT WILL BE BUILT WITH FLATTER PROFILES THAN THESE MAXIMUM CASES.
3. WHEN GRADING DRIVES WHICH ARE FLATTER THAN THE MAXIMUM PROFILES THE FOLLOWING RULE OF THUMB SHOULD BE USED: DO NOT EXCEED A GRADE % CHANGE OF MORE THAN 9% IN A 6-FOOT INCREMENT OF DRIVEWAY LENGTH. THIS APPLIES TO BOTH UP AND DOWN PROFILES. ALL RESIDENTIAL OR COMMERCIAL DRIVES 10% AND OVER WILL BE PAVED

TYPICAL ENTRANCE PROFILE

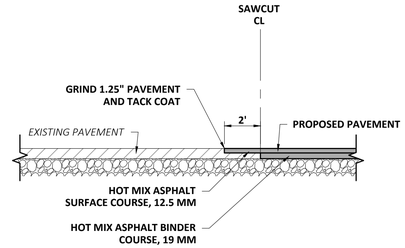
NTS



NOTE:
PAVE APRON TO EXTENTS SHOWN IN PLAN VIEW AND CROSS-SECTIONS

PAVED DRIVE APRON

SCALE: NTS



SHIPLAP PAVEMENT JOINT

SCALE: "NTS"

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CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

OFFICE DRIVE DETAILS

FULL SHEET
BID ALTERNATE "A"

DRAWING
C-25

J:\ENGV\ME\BATH\21119-HARWARDINFOSWMM-MODEL_DRAWINGS\CIVX21119-CS-OFFICEDRIVEDETAILS.DWG | 21119-CS-OfficeDriveDetails | 1:2.5849 | — | 5/15/2025 11:29:31 AM | DANIEL.METZ

5/15/2025 2:48:58 PM

ABBREVIATIONS:

AFF	ABOVE FINISH FLOOR	HP	HIGH POINT
ALUM	ALUMINUM	HR	HOUR
BLDG	BUILDING	INSUL	INSULATION
C	CAULK	MAX	MAXIMUM
℄	CENTER LINE	MECH	MECHANICAL
CBB	CONTINUOUS BOND BEAM	MFR	MANUFACTURER
CDM	CAVITY DRAINAGE MATERIAL	MIN	MINIMUM
CJ	CONTROL JOINT	MJ	MASONRY JOINT
CJV	CONTROL JOINT (VENEER ONLY)	MO	MASONRY OPENING
CMU	CONCRETE MASONRY UNIT	NIC	NOT IN CONTRACT
CO	CONCRETE OPENING	NTS	NOT TO SCALE
CONC	CONCRETE	OC	OCCUPANT
CONT	CONTINUOUS	PT	PRESERVATIVE TREATED
DIA	DIAMETER	R	RISER
DIM	DIMENSION	RD	ROOF DRAIN
DN	DOWN	REINF	REINFORCING
DWG	DRAWING	REQ	REQUIRED
EL	ELEVATION (HEIGHT)	RO	ROUGH OPENING
EQ	EQUAL	S	SEALANT
EXIST	EXISTING	SF	SQUARE FEET (FOOT)
FD	FLOOR DRAIN	SIM	SIMILAR
FFE	FINISH FLOOR ELEVATION	SPEC	SPECIFICATIONS
FRP	FIBERGLASS REINFORCED PLASTIC	T	TREAD
FT	FEET (FOOT)	TOC	TOP OF CONCRETE
FV	FIELD VERIFY	TOM	TOP OF MASONRY
GWB	GYPSUM WALL BOARD	TOS	TOP OF STEEL
HB	HOSE BIB	TYP	TYPICAL
HDWR	HARDWARE	VTR	VENT THROUGH ROOF
HM	HOLLOW METAL	UNO	UNLESS NOTED OTHERWISE

MATERIALS LEGEND

- CONCRETE MASONRY UNIT (CMU)
- BRICK
- CONCRETE
- EARTH
- DIMENSIONAL LUMBER OR WOOD BLOCKING
- BATT INSULATION
- RIGID INSULATION
- FINISH WOOD
- PLYWOOD
- METAL

SYMBOLS LEGEND

- SECTION NUMBER (1 / SIM / A-00-001) — SECTION / SHEET NUMBER
- DETAIL LETTER (1 / A101) — DETAIL / SHEET NUMBER
- NAME / EL 1.00' — ELEVATION
- ROOM NAME / 101 — ROOM TAG / ROOM NUMBER
- (1) DEMOLITION MARKER
- (1) MODIFICATION MARKER
- (101) DOOR TAG
- (A) WINDOW TAG

GENERAL NOTES:

1. EXISTING DIMENSIONS AND/OR ELEVATIONS TAKEN FROM THE FOLLOWING RECORD DRAWINGS:
   - 1.1 "NEW SEWAGE WORKS, CONTRACT NO. 2, BATH, MAINE," BY FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MA, DATED AUGUST 1969.
   - 1.2 "CITY OF BATH, MAINE HARIWARD STREET PUMP STATION UPGRADE, CONTRACT NO. 97-2," BY ENVIRONMENTAL ENGINEERING & REMEDIATION, INC., PORTLAND, MAINE, DATED MARCH 1997.
2. GENERAL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION, FABRICATION, AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
3. * INDICATES THAT THE GENERAL CONTRACTOR SHALL COORDINATE EXACT DIMENSION AND/OR ELEVATION BASED ON EQUIPMENT SUPPLIED. ALL CHANGES SHALL BE REVIEWED WITH NO EXCEPTIONS TAKEN BY THE ENGINEER.
4. DO NOT SCALE DISTANCES OR DIMENSIONS FROM THE DRAWINGS. WRITTEN DIMENSIONS SHALL PREVAIL. REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.

CODE NOTES

MAINE UNIFORM BUILDING AND ENERGY CODE
- 2021 INTERNATIONAL BUILDING CODE (IBC) AS AMENDED
- 2021 INTERNATIONAL EXISTING BUILDING CODE (IEBC) AS AMENDED
- 2021 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) AS AMENDED

MAINE ADOPTED NFPA CODES AND STANDARDS
- NFPA 1 - FIRE PREVENTION CODE, 2018 EDITION AS AMENDED
- NFPA 101 - FIRE SAFETY CODE, 2018 EDITIONS AS AMENEDED

MAINE HUMAN RIGHTS ACT
- 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN

DESCRIPTION OF BUILDING AND PROPOSED WORK	CODE SECTION
THE HARWARD STREET PUMP STATION AND SEWER INTERCEPTOR UPGRADE INCLUDES THE REHABILITATION OF THE PUMP STATION AS WELL AS FLOOD PROOFING MODIFICATIONS TO ACCOUNT FOR CLIMATE RESILIENCY AND THE CLIMATE ADAPTATION PLAN (CAP). THE CURRENT FINISH FLOOR ELEVATION OF THE PUMP STATION IS 9.3' THE FLOOD PROTECTION ELEVATION WILL BE FEMA BFE + 3' WHICH IS EQUIVALENT TO FLOOD ELEVATION 11.0. IMPROVEMENTS REQUIRED FOR FLOOD PROTECTION WILL INCLUDE MODIFICATIONS TO THE EXTERIOR MASONRY WALLS TO RESIST FLOOD LOADS. THE REPLACEMENT OF THE EXTERIOR DOORS WITH A FLOOD DOORS. THE WINDOWS IN THE NORTH AND EAST WALLS WILL BE REPLACED WITH A NEW WINDOW TO ALLOW FOR EMERGENCY EXIT/RESCUE. ENTRANCE STAIRS WILL BE REPLACED TO FACILITE THE FLOOD RESISTIVE IMPROVEMENTS. ADDITIONAL ARCHITECTURAL IMPROVMENTS INCLUDE MASONRY REPAIR/REPOINTING AND ROOF REPLACEMENT. WORK WILL BE CLASSIFIED AS LEVEL 1 ALTERATION.	IEBC 503.1

GENERAL BUILDING INFORMATION			
ACCESSIBLE:	NO	THE BUILDING CONSISTS OF EQUIPMENT SPACES OPEN TO AUTHORIZED PERSONNEL ONLY AND NOT REQUIRED TO BE ACCESSIBLE.	2010 ADA 203.5
SPRINKLERED:	NO	NOT REQUIRED FOR F-1 OCCUPANCIES UNDER 12,000 SF.	IBC 903.1
FIRE ALARMS:	NO	NOT REQUIRED IN F-1 OCCUPANCIES LESS THAN 2-STORIES AND DO NOT HAVE A COMBINED OCCUPANT LOAD ABOVE OR BELOW THE LEVEL OF DISCHARGE OF 500 OCCUPANTS.	IBC 907.2.4
PLUMBING:	NO	PLUMBING IS ONLY REQUIRED IN F-COCCUPANCIES IN WHICH OCCUPANTS ARE ENGAGED IN PROCESSING. IN THIS BUILDING EQUIPMENT PERFORMS THE PROCESSING AND THE SPACES ARE INFREQUENTLY OCCUPIED BY PERSONNEL WHO'S PLACE OF DAILY WORK ACTIVITY IS ELSEWHERE.	IBC TABLE 2902.1 No. 4

USE GROUP/OCCUPANCY CLASSIFICATION	IBC CHAPTER 3
MODERATE-HAZARD FACTORY INDUSTRIAL GROUP F-1	IBC 306.2
CLASSIFICATION OF OCCUPANCY	NFPA 101 CHAPTER 6
THE BUILDING IS A SPECIAL USE INDUSTRIAL OCCUPANCY	NFPA 101 40.1.4.1.2
TYPE OF CONSTRUCTION	
TYPE III, EXTERIOR WALLS ARE OF NONCOMBUSTIBLE CONSTRUCTION AND INTERIOR AND ROOF CONSTRUCTION IS OF ANY MATERIAL PERMITTED BY CODE.	IBC 602.3

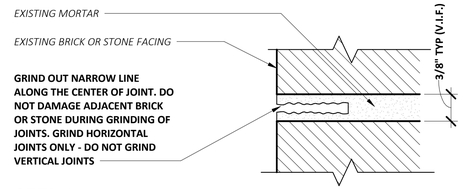
TYPE OF CONSTRUCTION/FIRE RATING FOR BUILDING ELEMENTS — IBC TABLE 601

CONSTRUCTION TYPE:	TYPE III-B
PRIMARY STRUCTURAL FRAME:	0-HOUR
BEARING WALLS, EXTERIOR:	2-HOUR
BEARING WALLS, INTERIOR:	0-HOUR
FLOOR CONSTRUCTION:	0-HOUR
ROOF CONSTRUCTION:	0-HOUR

HEIGHTS AND AREAS

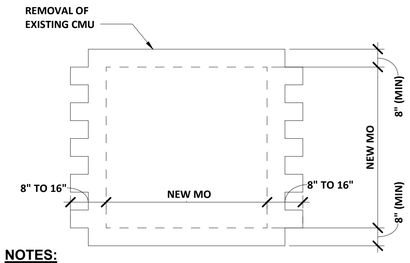
	ALLOWED	ACTUAL	
HEIGHT:	55'	<25'	IBC TABLE 504.3
STORIES:	2-STORY	1-STORY	IBC TABLE 504.4
AREA:	14,000 SF	<500 SF	IBC TABLE 506.2

BUILDING ADDRESS SHALL BE CLEARLY VISIBLE FROM STREET OR ROAD FRONTING PROPERTY AND WITH MINIMUM 4" HIGH LETTERS.	IBC 501.2
PORTABLE FIRE EXTINGUISHERS	
EXISTING EXTINGUISHERS TO BE RETAINED. LOCATION TO BE IN ACCORDANCE WITH NFPA 10 AND IBC 906 AND COORDINATED WITH ENGINEER	
MEANS OF EGRESS	
HEAD ROOM: CEILING HEIGHT IN A MEANS OF EGRESS SHALL BE 7'-6" MINIMUM.	IBC 1003.2
HEAD ROOM: PROTRUDING OBJECTS ARE ALLOWED TO PROTRUDE BELOW THE MINIMUM CEILING HEIGHT TO 80" ABOVE FINISH FLOOR FOR UP TO 50% OF THE AREA OF THE MEANS OF EGRESS.	IBC 1003.3.1
SINGLE STEP: A SINGLE STEP OF NO MORE THAN 7-INCHES IS ALLOWED AT EXTERIOR DOORS AT F, H, S, AND U OCCUPANCIES.	IBC 1003.5e1



(A) BRICK MASONRY AND STONE REPOINTING

SCALE: NOT TO SCALE

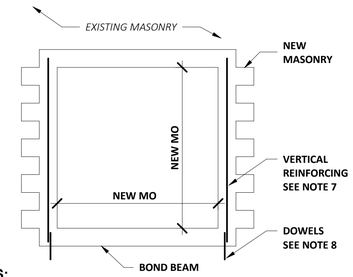


NOTES:

1. THIS DETAIL APPLIES TO ALL NEW OPENINGS 16" OR GREATER IN WIDTH.
2. BRACE THE EXISTING WALL AND PROTECT THE STRUCTURE FROM DAMAGE.
3. REMOVE EXISTING MASONRY TO ALLOW NEW REINFORCED CMU TO BE "TOOTHED IN".
4. REMOVE EXISTING MASONRY AT THE HEAD OF THE NEW OPENINGS AS REQUIRED FOR THE INSTALLATION OF THE NEW LINTEL.
5. REMOVE VENEER AS REQUIRED TO INSTALL THROUGH WALL FLASHING ABOVE THE OPENINGS.
6. FOR ADJACENT CONCRETE REMOVAL, SEE THE STRUCTURAL DRAWINGS.

TYPICAL DEMOLITION FOR NEW OPENING IN EXISTING MASONRY WALL

SCALE: NTS

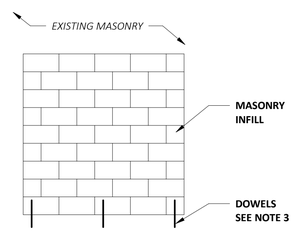


NOTES:

1. THIS DETAIL APPLIES TO ALL NEW OPENINGS 16" OR GREATER IN WIDTH.
2. PROVIDE A NEW FINISHED MASONRY OPENING APPROPRIATE FOR THE ITEM TO BE INSTALLED IN THE OPENINGS.
3. NEW MASONRY SHALL MATCH THE EXISTING.
4. LINTELS FOR THE NEW OPENINGS IN THE EXISTING EXTERIOR WALLS SHALL BE AS SHOWN IN THE DETAIL.
5. PROVIDE A LINTEL AT ALL OPENINGS.
6. IF A LINTEL IS NOT INDICATED, USE A LINTEL FROM THE SCHEDULE.
7. PROVIDE #5 BAR VERTICAL REINFORCING SHOWN AT ALL EXTERIOR WALLS, ALL LOAD BEARING WALLS AND AT ALL DOORWAYS.
8. PROVIDE #5 DOWELS 12" LONG AT NEW OPENINGS THAT EXTEND TO THE FINISHED FLOOR OR TOP OF CONCRETE, SUCH AS DOORS.
9. AT BOND BEAMS BELOW OPENINGS PROVIDE (2) #5 BAR VERTICAL REINFORCING.

TYPICAL NEW OPENING IN EXISTING MASONRY WALL

SCALE: NTS



NOTES:

1. NEW MASONRY, INCLUDING VENEER IF APPLICABLE, SHALL MATCH THE EXISTING.
2. PROVIDE HORIZONTAL JOINT REINFORCING, INCLUDING CAVITY WALL REINFORCING, AT 1' -4" OC.
3. PROVIDE #5 DOWELS 12" LONG @ 2' - 8" OC, (MIN OF 2) AT ALL LOAD BEARING AND EXTERIOR WALLS.
4. IF THE EXISTING OPENING HAS BULLNOSED BLOCK AT THE EDGES OF THE OPENING, REMOVE THE BULLNOSED BLOCK AND TOOTH IN THE MASONRY INFILL.

TYPICAL INFILL DETAIL

SCALE: NTS

NO	REVISIONS	APP'D	DATE
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PROJECT NO: 21119
DESIGNED: C.MICHAUD
CAD COORD: A.NESBIT
CAD: H.DOHERTY
CHECKED: J.BLACKMAN
DATE: 04/2025
APPROVED: C.MICHAUD
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

LICENSED ARCHITECT — CATHY B. MICHAUD No. 4913 — STATE OF MAINE — 5/15/2025

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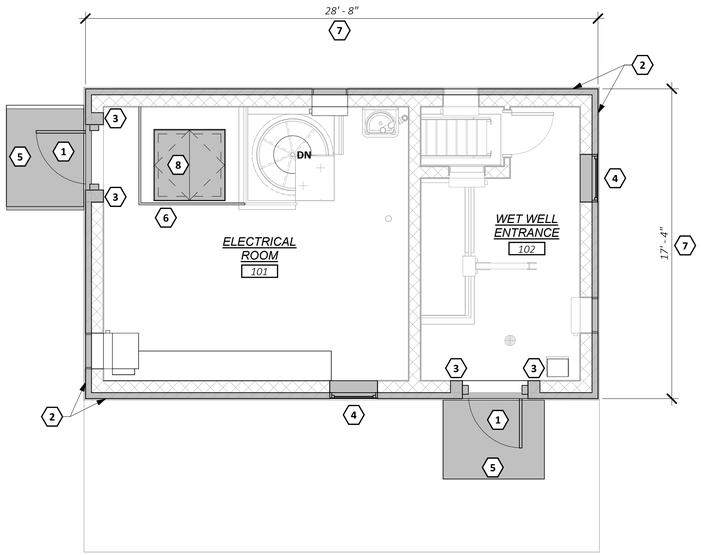
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

GENERAL NOTES, CODE NOTES, LEGENDS, ABBREVIATIONS AND DETAILS

DRAWING
A-01

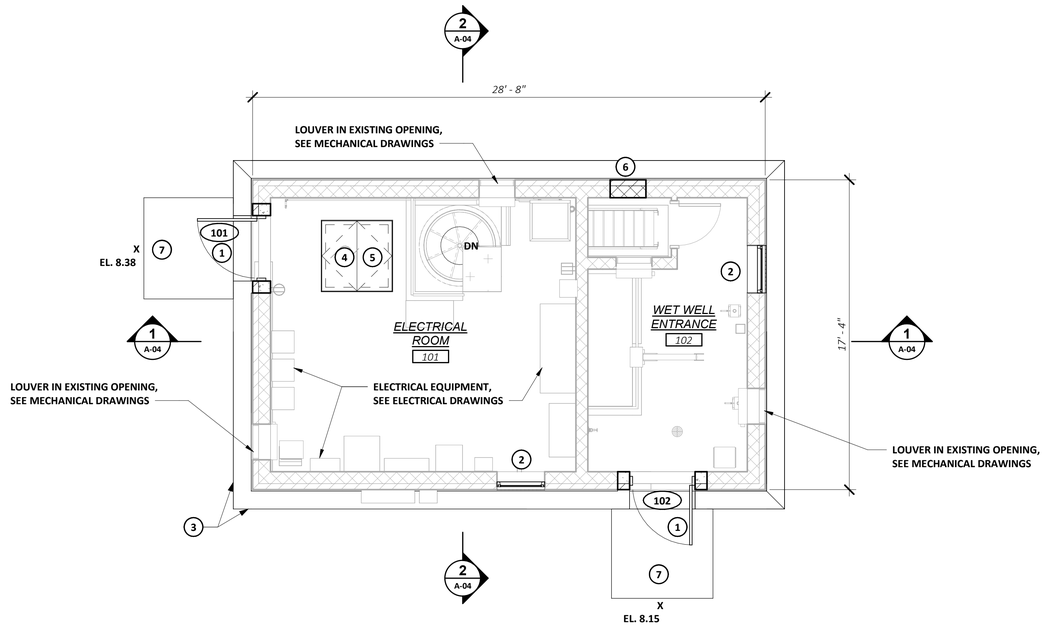
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FIRST FLOOR DEMOLITION PLAN

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



FIRST FLOOR MODIFICATIONS PLAN

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

DEMOLITION NOTES:

1. REMOVE EXISTING ALUMINUM DOOR AND FRAME FOR INSTALLATION OF FLOOD DOOR.
2. REMOVE 4 COURSES OF BRICK VENEER FOR RELOCATION OF THRU-WALL FLASHING ABOVE FLOOD ELEVATION. SEE BASE OF WALL DETAIL.
3. REMOVE EXISTING MASONRY FOR INSTALLATION OF CONCRETE DOOR JAMBS, SEE STRUCTURAL DRAWINGS
4. REMOVE EXISTING WINDOW AND ADJACENT MASONRY FOR INSTALLATION OF NEW EGRESS WINDOW.
5. REMOVE EXISTING CONCRETE ENTRANCE PAD AND RAILINGS FOR INSTALLATION OF NEW, SEE STRUCTURAL DRAWINGS
6. REMOVE EXISTING GUARDRAIL TO EXTENTS SHOWN
7. REMOVE ROOFING COMPLETE TO ROOF SHEATHING AND PREPARE ROOF SURFACE FOR INSTALLATION OF NEW ROOFING
8. REMOVE EXISTING FLOOR HATCH LEAVES FOR REPLACEMENT OF NEW, SEE STRUCUTRAL DRAWINGS.

DEMOLITION GENERAL NOTES:

1. SEE ALL OTHER DISCIPLINES FOR ADDITIONAL ITEMS TO BE DEMOLISHED.
2. ALL CONCRETE DEMOLITION SHALL BE IN ACCORDANCE WITH THE STANDARD DETAILS SHOWN ON THE STRUCTURAL DRAWINGS.
3. MASONRY DEMOLITION SHALL BE IN ACCORDANCE WITH DETAILS ON A-01

MODIFICATIONS NOTES:

1. FLOOD DOOR
2. FIBERGLASS EGRESS WINDOW
3. CONCRETE FLOOD WALL, SEE STRUCTURAL DRAWINGS
4. PROVIDE NEW HATCH DOOR LEAVES AND SAFETY NET AT EXISTING HATCH, SEE STRUCUTRAL DRAWINGS
5. PROVIDE SAFETY SIGNAGE AT ALL HATCH LOCATIONS. SEE SPECIFICATION 10140.
6. INFILL TO MATCH EXISTING
7. NEW CONCRETE PAD, SEE STRUCTURAL DRAWINGS

MODIFICATIONS GENERAL NOTES:

1. ALL NEW OPENINGS IN EXISTING MASONRY WALLS SHALL BE IN ACCORDANCE WITH THE TYPICAL DETAILS ON A-01
2. ALL MASONRY INFILL SHALL BE IN ACCORDANCE WITH THE TYPICAL DETAIL ON A-01
3. SEE ELEVATIONS, SECTIONS AND DETAILS FOR ADDITIONAL ARCHITECTURAL MODIFICATIONS.

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CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

DEMOLITION AND MODIFICATIONS FLOOR PLANS

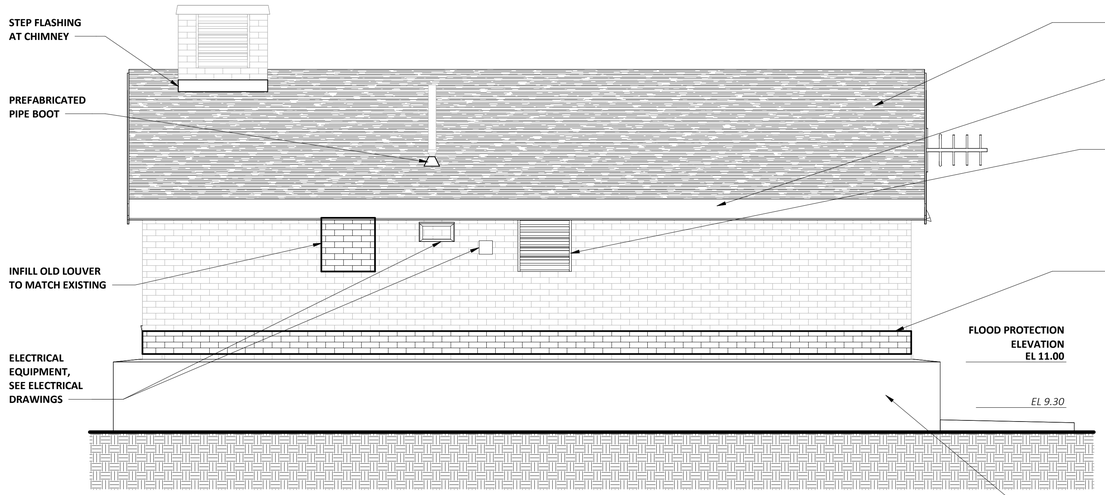
DRAWING
A-02

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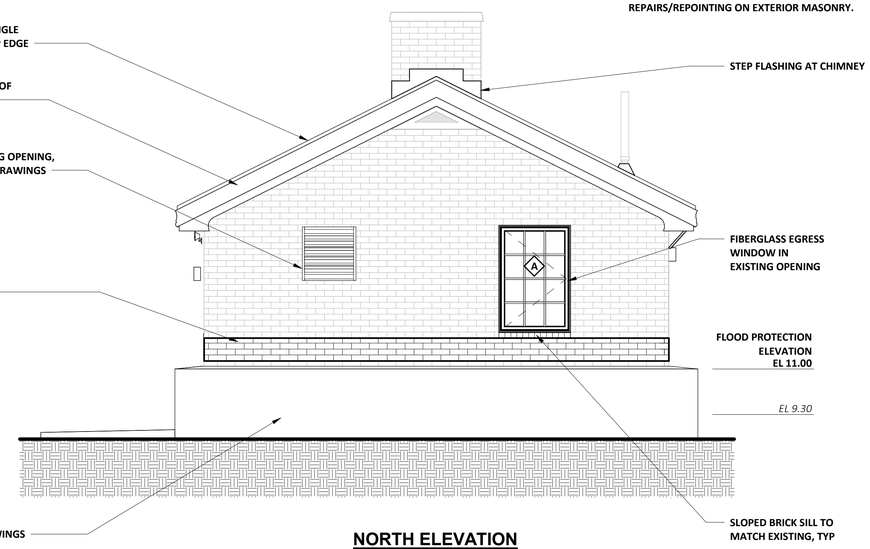
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NOTES:

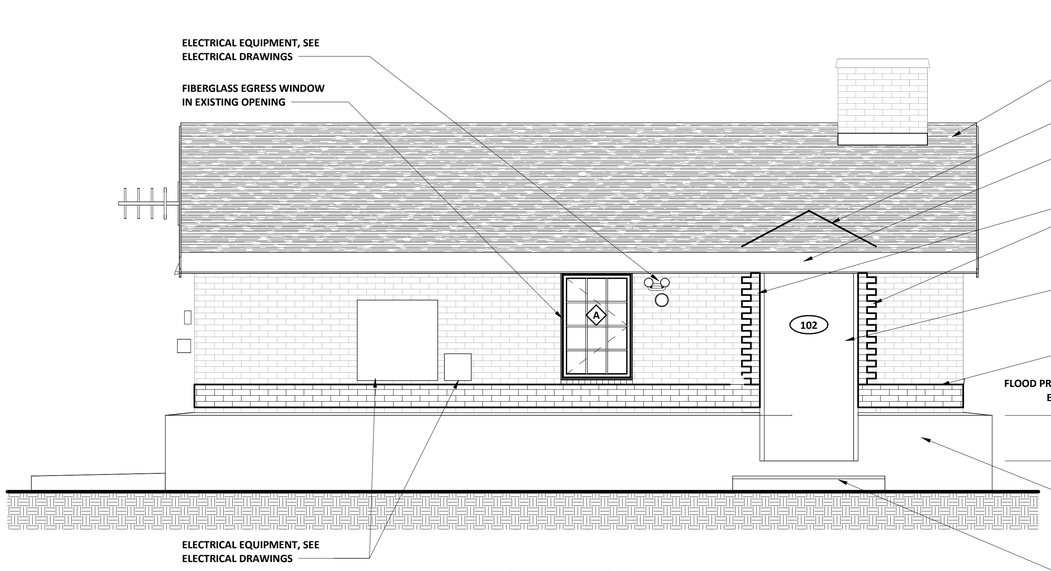
1. PRESSURE WASH ALL EXTERIOR SURFACES TO REMOVE ALL DIRT, STAINS, EFFLORESCENCE, AND OTHER CONTAMINANTS. THE WATER PRESSURE SHALL BE SELECTED BY THE GENERAL CONTRACTOR TO PROVIDE THE REQUIRED CLEANING AND NOT DAMAMGE THE SURFACES. PRIOR TO APPLYING THE PRESSURE WASH CONTRACTOR SHALL PRESSURE WASH A TEST AREA (DETERMINED BY THE ENGINEER) TO ENSURE PROPER PRESSURE IS APPLIED.
2. REPOINT 100 SF TO BE FIELD LOCATED BY THE ARCHITECT.
3. SEE STRUCTURAL DRAWINGS FOR ADDITIONAL REPAIRS/REPOINTING ON EXTERIOR MASONRY.



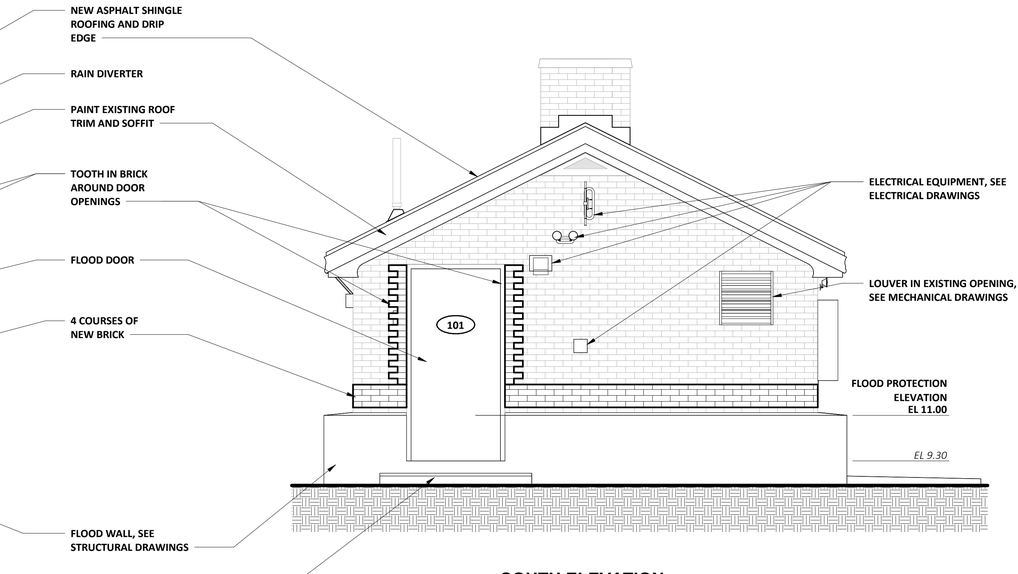
WEST ELEVATION
SCALE: 3/8" = 1'-0"



NORTH ELEVATION
SCALE: 3/8" = 1'-0"



EAST ELEVATION
SCALE: 3/8" = 1'-0"



SOUTH ELEVATION
SCALE: 3/8" = 1'-0"

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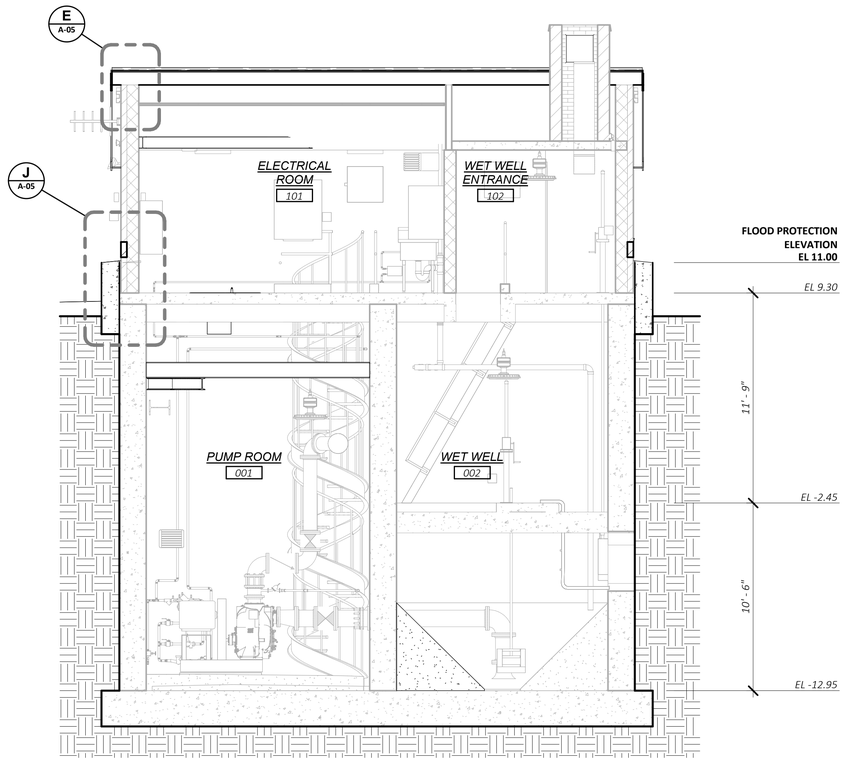
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

EXTERIOR ELEVATIONS

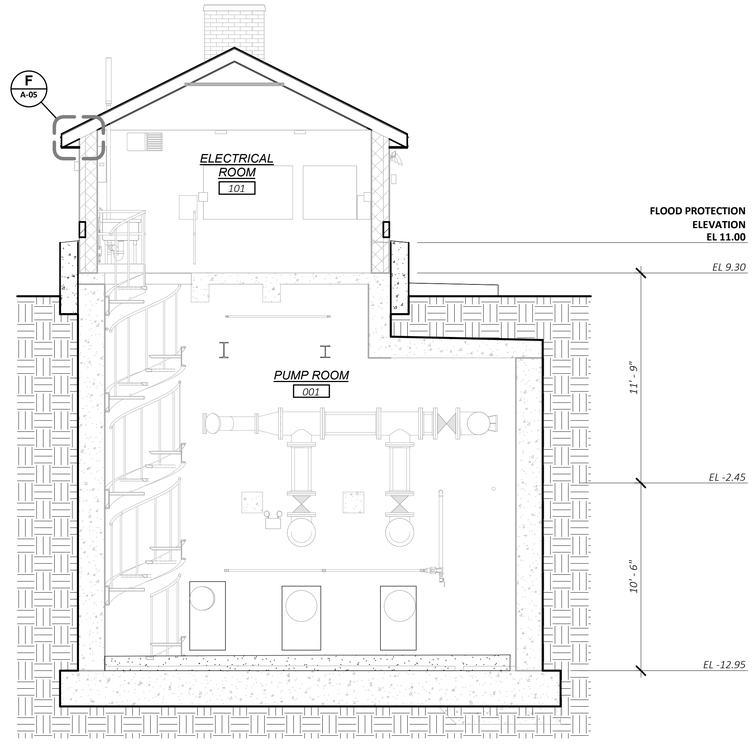
DRAWING
A-03

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1 SECTION
A-02 SCALE: 1/4" = 1'-0"



2 SECTION
A-02 SCALE: 1/4" = 1'-0"

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CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

SECTIONS

DRAWING
A-04

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DOOR AND FRAME SCHEDULE

X APPLICABLE
- NON APPLICABLE

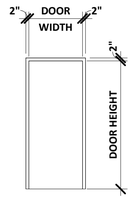
DOOR				TYPE	MATERIAL	RATING	FRAME			HARDWARE SET	REMARKS
NO	W	H	THK	GLASS				HEAD	JAMB	SILL		
101	3' - 4"	7' - 2"	1 3/4"	-	F	AL	-	A/A-05	C/G A-05	K/A-05		FLOOD DOOR
102	3' - 4"	7' - 2"	1 3/4"	-	F	AL	-	A/A-05	C/G A-05	K/A-05		FLOOD DOOR

DOORS AND FRAMES KEY:

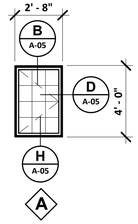
AL ALUMINUM

ROOM FINISH SCHEDULE

RM NO	ROOM NAME	FLOOR MATL	FLOOR FIN	WALLS								CEILING		REMARKS
				NORTH		SOUTH		EAST		WEST				
				MATL.	FIN.	MATL.	FIN.	MATL.	FIN.	MATL.	FIN.	MATL	FIN.	
001	PUMP ROOM	*CONC	*PT	*CONC	*PT	*CONC	*PT	*CONC	*PT	*CONC	*PT	*CONC	*PT	SEE NOTE 2
002	WET WELL	*CONC	-	*CONC	-	*CONC	-	*CONC	-	*CONC	-	*CONC	-	SEE NOTE 2
101	ELECTRICAL ROOM	*CONC	PT	*CMU	PT	*CMU	PT	*CMU	PT	*CMU	PT	*GWB	PT	
102	WET WELL ENTRANCE	*CONC	-	*CMU	-	*CMU	-	*CMU	-	*CMU	-	*CONC	-	SEE NOTE 2



F
DOOR TYPES



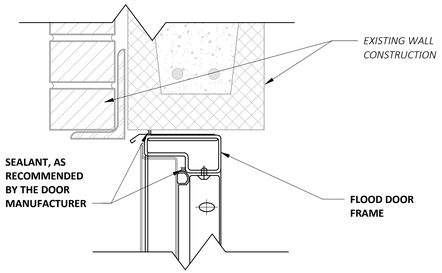
WINDOW TYPES

FINISHES KEY:

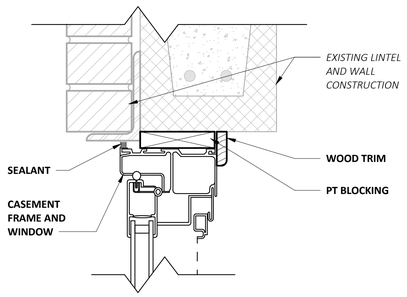
CMU	CONCRETE MASONRY UNITS
CONC	CONCRETE
GWB	GYPSUM WALL BOARD
PT	PAINT

GENERAL FINISH NOTES:

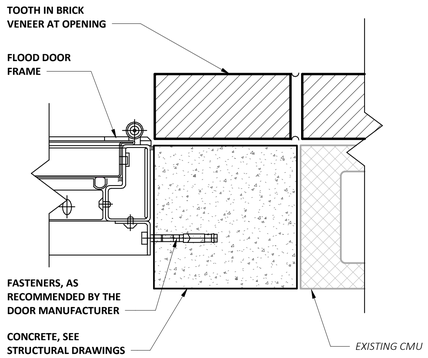
1. MATERIALS AND FINISHES WITH A '*' DENOTE EXISTING MATERIALS AND FINISHES TO REMAIN.
2. CONCRETE WALLS, FLOORS AND CEILINGS TO BE PRESSURE WASHED WHEN DEMOLITION AND MODIFICATIONS TO THE CONCRETE SURFACES ARE COMPLETE. CONCRETE HAS A DESIGN STRENGTH OF 3500 PSI. PRESSURE WASHING SHALL BE DONE IN A MANOR NOT TO DAMAGE THE CONCRETE SURFACES.



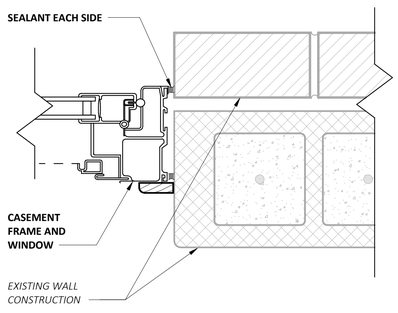
A **HEAD DETAIL**
SCALE: 3" = 1'-0"



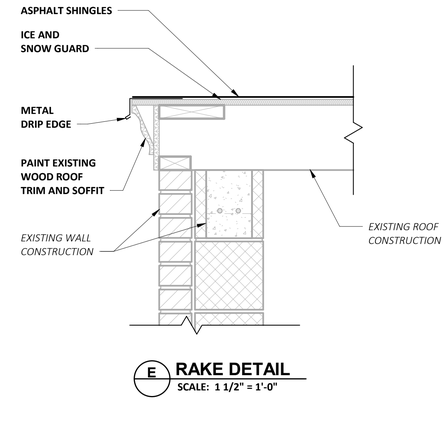
B **HEAD DETAIL**
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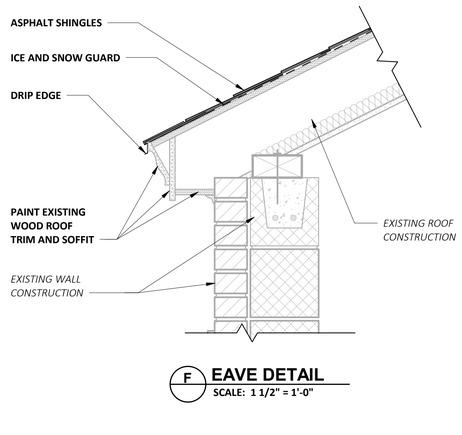
C **JAMB DETAIL**
SCALE: 3" = 1'-0"



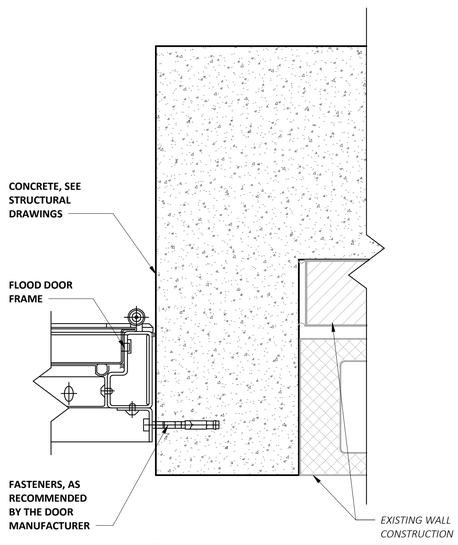
D **JAMB DETAIL**
SCALE: 3" = 1'-0"



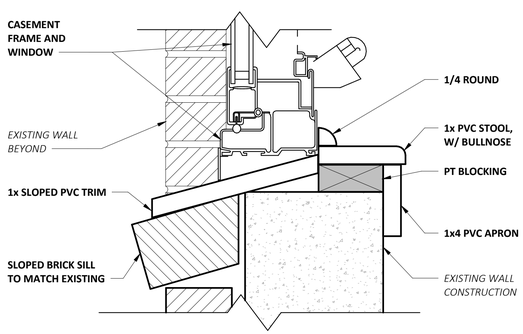
E **RAKE DETAIL**
SCALE: 1 1/2" = 1'-0"



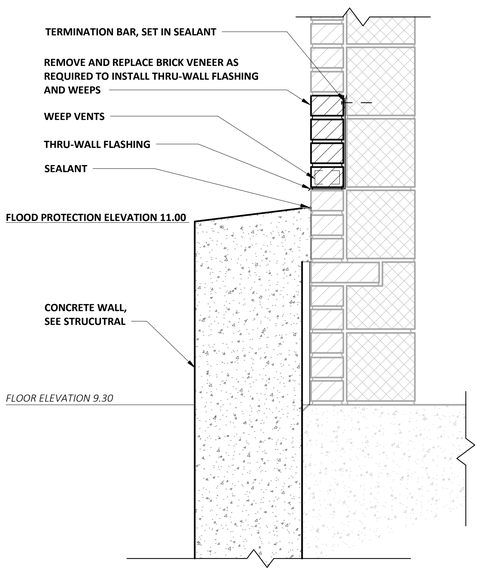
F **EAVE DETAIL**
SCALE: 1 1/2" = 1'-0"



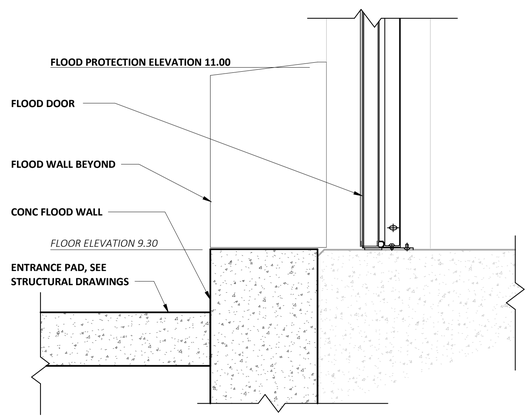
G **JAMB DETAIL**
SCALE: 3" = 1'-0"



H **SILL DETAIL**
SCALE: 3" = 1'-0"



J **BASE OF WALL DETAIL**
SCALE: 1 1/2" = 1'-0"



K **SILL DETAIL**
SCALE: 1 1/2" = 1'-0"

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CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

SCHEDULES AND DETAILS

DRAWING
A-05

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GENERAL NOTES:

1. EXISTING DIMENSIONS AND/OR ELEVATIONS TAKEN FROM THE FOLLOWING RECORD DRAWINGS:
   - 1.1 "NEW SEWAGE WORKS, CONTRACT NO. 2, BATH, MAINE," BY FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS, BOSTON, MA, DATED AUGUST 1969.
   - 1.2 "CITY OF BATH, MAINE HARWARD STREET PUMP STATION UPGRADE, CONTRACT NO. 97-2," BY ENVIRONMENTAL ENGINEERING & REMEDIATION, INC., PORTLAND, MAINE, DATED MARCH 1997.
2. GENERAL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION, FABRICATION, AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
3. * INDICATES THAT THE GENERAL CONTRACTOR SHALL COORDINATE EXACT DIMENSION AND/OR ELEVATION BASED ON EQUIPMENT SUPPLIED. ALL CHANGES SHALL BE REVIEWED WITH NO EXCEPTIONS TAKEN BY THE ENGINEER.
4. DO NOT SCALE DISTANCES OR DIMENSIONS FROM THE DRAWINGS. WRITTEN DIMENSIONS SHALL PREVAIL. REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
5. ALL STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ALL OTHER CONTRACT DRAWINGS, SHOP DRAWINGS (REVIEWED WITH NO EXCEPTIONS TAKEN) AND SPECIFICATIONS. COORDINATE WITH ALL OTHER DISCIPLINE DRAWINGS AND SPECIFICATIONS FOR CONCRETE EMBEDMENTS AND ITEMS THAT PASS THROUGH CONCRETE INCLUDING BUT NOT LIMITED TO DOVETAIL SLOTS, PIPES, WALL CASTINGS, SLEEVES, ELECTRICAL CONDUITS, GATE FRAMES, ETC.
6. THE CONTRACTOR SHALL COORDINATE PREPARED OPENING SIZES AND LOCATIONS WITH THE VARIOUS CONSTRUCTION TRADES AND EQUIPMENT MANUFACTURERS. MANY SLEEVE SIZES AND PREPARED OPENING SIZES ARE LARGER THAN THE NOMINAL DIMENSION IN ORDER TO ACCOMMODATE THE EQUIPMENT.
7. THE DETAILS, STRUCTURAL NOTES, ABBREVIATIONS AND LEGEND SHOWN ON DRAWINGS S-01 AND S-06 THROUGH S-08 SHALL BE USED WHOLLY OR IN PART WHERE THEY APPLY EXCEPT WHERE MODIFIED BY THE DETAILED DRAWINGS OR SPECIFICATIONS.

CONCRETE DEMOLITION NOTES:

1. REFERENCE SPECIFICATION - SECTION 02050.
2. STRUCTURAL DEMOLITION INCLUDES THAT SHOWN ON ALL OTHER DISCIPLINE DRAWINGS INCLUDING CIVIL, ARCHITECTURAL, PROCESS, MECHANICAL, PLUMBING AND ELECTRICAL, WHETHER OR NOT SHOWN ON STRUCTURAL DRAWINGS.
3. THE SCOPE OF WORK INCLUDES CONCRETE SURFACE AND CRACK REPAIR. SOME WORK IS PART OF THE BASE BID AND SOME WORK IS BY SEPARATE BID ITEMS. REFER TO DEMOLITION DRAWINGS FOR SPECIFIC LOCATIONS, QUANTITIES, AND TYPES OF EACH REPAIR.
4. CONCRETE PADS SHALL BE DEMOLISHED AT ALL LOCATIONS WHERE EQUIPMENT IS DEMOLISHED, UNLESS NOTED OTHERWISE.
5. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND DISPOSING OF ALL CONCRETE, EQUIPMENT AND MATERIALS INDICATED TO BE DEMOLISHED UNLESS OTHERWISE INDICATED.
6. DETAILS AND SECTIONS SHOWN FOR REMOVING OR MODIFYING CONCRETE ARE BASED ON EXISTING REFERENCED DRAWINGS. IF CONDITIONS DIFFER FROM THOSE AS SHOWN ON THE REFERENCED DRAWINGS, GENERAL CONTRACTOR SHALL NOTIFY ENGINEER PRIOR TO BEGINNING THE DEMOLITION WORK.
7. WHERE LIMIT OF CONCRETE DEMOLITION PROVIDES INTERFACE WITH NEW CONCRETE, USE OF SCABBLERS, SCARIFIERS, BUSH HAMMERS, AND PNEUMATIC HAMMERS GREATER THAN 15 POUNDS IS NOT PERMITTED UNLESS FOLLOWED BY STEEL SHOT-BLASTING, ABRASIVE BLASTING, OR HIGH-PRESSURE WATER-JETTING. PNEUMATIC HAMMERS GREATER 15 POUNDS ARE PERMITTED FOR REMOVAL OF CONCRETE FROM AROUND REINFORCEMENT TO REMAIN, WITH THE CONCRETE SURFACE PREPARED AS DESCRIBED ABOVE.
8. GENERAL CONTRACTOR SHALL REPAIR DAMAGE TO EXISTING STRUCTURES AS A RESULT OF CONTRACTOR ACTIVITIES AT NO ADDITIONAL COST TO THE OWNER.
9. GENERAL CONTRACTOR SHALL THOROUGHLY CLEAN EXISTING CONCRETE TO BE MODIFIED PRIOR TO STARTING WORK.
10. ALL WALL AND/OR FLOOR PENETRATIONS REMAINING AFTER THE REMOVAL OF PIPING, CONDUIT, HATCHES AND OTHER EMBEDDED ITEMS ARE TO BE INFILLED WITH REINFORCED CONCRETE AND FINISHED FLUSH TO MATCH EXISTING SURFACES, UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
11. GENERAL CONTRACTOR SHALL COORDINATE THE INDICATED DEMOLITION WITH THE ASSOCIATED PROPOSED NEW WORK AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
12. WHEN REMOVING PORTIONS OF EXISTING CONCRETE OR CONCRETE FILL, ALL OVERCUT CONCRETE SHALL BE PATCHED WITH REPAIR MATERIAL FLUSH WITH REMAINING CONCRETE.
13. AT ALL CUT REINFORCEMENT WHERE SURFACES ARE TO REMAIN EXPOSED, INCLUDING WHERE NOT VISIBLE - SUCH AS SUBMERGED, BUT EXCLUDING WHERE BURIED - CHIP BACK SURROUNDING CONCRETE AS NECESSARY TO BURN BACK OR OTHERWISE REMOVE REINFORCEMENT TO 2" BELOW FINISHED SURFACE, AND PATCH VOID WITH NON-SHRINK GROUT OR CONCRETE REPAIR MATERIAL.

FOUNDATION NOTES:

1. BACKFILLING FROST WALLS SHALL NOT COMMENCE UNTIL THEY HAVE BEEN IN PLACE AND CURED FOR A MINIMUM OF 7 DAYS.
2. BACKFILLING OF ALL OTHER FOUNDATION WALLS SHALL NOT COMMENCE UNTIL:
   - 2.1 THEY HAVE BEEN IN PLACE FOR A MINIMUM OF 14 DAYS,
   - 2.2 THEY HAVE ATTAINED THE SPECIFIED 28-DAY COMPRESSIVE STRENGTH AS VERIFIED BY FIELD-CURED CYLINDERS OR OTHER METHOD PRE-APPROVED BY THE ENGINEER,
3. EXISTING SOIL CONDITIONS ARE DESCRIBED IN THE BORING LOGS. IF UNSUITABLE BEARING MATERIAL IS ENCOUNTERED NOTIFY THE ENGINEER.
4. ALL CONCRETE STRUCTURES SHALL BE COVERED, INSULATED AND HEATED AS REQUIRED TO PREVENT FROST PENETRATION BENEATH THE STRUCTURES.
5. THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE BELOW THE FROST DEPTH INDICATED IN THE DESIGN CRITERIA GEOTECHNICAL NOTES ON THIS DRAWING (AS MEASURED FROM FINISHED GRADE) UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
6. SEE ARCHITECTURAL DRAWINGS FOR LIMITS OF FOUNDATION INSULATION AND VAPOR RETARDERS.
7. GENERAL CONTRACTOR SHALL PROVIDE SUPPORT BELOW EXISTING FOUNDATIONS WHEN EXCAVATION FOR NEW WORK MAY OTHERWISE UNDERMINE OR CAUSE INSTABILITY OF THE EXISTING FOUNDATIONS.

PIPE SUPPORT NOTES:

1. THE FOLLOWING RESTRICTIONS FOR SUPPORTING PIPES FROM NEW AND EXISTING STRUCTURES IN THE TABLE BELOW SHALL APPLY TO ALL PIPE SUPPORTS:

AREA	EXISTING STRUCTURES
FLOOR SYSTEMS	
REINFORCED CONCRETE SLAB:	
ELEVATED SLAB	NO
MAT SLAB/ BASE SLAB	YES
SLAB-ON-GRADE	YES
ROOF SYSTEMS	
WOOD TRUSS	NO
REINFORCED CONCRETE SLAB	NO
OTHER SYSTEMS	
METAL AND CONCRETE STAIRS	NO
CONCRETE WALLS	YES

NOTE: "NO" INDICATES THAT PIPES MAY NOT BE SUPPORTED FROM THE INDICATED STRUCTURE AND "YES" INDICATES THAT PIPES MAY BE SUPPORTED FROM THE INDICATED STRUCTURE. THE RESTRICTIONS APPLY TO BEARING THE PIPE SUPPORT ABOVE, HANGING BELOW, OR HANGING THE PIPE FROM THE SIDE OF THE INDICATED STRUCTURAL ELEMENT. ALL PIPE SUPPORTS SUPPORTED FROM STRUCTURES SHALL BE SUBJECTED TO REVIEW WITH NO EXCEPTIONS TAKEN BY THE ENGINEER.

CAST-IN-PLACE REINFORCED CONCRETE NOTES:

1. REFERENCE SPECIFICATIONS - DIVISION 3
2. REINFORCED CONCRETE WAS DESIGNED IN ACCORDANCE WITH THE FOLLOWING:
   - ACI 318-14 - BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
   - ACI 350-20 - CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES
   - ACI 350.3-20 - CODE REQUIREMENTS FOR SEISMIC ANALYSIS AND DESIGN OF LIQUID-CONTAINING CONCRETE STRUCTURES
3. DESIGN CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS:
   STRUCTURAL CONCRETE - $f'c$ = 4,500 PSI
4. INDEPENDENT TESTING LABORATORY WILL PERFORM TESTS FOR ALL CONCRETE TRUCKS IN ACCORDANCE WITH THE SPECIFICATIONS.
5. REINFORCEMENT SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A615/A615M OR A706/A706M, GRADE 60 DEFORMED BARS. FABRICATION SHALL BE IN ACCORDANCE WITH THE CRSI CODE OF STANDARD PRACTICE.
6. 90 DEGREE BENDS IN REINFORCEMENT SHALL BE ACI STANDARD LENGTH UNLESS SHOWN OTHERWISE, SUCH AS WHERE A SPLICE LENGTH IS REQUIRED.
7. REINFORCEMENT SHALL HAVE THE FOLLOWING CONCRETE CLEAR COVER UNLESS OTHERWISE NOTED:
   - CONCRETE CAST AGAINST EARTH: 3 INCHES
   - ALL OTHER CONCRETE SURFACES: 2 INCHES
8. PROVIDE ADDITIONAL REINFORCEMENT AT SLAB AND WALL OPENINGS AS INDICATED ON THE TYPICAL STRUCTURAL DETAILS.
9. CONSTRUCTION JOINTS SHALL NOT BE PLACED AT LOCATIONS OTHER THAN SHOWN ON THE DRAWINGS UNLESS REVIEWED WITH NO EXCEPTIONS TAKEN BY THE ENGINEER.
10. ALL CONCRETE PENETRATIONS ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS. SEE ALL INDIVIDUAL DISCIPLINE DRAWINGS FOR ALL REQUIRED PENETRATIONS, INCLUDING PIPE AND DUCT PENETRATIONS.
11. PIPE PENETRATIONS THAT ARE SHOWN ARE APPROXIMATE ONLY, AND SHALL BE OFFSET A MINIMUM OF 6 INCHES FROM ALL CONSTRUCTION JOINTS.
12. PROVIDE CHAMFERS AT ALL CORNERS AND EDGES, EXCEPT THOSE DIRECTLY BELOW MASONRY WALLS, AT GRATING, AT TOP OF STAIRS, AND WHERE COVERED BY BACKFILL.
13. ALL EQUIPMENT PADS MAY NOT BE SHOWN ON STRUCTURAL DRAWINGS. SEE ALL INDIVIDUAL DISCIPLINE DRAWINGS FOR REQUIRED EQUIPMENT PADS AND PROVIDE A MINIMUM 4 INCH THICK REINFORCED CONCRETE PAD BELOW ALL EQUIPMENT, PIPE SUPPORTS, STANCHIONS, CONTROL PANELS, ETC., AS APPLICABLE, UNLESS OTHERWISE NOTED. SIZE AND LOCATION OF EQUIPMENT PADS AND ANCHOR BOLTS SHALL BE AS REQUIRED BY THE EQUIPMENT MANUFACTURER UNLESS OTHERWISE INDICATED ON THE DRAWINGS. GC SHALL COORDINATE.
14. COORDINATE WITH ALL OTHER DISCIPLINE DRAWINGS AND SPECIFICATIONS FOR CONCRETE EMBEDMENTS AND ITEMS THAT PASS THROUGH CONCRETE INCLUDING BUT NOT LIMITED TO PIPES, WALL CASTINGS, SLEEVES, ELECTRICAL CONDUITS, GATE FRAMES, ETC.
15. WHERE NEW CONCRETE IS TO BE PLACED AGAINST PRE-EXISTING CONCRETE, UNLESS NOTED OTHERWISE, ROUGHEN AND CLEAN SUBSTRATE AND APPLY BONDING AGENT AS SPECIFIED.
16. ALL PIPING INSTALLED BELOW SLABS ON GROUND SHALL BE ENCASED IN CONCRETE.

METALS NOTES:

1. REFERENCE SPECIFICATION - 05500
2. STRUCTURAL STEEL AND STEEL LINTELS SHALL CONFORM TO THE FOLLOWING:
   - 2.1 WIDE FLANGE BEAM ("W" SHAPES), STANDARD BEAMS ("S" SHAPES) - ASTM A992
   - 2.2 CHANNELS AND ANGLES - ASTM A36
   - 2.3 PLATES - ASTM A572
3. UNLESS OTHERWISE INDICATED, ALL METAL FABRICATIONS SHALL BE STRUCTURAL STEEL.
4. ANCHOR RODS SHALL CONFORM TO ASTM F1554 GRADE 36.
5. STEEL BOLTS SHALL CONFORM TO ASTM F3125 GRADE 325 UNLESS OTHERWISE NOTED.
6. ALUMINUM SHAPES SHALL CONFORM TO ASTM B308 ALLOY 6061-T6 UNLESS OTHERWISE NOTED.
7. STAINLESS STEEL FASTENERS SHALL CONFORM TO ASTM F593 AND ASTM F594 (TYPE 316).
8. EPOXY AND EXPANSION ANCHORS SHALL BE TYPE 316 STAINLESS STEEL. EMBEDMENT DEPTH OF THESE ANCHORS SHALL BE NOT LESS THAN 6 INCHES UNLESS OTHERWISE NOTED.
9. ALL STRUCTURAL STEEL, HIGH STRENGTH BOLTS AND ANCHOR RODS SHALL BE HOT-DIPPED GALVANIZED AND/OR PAINTED AS SPECIFIED. GALVANIZE STEEL PRIOR TO ASSEMBLY IF POSSIBLE AND AFTER ALL WELDING.
10. ALL SURFACES OF UNCOATED STEEL (EXCEPT REINFORCING STEEL) AND ALUMINUM SHAPES AND FASTENERS THAT ARE IN CONTACT WITH OR EMBEDDED IN CONCRETE, GROUT, OR MASONRY SHALL BE COATED WITH EPOXY PAINT (MIN 5 MIL DFT).
11. ALL SURFACES OF DISSIMILAR METALS IN CONTACT SHALL BE COATED WITH EPOXY PAINT (MIN 5 MIL DFT).

MASONRY NOTES:

1. REFERENCE SPECIFICATION - SECTION 04200
2. DESIGN COMPRESSIVE STRENGTH OF MASONRY ASSEMBLAGE: $f'm$ = 2000 PSI
3. MORTAR SHALL CONFORM TO ASTM C270 TYPE S WITH 28 DAY COMPRESSIVE STRENGTH OF 1800 PSI.
4. CMU BLOCK SHALL CONFORM TO ASTM C90 (NORMAL WEIGHT OR LIGHTWEIGHT) WITH A MINIMUM COMPRESSIVE STRENGTH OF 3250 PSI.
5. GROUT SHALL CONFORM TO ASTM C476 FINE GROUT WITH MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2500 PSI.
6. GROUTED REINFORCEMENT SHALL BE NEW BILLET STEEL CONFORMING TO ASTM SPECIFICATION A615 GRADE 60 DEFORMED BARS. FABRICATION SHALL BE IN ACCORDANCE WITH THE CRSI CODE OF STANDARD PRACTICE.
7. GROUT CMU CELLS SOLID AT THE FOLLOWING LOCATIONS:
   - 7.1 EXPANSION AND EPOXY ANCHORS
   - 7.2 REINFORCED CELLS
   - 7.3 CELLS BELOW LINTELS AND BEAMS BEARING ON CMU.

STRUCTURAL DESIGN CRITERIA:

GEOTECHNICAL:
LATERAL EARTH PRESSURES (BELOW GRADE STRUCTURES):
- ABOVE GROUNDWATER = 65 PSF/FT (UNIFORM VARYING)
- BELOW GROUNDWATER = 95 PSF/FT (UNIFORM VARYING)
- SURCHARGE = 75 PSF/FT (BASED ON 300 PSF UNIFORM LOAD)
- SEISMIC = $0.100(S_s)(F_a)(Y_J)(H^2)$(INVERTED UNIFORMLY VARYING)

LATERAL HYDROSTATIC PRESSURES:
- STATIC = 65 PSF/FT (UNIFORM VARYING)
- SEISMIC (IN ACCORDANCE WITH ACI 350.3)
  - Z = 0.15 (ZONE 2A)
  - S = 2.0
  - I = 1.0

MINIMUM FROST DEPTH = 4' - 0"
MAXIMUM ALLOWABLE FOUNDATION PRESSURE = 4000 PSF

LIVE LOADS:
ASCE 7-16 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
2021 INTERNATIONAL BUILDING CODE

RISK CATEGORY: III

WIND LOADS
BASIC WIND SPEED (V):
- Vult = 119 MPH
- Vasd = 93 MPH

EXPOSURE CATEGORY D
INTERNAL PRESSURE COEFFICIENT (GC_{pi}) = ±0.18
TOPOGRAPHIC FACTOR (Kzt) = 1.1

SNOW LOADS
GROUND SNOW LOAD (P_g) = 50 PSF
IMPORTANCE FACTOR (I_s) = 1.1
EXPOSURE FACTOR (C_e) = 1.0
THERMAL FACTOR (C_t) = 1.1
EXPOSURE CATEGORY C
SLOPE FACTOR (C_s) = 1.0

SEISMIC LOADS
EQUIVALENT LATERAL FORCE ANALYSIS
IMPORTANCE FACTOR (I_e) = 1.25
SITE SOIL CLASSIFICATION D
SEISMIC DESIGN CATEGORY B
MAPPED SPECTRAL RESPONSE ACCELERATION @ 0.2s (S_s) = .282
MAPPED SPECTRAL RESPONSE ACCELERATION @ 1.0s (S_1) = .072
RESPONSE MODIFICATION COEFFICIENT (R_w):
- ORDINARY PLAIN MASONRY SHEAR WALLS = 1.5

FLOOD LOADS
BASE FLOOD LOAD - CASE 1
FEMA 100 YR BFE = 8.00
ZONE AE
STILLWATER DEPTH = 0.00
STILLWATER ELEVATION = 8.00

DESIGN FLOOD LOAD - CASE 2
DESIGN FLOOD ELEVATION DFE = 11.00
STILLWATER DEPTH = 1.95 FT
STILLWATER ELEVATION = 9.95
CREST OF INCIDENT WAVE ELEVATION = 11.02
CREST OF REFLECTED WAVE ELEVATION = 12.29
BREAKING WAVE HEIGHT = 1.52 FT
FLOOD VELOCITY = 4.9 FT/S
SCOUR DEPTH = 4.3 FT
DESIGN DEBRIS WEIGHT = 4000 LB
DEBRIS IMPACT FORCE = 20443 LB

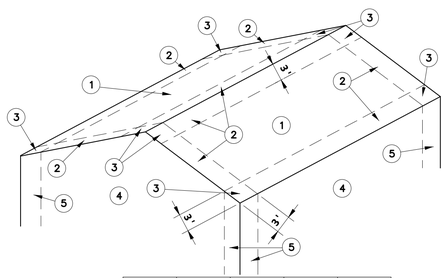
ICE LOADS
EQUIVALENT RADIAL ICE THICKNESS (t) = 1.5 INCH
3 SECOND WIND GUST SPEED (V_i) = 50 MPH
ICE IMPORTANCE FACTOR (I_i) = 1.15
WIND IMPORTANCE FACTOR (I_w) = 1.0

FLOOR LIVE LOADS - AS INDICATED ON THE DRAWINGS

ROOF LIVE LOADS - AS INDICATED ON THE DRAWINGS

ABBREVIATIONS

ALUM, AL	ALUMINUM	MIN	MINIMUM
L	ANGLE	MO	MASONRY OPENING
ARCH	ARCHITECTURAL	MTD	MOUNTED
BM	BEAM	NTS	NOT TO SCALE
BOT, B/	BOTTOM	NO	NUMBER
BOF	BOTTOM OF FOOTING/FOUNDATION	OC	ON CENTER
CB	CROSS BRACING	OPNG	OPENING
CTR	CENTER	OD	OUTSIDE DIAMETER
CL	CENTERLINE	OF	OUTSIDE FACE
CLR	CLEAR	PERIM	PERIMETER
COL	COLUMN	PL	PLATE
CONC	CONCRETE	LB, #	POUND
CMU	CONCRETE MASONRY UNIT	PSF	POUNDS PER SQUARE FOOT
CONT	CONTINUOUS	PSI	POUNDS PER SQUARE INCH
CNJ	CONSTRUCTION JOINT	PROC	PROCESS
COR	CORNER	PROJ	PROJECTION
DET	DETAIL	REINF	REINFORCING
DIA, Ø	DIAMETER	REQ'D	REQUIRED
DBS	DOWEL BAR SPLICERS	R	RISER
DI	DOWEL INSERT	RO	ROUGH OPENING
DN	DOWN	SCH	SCHEDULE
DWL	DOWEL	SECT	SECTION
EA	EACH	SHT	SHEET
EE	EACH END	SIM	SIMILAR
EF	EACH FACE	SLD	SLIDE GATE
ES	EACH SIDE	SL	SLOPE
EW	EACH WAY	SP	SPACE(ING)
ELEC	ELECTRICA	SPEC	SPECIFICATION
ELEV, EL	ELEVATION	SQ	SQUARE
EQ	EQUAL	SYM	SYMMETRICAL
EXP	EXPANSION	STD	STANDARD
EXT	EXTERIOR	STRUCT	STRUCTURAL
FT	FEET	SS	STAINLESS STEEL
FD	FLOOR DRAIN	STL	STEEL
FRP	FIBERGLASS REINFORCED PLASTIC	THK	THICKNESS
GALV	GALVANIZED	T, T/	TOP
GRTG	GRATING	T & B	TOP & BOTTOM
H	HIGH	T/ CONC, TOC	TOP OF CONCRETE
HP	HIGH POINT	TOF	TOP OF FOOTING/FOUNDATION
HS	HIGH STRENGTH	T/ PL	TOP OF PLATE
HOR	HORIZONTAL	T/ STL, TOS	TOP OF STEEL
HDG	HOT DIPPED GALVANIZED	T, TR	TREAD
ID	INSIDE DIAMETER	TYP	TYPICAL
IF	INSIDE FACE	UNO	UNLESS NOTED OTHERWISE
INSUL	INSULATION	WS	WATERSTOP
IJ	ISOLATION JOINT	WWF	WELDED WIRE FABRIC
JT	JOINT	W	WIDE
KB	KNEE BRACE	W/	WITH
LP	LOW POINT	W/O	WITHOUT
MFR	MANUFACTURER	WD	WOOD
MATCH	MATCHING	&	AND
MAX	MAXIMUM	@	AT
MECH	MECHANICAL		
MID	MIDDLE		



	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5
CASE 1	24	24	24	26	26
CASE 2	-44	-48	-59	-28	-35

PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE PROJECTED SURFACES, RESPECTIVELY.

COMPONENT AND CLADDING WIND PRESSURE (PSF)

MINIMUM REINFORCING BAR SPLICE LENGTHS (IN.) fy = 60,000 f'c = 4,500	
BAR SIZE	SPLICE LENGTH
4	19
5	23
6	28
7	40
8	46

LEGEND

PLAN
- EXISTING STRUCTURE
- EXISTING STRUCTURE TO BE DEMOLISHED
- STRUCTURE
- GUARD
- CONCRETE CURB
- GRATING
- HIDDEN OBJECT
- FLOOR PLATE
- CONSTRUCTION JOINT
- CONTROL JOINT
- OPENING

SECTION
- EXISTING CAST-IN-PLACE CONCRETE
- CAST-IN-PLACE CONCRETE
- STRUCTURAL STEEL
- STRUCTURAL ALUMINUM
- CONCRETE MASONRY
- CONCRETE FILL/ SAND
- FINISH GRADE
- FILL OR STONE
- GRATING
- LUMBER
- RIGID INSULATION

TEXT
- *CONCRETE WALL* EXISTING STRUCTURE
- CONCRETE WALL PROPOSED WORK
- 1" DIMENSION OF EXISTING STRUCTURE
- 1" DIMENSION OF PROPOSED STRUCTURE

SYMBOLS
- CONCRETE EQUIPMENT PAD
- PIPE
- FD FLOOR DRAIN
- # LIFT HOOK (# = CAPACITY IN TONS)
- EL 0.00 LIQUID ELEVATION (WATER LEVEL)

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

PROJECT NO: 21119
DESIGNED: J.POWELL
CAD COORD: A.NESBIT
CAD: A.NESBIT
CHECKED: D.SKIDGEL, K.BEMIS
DATE: 04/2025
APPROVED: J.POWELL
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE JASON JAMES POWELL NO. 11168 REGISTERED PROFESSIONAL ENGINEER 5/16/25

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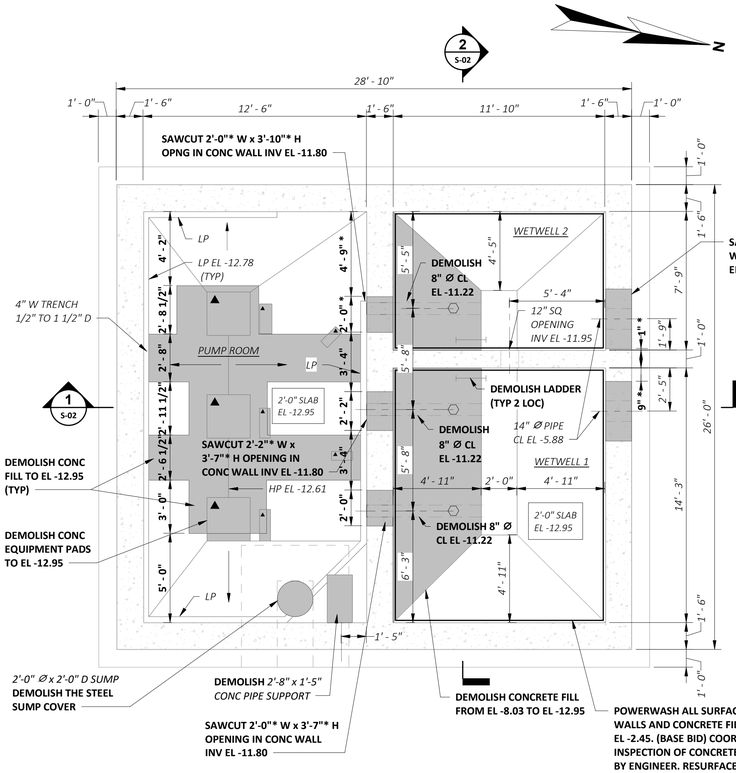
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

TYPICAL STRUCTURAL NOTES, LEGEND AND ABBREVIATIONS

DRAWING
S-01

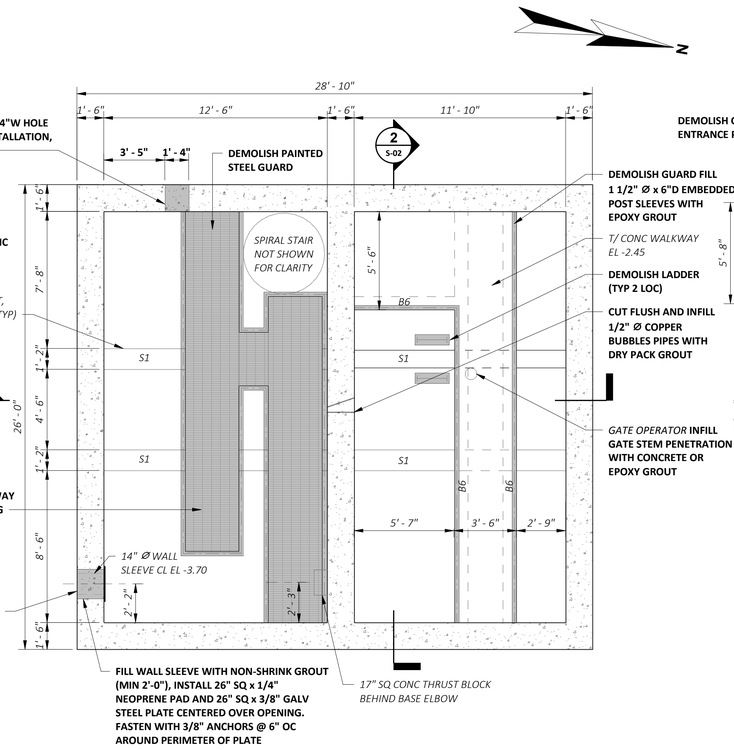
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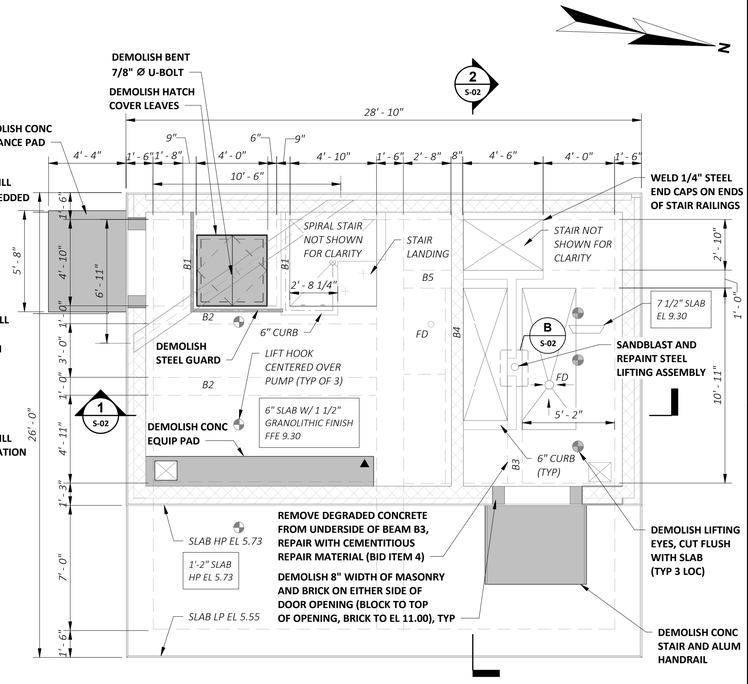
LOWER LEVEL PLAN - DEMOLITION

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



MID LEVEL PLAN - DEMOLITION

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

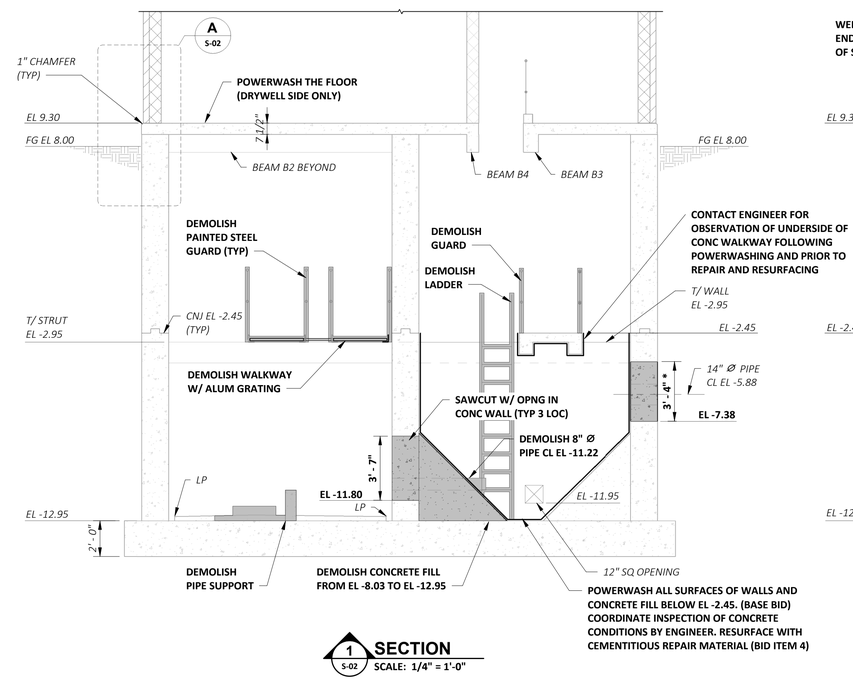


FIRST FLOOR PLAN - DEMOLITION

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

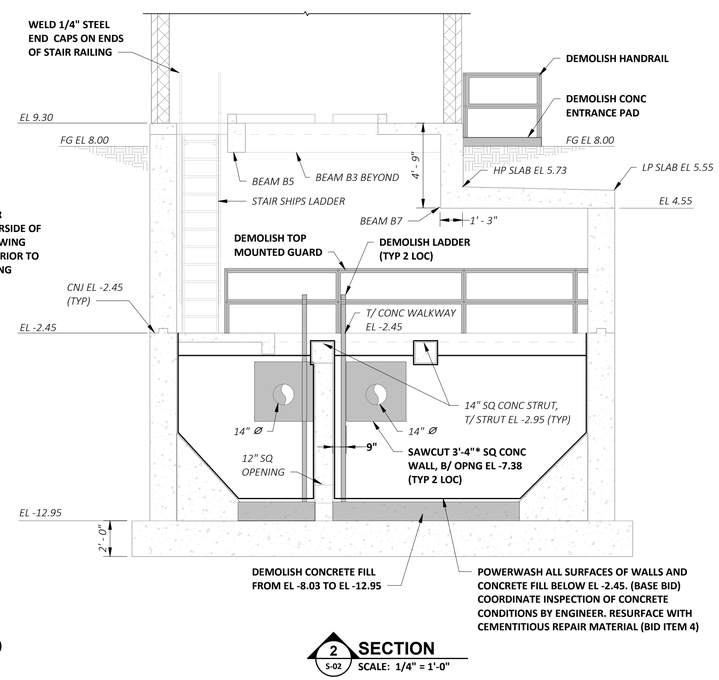
NOTES:

1. REPAIR SPALLED CONCRETE ON UNDERSIDE OF WETWELL CEILING SLAB AND BEAMS. (BID ITEM 4)
2. POWERWASH THE FLOOR ON THE DRYWELL SIDE OF THE PUMP STATION.



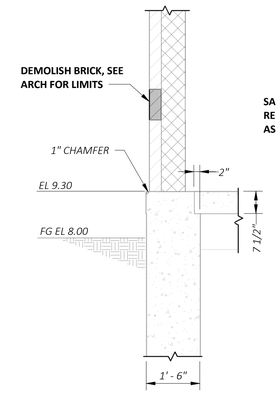
1 S-02 SECTION

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



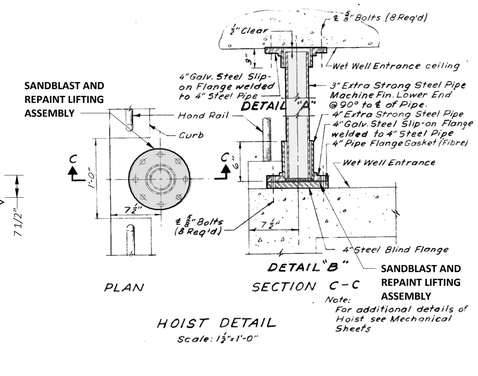
2 S-02 SECTION

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



A S-02 DETAIL

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



B S-02 DETAIL

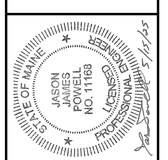
SCALE: 1/2" = 1'-0"

NOTES:

1. EXISTING FLOOR SLAB DESIGN LIVE LOAD = 100 PSF
2. POWERWASH ALL SURFACES OF PUMP ROOM WALLS AND CEILING.
3. CONCRETE SURFACE REPAIR WILL BE REQUIRED AT LOCATIONS INDICATED ON THE DRAWINGS AND OTHER AREAS IDENTIFIED BY THE ENGINEER DURING CONSTRUCTION. THESE REPAIRS WILL BE COVERED AS BID ITEM 4 IN THE BID FORM AND IN SPECIFICATION SECTION 01150 "MEASUREMENT AND PAYMENT" (APPROX 1300 SF).
4. CONCRETE CRACK REPAIRS WILL BE REQUIRED AT LOCATIONS INDICATED ON THE DRAWINGS AND OTHER AREAS IDENTIFIED BY THE ENGINEER DURING CONSTRUCTION. THESE REPAIRS WILL BE COVERED AS BID ITEM 3 IN THE BID FORM AND IN SPECIFICATION SECTION 01150 "MEASUREMENT AND PAYMENT" (APPROX 20 LF).
5. FOR STRUCTURAL NOTES, REFER TO DRAWING S-01. FOR TYPICAL STRUCTURAL DETAILS, REFER TO DRAWINGS S-06 THROUGH S-08.

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

PROJECT NO: 21119
DESIGNED: J.POWELL
CAD COORD: A.NESBIT
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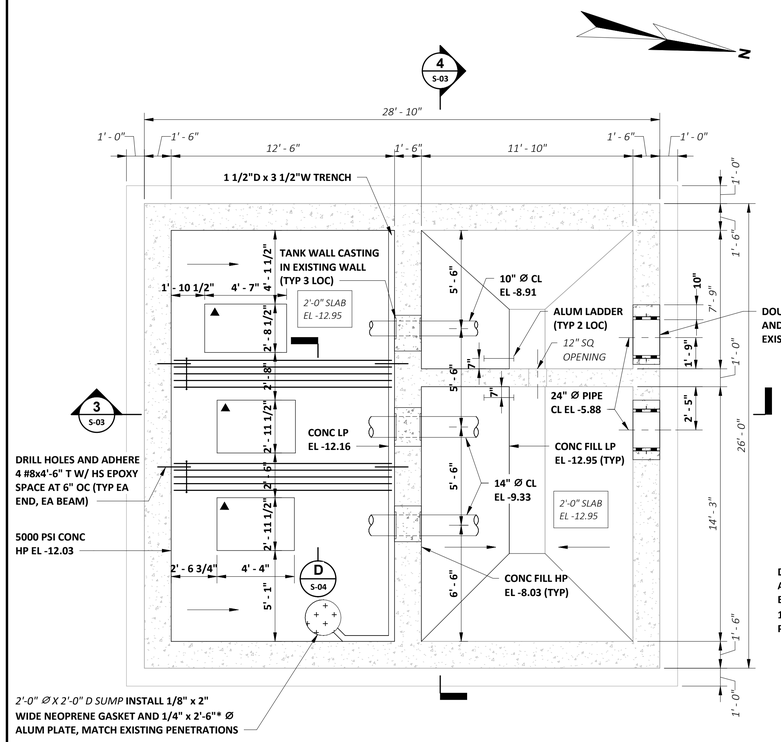
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

DEMOLITION PLANS, SECTIONS AND DETAIL

DRAWING
S-02

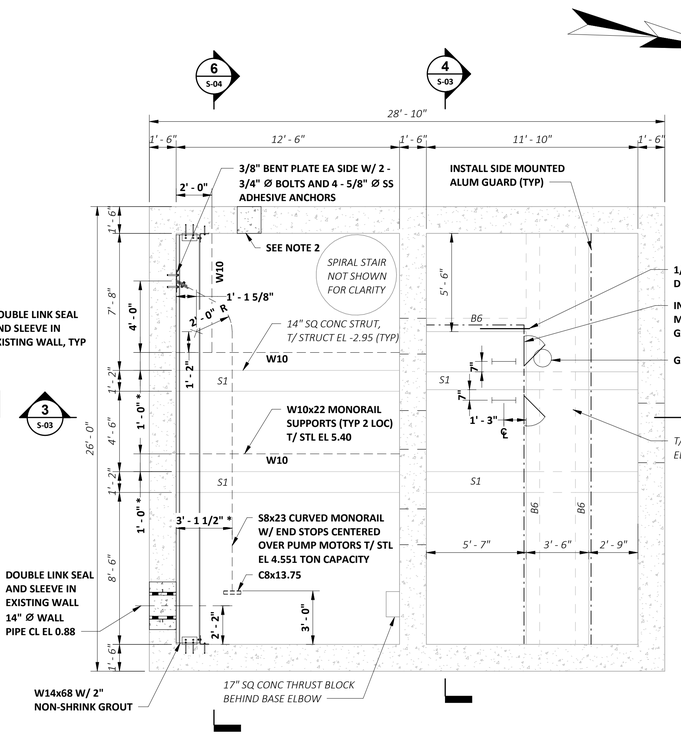
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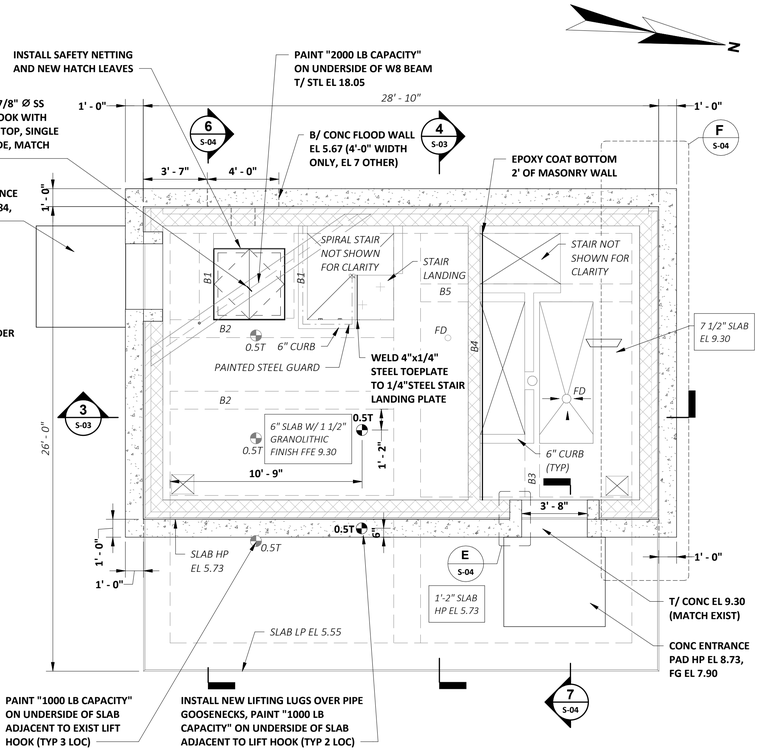
LOWER LEVEL PLAN - MODIFICATION

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



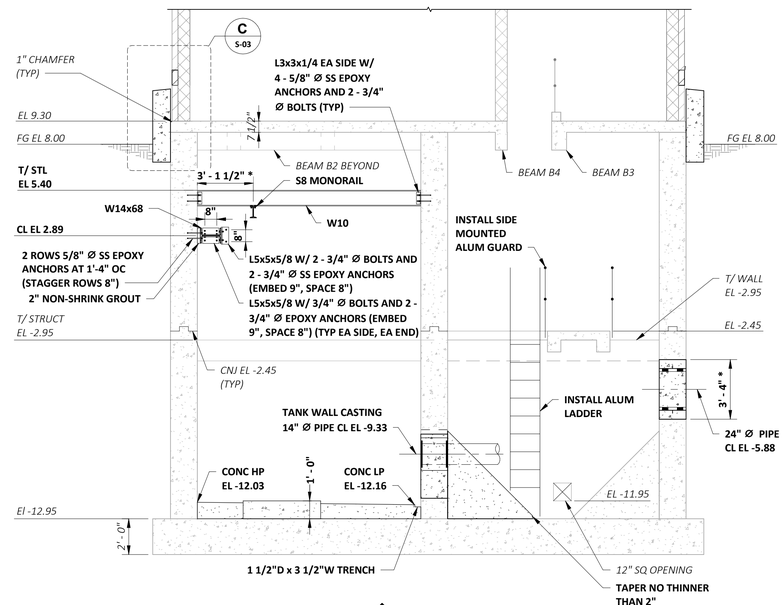
MID LEVEL PLAN - MODIFICATION

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



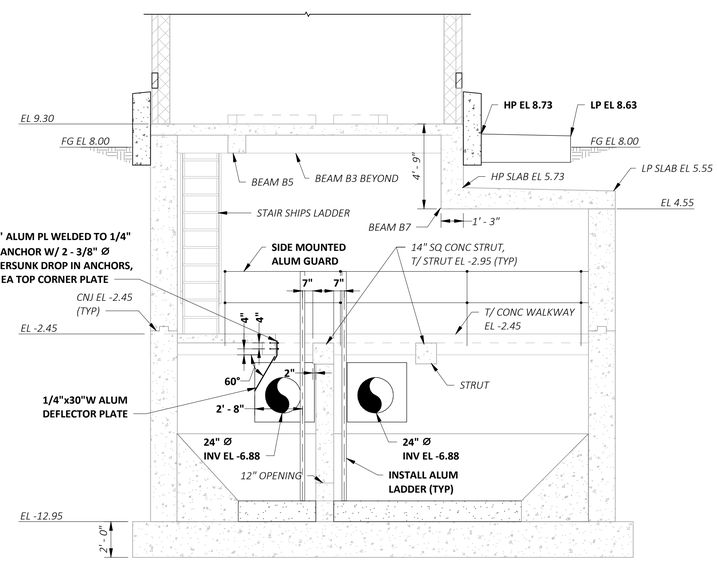
FIRST FLOOR PLAN - MODIFICATION

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



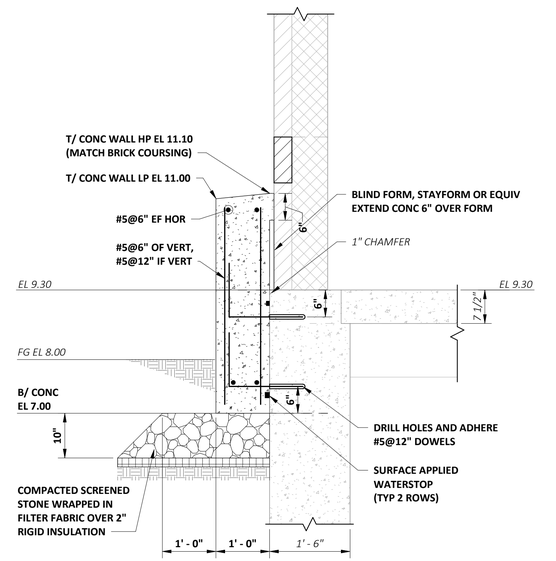
3 SECTION

3 S-03 SCALE: 1/4" = 1'-0"



4 SECTION

4 S-03 SCALE: 1/4" = 1'-0"



C DETAIL

C S-03 SCALE: 3/4" = 1'-0"

NOTES:

1. NO MORE THAN 1 LIFT HOOK MAY BE LOADED AT A TIME.
2. INFILL 1'-0"H x 1'-4" OPENING WITH REINFORCED CONCRETE (SEE TYP DETAIL) WITH 2 ROWS CAULKING TYPE SURFACE APPLIED WATERSTOP.
3. NEW AND EXISTING LIFTING LUG AND LIFT HOOK CAPACITIES INDICATED ARE FOR MANUALY OPERATED HOISTS WITH NO IMPACT FACTOR. FOR ELECTRIC HOISTS, AN IMPACT FACTOR SHALL BE INCORPORATED AND THE ALLOWABLE CAPACITY SHALL BE DIVIDED BY 1.25.
3. FOR STRUCTURAL NOTES, REFER TO DRAWING S-01. FOR TYPICAL STRUCTURAL DETAILS, REFER TO DRAWINGS S-06 THROUGH S-08.

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

PROJECT NO: 21119
DESIGNED: J.POWELL
CAD COORD: A.NESBIT
CAD: A.NESBIT
CHECKED: D.SKOGEL, K.BEMIS
DATE: 04/2025
APPROVED: J.POWELL
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE JASON JAMES POWELL NO. 11168 REGISTERED PROFESSIONAL ENGINEER CIVIL

WRIGHT-PIERCE
207.725.8721 | www.wright-pierce.com
11 BOWDOIN MILL ISLAND, SUITE 140, TOPSHAM, ME 04086

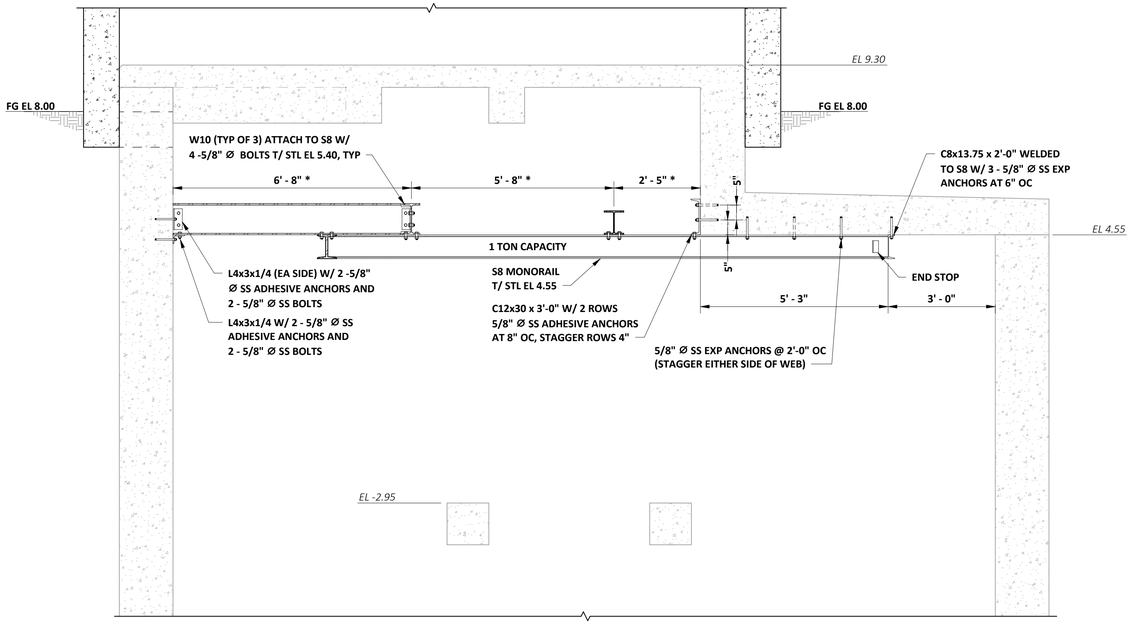
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION AND SEWER INTERCEPTOR UPGRADE

MODIFICATION PLANS, SECTIONS AND DETAIL

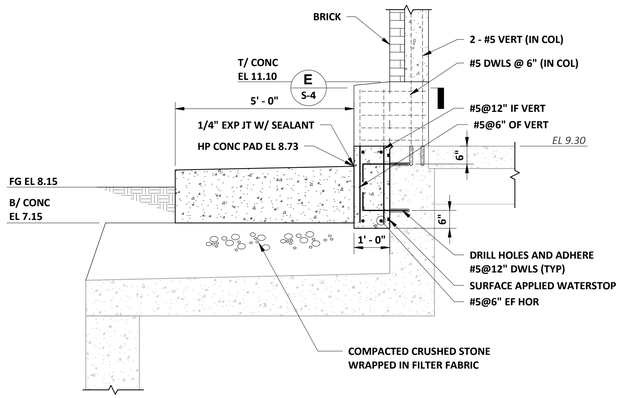
DRAWING
S-03

Autodesk Docs://ME-Bath-21119-HarwardPSAInterceptor-Upgrades/21119-HarwardPumpStation.rvt

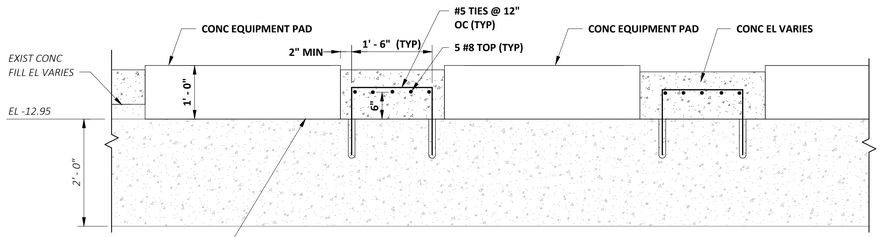
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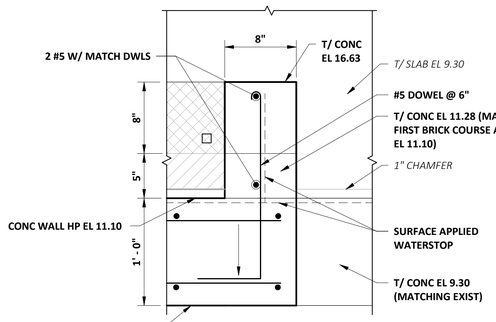
6 SECTION S-03
SCALE: 1/2" = 1'-0"



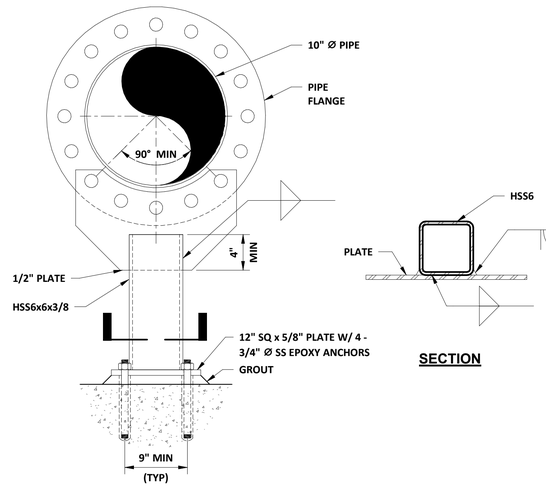
7 SECTION S-03
SCALE: 1/2" = 1'-0"



D DETAIL S-03
SCALE: 3/4" = 1'-0"

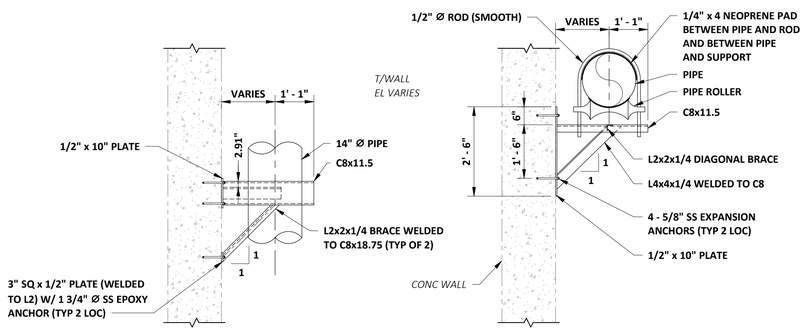


E DETAIL S-03
SCALE: 1 1/2" = 1'-0"



ELEVATION **SECTION**

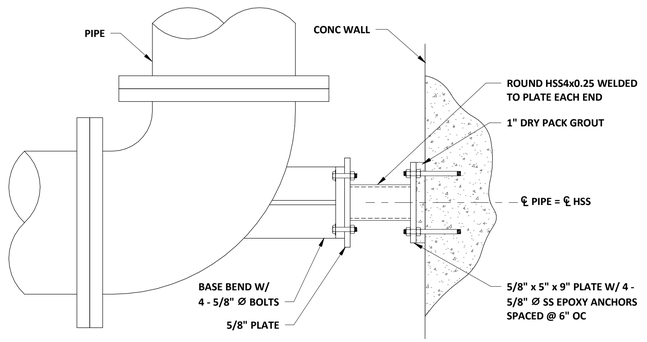
TYPE 3 PIPE SUPPORT
SCALE: 1 1/2" = 1'-0"



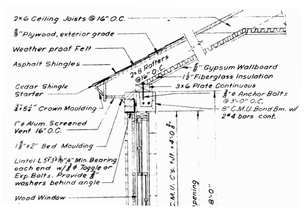
PLAN **SECTION**

NOTES:
1. GENERAL CONTRACTOR SHALL COORDINATE EXACT ELEVATIONS AND PIPE OFFSET DIMENSIONS REQUIRED BASED ON FINAL PIPE ELEVATIONS AND SUPPORTS USED.
2. ALL FRAMING FOR PIPE SUPPORTS SHALL BE TYPE 316 STAINLESS STEEL.
3. ALL WELDS SHALL BE 3/16" FILLET WELDS ALL AROUND.

TYPE 1 PIPE SUPPORT
SCALE: 1/2" = 1'-0"



TYPE 2 PIPE SUPPORT
BRACE AT PIPE ELBOW
SCALE: 1 1/2" = 1'-0"





REPLACE THE L5x3x3/8 LINTEL WITH SS L5x3x3/8 LINTEL. REPOINT THE ENTIRE LENGTH OF MORTAR JOINT ON THE NORTH WALL AT THE LINTEL ELEVATION

NORTH WALL - EXTERIOR

F DETAIL S-03
SCALE: 1/2" = 1'-0"

NOTES:
1. FOR STRUCTURAL NOTES, REFER TO DRAWING S-01. FOR TYPICAL STRUCTURAL DETAILS, REFER TO DRAWINGS S-06 THROUGH S-08.

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DATE: 04/2025
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JASON JAMES POWELL
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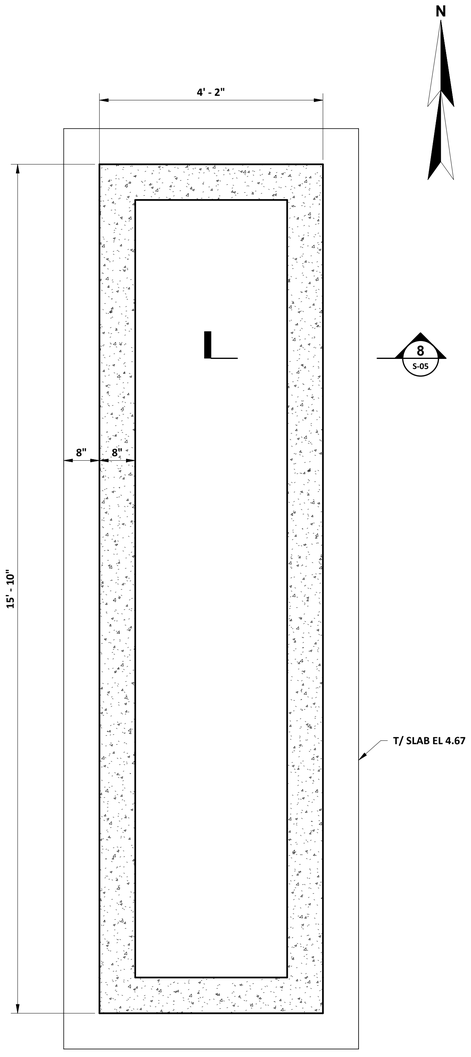
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

SECTION AND DETAILS

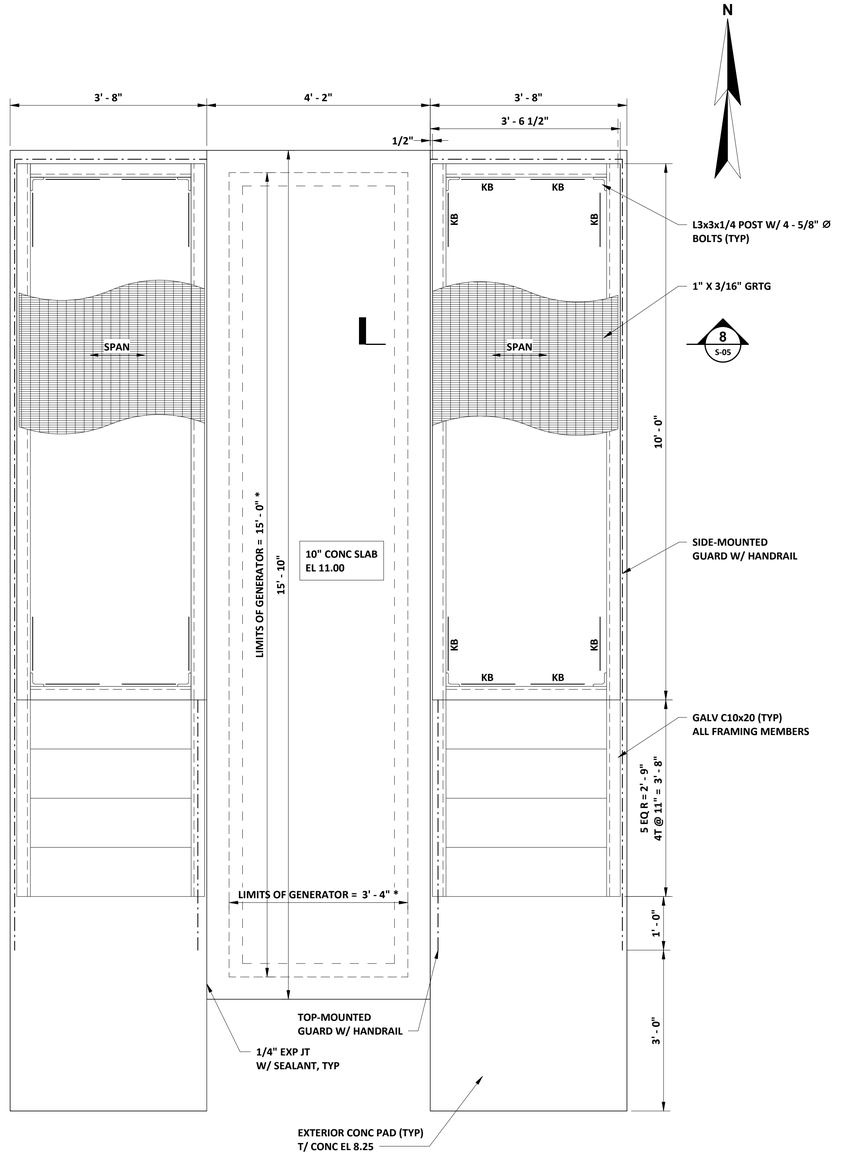
DRAWING
S-04

Autodesk Docs://ME Bath-21119-HarwardPS&Interceptor-Upgrades/21119-HarwardPumpStation.rvt

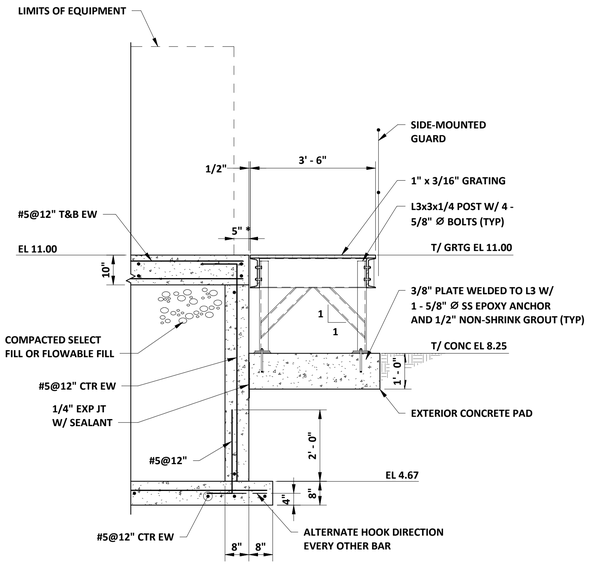
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FOUNDATION PLAN
SCALE: 3/4" = 1'-0"



TOP PLAN
SCALE: 3/4" = 1'-0"



SECTION
8 S-05 SCALE: 1/2" = 1'-0"

NOTES:
1. DESIGN GRATING LIVE LOAD = 100 PSF
2. PRIOR TO PLACEMENT OF CONCRETE SLABS SUPPORTING PLATFORMS, GENERAL CONTRACTOR SHALL SUBMIT A SKETCH OF THE PROPOSED LAYOUT SHOWING CIRCUIT BREAKER, GENERATOR SERVICE DOOR LOCATIONS AND SIZES AND LOCATION OF PLATFORMS AND CONCRETE SLABS WITH RESPECT TO THE GENERATOR FOUNDATION.
2. FOR STRUCTURAL NOTES, REFER TO DRAWING S-01. FOR TYPICAL STRUCTURAL DETAILS, REFER TO DRAWINGS S-06 THROUGH S-08.

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STATE OF MAINE
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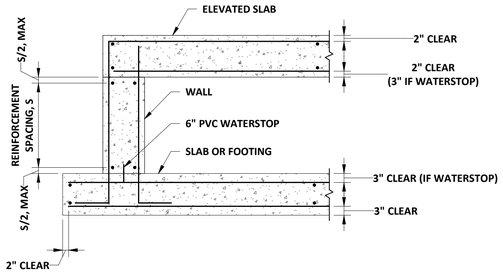
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

GENERATOR PAD PLANS AND SECTION

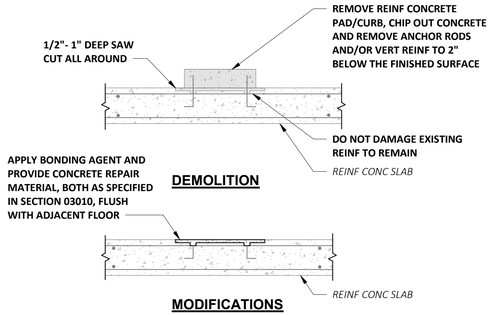
DRAWING
S-05

Autodesk Docs://ME-Bath-21119-HarwardPS&Interceptor-Upgrades/21119-HarwardPumpStation.rvt

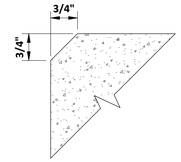
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REINFORCING POSITIONING
NTS

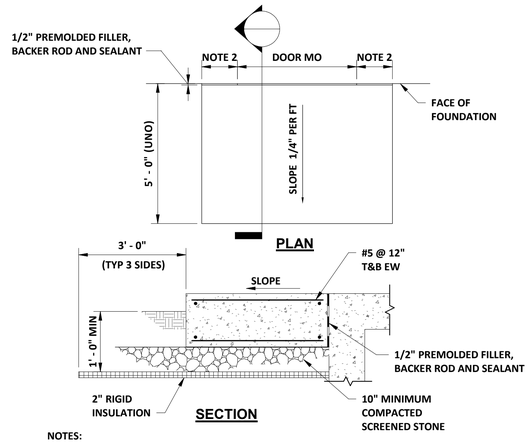


CONCRETE PAD REMOVAL
NTS



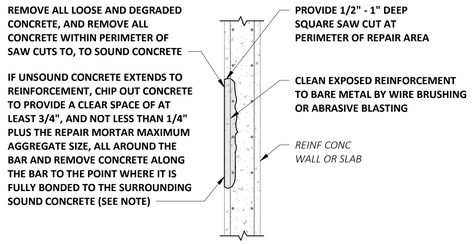
NOTE: CHAMFER ALL CORNERS AND EDGES, EXCEPT THOSE DIRECTLY BELOW MASONRY WALLS, AT WALL-MOUNTED ANGLES SUPPORTING GRATING OR PLATE AND WHERE COVERED BY BACKFILL.

CHAMFER
NTS

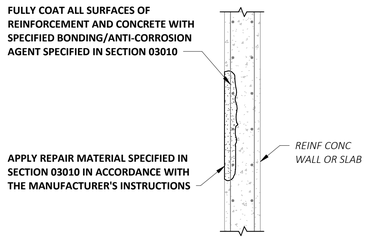


NOTES:
1. PAD IS SHOWN FLUSH WITH TOP OF FLOOR SLAB, BUT THE ELEVATION OF THE PAD RELATIVE TO THE FLOOR AT EACH LOCATION SHALL BE PER THE DRAWINGS.
2. UNLESS NOTED OTHERWISE: PROVIDE 6" ON HINGE SIDE OF DOOR AND 1'-6" ON LATCH SIDE DOOR. FOR DOUBLE DOORS PROVIDE 6" ON BOTH SIDES.

CONCRETE ENTRANCE PAD
NTS



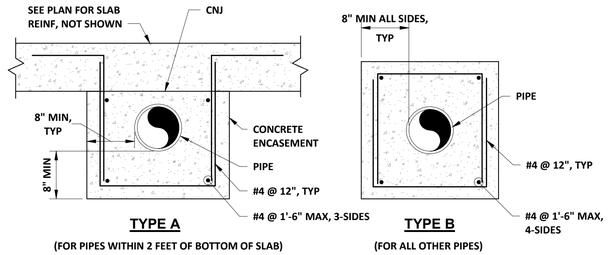
DEMOLITION



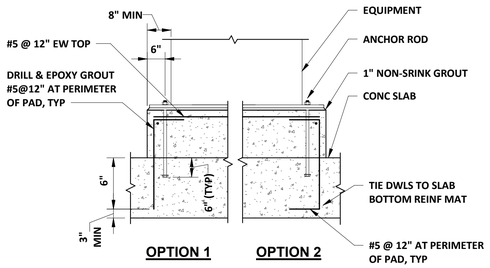
MODIFICATION

NOTE: NOTIFY THE ENGINEER IF EXCESSIVELY CORRODED REINFORCEMENT IS ENCOUNTERED SO THAT IT CAN BE EVALUATED. THIS INCLUDES 1/8 INCH OR GREATER LOSS OF THE ORIGINAL BAR DIAMETER AFTER REMOVAL OF CORROSION.

SPALLING CONCRETE REPAIRS
NTS

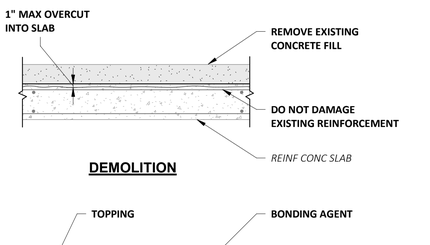


CONCRETE PIPE ENCASEMENT
NTS

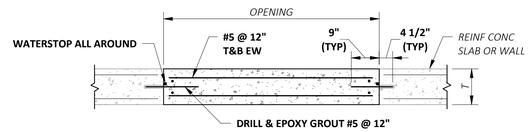


NOTES:
1. PROVIDE A MINIMUM 4" THICK REINFORCED CONCRETE PAD BELOW ALL EQUIPMENT, PIPE SUPPORTS, STANCHIONS, CONTROL PANELS, ETC. UNLESS NOTED OTHERWISE.
2. FOR CONCRETE PADS PLACED ON EXISTING CONCRETE, USE SS EPOXY ANCHORS.
3. PREPARE SUBSTRATE AND APPLY BONDING AGENT AS SPECIFIED PRIOR TO PLACING CONCRETE PAD.

EQUIPMENT PAD
NTS

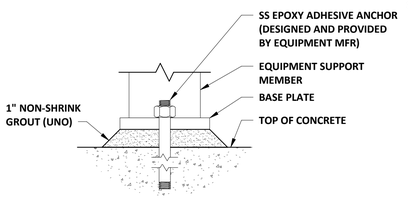


CONCRETE FILL REMOVAL
NTS



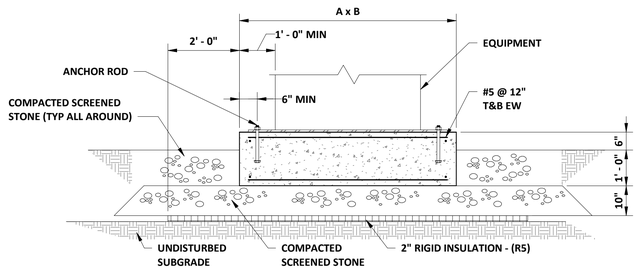
NOTES:
1. PREPARE SUBSTRATE AND APPLY BONDING AGENT AS SPECIFIED IN SECTION 03010.

FILLED OPENING IN CONCRETE WALL
NTS



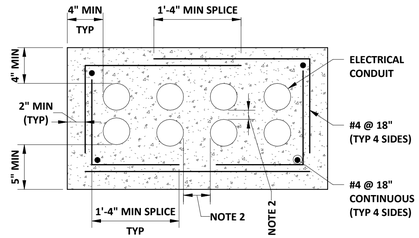
NOTE: THIS DETAIL APPLIES TO VERTICAL SUPPORTS BEARING ON A SLAB. REFER TO EQUIPMENT PAD DETAIL FOR SUPPORT OF ALL OTHER EQUIPMENT.

EQUIPMENT VERTICAL SUPPORT BASE
NTS



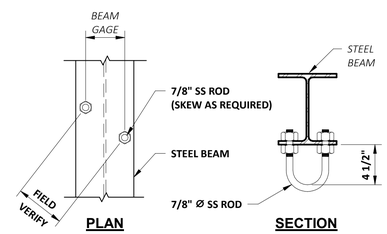
NOTES:
1. DETAIL IS APPLICABLE FOR ALL EXTERIOR EQUIPMENT UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
2. A AND B DIMENSIONS SHALL BE DETERMINED BY THE GENERAL CONTRACTOR BASED ON THE EQUIPMENT SUPPLIED.
3. CONCRETE PAD SHALL ATTAIN THE SPECIFIED COMPRESSIVE STRENGTH PRIOR TO STARTUP OF EQUIPMENT.

EXTERIOR CONCRETE PAD
NTS



NOTES:
1. SEE ALL ELECTRICAL DRAWINGS FOR ADDITIONAL DETAILS.
2. THE FOLLOWING MINIMUM SPACING REQUIREMENTS ARE REQUIRED BY THE ELECTRICAL CONTRACT DOCUMENTS: 3" CLEAR SPACING BETWEEN CONDUIT AND 12" CLEAR SPACING BETWEEN POWER AND SIGNAL/CONTROL CONDUIT.
3. ELECTRICAL SERVICE TO THE PUMP STATION SHALL BE CONCRETE ENCASED. ALL OTHER DUCT BANKS SHALL BE ENCASED IN SAND.

ELECTRICAL DUCT BANK REINFORCEMENT
NTS



NOTE: PAINT CAPACITY ON THE UNDERSIDE OF THE BOTTOM FLANGE.

STRUCTURAL STEEL

LIFT HOOK STEEL
NTS

NO	REVISIONS	APP'D	DATE
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2			
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4			
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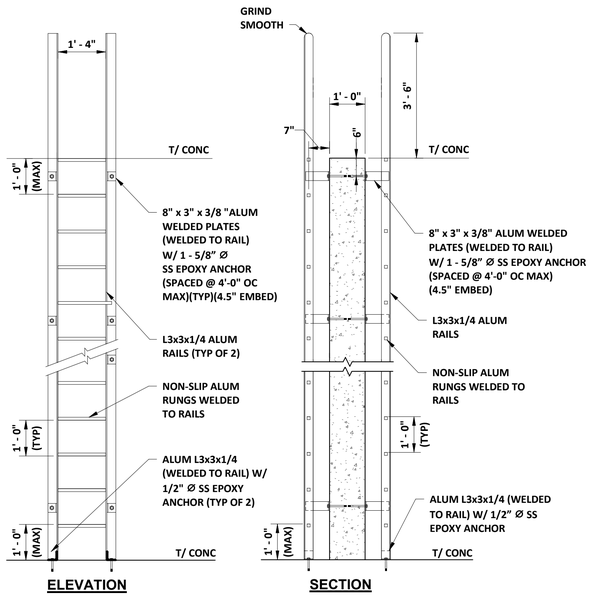
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

TYPICAL STRUCTURAL DETAILS I

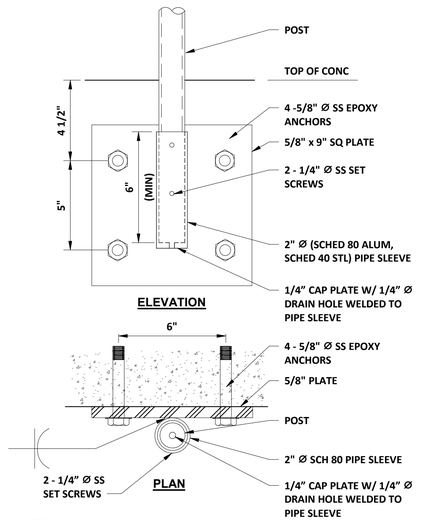
DRAWING
S-06

Autodesk Docs://ME-Bath-21119-HarwardPSAInterceptor-Upgrades/21119-HarwardPumpStation.rvt

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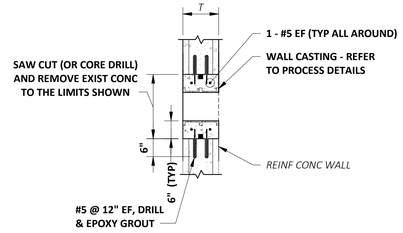


ALUMINUM LADDER
NTS



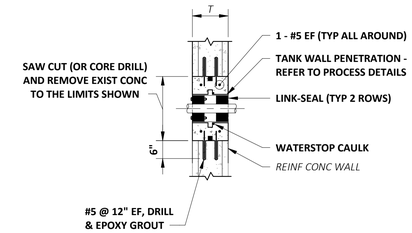
NOTES:
1. TOE PLATES NOT SHOWN FOR CLARITY.
2. MATERIAL OF CONSTRUCTION AS INDICATED ON DRAWINGS.
3. PREMANUFACTURED RAIL BASES MAY BE USED PROVIDED THE REQUIREMENTS OF THE ABOVE DETAILS ARE MET.

GUARD POST BASE CONNECTION (CONCRETE SUPPORT) SIDE MOUNTED
NTS



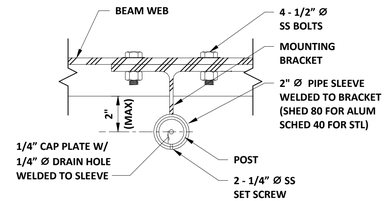
NOTES:
1. IF T > 8", USE 2 ROWS OF REINF STEEL DOWELS. IF T ≤ 8" USE 1 ROW CENTERED IN THE WALL.

WALL CASTING IN EXISTING WALL
NTS



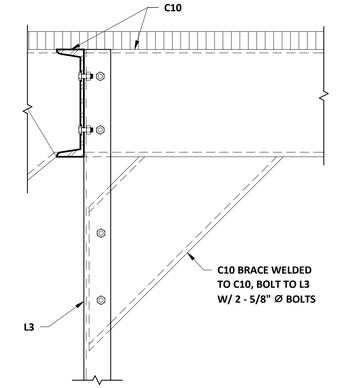
NOTES:
1. IF T > 8", USE 2 ROWS OF REINF STEEL DOWELS. IF T ≤ 8" USE 1 ROW CENTERED IN THE WALL.

LINK SEAL AND SLEEVE IN EXISTING WALL
NTS

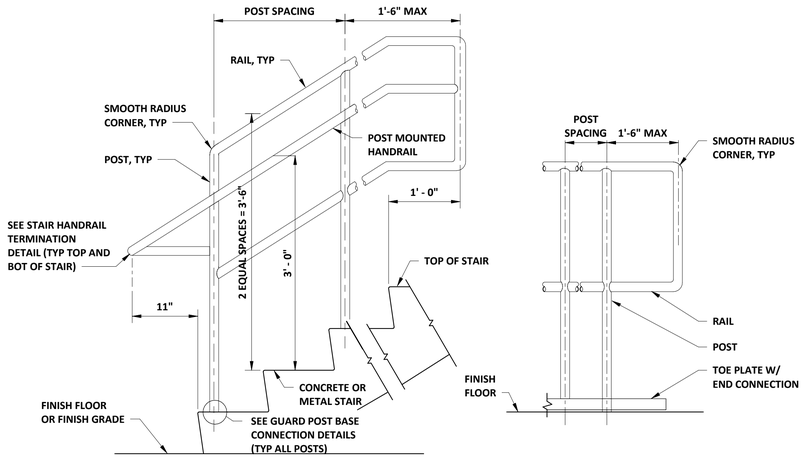


NOTES:
1. MATERIAL OF CONSTRUCTION AS INDICATED ON DRAWINGS.
2. PREMANUFACTURED RAIL BASES MAY BE USED PROVIDED THE REQUIREMENTS OF THE ABOVE DETAILS ARE MET.

GUARD POST BASE CONNECTION (METAL SUPPORT) SIDE MOUNTED
NTS

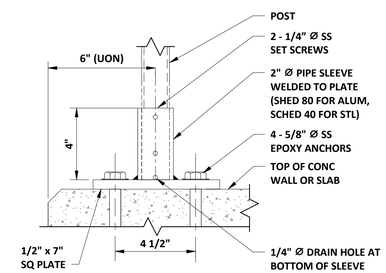


TYPICAL KNEE BRACE DETAIL
NTS



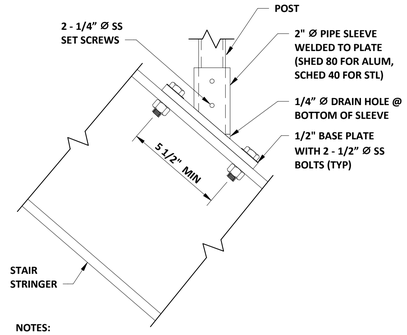
NOTES:
1. MATERIALS OF CONSTRUCTION AS INDICATED ON DRAWINGS.
2. PROVIDE TOE PLATE ON ALL GUARDS (UON).
3. PROVIDE HANDRAIL EXTENSIONS AT THE BOTTOM OF ALL STAIRS (UON). EXTENSION AT TOP AND BOTTOM OF STAIR NOT REQUIRED FOR EQUIPMENT ACCESS PLATFORMS.
4. RAIL HEIGHT SHALL BE MEASURED TO THE TOP OF THE RAIL.

HANDRAILS AND GUARDS
NTS



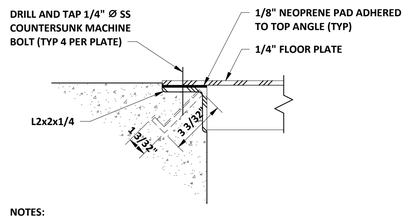
NOTES:
2. MATERIAL OF CONSTRUCTION AS INDICATED ON DRAWINGS.
3. PREMANUFACTURED RAIL BASES MAY BE USED PROVIDED THE REQUIREMENTS OF THE ABOVE DETAILS ARE MET.

GUARD POST BASE CONNECTION (CONCRETE SUPPORT) TOP MOUNTED
NTS



NOTES:
1. MATERIAL OF CONSTRUCTION AS INDICATED ON DRAWINGS.
2. PREMANUFACTURED RAIL BASES MAY BE USED PROVIDED THE REQUIREMENTS OF THE ABOVE DETAILS ARE MET.

GUARD POST BASE CONNECTION (METAL SUPPORT) TOP MOUNTED (STAIR STRINGER)
NTS



NOTES:
1. MATERIALS OF CONSTRUCTION AS INDICATED ON THE DRAWINGS.
2. ALL FLOOR PLATES SHALL BE CONSIDERED NON GAS TIGHT UNLES SPECIFICALLY INDICATED AS GAS TIGHT ON THE DRAWINGS.
3. HINGE REQUIRED ONLY WHERE INDICATED ON DRAWINGS.
4. STIFFENERS SHALL BE INSTALLED IN THE SPAN DIRECTION OF THE PLATE INDICATED ON THE DRAWINGS. SPAN DIRECTION IS THE SHORT DIRECTION UON.
5. WIDTH OF FLOOR PLATE SHALL BE 3'-0" MAXIMUM. PLATE SECTIONS OVER STOP GATES SHALL BE 1'-0" WIDTH AND CENTERED OVER STOP GATE.
6. SUPPORT SCHEDUL:E
   - 6.1. UNLESS OTHERWISE NOTED, USE SUPPORT 1
   - 6.2. SUPPORT 2 - HINGED SIDE OF PLATE
   - 6.3. SUPPORT 3 - CONTINUOUS VERTICAL WALLS (EXISTING AND NEW)
   - 6.4. SUPPORT 4 - CONCRETE BEAMS AND EXISTING CONCRETE FLUSH WITH THE FLOOR PLATE

FLOOR PLATE (NON GAS TIGHT)
NTS

NO	REVISIONS	APP'D	DATE
1			
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5			

PROJECT NO: 21119
DESIGNED: J.POWELL
CAD COORD: A.NESBIT
CAD: A.NESBIT
CHECKED: D.SKIDGEL, K.BEMIS
DATE: 04/2025
APPROVED: J.POWELL
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE JASON JAMES POWELL NO. 11168 LICENSED PROFESSIONAL ENGINEER

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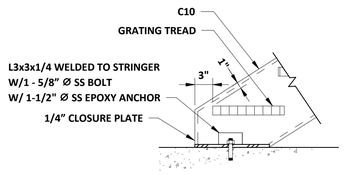
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

TYPICAL STRUCTURAL DETAILS II

DRAWING
S-07

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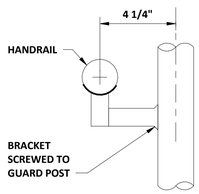


BOTTOM

NOTE: MATERIALS OF CONSTRUCTION AS INDICATED ON DRAWINGS.

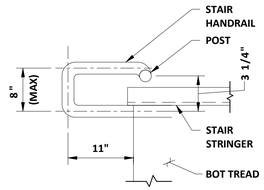
GRATING STAIR CONNECTIONS TO CONCRETE

SCALE: 1" = 1'-0"



POST MOUNTED HANDRAIL

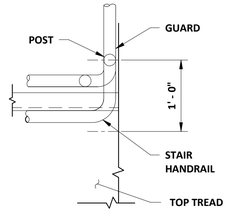
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NOTE: MATERIALS OF CONSTRUCTION AS INDICATED ON DRAWINGS.

STAIR HANDRAIL TERMINATION BOTTOM

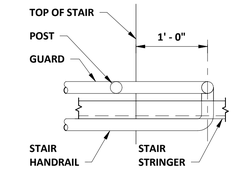
NTS



NOTE: MATERIALS OF CONSTRUCTION AS INDICATED ON DRAWINGS.

STAIR HANDRAIL TERMINATION TOP (CASE I)

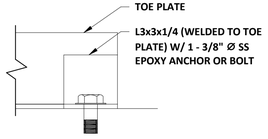
NTS



NOTE: MATERIALS OF CONSTRUCTION AS INDICATED ON DRAWINGS.

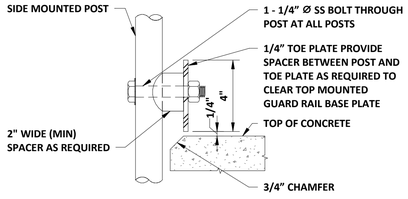
STAIR HANDRAIL TERMINATION TOP (CASE II)

NTS



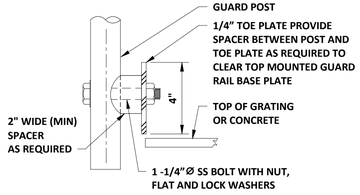
TOE PLATE END CONNECTION

NTS



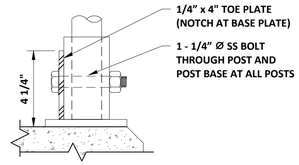
TOE PLATE SIDE MOUNTED - CONCRETE

NTS



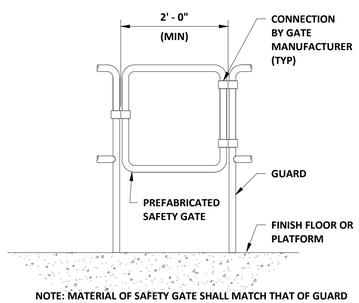
TOE PLATE SIDE MOUNTED - METAL

NTS



TOE PLATE TOP MOUNTED

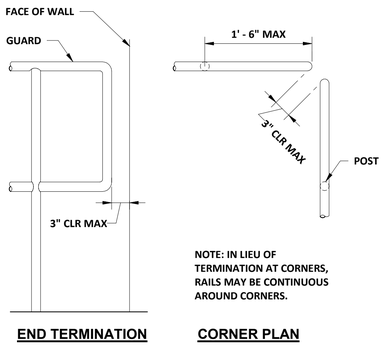
NTS



NOTE: MATERIAL OF SAFETY GATE SHALL MATCH THAT OF GUARD

GUARD MOUNTED SWING GATE

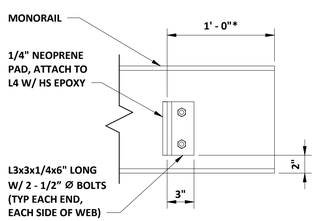
NTS



END TERMINATION **CORNER PLAN**

GUARD END TERMINATION AND CORNERS

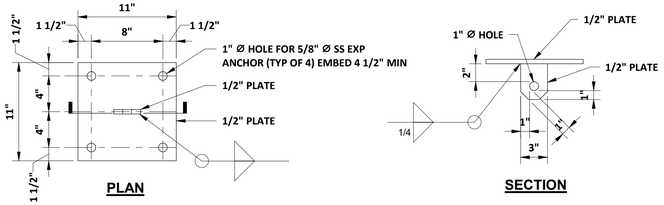
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NOTE: LOCATE END STOPS TO PREVENT HOIST AND TROLLEY ASSEMBLY INTERFERENCE WITH EQUIPMENT AND UTILITIES.

MONORAIL END STOP

NTS



NOTE:
1. PAINT CAPACITY LABEL ON UNDERSIDE OF SLAB.
2. ALL MATERIAL TO BE HOT DIPPED GALVANIZED A36 STEEL.
3. PROVIDE HDG OR SS SHACKLE WITH NUT AND COTTER PIN, CAPACITY FACTOR OF SAFETY = 3
4. LIFTING LUG CAPACITIES INDICATED ARE FOR MANUALY OPERATED HOISTS WITH NO IMPACT FACTOR. FOR ELECTRIC HOISTS, AN IMPACT FACTOR SHALL BE INCORPORATED AND THE ALLOWABLE CAPACITY SHALL BE DIVIDED BY 1.25.

LIFTING LUG DETAIL - 1000 LB CAPACITY

NTS

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

PROJECT NO: 21119
DESIGNED: J.POWELL
CAD COORD: A.NESBIT
CAD: A.NESBIT
CHECKED: D.SKIDGEL, K.BEMIS
DATE: 04/2025
APPROVED: J.POWELL
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE
JASON JAMES POWELL
NO. 11168
REGISTERED PROFESSIONAL ENGINEER

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CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

TYPICAL STRUCTURAL DETAILS III

DRAWING
S-08

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LAST SAVED BY: BREEANNA.ELLIOTT 5/14/2025 11:43 AM

PROCESS GENERAL NOTES

1. ALL EQUIPMENT AND PIPING LAYOUT DIMENSIONS SHALL BE FIELD VERIFIED AND COORDINATED WITH EQUIPMENT SUPPLIED, AND/OR EXISTING CONDITIONS. SOME INFORMATION ASSOCIATED WITH EXISTING STRUCTURES, PIPING AND EQUIPMENT LOCATIONS, ELEVATIONS AND SIZES, WERE TAKEN FROM THE RECORD DRAWINGS FOR THE CITY OF BATH PUMPING STATIONS CONTRACT 2 PREPARED BY FAY, SPOFFORD, & THORNDIKE ENGINEERS, DATED AUGUST 1969. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AS REQUIRED PRIOR TO BEGINNING CONSTRUCTION OF NEW FACILITIES, EQUIPMENT OR PIPING THAT MAY BE AFFECTED. IN SOME SPECIFIC INSTANCES, WHERE SPECIAL ATTENTION MAY BE REQUIRED BY THE CONTRACTOR, SOME DIMENSIONS, ELEVATIONS, ETC. HAVE BEEN NOTED WITH AN " * ". THIS DOES NOT HOWEVER, LIMIT THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND COORDINATE ALL NECESSARY INFORMATION FOR CONSTRUCTION.

2. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DIMENSIONS, LAYOUT OR ELEVATION CHANGES REQUIRED TO SUIT THE SPECIFIC EQUIPMENT BEING PROVIDED UNDER THIS CONTRACT. WHEN SUCH EQUIPMENT REQUIRES PADS, PIERS, CURBING, ETC., THAT DIFFERS FROM THAT SHOWN ON THE CONSTRUCTION DRAWINGS, THE CONTRACTOR SHALL COORDINATE THE STEEL REINFORCING SHOP DRAWINGS ACCORDINGLY.

3. CONTRACTOR TO NOTE THAT ALL EXISTING INFORMATION ON THE DRAWINGS IS SHOWN WITH A LIGHTER LINE WEIGHT AND INDICATED WITH A SLANTED TYPE TEXT. THE EXCEPTION IS WHEN SCANNED IMAGES ARE UTILIZED FROM THE PREVIOUS CONSTRUCTION PROJECTS NOTED IN GENERAL NOTE NO. 1, ABOVE. WHEN REVIEWING DRAWINGS NOTED AS "SCANNED" UNDER DRAWING TITLE, THE CONTRACTOR SHALL IGNORE ANY REFERENCE TO PREVIOUS CONTRACT WORK. SCANNED IMAGES ARE NOT TO SCALE; HOWEVER, AN APPROXIMATE SCALE MAY BE GIVEN FOR CONVENIENCE.

4. ALL BURIED CONNECTIONS TO STRUCTURES SHALL HAVE SLEEVE TYPE FLEXIBLE CONNECTIONS APPROXIMATELY 4-FEET FROM THE STRUCTURES EXCEPT FOR GRAVITY PIPES. ALL SLEEVE TYPE COUPLINGS ON PRESSURE LINES SHALL BE RESTRAINED (SOLID SLEEVE TYPE). REFER TO SPECIFICATION SECTION 15088.

5. ALL PIPING INSTALLED BELOW SLABS-ON-GROUND SHALL BE ENCASED IN CONCRETE (EXCLUDING DRAINS/SEWERS UNDER NON-STRUCTURAL SLABS-ON-GROUND), UNLESS OTHERWISE NOTED. PROCESS DRAWINGS DO NOT SHOW CONCRETE ENCASEMENT FOR CLARITY. SEE STRUCTURAL DRAWINGS FOR DETAILS.

6. PROVIDE CAST OR DUCTILE IRON WALL PIPE CASTINGS OR GALVANIZED STEEL PIPE SLEEVES FOR ALL PIPE PENETRATIONS MADE THROUGH CONCRETE WALLS AND SLABS, UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL WALL SLEEVES AND WALL PIPE CASTINGS SHALL HAVE SEALING/ANCHORING COLLARS. SEE PROCESS, MECHANICAL, PLUMBING AND STRUCTURAL DRAWINGS FOR LOCATIONS OF PENETRATIONS. NOTE THAT NOT ALL PIPE PENETRATIONS ARE SHOWN ON THE STRUCTURAL DRAWINGS. NEW PENETRATIONS THROUGH EXISTING STRUCTURE WALLS AND SLABS SHALL BE BY CORING MACHINE AND LINK TYPE COMPRESSION SEALS, UNLESS OTHERWISE INDICATED. OPENINGS TO BE COMPATIBLE WITH REQUIRED PIPING AND STANDARD LINK TYPE COMPRESSION SEAL SIZES. FOR ADDITIONAL INFORMATION, REFER TO SPECIFICATION SECTION 15092.

7. FOR PIPING MATERIAL AND TESTING REQUIREMENTS, SEE THE PIPE SCHEDULE ON DRAWING G-02.

8. ALL LIQUID TYPE FLOW ELEMENTS SHALL BE LOCATED A MINIMUM OF THREE PIPE DIAMETERS DOWNSTREAM AND FIVE DIAMETERS UPSTREAM OF ANY HYDRAULIC DISTURBANCE, EXCEPT IN SITUATIONS WHERE DIMENSIONAL CONSTRAINTS PRECLUDE THESE SEPARATION DISTANCES. IN THESE CASES, THE ENGINEER WILL REVIEW THE LAYOUT AND PROVIDE REVISED MINIMUM SEPARATION DISTANCES.

9. PROVIDE DRIP PANS, WITH CENTRAL COLLECTION POINT AND DRAIN TO FLOOR, FOR ELECTRICAL AND INSTRUMENTATION EQUIPMENT LOCATED BENEATH LIQUID CARRYING PIPES.

10. PIPES 3-INCH IN DIAMETER AND UNDER SHALL HAVE UNIONS INSTALLED ADJACENT TO EQUIPMENT AND TANKS, UNLESS OTHERWISE NOTED ON DRAWINGS. FLANGES ARE ACCEPTABLE ON 3-INCH DIAMETER PIPING.

11. ALL PIPES SHALL BE ADEQUATELY RESTRAINED AND SUPPORTED IN ACCORDANCE WITH SPECIFICATION SECTION 15094.

12. AFTER INSTALLATION, ALL PIPELINES SHALL BE PRESSURE TESTED FOR TIGHTNESS IN ACCORDANCE WITH THE PIPE SCHEDULE AND SPECIFICATION SECTIONS 15050 AND 02755. ALL LEAKS SHALL BE CORRECTED AND RETESTED UNTIL PRESSURE TEST IS SATISFACTORILY COMPLETED.

13. ALL PIPING SHALL BE CLEANED, TO THE SATISFACTION OF THE ENGINEER, BEFORE TESTING.

14. PROVIDE 4-INCH HIGH (MIN.) REINFORCED CONCRETE PAD UNDER ALL EQUIPMENT, CONTROL PANELS, PIPE AND EQUIPMENT SUPPORTS, TANKS, ETC. UNLESS OTHERWISE INDICATED.

15. REFER TO SPECIFICATION SECTION 01070 AND DRAWING PR-02 FOR A LISTING OF COMMONLY USED ABBREVIATIONS.

16. REFER TO SPECIFICATION SECTION 15180 FOR REQUIREMENTS FOR PIPING TO BE INSULATED AND JACKETED.

17. ALL REDUCERS SHALL BE CONCENTRIC TYPE UNLESS DESIGNATED AS ECCENTRIC (ECC) ON THE DRAWINGS. ECCENTRIC REDUCERS SHALL BE INSTALLED WITH FLAT SIDE UP.

18. ALL PENETRATIONS BETWEEN CLASS 1/DIVISION 1 AREAS OR CLASS 1/DIVISION 2 AREAS AND UNCLASSIFIED AREAS SHALL BE GAS TIGHT.

19. WHERE NEW PIPING IS TO BE CONNECTED TO EXISTING PIPING, THE CONTRACTOR SHALL FURNISH, AND INSTALL ADAPTERS, FITTINGS AND ADDITIONAL PIPE AS REQUIRED TO COMPLETE THE INSTALLATION. THE USE OF UNI-FLANGES WILL NOT BE ALLOWED UNLESS INDICATED ON THE DRAWINGS.

20. ALL STAINLESS STEEL FASTENERS FOR PIPING, EQUIPMENT, SUPPORTS, ETC., SHALL BE HAND TIGHTENED IN ORDER TO LIMIT THE POTENTIAL FOR GALLING.

21. CONTRACTOR SHALL COORDINATE INSTRUMENTATION MOUNTING DETAILS WITH THE INSTRUMENTATION SUPPLIER AND THE ELECTRICAL CONTRACTOR. REFER TO DETAILS ON THE INSTRUMENTATION DRAWINGS, AND/OR EQUIPMENT MANUFACTURER MOUNT DETAILS AND REQUIREMENTS.

22. ALL CHECK VALVES SHALL BE SWING TYPE CHECK VALVES UNLESS SPECIFICALLY CALLED OUT ON THE DRAWINGS.

23. PHOTO TAGS, AS SHOWN ON THE PLAN, INDICATE THE LOCATION AND DIRECTION FROM WHICH THE PHOTO WAS TAKEN.



24. ALL LUBRICATION FITTINGS SHALL BE BROUGHT TO LOCATIONS THAT ARE READILY ACCESSIBLE TO OPERATORS. REFER TO SPECIFICATION SECTION 11000 FOR ADDITIONAL REQUIREMENTS.

25. DO NOT SCALE DISTANCES OR DIMENSIONS FROM THE DRAWINGS. WRITTEN DIMENSIONS SHALL PREVAIL. REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.

26. IT IS IMPORTANT TO NOTE THAT THESE MODELS HAVE BEEN DEVELOPED USING A 3D PIPING PACKAGE. IN ORDER TO PRESERVE THE 2D DESIGN MODEL, IN MANY INSTANCES THE SYMBOLS DEPICTING VALVES AND EQUIPMENT DO NOT NECESSARILY PORTRAY THE ACTUAL EQUIPMENT SPECIFIED IN THE SPECIFICATIONS. MOST NOTABLY, FOR INSTANCES, WOULD BE THE VALVE OPERATORS AND THE DESIRED ORIENTATION. THE SPECIFICATIONS WILL PREVAIL AND THE VALVES SHOWN WITHIN THE DRAWING SET SHOULD BE CONSIDERED PURELY SYMBOLIC.

GENERAL DEMOLITION NOTES

1. REFER TO INDIVIDUAL DRAWINGS FOR SPECIFIC DEMOLITION NOTES.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL DEMOLISHED PIPING, EQUIPMENT AND MATERIALS. THE OWNER RESERVES THE RIGHT TO RETAIN PIPING, EQUIPMENT AND/OR MATERIALS ON SITE FOR THEIR USE AS SPECIFIED IN SPECIFICATION SECTION 02050. SUCH MATERIAL TO BE RETAINED SHALL BE PLACED IN AN ON-SITE STORAGE AREA, REVIEWED/COORDINATED WITH, AND ACCEPTABLE TO THE OWNER AND ENGINEER. RETAINED EQUIPMENT SHALL BE REMOVED IN SUCH A WAY AS NECESSARY TO MAINTAIN ITS FUNCTIONAL AND PHYSICAL INTEGRITY.

3. THE CONTRACTOR SHALL KEEP A RECORD OF DEMOLITION AND LOCATION OF UTILITIES FOUND AS PART OF THE PROJECT RECORD DOCUMENTS, AS SPECIFIED IN SPECIFICATION SECTION 01720.

4. REFER TO THE DEMOLITION SPECIFICATION SECTION 02050, SUMMARY OF WORK SPECIFICATION SECTION 01010, TEMPORARY BYPASS PUMPING SYSTEMS SPECIFICATION SECTION 01515, AND SITE DEMOLITION DRAWING C-13 FOR ADDITIONAL INFORMATION REGARDING DEMOLITION REQUIREMENTS AND CONSTRUCTION SEQUENCING.

5. REFER TO DRAWING C-14 FOR ADDITIONAL INFORMATION REGARDING EXISTING UTILITIES. THE SIZES, LOCATIONS, AND MATERIALS OF CONSTRUCTION INDICATED ARE FROM THE BEST AVAILABLE INFORMATION AND MAY NOT BE COMPLETE OR ACCURATE. ALL SIZES, LOCATIONS, AND MATERIALS OF CONSTRUCTION SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD AS REQUIRED. ALL EXISTING UTILITIES THAT ARE TO REMAIN, AND ARE DAMAGED BY THE CONTRACTORS ACTIVITIES, SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

6. SEVERING THE EXISTING UTILITIES FOR ABANDONMENT, OR REMOVAL OF A SEGMENT FROM SERVICE, SHALL BE PERFORMED IN SUCH A MANNER AS TO ALLOW THE REMAINING ACTIVE SEGMENT TO CONTINUE IN ITS INTENDED SERVICE. CAP ACTIVE SEGMENTS WITH APPROPRIATE FITTING, JOINT RESTRAINT, ETC. TO ENSURE THEIR INTEGRITY. THE METHOD OF CAPPING SHALL BE REVIEWED WITH, AND ACCEPTABLE TO, THE ENGINEER.

7. ALL PIPING, EQUIPMENT AND MATERIALS TO BE DEMOLISHED AND/OR REMOVED FROM SERVICE MUST BE COORDINATED WITH THE OWNER AND ENGINEER BEFOREHAND.

8. THE CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO ENSURE THAT ALL FLOWS, FLOW METERING AND LEVEL CONTROLS ARE MAINTAINED DURING CONSTRUCTION. GRAVITY, PUMPED BYPASSES OR OTHER MEANS OF FLOW MAINTENANCE SHALL BE REVIEWED WITH, AND ACCEPTABLE TO, THE ENGINEER. THE CONTRACTOR SHALL COORDINATE ANY TEMPORARY STOPPAGES WITH THE OWNER AND ENGINEER. CONTRACTOR SHALL VERIFY WITH OWNER/ENGINEER ALL VALVES, GATES, EQUIPMENT, ETC., ARE FUNCTIONAL PRIOR TO ASSUMING UTILIZATION FOR FLOW ISOLATION.

9. WHERE PIPING OR CONDUIT THAT IS TO BE REMOVED PASSES THROUGH THE WALL OF THE STRUCTURE, IT SHALL BE CUT OFF AS NEAR TO THE WALL AS PRACTICAL AND PROPERLY SEALED ON EACH SIDE OF THE WALL, OR AS SHOWN ON THE DRAWINGS. SEAL METHOD SHALL BE SUBJECT TO REVIEW AND ACCEPTANCE OF THE ENGINEER.

10. ALL WALL AND/OR FLOOR PENETRATIONS REMAINING AFTER THE REMOVAL OF PIPING OR CONDUIT ARE TO BE PATCHED AND FINISHED FLUSH TO MATCH EXISTING SURFACES.

11. REMOVE ALL PUMP AND EQUIPMENT PADS NOT BEING RE-USED AND FINISH FLUSH TO FLOOR LEVEL.

12. REMOVE ALL WALL BRACKETS, PIPE HANGERS AND PIPE SUPPORTS NOT BEING RE-USED. PATCH BOLT HOLES TO MATCH THE EXISTING SURFACE.

13. ALL EXPOSED PIPING SHALL BE COATED AND MARKED IN ACCORDANCE WITH THE REQUIREMENTS OF SPECIFICATION SECTION 09900.

14. ALL WALL AND FLOOR SURFACES DAMAGED OR DISTURBED AS A RESULT OF DEMOLITION BY THE CONTRACTOR OR ITS SUB-CONTRACTORS, SHALL BE PATCHED AND PAINTED PER SPECIFICATION SECTION 09900.

15. WHERE PIPING AND/OR EQUIPMENT THAT IS NOTED AS ABANDONED INTERFERES WITH THE CONTRACTOR'S CONSTRUCTION ACTIVITIES, CONTRACTOR SHALL REMOVE AND DISPOSE OF AS NECESSARY AT NO ADDITIONAL COST TO THE OWNER.

16. ALL ANCHOR BOLTS TO BE REMOVED SHALL BE CUT/MELTED TO A MINIMUM OF 3/4-INCH BELOW EXISTING CONCRETE OR MASONRY SURFACES AND PATCHED/FILLED FLUSH TO SURFACE WITH NON-SHRINK GROUT.

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

PROJECT NO: 21119
DESIGNED: M.CARLSON
CAD COORD: A.MESBIT
CAD: R.SCAMMON
CHECKED: M.BURNS
DATE: 05/2025
APPROVED: M.CARLSON
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE
MAEVE M. CARLSON
No. 16190
LICENSED PROFESSIONAL ENGINEER

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CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

PROCESS GENERAL NOTES

DRAWING
PR-01

J:\ENG\ME\BATH\21119-HARWARDINFOSWMM-MODEL_DRAWINGS\PRO\21119-PRS-DETAILS.DWG | notes | 1:10.12364677 | — | 5/15/2025 10:38:21 AM | BREEANNA.ELLIOTT

5/15/2025 11:11:19 AM

VALVES

	SCHEMATIC	ORTHOGRAPHIC
3-WAY VALVE		
AIR RELEASE VALVE (ARV)		
BACKPRESSURE VALVE (BPV)	BPV	
BALL VALVE (BV)		
BALL CHECK VALVE (BCV)		
BUTTERFLY VALVE (BFV)		
CHECK VALVE (CKV)		
DIAPHRAGM VALVE (DFV)		
DOUBLE DISC CHECK VALVE (DDCV)		
DUCK-BILL TYPE CHECK VALVE (DCKV)		
GATE VALVE (GV)		
GLOBE VALVE (GBV)		
KNIFE GATE VALVE (KV)		
MUD VALVE (MDV)		
NEEDLE VALVE (NV)		
PINCH VALVE (PCHV)		
PLUG VALVE (PV)		
PRESSURE REDUCING VALVE (PRV)	PRV	
PRESSURE SAFETY (RELIEF) VALVE (PSV)	PSV PSV	
SURGE ANTICIPATION VALVE (SAV)	SAV	
SURGE RELIEF VALVE (SRV)	SRV	
TELESCOPING VALVE (TELV)	T	
VACUUM RELIEF VALVE (VRV)	V V	
VOLUME DAMPER (VD)	VD	

FITTINGS/APPURTENANCES

- BACKFLOW PREVENTER (RPZ)
- BARBED FITTING
- CALIBRATION COLUMN
- DIAPHRAGM SEAL
- EXPANSION JOINT *(air or liquid)*
- HOSE BIBB (HB, HBF, OR HBW) — HB | HBF | HBW
- QUICK DISCONNECT
- REDUCER (CONCENTRIC)
- REDUCER (ECCENTRIC)
- ROTAMETER
- SLEEVE COUPLING
- STRAINER (DUPLEX) — D
- STRAINER (SIMPLEX) — S
- UNION
- WYE STRAINER

ACTUATORS

- CONTROL ACTUATOR — M
- LIMIT SWITCH — LS
- PNEUMATIC DIAPHRAGM ACTUATOR
- PNEUMATIC/HYDRAULIC CYLINDER
- PNEUMATIC/HYDRAULIC CYLINDER (spring return)
- SOLENOID ACTUATOR *(use on 3/4" & smaller)* — S

EQUIPMENT

SCHEMATIC PUMPS

- AIR DIAPHRAGM PUMP
- CENTRIFUGAL PUMP
- CHEMICAL METERING PUMP
- CHEMICAL TRANSFER PUMP
- DOUBLE DISK PUMP
- HOSE PUMP
- PLUNGER PUMP
- PROGRESSIVE CAVITY PUMP
- ROTARY LOBE PUMP
- SCREW PUMP
- SUBMERSIBLE PUMP
- VERTICAL TURBINE PUMP

SCHEMATIC BLOWERS

- BLOWER - CENTRIFUGAL
- BLOWER - POSITIVE DISPLACEMENT
- COMPRESSOR

SCHEMATIC MISCELLANEOUS

- AIR INTAKE FILTER
- CONVEYOR - SCREW
- GRINDER
- MIXER — OR
- MIXER - INLINE STATIC
- MIXING - COMPRESSED AIR — OR
- MOTOR — M

SCHEMATIC GATES

- SHEAR GATE — SG-XXX
- SLIDE GATE — SLD-XXX
- SLUICE GATE — SL-XXX
- STOP GATE — STG-XXX
- WEIR *(straight, compound, or "v-notch weir)* — FW-XXX

LINETYPES

	EXISTING	NEW
MAIN PROCESS FLOW PATH		
STORAGE/BYPASS FLOW		
STRUCTURES		
EQUIPMENT/PIPING		
FUTURE EQUIPMENT/PIPING		
AIR - COMPRESSED		
AIR - LOW PRESSURE		
HYDRAULIC		
HEAT TRACE/INSUL/JACKETING		

FIELD INSTRUMENTS

FOR ADDITIONAL INFORMATION REFER TO INSTRUMENTATION DWG I-01

INSTRUMENTS

- FIELD PIPE MOUNTED DEVICE — X / XX / XXX / M
- FIELD MOUNTED DEVICE — X / LE / XXA / M
- BUBBLE LIQUID ELEMENT — X / XX / XXX / M
- CAPACITANCE OR ADMITTANCE TYPE PROBE — X / XX / XXX / M
- FLOAT SWITCH — X / XX / XXX / M
- GUIDED WAVE RADAR — X / XX / XXX / M
- PADDLE OR LEVER TYPE PROBE — X / XX / XXXX / M
- RADAR LEVEL TRANSDUCER — X / XX / XXX / M
- SUBMERSIBLE PRESSURE TRANSDUCER — X / XX / XXX / M
- ULTRASONIC LEVEL TRANSDUCER — X / XX / XXX / M

PROVIDED BY EQUIPMENT MANUFACTURER

- XX — ELEMENT TYPE (SEE TYPE LISTING BELOW)
- XX — ELEMENT TYPE (SEE INSTRUMENTATION LEGEND)
- XXA — ELEMENT NUMBER
- M

TYPICAL INSTRUMENTATION SYMBOL DESCRIPTION

TYPE LIST IDENTIFICATION

DO	DISSOLVED OXYGEN PROBE
NH3	AMMONIA PROBE
NO2	NITRITE PROBE
NO3	NITRATE PROBE
P	PHOSPHORUS PROBE
PC	PULL CHORD
PH	pH
TSS	TOTAL SUSPENDED SOLIDS PROBE

SCHEMATIC FLOW METER

- AVERAGING PITOT FLOW METER — FE-XXX
- MAGNETIC FLOW METER — FE-XXX / M
- ORIFICE PLATE — FE-XXX
- PARSHALL FLUME — FE-XXX
- PITOT FLOW METER — FE-XXX
- THERMAL MASS FLOW METER — FE-XXX
- TURBINE FLOW METER — FE-XXX / M
- ULTRASONIC FLOW METER — FE-XXX
- VENTURI FLOW METER — FE-XXX

PROCESS ABBREVIATIONS - GENERAL/ FLUID/EQUIPMENT/STRUCTURES/TANKAGE

AE	ANALYZING ELEMENT	ELL	ELBOW	HYD	HYDRANT	PSP-#	PUMP STATION PUMP NO.__
AL	ALUMINUM	EQUIP	EQUIPMENT	ID	INSIDE DIAMETER	PVC	POLYVINYL CHLORIDE
ALT	ALTERNATE	EXIST (EX)	EXISTING	INL	INLET	PW	PROCESS WATER
ARV	AIR RELEASE VALVE	EXP	EXPANSION	INV	INVERT	RD	ROOF DRAIN/ROOF DRAINAGE PIPING
BF	BLIND FLANGE	FC	FLUSHING CONNECTION	JT	JOINT	RED	REDUCER
BLDG	BUILDING	FD	FLOOR DRAIN	LE	LEVEL ELEMENT	REQ'D	REQUIRED
BOT	BOTTOM	FE	FLOW ELEMENT	LR	LONG RADIUS	RES	RESIDUALS
BR-#	BAR RACK	FFE	FINISHED FLOOR ELEVATION	MAX	MAXIMUM	S	SEWER
CAR	CARRIER PIPE	FLG	FLANGE	MECH	MECHANICAL	SAM	SAMPLE LINE
CI	CAST IRON	FLR	FLOOR	MFG	MANUFACTURER	SCH	SCHEDULE
CIP	CLEAN-IN-PLACE	FM	FORCE MAIN	MH	MANHOLE	SECT	SECTION
CL	CENTERLINE	FOT	FLAT ON TOP	MIN	MINIMUM	SHT	SHEET
CO	CLEANOUT	FP	FIRE PROTECTION	MJ	MECHANICAL JOINT	SLD-#	SLIDE GATE NO.__
CON	CONTAINMENT PIPE	FPHB	FROST PROOF HOSE BIBB	MTD	MOUNTED	SMH	SANITARY SEWER MANHOLE
CONC	CONCRETE	FRP	FIBERGLASS REINFORCED PLASTIC	NIC	NOT IN CONTRACT	SP	SUMP PUMP
CONT	CONTINUED	FS	FLOW SWITCH	NO	NUMBER	SPD	SUMP PUMP DISCHARGE
CPL	COUPLING	FW	FIXED WEIR (WW)	NPT	NATIONAL PIPE THREAD	SQ	SQUARE
DET	DETAIL	GA	GAUGE	NTS	NOT TO SCALE	SS	STAINLESS STEEL
DI	DUCTILE IRON	GAC	GRANULAR ACTIVATED CARBON	NV	NEEDLE VALVE	STD	STANDARD
DIA (Ø)	DIAMETER	GAL	GALLON	OC	ON CENTER	STL	STEEL
DIM	DIMENSION	GALV	GALVANIZED	OD	OUTSIDE DIAMETER	THK	THICKNESS
DMH	DRAIN MANHOLE	GR	GREASE	ODOR	ODOR CONTROL DUCT	TK	TANK
DN	DOWN	HB	HOSE BIBB	OH	OVERHEAD	TYP	TYPICAL
DR	DRAIN PIPE	HBF	HOSE BIBB FLUSHING	OUT	OUTLET	UV	ULTRAVIOLET
DWG	DRAWING	HBW	HOSE BIBB WASHDOWN	PAC	POWDER ACTIVATED CARBON	VERT	VERTICAL
ECC	ECCENTRIC	HDPE	HIGH DENSITY POLYETHYLENE	PE	POLYETHYLENE OR PRESSURE ELEMENT	WSE	WATER SURFACE ELEVATION
EL (ELEV)	ELEVATION	HP	HIGH POINT	PP	POLYPROPYLENE	XP	EXPLOSION PROOF
				PS	PRESSURE SWITCH	YH	YARD HYDRANT

AS IDENTIFIED IN THE PROCESS GENERAL NOTES, CONTRACTOR TO NOTE THAT ALL EXISTING INFORMATION ON THE DRAWINGS IS SHOWN WITH A LIGHTER LINE WEIGHT AND INDICATED WITH A SLANTED TYPE TEXT. EXISTING VALVES DO NOT HAVE A FILL ASSOCIATED WITH THEM. REFER TO EXAMPLES IN THIS BOX.

EXISTING VS. PROPOSED IDENTIFICATION

EXISTING

- SLP-3 — SLUDGE PUMP NO.3 — AE / XXX / DO / M
- CEN-1 — CENTRIFUGE NO.1 — M

PROPOSED

- SLP-3 — SLUDGE PUMP NO.3 — XX / LE / XXA / M — EQUIPMENT TAG NO. — EQUIPMENT DESCRIPTION
- CEN-1 — CENTRIFUGE NO.1 — M

NO	REVISIONS	APP'D	DATE
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PROJECT NO: 21119
DESIGNED: M.CARLSON
CAD COORD: A.NESBIT
CAD: R.SCAMMON
CHECKED: M.BURNS
DATE: 05/2025
APPROVED: M.CARLSON
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE — MARVEL M CARLSON No. 18190 — LICENSED PROFESSIONAL ENGINEER

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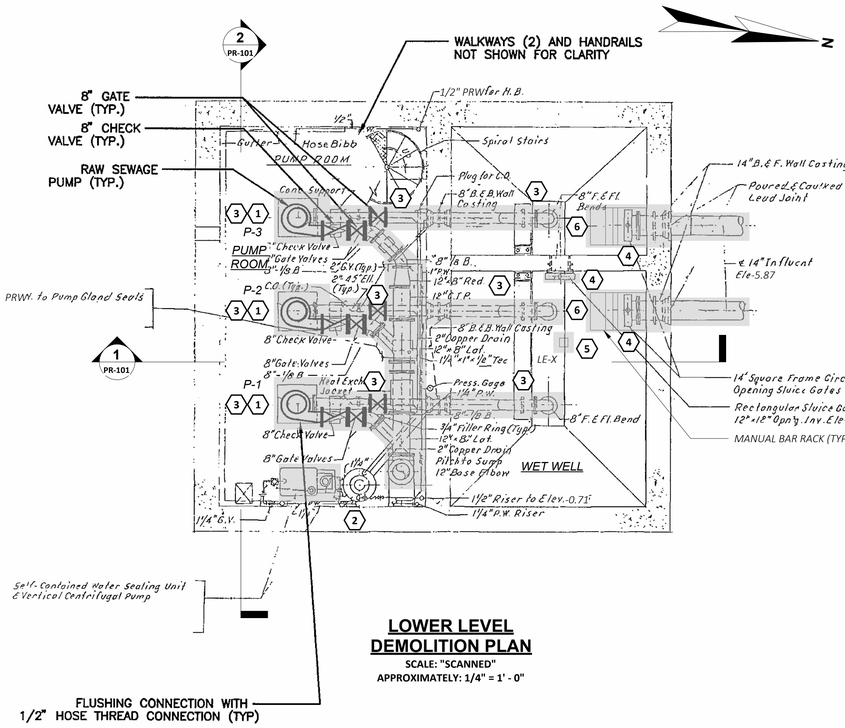
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

LEGEND, NOTES, AND ABBREVIATIONS

DRAWING
PR-02

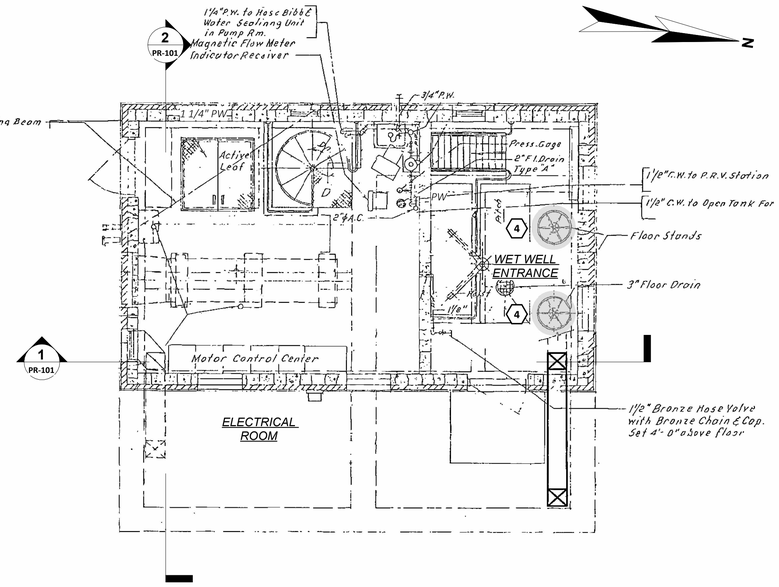
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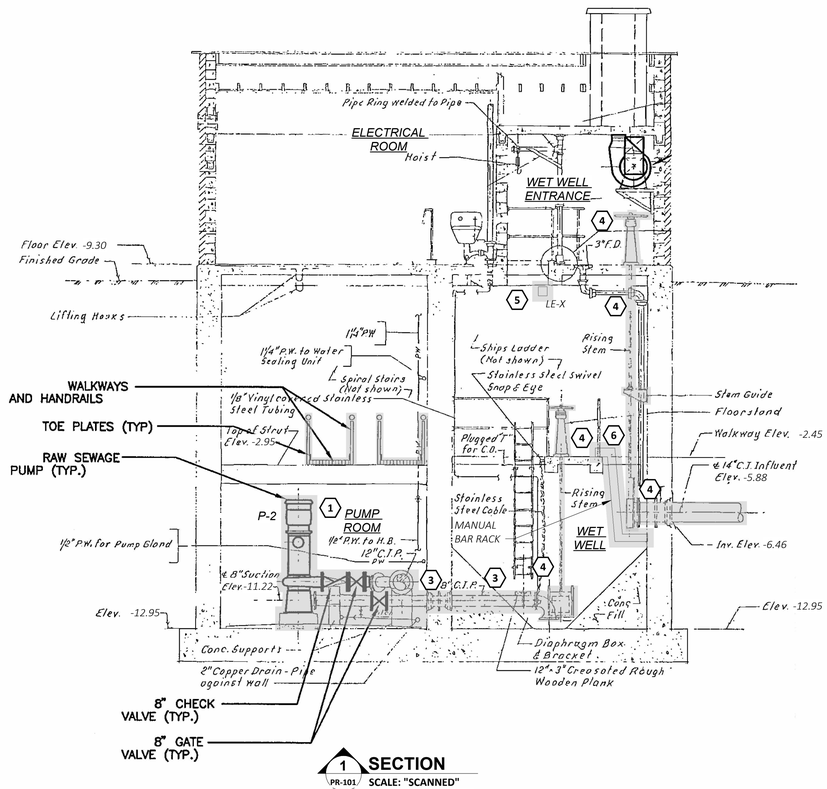
LOWER LEVEL DEMOLITION PLAN

SCALE: "SCANNED"
APPROXIMATELY: 1/4" = 1' - 0"



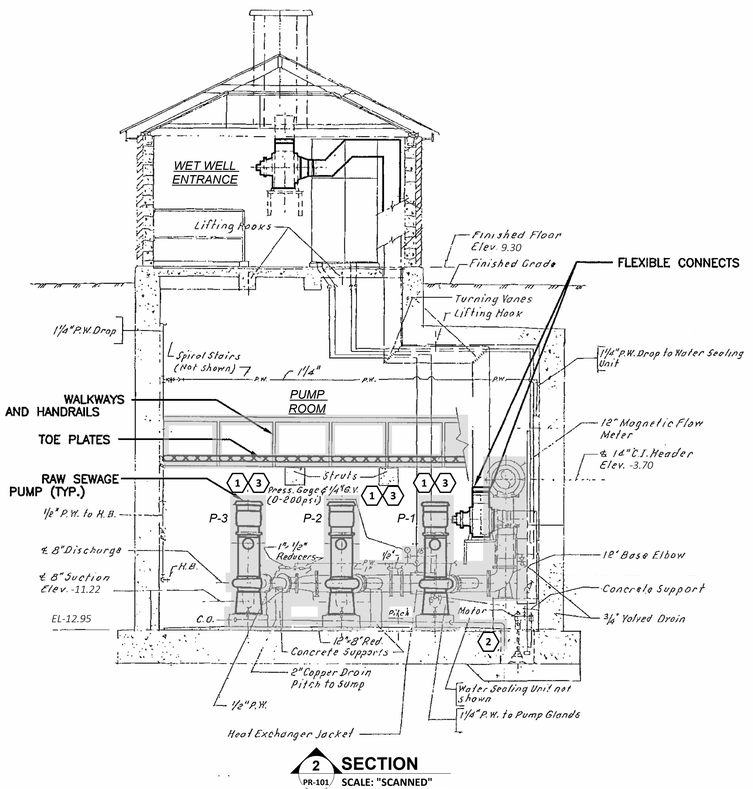
FIRST FLOOR DEMOLITION PLAN

SCALE: "SCANNED"
APPROXIMATELY: 1/4" = 1' - 0"



SECTION

1 / PR-101
SCALE: "SCANNED"
APPROX: 1/4" = 1' - 0"



SECTION

2 / PR-101
SCALE: "SCANNED"
APPROX: 1/4" = 1' - 0"

NOTES:

1. REMOVE/DEMOLISH EXISTING PUMPS IN THEIR ENTIRETY INCLUDING, BUT NOT LIMITED TO: PUMPS, EQUIPMENT PADS, MOTORS, WIRING AND CONDUIT, CONTROLS, DISCONNECTS, AND ALL ASSOCIATED APPURTENANCES.
2. REMOVE/DEMOLISH EXISTING SEAL WATER PIPING IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO: PIPE, DRAIN PIPE, SEAL WATER UNIT, SEAL WATER PUMP, VALVES, FITTINGS, TUBING, SUPPORTS, AND ALL ASSOCIATED APPURTENANCES.
3. REMOVE/DEMOLISH EXISTING SUCTION AND DISCHARGE PIPING IN THEIR ENTIRETY INCLUDING, BUT NOT LIMITED TO: PIPE, VALVES, FITTINGS, MAGNETIC FLOW METER, SUPPORTS, ASSOCIATED TANK WALL CASTINGS, AND ALL OTHER ASSOCIATED APPURTENANCES. REFER TO CIVIL DRAWINGS FOR DEMOLITION CONTINUATION OF DISCHARGE PIPING. REFER TO STRUCTURAL DRAWINGS FOR DEMOLITION OF WALL CASTING EXTENTS.
4. REMOVE/DEMOLISH EXISTING SLUICE GATES IN THEIR ENTIRETY INCLUDING, BUT NOT LIMITED TO: GATE, FRAME, STEM, OPERATOR, FLOOR STAND, AND ALL ASSOCIATED APPURTENANCES. SEE PR-04, PR-05 FOR GATE MODIFICATIONS AND DETAILS.
5. REMOVE/DEMOLISH EXISTING LEVEL ELEMENT IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO: LEVEL ELEMENTS, SUPPORTS, WIRING AND CONDUIT, AND ALL ASSOCIATED APPURTENANCES.
6. REMOVE/DEMOLISH EXISTING BAR RACK IN ITS ENTIRETY INCLUDING BUT NOT LIMITED TO: FITTINGS, SUPPORTS, AND ALL OTHER ASSOSIATED APPUTENCANCES (TYP OF 2).

NOTES:

1. FOR PROCESS GENERAL NOTES, REFER TO DRAWING PR-01. FOR PROCESS LEGEND AND ABBREVIATIONS, REFER TO DRAWING PR-02
2. REFER TO CIVIL DRAWINGS FOR ALL PIPING CONTINUATIONS.
3. CONTRACTOR TO NOTE A SCANNED IMAGE OF THE EXISTING CONTRACT DRAWINGS HAS BEEN USED FOR HARWARD STREET PUMP STATION DEMOLITION PLANS AND SECTIONS. EXISTING INFORMATION HAS BEEN FADED BACK FOR CLARITY. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BIDDING AND/OR COMMENCING CONSTRUCTION. FOR INFORMATION PERTAINING TO EXISTING CONTRACT DRAWINGS, REFER TO THE PROCESS GENERAL NOTES, DWG PR-01.

NO	REVISIONS	APP'D	DATE
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2			
3			
4			
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PROJECT NO: 21119
DESIGNED: M.CARLSON
CAD COORD: A.NESBIT
CAD: R.SCAMMON
CHECKED: M.BURNS
DATE: 05/2025
APPROVED: M.CARLSON
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE — MAEVE M. CARLSON No. 18190 — LICENSED PROFESSIONAL ENGINEER

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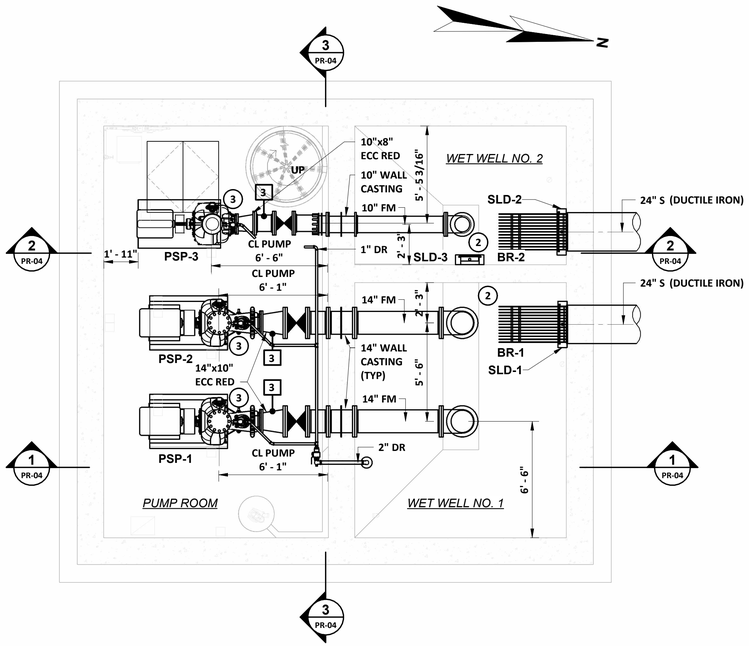
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

DEMOLITION PLANS AND SECTIONS

DRAWING
PR-03

Autodesk Docs://ME-Bath-21119-HarwardPSInterceptor-Upgrades/21119-HarwardPumpStation.rvt

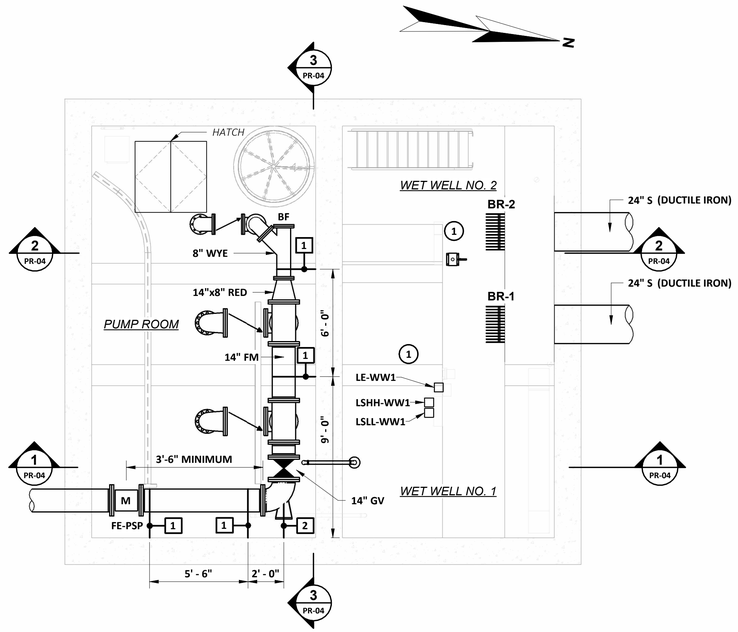
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LOWER LEVEL MODIFICATIONS PLAN

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

NOTE: DISCHARGE / FM PIPING NOT SHOWN FOR CLARITY



MID LEVEL MODIFICATION PLAN

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

WETWELL CONTROL ELEVATIONS		
DESCRIPTION	DEPTH FROM BOTTOM OF WETWELL (FT)	ELEVATIONS (FT)
RADAR MOUNTING	9.25	-3.70
HIGH HIGH LEVEL ALARM (FLOAT)	8.25	-4.70
JOCKEY PUMP ON (WET WEATHER)	7.75	-5.20
HIGH LEVEL ALARM	7.25	-5.70
DUTY PUMP ON	6.75	-6.20
DUTY PUMP MAX SPEED	6.75	-6.20
INFLUENT SEWER INVERT	6.07	-6.88
JOCKEY PUMP ON	6.00	-6.95
JOCKEY PUMP MAX SPEED	6.00	-6.95
DUTY PUMP MIN SPEED	5.75	-7.20
JOCKEY PUMP OFF (WET WEATHER)	5.50	-7.45
JOCKEY PUMP MIN SPEED	5.00	-7.95
DUTY PUMP OFF	4.75	-8.20
JOCKEY PUMP OFF	4.75	-8.20
LOW LEVEL ALARM	4.50	-8.45
LOW-LEVEL LEVEL ALARM (FLOAT)	4.50	-8.45
REQUIRED SUBMERGENCE	4.25	-8.70
BOTTOM OF WET WELL	0.00	-12.95

BASIS OF PUMP SEQUENCE IS AS FOLLOWS:
JOCKEY PUMP WILL TURN ON AT 'JOCKEY PUMP ON' SETPOINT. IF WATER LEVELS CONTINUE TO RISE, DUTY PUMP WILL TURN ON AND JOCKEY PUMP WILL TURN OFF AT "DUTY PUMP ON" SETPOINT. IF WATER LEVELS CONTINUE TO RISE, JOCKEY PUMP WILL TURN BACK ON AT 'JOCKEY PUMP ON (WET WEATHER)' SETPOINT. BOTH JOCKEY AND DUTY PUMPS WILL RUN UNTIL WATER LEVEL BEGINS TO DROP AND REACHES 'JOCKEY PUMP OFF (WET WEATHER)' SETPOINT. AT THAT TIME, JOCKEY PUMP WILL TURN OFF. IF WATER LEVEL CONTINUES TO DROP, DUTY PUMP WILL TURN OFF AT 'DUTY PUMP OFF' SETPOINT.

MODIFICATION NOTES:

1. MOUNT ELEMENT FOR LE-WW1 ON CONCRETE ABOVE WET WELL NO. 1. PROVIDE ADDITIONAL MOUNTING BRACKET ABOVE WET WELL NO. 2 SUCH THAT INSTRUMENTATION CAN BE MOVED TO EITHER WET WELL. REFER TO TYPICAL FLOAT SWITCH AND RADAR SUPPORT AND INSTALLATION DETAIL ON THE ELECTRICAL DRAWINGS.
2. CONTRACTOR TO FIELD VERIFY DIMENSIONS FOR REPLACEMENT BAR RACKS AND COORDINATE WITH INFLUENT SLIDE GATE MANUFACTURER AND ENGINEER PRIOR TO INSTALLATION. REFER TO MANUAL BAR RACK DETAIL.
3. COORDINATE AUTOMATIC AIR RELEASE VALVE DRAIN PIPING LOCATION, FITTINGS, AND INSTALLATION WITH ENGINEER.

NOTES:

FOR PROCESS GENERAL NOTES, REFER TO DRAWING PR-01, FOR PROCESS LEGEND AND ABBREVIATIONS, REFER TO DRAWING PR-02.

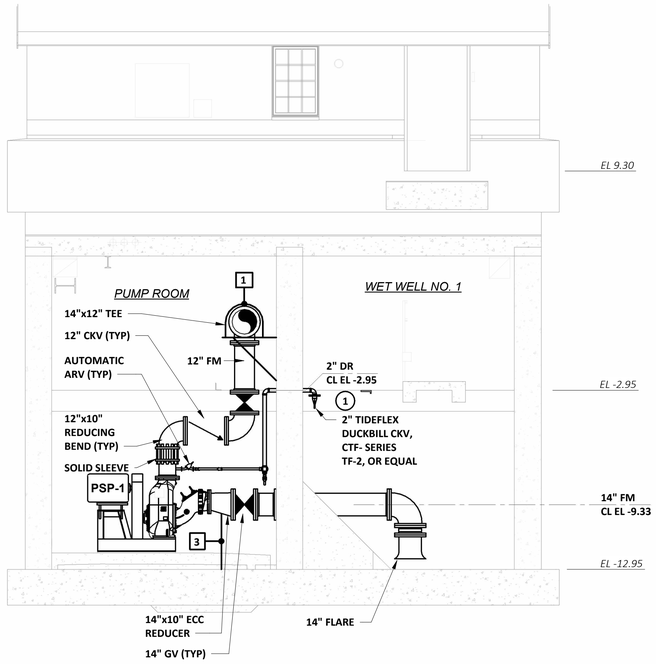
PIPE SUPPORT LEGEND:

1. REFER TO STRUCTURAL DRAWINGS FOR DETAILS OF PIPE SUPPORTS. SUPPORT LOCATIONS SHOWN FOR REFERENCE ONLY. REFER TO STRUCTURAL DRAWINGS FOR SUPPORT REQUIREMENTS.

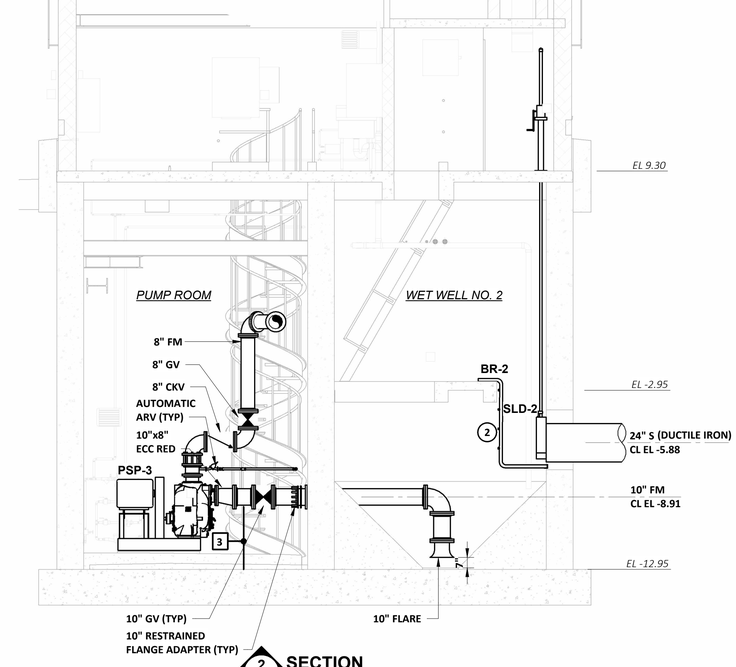
●—1 INDICATES TYPE I PIPE SUPPORT ASSEMBLY (REFER TO DETAILS)

●—2 INDICATES TYPE II PIPE SUPPORT ASSEMBLY (REFER TO DETAILS)

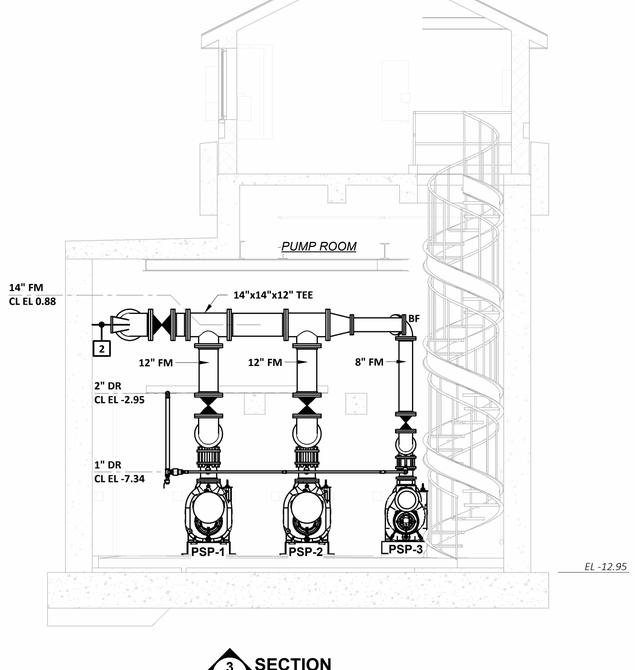
●—3 INDICATES TYPE III PIPE SUPPORT ASSEMBLY (REFER TO DETAILS)



1 PR-04 **SECTION**
SCALE: 1/4" = 1'-0"



2 PR-04 **SECTION**
SCALE: 1/4" = 1'-0"



3 PR-04 **SECTION**
SCALE: 1/4" = 1'-0"

NO	REVISIONS	DATE	APP'D
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4			
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PROJECT NO: 21119
DESIGNED: M.CARLSON
CAD COORD: A.NESBIT
CAD: R.SCAMMON
CHECKED: M.BURNS
DATE: 05/2025
APPROVED: M.CARLSON
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE
MARYE M CARLSON
No. 18190
LICENSED PROFESSIONAL ENGINEER

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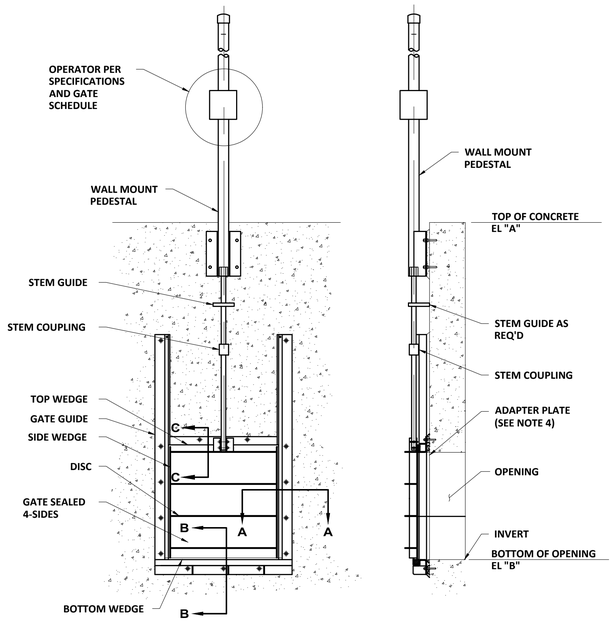
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

MODIFICATION PLANS AND SECTIONS

DRAWING
PR-04

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ELEVATION SECTION

TYPE-II - NON-SELF CONTAINED SLIDE GATE

SCALE: NTS

(SEE SCHEDULE AND NOTES, THIS SHEET)



SECTION A-A

SCALE: NTS

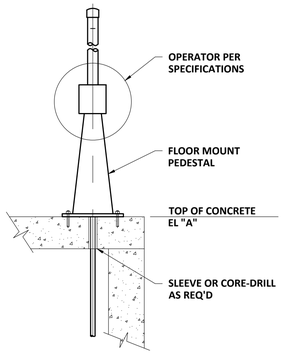
(FACE MOUNT SIDE GUIDE)



SECTION C-C

SCALE: NTS

(FACE MOUNT TOP SEAL)



SECTION

FLOOR PEDESTAL MOUNT DETAIL

SCALE: NTS

NOTE: PROVIDE OFFSET FLOOR STAND OR WALL BRACKET IF INDICATED IN SCHEDULE, THIS SHEET.



SECTION B-B

SCALE: NTS

(FACE MOUNT INVERT SEAL)

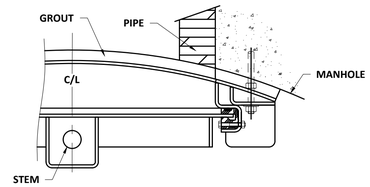
PUMP STATION



SECTION B-B

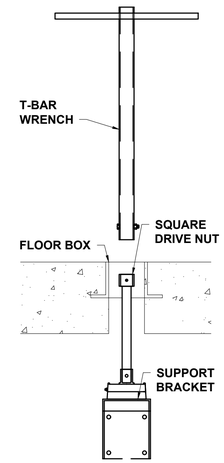
SCALE: NTS

(EMBEDDED INVERT SEAL)



CURVED FRAME SECTION

SCALE: NTS



NUT OPERATOR DETAIL

SCALE: NTS

CSO STRUCTURE

SLIDE GATE SCHEDULE

UNIT NO.	LOCATION	DISK SIZE (WxH) IN	GATE TYPE	OPER. HD. FT. OF WTR.	MOUNTING TYPE	OPERATOR TYPE	STEM TYPE	FRAME TYPE	EL "A"	EL "B"	REMARKS
SLD-1	WET WELL NO.1	30x30	UP OPENING	16	SIDE: FACE MOUNT INVERT: FACE MOUNT	VERTICAL - MANUAL WITH CRANK	RISING	TYPE II NON-SELF CONTAINED SINGLE-STEM	9.30	-6.79	A,C
SLD-2	WET WELL NO.2	30x30	UP OPENING	16	SIDE: FACE MOUNT INVERT: FACE MOUNT	VERTICAL - MANUAL WITH CRANK	RISING	TYPE II NON-SELF CONTAINED SINGLE-STEM	9.30	-6.79	A,C
SLD-3	WET WELL NO.1	12X12	UP OPENING	9	SIDE: FACE MOUNT INVERT: FACE MOUNT	VERTICAL - MANUAL WITH CRANK	RISING	TYPE II NON-SELF CONTAINED SINGLE-STEM	-2.45	-11.95	A,C
SLD-4	CSO STRUCTURE	24x24	UP OPENING	16.60	SIDE: FACE MOUNT INVERT: EMBEDDED	MANUAL WITH OPERATING NUT AND T-BAR	NON-RISING	TYPE II NON-SELF CONTAINED SINGLE-STEM	19.50	2.90	B

NOTES:
1. REFER TO SPECIFICATION 15124.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND ELEVATIONS PRIOR TO SHOP SUBMITTAL.
3. ANCHOR BOLTS AND STEM GUIDES SHOULD BE PROVIDED AS REQUIRED BY GATE MANUFACTURER.
4. WHEN GATE IS REQUIRED TO BE CONNECTED TO AN EXISTING WALL THIMBLE, ADAPTER PLATE SHALL BE PROVIDED AS REQUIRED BY THE GATE MANUFACTURER. ALTERNATIVELY, THE MANUFACTURER MAY PROVIDE OVERSIZED GATE IN LIEU OF THE ADAPTER PLATE. CONTRACTOR TO FIELD VERIFY EXISTING OPENING/THIMBLE.
5. ALL LUBRICATION FITTINGS SHALL BE BROUGHT TO LOCATIONS THAT ARE READILY ACCESSIBLE TO OPERATORS FROM NORMAL OPERATING WALKWAYS OR PLATFORMS. REFER TO SPECIFICATION 11000 FOR ADDITIONAL INFORMATION.
6. FOR ALL GATES, REFER TO THE STANDARD GATE DETAILS ABOVE.
7. GATE SPECIFIC IN THE REMARKS COLUMN OF THE SCHEDULE ABOVE:
   (A) REFER TO THE DETAILS FOR PUMP STATION.
   (B) REFER TO THE DETAILS FOR CSO STRUCTURE.
   (C) GATE OPERATORS ARE TO BE IN THE VERTICAL CRANK POSITION WITH ATTACHMENT FOR PORTABLE DRILL.

NO	REVISIONS	APP'D	DATE
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PROJECT NO: 21119
DESIGNED: M.CARLSON
CAD COORD: A.MESBIT
CAD: R.SCAMMON
CHECKED: M.BURNS
DATE: 05/2025
APPROVED: M.CARLSON
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE LICENSED PROFESSIONAL ENGINEER MAEVE M. CARLSON No. 18190

WRIGHT-PIERCE
207.725.8721 | www.wright-pierce.com
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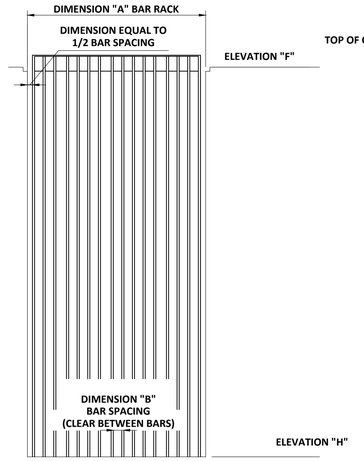
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

DETAILS I

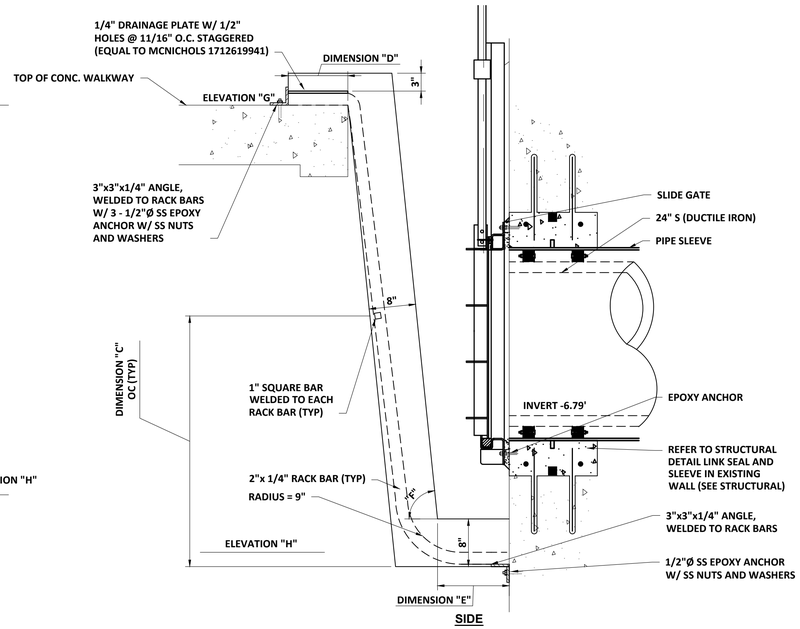
DRAWING
PR-05

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LAST SAVED BY: BREEANNA.ELLIOTT 5/14/2025 11:43 AM



FRONT VIEW



SIDE

BAR RACK DETAILS

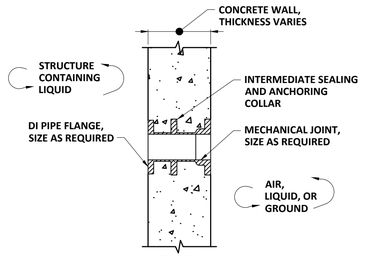
SCALE: 1" = 1'-0"

NOTES:

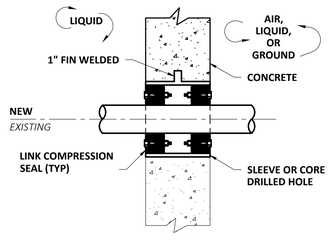
1. MATERIALS OF CONSTRUCTION PER SPECIFICATION SECTION 05500.

BAR RACK SCHEDULE

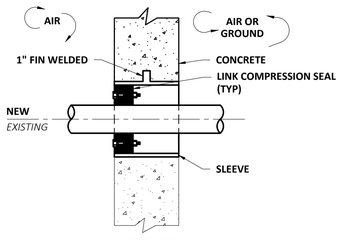
UNIT NO.	DIMENSIONS						ELEVATIONS	
	DIM. "A"	DIM. "B"	DIM. "C"	DIM. "D"	DIM. "E"	ANGLE "F"	ELEV. "G"	ELEV. "H"
BR-1 AND BR-2	30"	2"	34.5"	12"	12"	75°	-2.95'	-8.7'



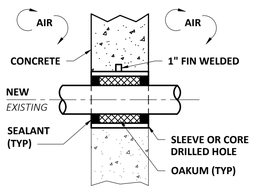
TANK WALL CASTING



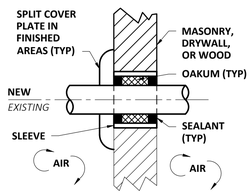
TANK WALL



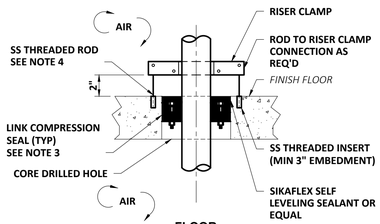
EXTERIOR WALL



INTERIOR WALL/PARTITION



INTERIOR NON-LOAD BEARING PARTITION



FLOOR (EXISTING WHERE ALLOWED)

CONSTRUCTION PIPING PENETRATION DETAILS

SCALE: NTS

NOTES:

1. REFER TO SPECIFICATION SECTION 15092 FOR REQUIREMENTS AND INFORMATION.
2. WALL CASTING CONNECTION SHOWN IS FLG TO MJ. PROVIDE TYPE OF WALL CASTING AS REQUIRED.
3. SET TOP OF LINK TYPE SEAL APPROXIMATE ½" TO ¼" BELOW FINISH FLOOR.
4. LINK SEAL SHALL NOT BE USED TO SUPPORT PIPE. THREADED ROD SHALL BE SIZED AS REQUIRED TO SUPPORT PIPE BOTH VERTICALLY AND HORIZONTALLY.

NO	REVISIONS	APP'D	DATE
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SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE
MAEVE M. CARLSON
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LICENSED PROFESSIONAL ENGINEER

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CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

DETAILS II

DRAWING
PR-06

J:\ENG\ME\BATH\21119-HARWARDINFOSWMM-MODEL_DRAWINGS\PRO\21119-PRS-DETAILS.DWG | details 2 | 1:10.12364677 | --- | 5/15/2025 10:38:22 AM | BREEANNA.ELLIOTT

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DESIGN CRITERIA

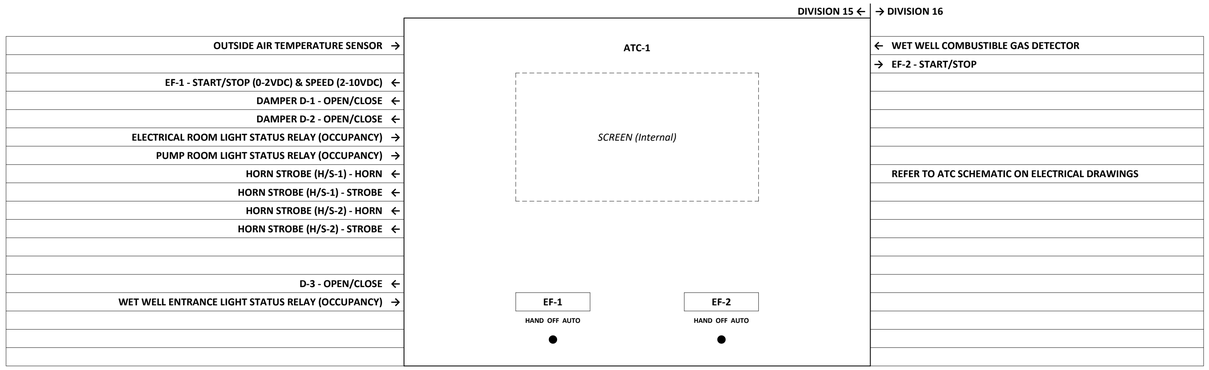
OUTSIDE DESIGN TEMPERATURE		
	WINTER (ASHRAE 99.6%)	-11.2°F
	SUMMER (ASHRAE 0.4%)	85.89°F DB / 70.95°F WB
INSIDE DESIGN TEMPERATURE WINTER/SUMMER		
	PROCESS AREAS	55°F / AMBIENT
	ELECTRICAL ROOM	AMBIENT / 80°F
VENTILATION RATES		
	WET WELL	12 ACH CONTINUOUS OCCUPIED OR COMBUSTIBLE GAS DETECTED; UNNOCUPIED REPEAT CYCLE 5 MINS. INACTIVE 55 MINS. ACTIVE
	DRY WELL	CONTINUOUS 6 ACH; OCCUPIED OR > 50°F 3 ACH; UNOCCUPIED AND < 50°F

LEGEND

	RECTANGULAR RETURN OR EXHAUST AIR DUCT UP
	RECTANGULAR RETURN OR EXHAUST AIR DUCT DOWN
	DIRECTION OF AIR FLOW (SA/OA)
	DIRECTION OF AIR FLOW (RA/EA)
	UNIT HEATER (UH)
VD	VOLUME DAMPER
	MITERED ELBOW WITH TURNING VANES
DIFF / CFM	DIFFUSER DESIGNATION PER SCHEDULE / AIRFLOW IN CFM
EQ-#	EQUIPMENT DESIGNATION & SEQUENCE NUMBER
	POINT OF CONNECTION BETWEEN EXISTING AND NEW
	APPROX. EXTENTS OF DEMOLITION
#	DEMOLITION NOTE TAG
#	MODIFICATIONS NOTE TAG
T	THERMOSTAT
V	HORN/STROBE

MECHANICAL GENERAL NOTES

1. ALL EQUIPMENT AND PIPING LAYOUT DIMENSIONS SHALL BE FIELD VERIFIED AND COORDINATED WITH EQUIPMENT SUPPLIED, AND/OR EXISTING CONDITIONS. SOME INFORMATION ASSOCIATED WITH EXISTING STRUCTURES, PIPING AND EQUIPMENT LOCATIONS, ELEVATIONS AND SIZES, WERE TAKEN FROM THE RECORD DRAWINGS FOR THE HARWARD STREET PUMP STATION, BATH, MAINE, BATH PUMPING STATIONS CONTRACT II (FAY. STAFFORD & THORDINKE INC, 1969), WHICH ARE AVAILABLE FOR REVIEW AT THE ENGINEER'S OFFICE. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AS REQUIRED PRIOR TO BEGINNING CONSTRUCTION OF NEW FACILITIES, EQUIPMENT OR PIPING THAT MAY BE AFFECTED.
2. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DIMENSIONS, LAYOUT OR ELEVATION CHANGES REQUIRED TO SUIT THE SPECIFIC EQUIPMENT BEING PROVIDED UNDER THIS CONTRACT. WHEN SUCH EQUIPMENT REQUIRES PADS, PIERS, CURBING, ETC., THAT DIFFERS FROM THAT SHOWN ON THE CONSTRUCTION DRAWINGS, THE CONTRACTOR SHALL COORDINATE THE STEEL REINFORCING SHOP DRAWINGS ACCORDINGLY.
3. CONTRACTOR TO NOTE THAT ALL EXISTING INFORMATION ON THE DRAWINGS IS SHOWN WITH A LIGHTER LINE WEIGHT AND INDICATED WITH A SLANTED TYPE TEXT.
4. ALL COMPONENTS OF THE AUTOMATIC TEMPERATURE CONTROL SYSTEM SHALL MEET THE ELECTRICAL CLASSIFICATION OF THE SPACE IN WHICH THEY ARE INSTALLED UNLESS NOTED OTHERWISE IN THE SPECIFICATIONS.
5. ALL DUCTWORK AND DEVICES SHALL BE FABRICATED, REINFORCED AND INSTALLED IN ACCORDANCE WITH SMACNA (SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION) DOCUMENT "HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE". SEAL ALL DUCT JOINTS TO SEAL CLASS "B".
6. ALL PIPES SHALL BE ADEQUATELY RESTRAINED AND SUPPORTED IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE.
7. ALL PIPING SYSTEMS SHALL BE PRESSURE TESTED FOR TIGHTNESS IN ACCORDANCE WITH SPECIFICATION SECTION 15601. ALL LEAKS SHALL BE CORRECTED AND RETESTED UNTIL PRESSURE TEST IS SATISFACTORY PRIOR TO THE INSTALLATION OF PIPE INSULATION.
8. TEST REFRIGERANT PIPING IN ACCORDANCE WITH IMC, CHAPTER 11.
9. DO NOT SCALE DISTANCES OR DIMENSIONS FROM THE DRAWINGS. WRITTEN DIMENSIONS SHALL PREVAIL. REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
10. ALL MITERED ELBOWS, AND RADIUS ELBOWS HAVING RAD<1.0xDUCT WIDTH SHALL HAVE TURNING VANES INSTALLED.
11. INDICATES EXISTING PIPING/EQUIPMENT TO REMAIN FOR RE-USE.
    INDICATES EXISTING PIPING/EQUIPMENT TO BE DEMOLISHED.
    INDICATES EXISTING PIPING/EQUIPMENT TO BE SAVED FOR REUSE.



HVAC CONTROL PANEL SCHEMATIC

ABBREVIATIONS

A	AMPERE	FAT	FINAL AIR TEMPERATURE	NTS	NOT TO SCALE
ABV	ABOVE	FC	FLEXIBLE CONNECTION	OED	OPEN END DRAIN, OPEN END DUCT
ACH	AIR CHANGES PER HOUR	FFE	FINISH FLOOR ELEVATION	PD	PRESSURE DROP
AFF	ABOVE FINISH FLOOR	GPM	GALLONS PER MINUTE	QTY	QUANTITY
AFG	ABOVE FINISH GRADE	H	HEIGHT	RPM	REVOLUTIONS PER MINUTE
AHU	AIR HANDLING UNIT	HP	HORSEPOWER (SCHEDULES)	SA	SUPPLY AIR
APD	AIR PRESSURE DROP	HR	HOUR	SCH	SCHEDULE
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND AIR CONDITIONING ENGINEERS	HW	DOMESTIC HOT WATER	SD	SUPPLY DIFFUSER
		IMC	INTERNATIONAL MECHANICAL CODE	SEER	SEASONAL ENERGY EFFICIENCY RATIO
		IN	INCHES	SF	SUPPLY FAN
ATC	AUTOMATIC TEMPERATURE CONTROL	INV EL	INVERT ELEVATION	SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
BOD	BOTTOM OF DUCT	kW	KILOWATT		
BOE	BOTTOM OF EQUIPMENT	L	LOUVER	SP	STATIC PRESSURE
BTU	BRITISH THERMAL UNIT	LAT	LEAVING AIR TEMPERATURE	SS	STAINLESS STEEL
BTUH	BRITISH THERMAL UNITS PER HOUR	LF	LINEAR FOOT	TRANS	TRANSITION
CFM	CUBIC FEET PER MINUTE	MAX	MAXIMUM	TS	TEMPERATURE SENSOR
D	DAMPER	MBH	BTUH x 1000	TSP	TOTAL STATIC PRESSURE
DIA, ∅	DIAMETER	MCA	MINIMUM CIRCUIT AMPS	TSTAT	THERMOSTAT
DN	DOWN	MERV	MINIMUM EFFICIENCY REPORTING VALUE	TYP	TYPICAL
EA	EXHAUST AIR	MFR	MANUFACTURER	V	VOLTS
ECM	ELECTRONICALLY COMMUTATED MOTOR	MIN	MINIMUM	VAV	VARIABLE AIR VOLUME
EF	EXHAUST FAN	MOCP	MAXIMUM OVERCURRENT PROTECTION	VD	VOLUME DAMPER
EFF	EFFICIENCY	MOD	MOTOR OPERATED DAMPER	W/	WITH
EL	ELEVATION	N/A	NOT APPLICABLE	W	WIDTH
ESP	EXTERNAL STATIC PRESSURE	NC	NOISE CRITERION	WB	WET BULB
EUH	ELECTRIC UNIT HEATER	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION	WMS	WIRE MESH SCREEN
EWT	ENTERING WATER TEMPERATURE				
°F	DEGREES FAHRENHEIT	NO.	NUMBER		

NO	REVISIONS	APP'D	DATE
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PROJECT NO: 21119
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CAD COORD: A.NESBIT
CAD: A.NEMEC
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SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE · RODNEY T. GREENE · No. 15645 · REGISTERED PROFESSIONAL ENGINEER · 5/16/25

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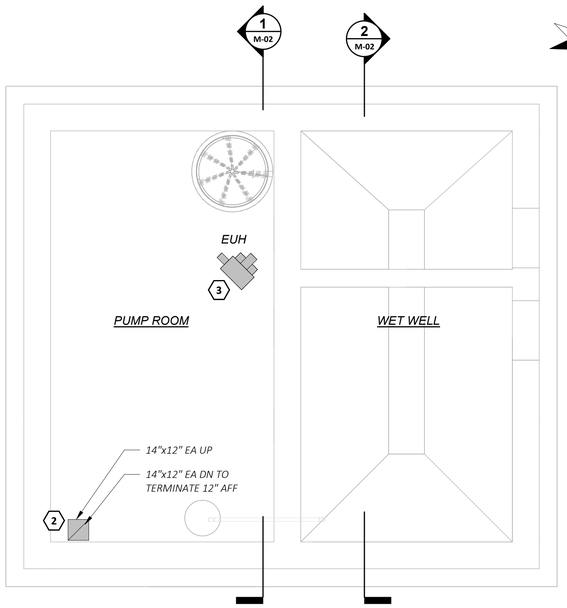
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

MECHANICAL GENERAL NOTES, LEGEND, ABBREVIATIONS, DESIGN DATA, AND ATC SCHEMATIC

DRAWING
M-01

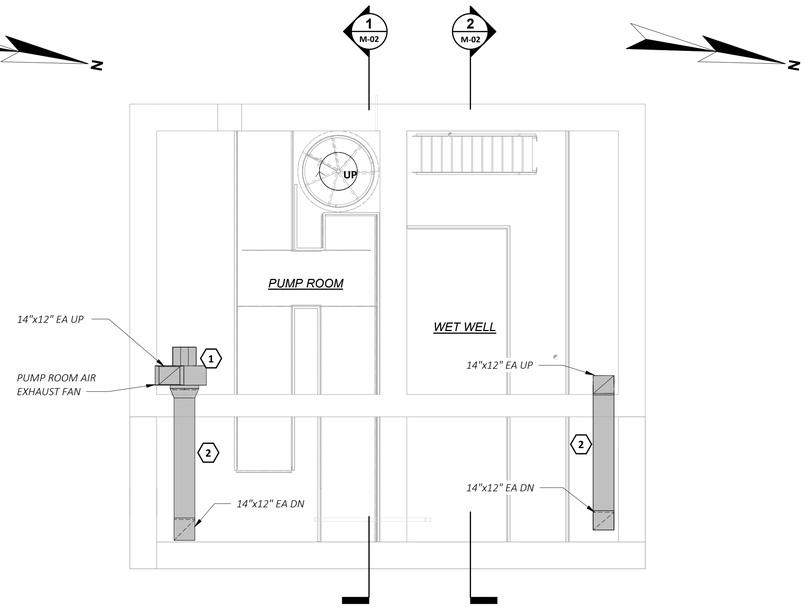
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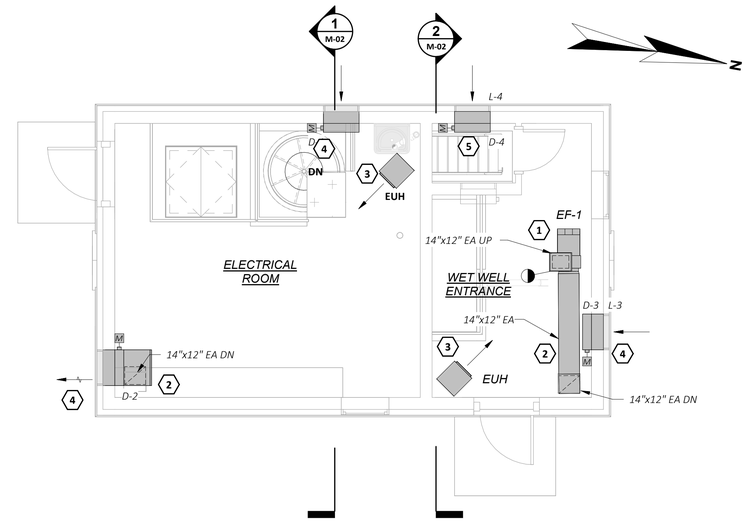
LOWER LEVEL PLAN - DEMOLITION

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



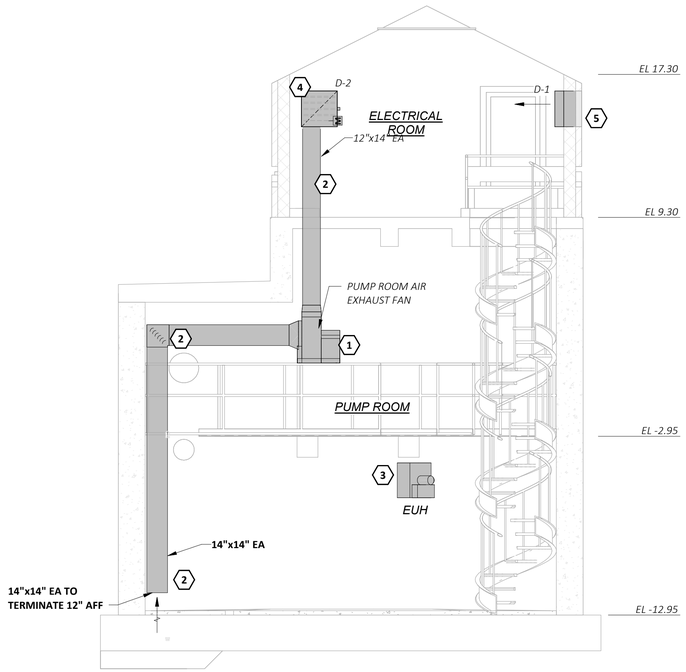
MID LEVEL PLAN - DEMOLITION

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



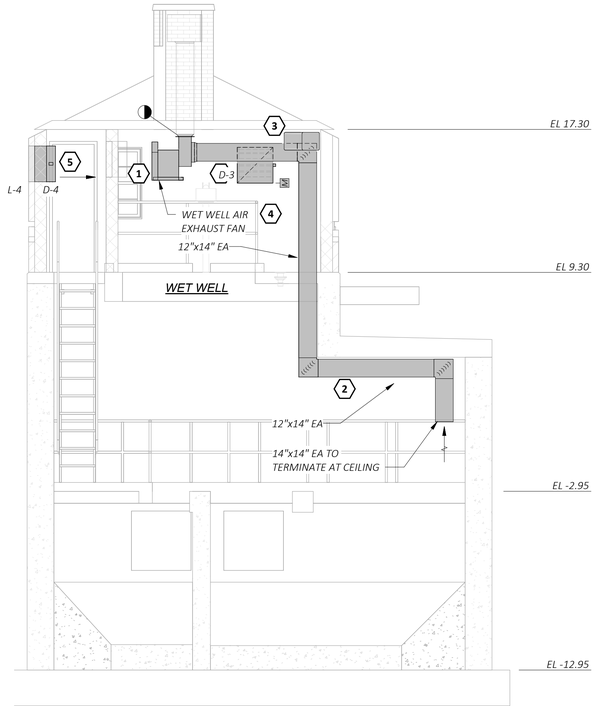
FIRST FLOOR PLAN - DEMOLITION

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



1 SECTION M-02

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



2 SECTION M-02

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

DEMOLITION NOTES:

1. REMOVE/DEMOLISH EXISTING EXHAUST FAN IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO: FAN, SUPPORTS, HARDWARE, WIRING, CONDUIT CONTROLS, AND ALL ASSOCIATED APPURTENANCES.
2. REMOVE/DEMOLISH EXISTING EXHAUST DUCTWORK TO EXTENTS SHOWN INCLUDING, BUT NOT LIMITED TO: DUCT, INSULATION, SUPPORTS, AND ALL ASSOCIATED APPURTENANCES.
3. REMOVE/DEMOLISH EXISTING UNIT HEATER IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO: UNIT HEATER, SUPPORTS, WIRING, CONDUIT, HARDWARE, CONTROLS, AND ALL ASSOCIATED APPURTENANCES.
4. REMOVE/DEMOLISH EXISTING LOUVER AND DAMPER ASSEMBLY IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO: LOUVERS, MOTOR OPERATED DAMPER, WIRING, CONDUIT, CONTROLS, WEATHER SHROUDS, AND ALL ASSOCIATED APPURTENANCES. CLEAN AND PREPARE PENETRATION FOR INSTALLATION OF NEW LOUVER.
5. REMOVE/DEMOLISH EXISTING LOUVER AND DAMPER ASSEMBLY IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO: LOUVERS, MOTOR OPERATED DAMPER, WIRING, CONDUIT, CONTROLS, WEATHER SHROUDS, AND ALL ASSOCIATED APPURTENANCES. COORDINATE INFILL OF PENETRATION WITH ARCHITECTURAL.

NOTES:

1. FOR MECHANICAL NOTES, LEGEND, AND ABBREVIATIONS REFER TO DRAWING M-01.

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
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CAD COORD: A.NESBIT
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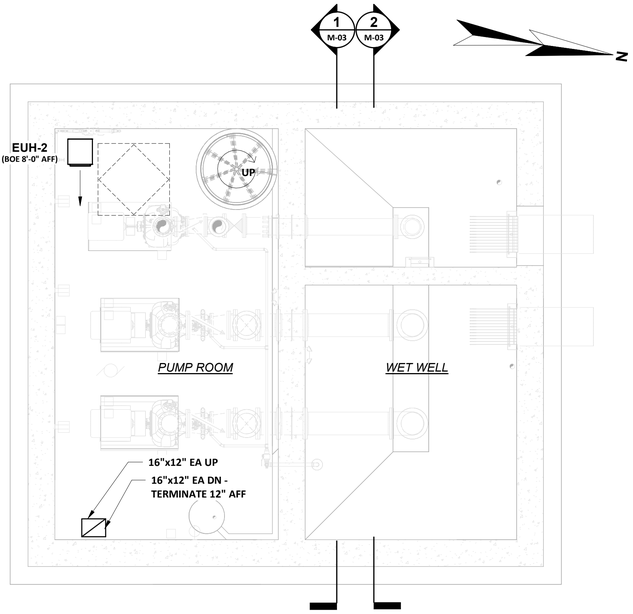
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

DEMOLITION PLANS AND SECTIONS

DRAWING
M-02

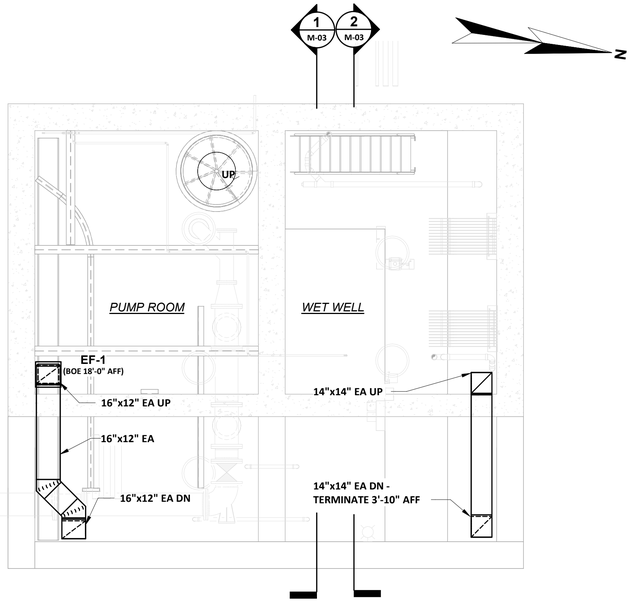
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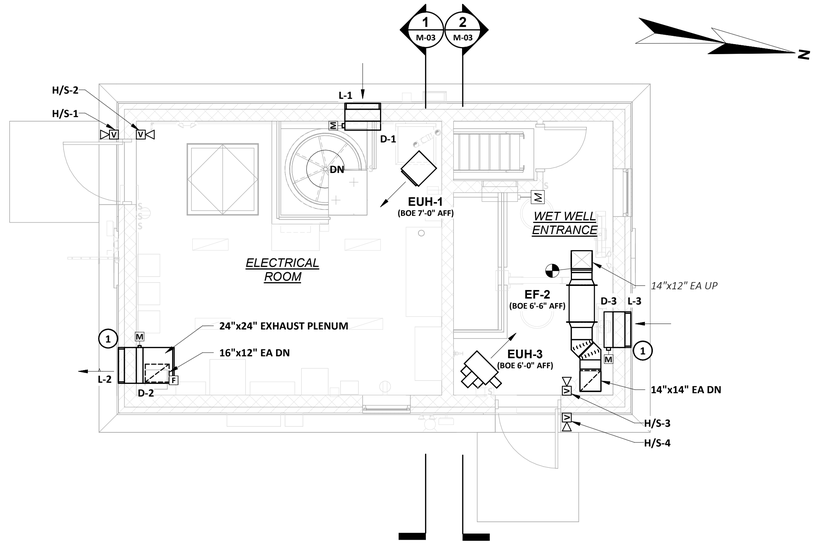
LOWER LEVEL PLAN - MODIFICATION

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



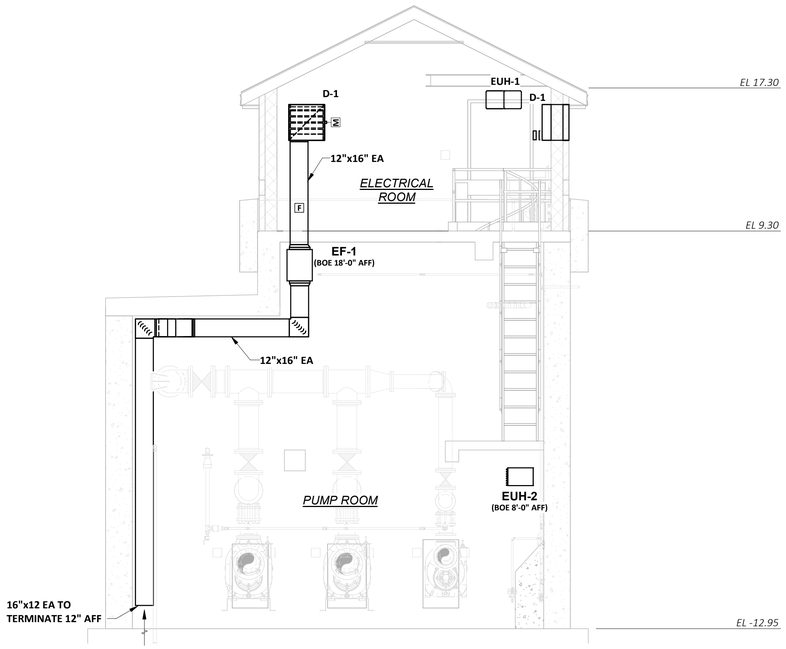
MID LEVEL PLAN - MODIFICATION

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



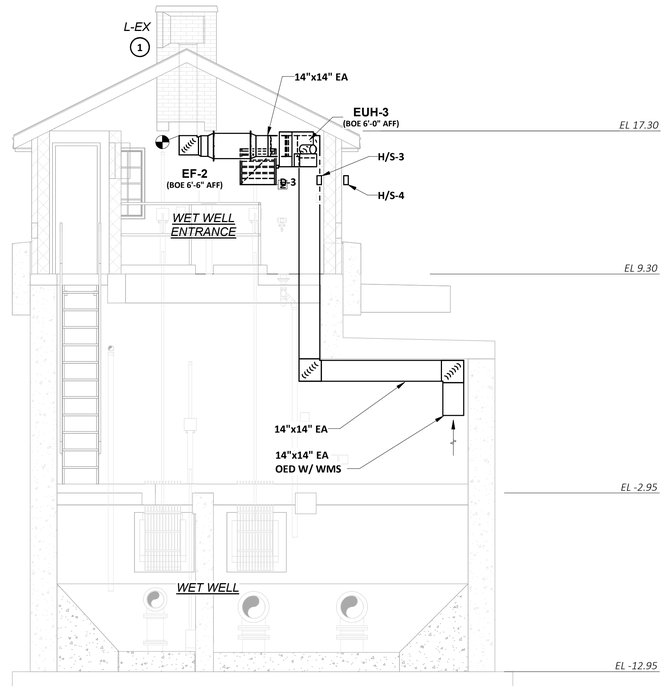
FIRST FLOOR PLAN - MODIFICATION

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



1 SECTION

M-03 SCALE: 1/4" = 1'-0"



2 SECTION

M-03 SCALE: 1/4" = 1'-0"

MODIFICATION NOTES:

1. CLEAN/REMOVE ALL DEBRIS FROM EXISTING BIRD SCREEN ON LOUVER EXTERIOR

NOTES:

1. FOR MECHANICAL NOTES, LEGEND, AND ABBREVIATIONS REFER TO DRAWING M-01.

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MODIFICATION PLANS AND SECTIONS

DRAWING
M-03

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FAN SCHEDULE

UNIT NO.	LOCATION SERVED	CFM	E.S.P IN WC	FAN RPM	SONES	DRIVE TYPE	TYPE	MOTOR DATA				NEMA	REMARKS	NOTES
								HP	RPM	VOLTS	PHASE			
EF-1	PUMP ROOM / ELECTRICAL ROOM	895	0.5	1421	7.8	DIRECT	CENTRIFUGAL INLINE	1/4	1725	120	1	4X	GREENHECK MODEL SQ-100-VG OR EQUIVALENT	1,3,5,6
EF-2	WET WELL / WET WELL ENTRANCE	765	0.5	1073	7.9	BELT	CENTRIFUGAL INLINE	1/3	2710	120	1	7	GREENHECK MODEL QEI-12 OR EQUIVALENT	2,4,5,7

NOTES:

1. HIGH PERFORMANCE POLYESTER POWDER COAT FINISH (HI-PRO POLY OR EQUIVALENT).
2. TWO-COAT EPOXY BASE WITH POLYESTER TOPCOAT (HI-PRO-Z OR EQUIVALENT).
3. ELECTRONICALLY COMMUTATED MOTOR.
4. EXPLOSION PROOF MOTOR, SPARK B CONSTRUCTION.
5. FACTORY MOUNTED AND WIRED DISCONNECT SWITCH.
6. FACTORY MOUNTED AND WIRED CONTROLLER, 0-10 VDC INPUT.
7. ALUMINUM CONSTRUCTION.

ELECTRIC UNIT HEATER SCHEDULE

UNIT NO.	LOCATION	kW	CFM	AIR THROW	AIR TEMP RISE	ELECTRICAL DATA		NEMA	REMARKS	NOTES
						VOLTS	PHASE			
EUH-1	ELECTRICAL ROOM	7.5	700	26	33.7	480	3	12	INDEECO 234-U11N-0080U OR EQUIVALENT	1,2,3,4
EUH-2	PUMP ROOM	15	2400	50	19.7	480	3	4X	INDEECO 234-UY11L-0150U OR EQUIVALENT	1,2,3,4
EUH-3	WET WELL ENTRANCE	10	850	25	37	480	3	7	INDEECO 233-FA-0106U OR EQUIVALENT	1,3,4,5,6,7

NOTES:

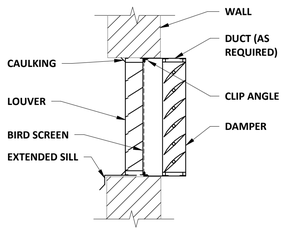
1. FACTORY MOUNTED AND WIRED DISCONNECT SWITCH.
2. CORROSION RESISTANT, WASHDOWN UNIT HEATER.
3. PILOT LIGHT
4. TWO-STAGE INTEGRAL THERMOSTAT.
5. 316 STAINLESS STEEL CORROSION-RESISTANT CONSTRUCTION.
6. IP35 WET LOCATION CONSTRUCTION.
7. CORROSION RESISTANT MOUNTING KIT.

LOUVER AND DAMPER SCHEDULE

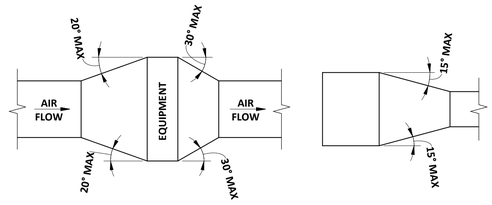
UNIT NO.	LOCATION SERVED	DIMENSIONS (IN)			MIN. FREE AREA SQFT.	BLADES	TYPE	REMARKS	NOTES
		WIDTH	HEIGHT	DEPTH					
D-1	ELECTRICAL ROOM	24	24	5	-	PARALLEL	INTAKE	GREENHECK VCD-43 OR EQUIVALENT	2
D-2	ELECTRICAL ROOM	24	24	5	-	PARALLEL	EXHAUST	GREENHECK VCD-43 OR EQUIVALENT	2
D-3	WET WELL ENTRANCE	24	24	5	-	PARALLEL	INTAKE	GREENHECK VCD-43 OR EQUIVALENT	2
L-1	ELECTRICAL ROOM	24	24	5	1.7	-	INTAKE	GREENHECK EDJ-401 OR EQUIVALENT	1,2
L-2	ELECTRICAL ROOM	24	24	5	1.7	-	EXHAUST	GREENHECK EDJ-401 OR EQUIVALENT	1,2
L-3	WET WELL ENTRANCE	24	24	5	1.7	-	INTAKE	GREENHECK EDJ-401 OR EQUIVALENT	1,2

NOTES:

1. 1/2" MESH ALUMINUM BIRDSCREEN.
2. CONFIRM EQUIPMENT DIMENSIONS WITH EXISTING PENETRATION DIMENSIONS.



LOUVER & DAMPER DETAIL
SCALE: NTS

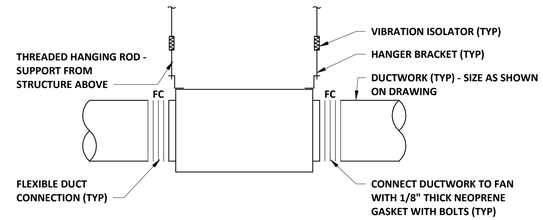


TYPICAL DUCTWORK TRANSITION WITH EQUIPMENT MOUNTED IN DUCT PLAN OR SIDE VIEW

TYPICAL DUCTWORK TRANSITION PLAN OR SIDE VIEW

NOTE: UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY

TYPICAL DUCTWORK TRANSITION
SCALE: NTS



NOTE: PROVIDE MANUFACTURERS RECOMMENDED CLEARANCES FOR SERVICE & ACCESS

INLINE FAN INSTALLATION DETAIL
SCALE: NTS

NO	REVISIONS	APP'D	DATE
1.			
2.			
3.			
4.			
5.			

PROJECT NO: 21119
DESIGNED: H.CINI
CAD COORD: A.NESBIT
CAD: A.NEMEC
CHECKED: R.GREENE
DATE: 04/2025
APPROVED: R.GREENE
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE
RODNEY T. GREENE
No. 15645
REGISTERED PROFESSIONAL ENGINEER
5/14/25

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CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

MECHANICAL SCHEDULES AND DETAILS

DRAWING
M-04

Autodesk Docs://ME-Bath-21119-HarwardPSAInterceptor-Upgrades/21119-HarwardPumpStation.rvt

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ELECTRIC WATER HEATER SCHEDULE

UNIT NO.	LOCATION	SERVES	SIZE	kW	ELECTRICAL		REMARKS	NOTES
					VOLTS	PHASE		
EWH-1	PUMP ROOM	SERVICE SINK	-	4.1	208	1	EEMAX SPEX4208 OR EQUIVALENT	-

PLUMBING FIXTURE SCHEDULE

FIXTURE NUMBER	TYPE OF FIXTURE	CW(IN)	HW(IN)	TW(IN)	S(IN)	W(IN)	V(IN)	REMARKS	NOTES
F-1	SERVICE SINK	3/4	3/4	-	-	3	2	REFER TO SPECIFICATIONS	-

SUMP PUMP SCHEDULE

PUMP NO.	LOCATION	TYPE	GPM	FOOT HEAD	DISCHARGE (IN)	MOTOR TEFC				REMARKS	NOTES
						NOM HP	VOLTS	PHASE	RPM		
SP-1	PUMP ROOM	SUBMERSIBLE	20	22	2	1/2	120	1	3450	LIBERTY PUMPS MODEL FL51A OR EQUIVALENT	1

NOTES:

1. SIMPLEX PUMP WITH INTEGRAL CONTROLS.

GENERAL NOTES

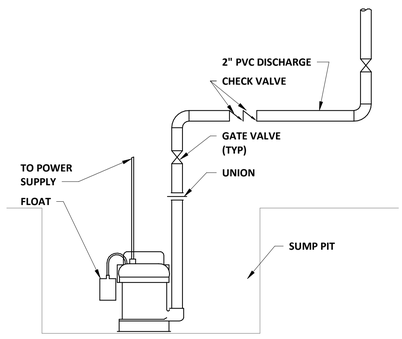
1. ALL EQUIPMENT AND PIPING LAYOUT DIMENSIONS SHALL BE FIELD VERIFIED AND COORDINATED WITH EQUIPMENT SUPPLIED, AND/OR EXISTING CONDITIONS. SOME INFORMATION ASSOCIATED WITH EXISTING STRUCTURES, PIPING AND EQUIPMENT LOCATIONS, ELEVATIONS AND SIZES, WERE TAKEN FROM THE RECORD DRAWINGS FOR THE THE HARWARD STREET PUMP STATION, BATH, MAINE, BATH PUMPING STATIONS CONTRACT II (FAY. SPOFFORD & THORDINKE INC, 1969),WHICH ARE AVAILABLE FOR REVIEW AT THE ENGINEER'S OFFICE. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AS REQUIRED PRIOR TO BEGINNING CONSTRUCTION OF NEW FACILITIES, EQUIPMENT OR PIPING THAT MAY BE AFFECTED.
2. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DIMENSIONS, LAYOUT OR ELEVATION CHANGES REQUIRED TO SUIT THE SPECIFIC EQUIPMENT BEING PROVIDED UNDER THIS CONTRACT. WHEN SUCH EQUIPMENT REQUIRES PADS, PIERS, CURBING, ETC., THAT DIFFERS FROM THAT SHOWN ON THE CONSTRUCTION DRAWINGS, THE CONTRACTOR SHALL COORDINATE THE STEEL REINFORCING SHOP DRAWINGS ACCORDINGLY.
3. CONTRACTOR TO NOTE THAT ALL EXISTING INFORMATION ON THE DRAWINGS IS SHOWN WITH A LIGHTER LINE WEIGHT AND INDICATED WITH A SLANTED TYPE TEXT. THE EXCEPTION IS WHEN SCANNED IMAGES ARE UTILIZED FROM THE PREVIOUS CONSTRUCTION PROJECTS NOTED IN GENERAL NOTE No.1 ABOVE. WHEN REVIEWING DRAWINGS NOTED AS "SCANNED" UNDER DRAWING TITLE, THE CONTRACTOR SHALL IGNORE ANY REFERENCE TO PREVIOUS CONTRACT WORK. SCANNED IMAGES ARE NOT TO SCALE, HOWEVER AN APPROXIMATE SCALE MAY BE GIVEN FOR CONVENIENCE.
4. ALL PIPES SHALL BE ADEQUATELY RESTRAINED AND SUPPORTED IN ACCORDANCE WITH THE UNIFORM PLUMBING CODE.
5. ALL PIPING SYSTEMS SHALL BE PRESSURE TESTED FOR TIGHTNESS IN ACCORDANCE WITH SPECIFICATION SECTION 15401. ALL LEAKS SHALL BE CORRECTED AND RETESTED UNTIL PRESSURE TEST IS SATISFACTORY PRIOR TO THE INSTALLATION OF PIPE INSULATION.
6. DO NOT SCALE DISTANCES OR DIMENSIONS FROM THE DRAWINGS. WRITTEN DIMENSIONS SHALL PREVAIL. REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
7. INDICATES EXISTING PIPING/EQUIPMENT TO REMAIN FOR RE-USE.
   INDICATES EXISTING PIPING/EQUIPMENT TO BE DEMOLISHED.
   INDICATES EXISTING PIPING/EQUIPMENT TO BE SAVED FOR REUSE.

LEGEND

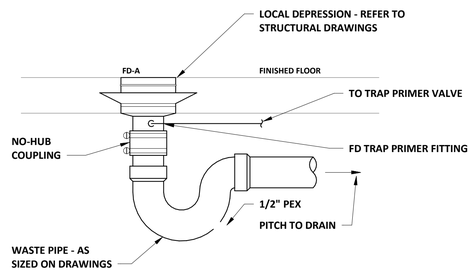
- COLD WATER SUPPLY
- HOT WATER SUPPLY
- HOT WATER RECIRCULATION
- VENT
- PIPE TURNING DOWN
- PIPE TURNING UP
- PIPE TEE DOWN
- PIPE TEE UP
- (T) THERMOSTAT
- (F) FLOW SWITCH
- POINT OF CONNECTION BETWEEN EXISTING AND NEW
- APPROX. EXTENTS OF DEMOLITION
- (#) DEMOLITION NOTE TAG
- (#) MODIFICATIONS NOTE TAG
- EQ-# EQUIPMENT DESIGNATION & SEQUENCE NUMBER

ABBREVIATIONS

AFF	ABOVE FINISH FLOOR	F	FIXTURE	P	PUMP
AFG	ABOVE FINISH GRADE	FD	FLOOR DRAIN	PRV	PRESSURE REDUCING VALVE
BFP	BACKFLOW PREVENTER	FFE	FINISH FLOOR ELEVATION	PRW	PROCESS WATER
BHP	BRAKE HORSEPOWER	FM	FORCE MAIN	PSIG	POUND PER SQUARE INCH
BOE	BOTTOM OF EQUIPMENT	GPM	GALLONS PER MINUTE	RPM	REVOLUTIONS PER MINUTE
BTU	BRITISH THERMAL UNIT	HB	HOSE BIBB	RPZ	REDUCED PRESSURE ZONE
BTUH	BRITISH THERMAL UNITS PER HOUR	HP	HORSEPOWER		BACKFLOW PREVENTER
BV	BALL VALVE	HS	HOSE STATION	SCH	SCHEDULE
CL	CENTERLINE	HW	DOMESTIC HOT WATER	SP	SUMP PUMP
CP	CIRCULATING PUMP	INV EL	INVERT ELEVATION	SPD	SUMP PUMP DISCHARGE
CV	CHECK VALVE	LB	POUND	SS	STAINLESS STEEL
CW	DOMESTIC COLD WATER	MAX	MAXIMUM	T&P	TEMPERATURE AND PRESSURE
DIA, Ø	DIAMETER	MBH	BTUH x 1000	TYP	TYPICAL
DN	DOWN	MFG	MANUFACTURER	V	SANITARY VENT PIPE
DR	DRAIN	MIN	MINIMUM	VTR	SANITARY VENT PIPE THRU ROOF
EFF	EFFICIENCY	MNT	MOUNT	W	SANITARY WASTE PIPE
EL	ELEVATION	N/A	NOT APPLICABLE	W/	WITH
°F	DEGREES FAHRENHEIT	NTS	NOT TO SCALE	W&T	WASTE & TRAP
		OED	OPEN END DRAIN	WH	WATER HEATER



SIMPLEX SUMP PUMP DETAIL
SCALE: NTS



FLOOR DRAIN DETAIL
SCALE: NTS

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

PROJECT NO: 21119
DESIGNED: H.CINI
CAD COORD: A.NESBIT
CAD: A.NEMEC
CHECKED: R.GREENE
DATE: 04/2025
APPROVED: R.GREENE
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE RODNEY T. GREENE No. 15645 REGISTERED PROFESSIONAL ENGINEER 5/16/25

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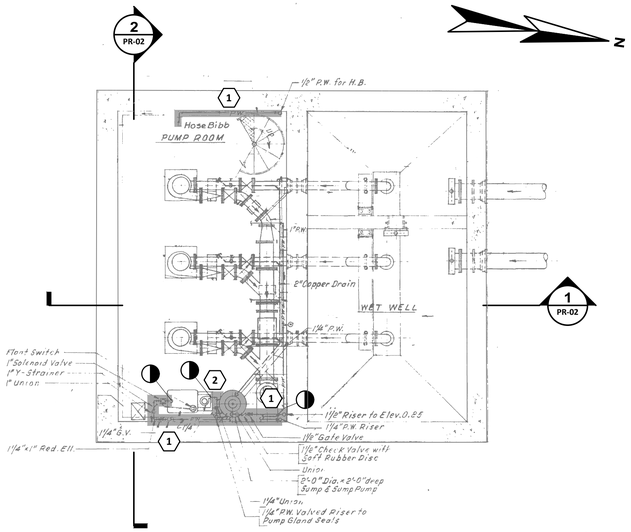
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

PLUMBING GENERAL NOTES,LEGEND, ABBREVIATIONS, SCHEDULES, AND DETAILS

DRAWING
P-01

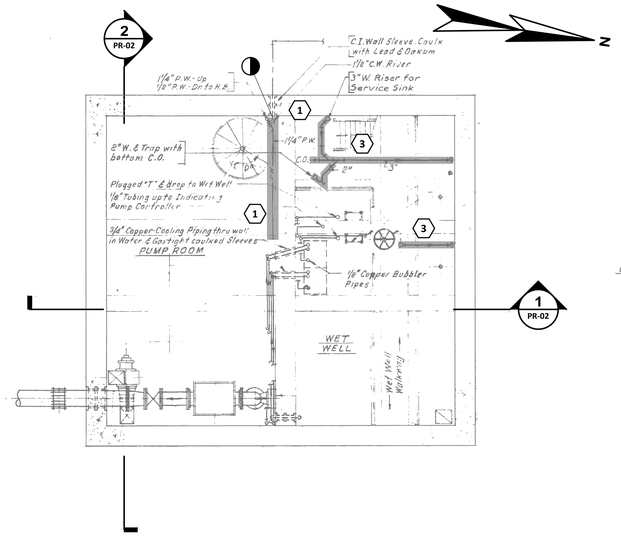
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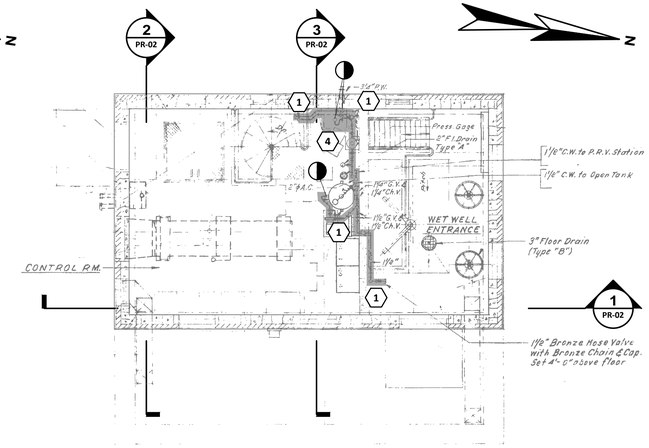
LOWER LEVEL DEMOLITION PLAN

SCALE: "SCANNED"
(APPROXIMATELY: 3/16"=1'-0")



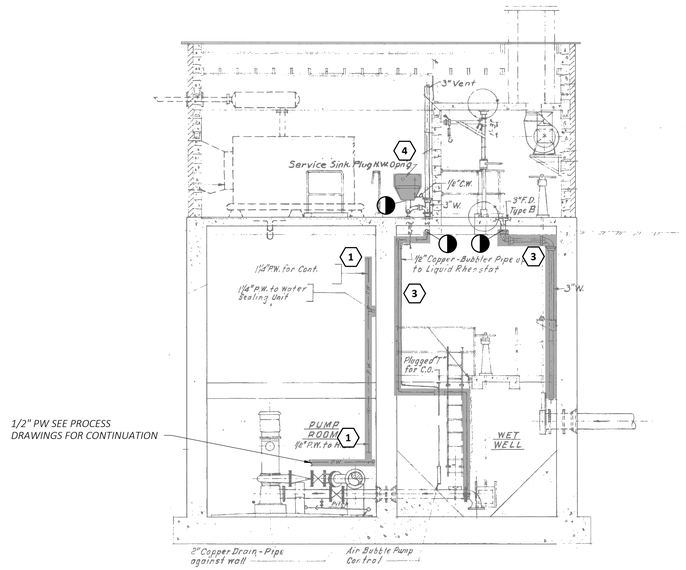
MID LEVEL DEMOLITION PLAN

SCALE: "SCANNED"
(APPROXIMATELY: 3/16"=1'-0")

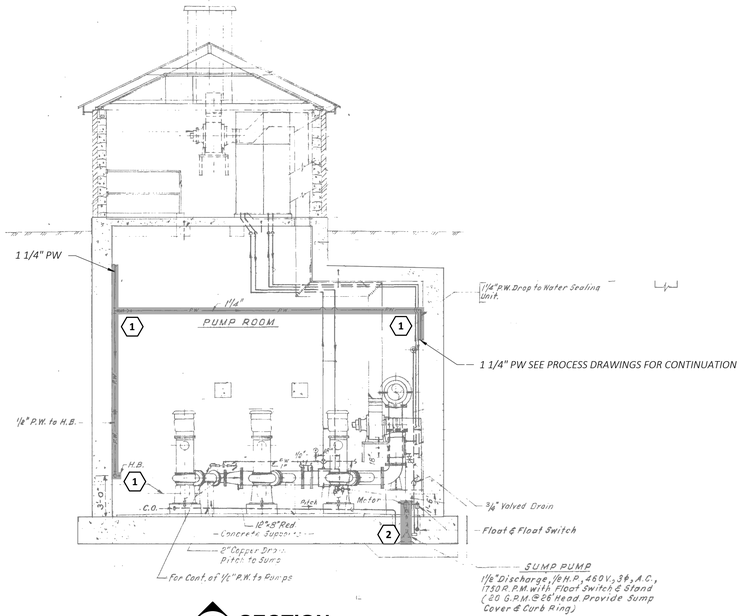


FIRST FLOOR DEMOLITION PLAN

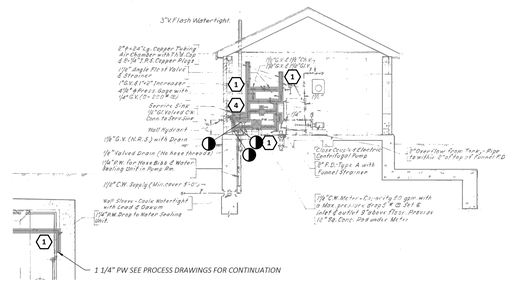
SCALE: "SCANNED"
(APPROXIMATELY: 3/16"=1'-0")



1 SECTION
PR-02
SCALE: "SCANNED"
APPROX: 3/16" = 1'-0"



2 SECTION
PR-02
SCALE: "SCANNED"
APPROX: 3/16" = 1'-0"



3 SECTION
PR-02
SCALE: "SCANNED"
APPROX: 3/16" = 1'-0"

DEMOLITION NOTES:

1. REMOVE/DEMOLISH EXISTING DOMESTIC WATER SYSTEM IN ENTIRETY INCLUDING, BUT NOT LIMITED TO; ALL DOMESTIC WATER PIPING TO EXTENTS SHOWN. WATER SERVICE ENTRANCE COMPONENTS SUCH AS WATER METER, BACK FLOW PREVENTER, VALVES, FITTING, SUPPORTS, FIXTURES, HEATING ELEMENTS, HOSE BIBS, AND ALL OTHER ASSOCIATED APPURTENANCES.
2. REMOVE/DEMOLISH EXISTING SUMP PUMP IN ITS ENTIRETY.
3. REMOVE/DEMOLISH EXISTING WASTE PIPING IN ITS ENTIRETY INCLUDING, BUT NOT LIMITED TO: PIPING, FITTINGS, P-TRAPS, AND ALL ASSOCIATED FITTINGS TO THE EXTENTS SHOWN. CLEAN AND PREPARE PIPING AND EQUIPMENT TO REMAIN AS NECESSARY FOR CONNECTION TO NEW.
4. REMOVE/DEMOLISH EXISTING SERVICE SINK, FAUCET, AND ASSOCIATED APPURTENANCES. EXISTING DRAIN AND P-TRAP TO REMAIN. CLEAN AND PREPARE FOR CONNECTION TO NEW.

NOTES:

1. FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS REFER TO DRAWING P-01.

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

PROJECT NO: 21119
DESIGNED: H.CINI
CAD COORD: A.NESBIT
CAD: A.NEMEC
CHECKED: R.GREENE
DATE: 04/2025
APPROVED: R.GREENE
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE
RODNEY T. GREENE
No. 15645
REGISTERED PROFESSIONAL ENGINEER
5/16/25

WRIGHT-PIERCE
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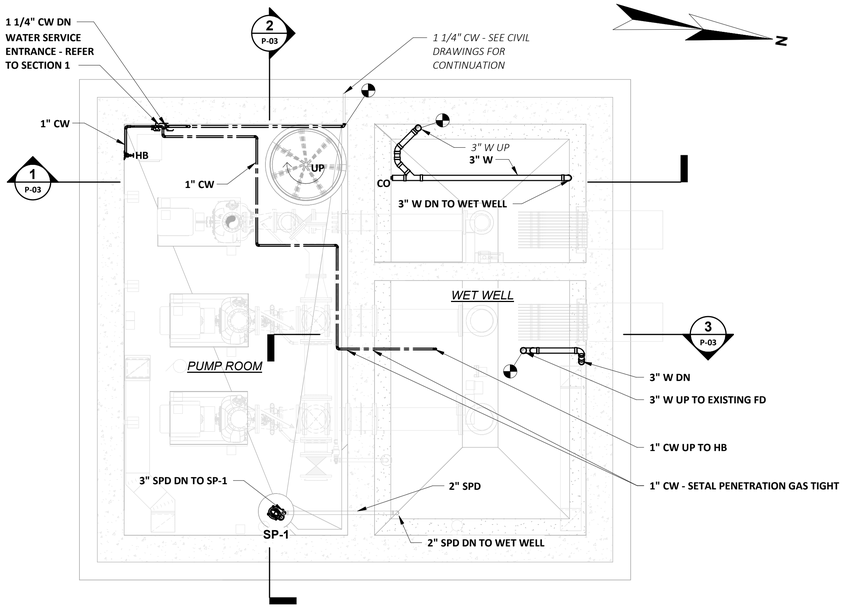
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

DEMOLITION PLANS AND SECTIONS

DRAWING
P-02

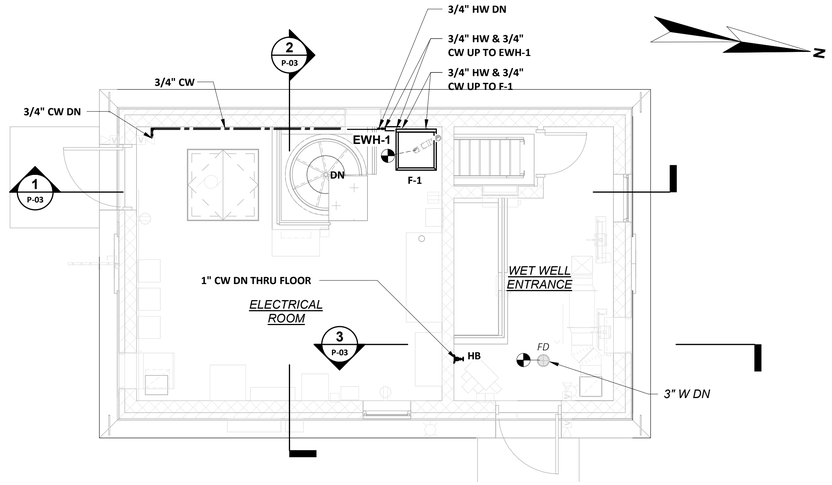
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5/15/2025 1:22:44 PM



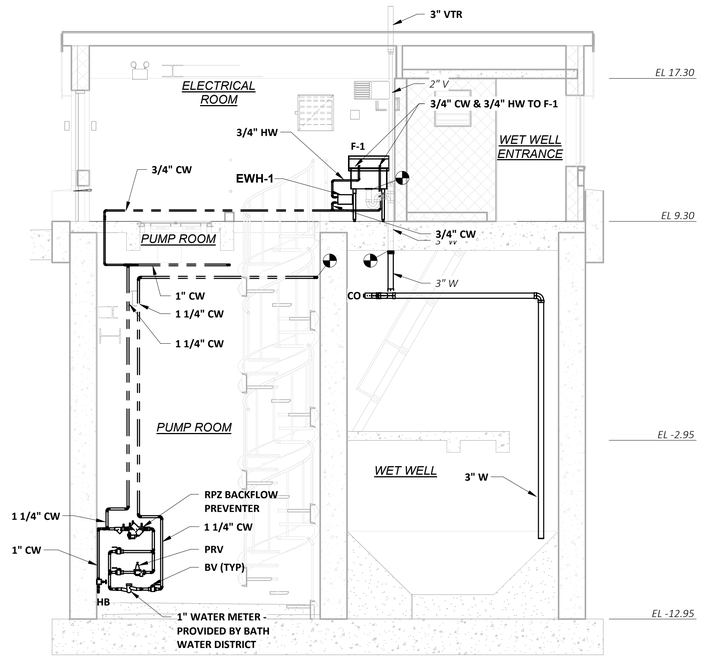
LOWER LEVEL MODIFICATIONS PLAN

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



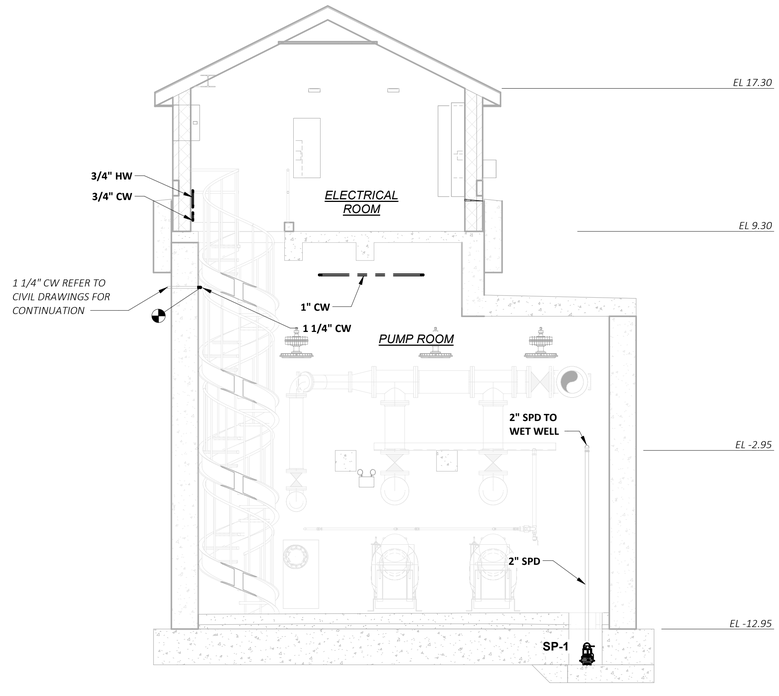
FIRST FLOOR MODIFICATION PLANS

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



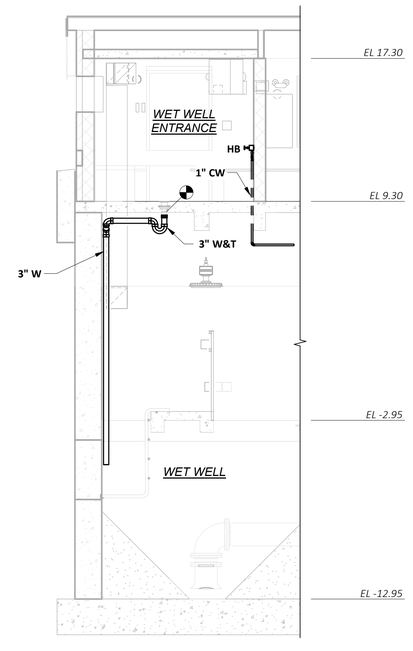
1 P-03 SECTION

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



2 P-03 SECTION

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



3 P-03 SECTION

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

NOTES:

1. FOR GENERAL PLUMBING NOTES, LEGEND, AND ABBREVIATION REFER TO SHEET P-01.

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

PROJECT NO: 21119
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CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

MODIFICATION PLANS AND SECTIONS

DRAWING
P-03

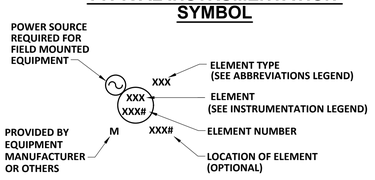
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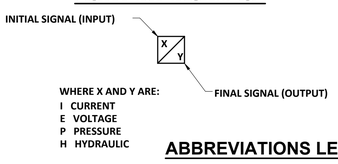
INSTRUMENTATION SYMBOL LEGEND

DESCRIPTION	EXISTING	NEW	FUTURE
PROCESS FLOW			
ELECTRICAL POWER OR PROCESS CONNECTION			
ELECTRICAL SIGNAL			
DATA LINK			
PLC INPUT/OUTPUT	I/O	I/O	I/O
PNEUMATIC SIGNAL			
VENDOR CABLE	V V V	V V V	V V V
DISCRETE OUTPUT SIGNAL	I/O	I/O	I/O
ANALOG OUTPUT SIGNAL	I/O	I/O	I/O
DISCRETE INPUT SIGNAL	I/O	I/O	I/O
ANALOG INPUT SIGNAL	I/O	I/O	I/O
HARDWIRE INTERLOCK	I XX# XX# — INTERLOCK I.D. NUMBER — LOCATION OF INTERLOCK	I XX# XX# — INTERLOCK I.D. NUMBER — LOCATION OF INTERLOCK	XX# XX# — INTERLOCK I.D. NUMBER — LOCATION OF INTERLOCK
PROGRAMMABLE LOGIC CONTROLLER			
OPERATOR TERMINAL INTERFACE			
LOCAL (FIELD MOUNTED)			
FRONT PANEL MOUNTED			
REAR PANEL MOUNTED			
INTEGRAL EQUIPMENT			
SIGNAL SPLITTER CONVERTER/ BOOSTER (SEE BELOW)	X Y	X Y	X Y
MOTOR	M	M	M
ALARM/ STATUS LIGHT			
STROBE LIGHT			

TYPICAL INSTRUMENTATION SYMBOL



TYPICAL SIGNAL CONVERTER SYMBOL



* ALSO USED AS A MODIFIER AFTER FIRST LETTER (i.e. PDIT: PRESSURE DIFFERENTIAL INDICATING TRANSMITTER)

** ALSO USED AS A MODIFIER AFTER LAST LETTER (i.e. LSHH: LEVEL SWITCH HIGH HIGH)

INSTRUMENTATION LEGEND

FIRST LETTER		SUCCEEDING LETTER	
1		2	3
A	ANALYSIS	ALARM	--
B	--	--	--
C	CONTROL	CONTROL	CONTROL
D	DIFFERENTIAL*	DETECT	--
E	VOLTAGE	ELEMENT	--
F	FLOW	--	--
G	GAS	GLASS	GLASS
H	HAND (MANUAL)	HORN	HIGH**
I	CURRENT	INDICATE	INDICATE
J	POWER	--	--
K	TIME*	--	--
L	LEVEL	LIGHT	LOW**
M	MOTOR	--	INTERMEDIATE
P	PRESSURE	--	--
Q	QUANTITY OR TOTALIZE*	QUANTITY	--
R	RADIATION	RECORD	RECORD
S	SPEED OR FREQUENCY	SWITCH	SIGNAL
T	TEMPERATURE	TRANSMIT	TRANSMIT
V	VIBRATION	VALVE	VALVE
W	TORQUE, WEIGHT, FORCE	--	--
X	--	--	--
Y	STATUS	RELAY, COMPUTE, OR CONVERT	RELAY, COMPUTE, OR CONVERT
Z	POSITION	--	--

VALVES AND FITTINGS

DESCRIPTION	EXISTING	NEW	FUTURE
GATE VALVE			
BALL VALVE			
PLUG VALVE			
GLOBE VALVE			
BUTTERFLY VALVE			
CHECK VALVE			
DOUBLE DISC CHECK VALVE			
DIAPHRAGM VALVE			
MUD VALVE			
TIDE CHECK VALVE			
NEEDLE VALVE			
PINCH VALVE			
3-WAY VALVE			
KNIFE GATE			
TELESCOPING VALVE			
CONCENTRIC REDUCER			
ECCENTRIC REDUCER			
FLOW ARROW			
UNION			
PRESSURE SAFETY VALVE	PSV	PSV	PSV
VACUUM RELIEF	V	V	V
BACKPRESSURE VALVE	BPV	BPV	BPV
PRESSURE REDUCING VALVE	PRV	PRV	PRV
BACKFLOW PREVENTER			
DUPLEX STRAINER			
SIMPLEX STRAINER			
WYE STRAINER			
IN-LINE MIXER			
EXPANSION JOINT			
ROTAMETER			
PULSTATION DAMPENER			
DIAPHRAGM ISOLATOR			
WAFER ISOLATOR			

ACTUATORS

CONTROL ACTUATOR	M	M	M
SOLENOID ACTUATOR	S	S	S
PNEUMATIC DIAPHRAGM ACTUATOR			
PNEUMATIC/HYDRALUIC CYLINDER			

PUMPS

DESCRIPTION	EXISTING	NEW
POSITIVE DISPLACEMENT		
PROGRESSIVE CAVITY		
SCREW PUMP		
CENTRIFUGAL		
SUBMERSIBLE PUMP		
HOSE		
CHEMICAL METERING		
CHEMICAL TRANSFER		

BLOWERS

CENTRIFUGAL		
POSITIVE DISPLACEMENT		
COMPRESSOR/TURBO		
AIR INTAKE FILTER		

MISCELLANEOUS SYMBOLS

MIXER		
IN-LINE STATIC MIXER		
GRINDER		
WEIR		
STOP GATE		
SLIDE GATE		
SHEAR GATE		
CHEMICAL INJECTION NOZZLE		

FIELD INSTRUMENTS

DESCRIPTION	EXISTING	NEW	FUTURE
FIELD PIPE MOUNTED DEVICE			
PADDLE OR LEVER TYPE PROBE			
SUBMERSIBLE PRESSURE TRANSDUCER			
FLOAT SWITCH			
CAPACITANCE OR ADMITTANCE TYPE PROBE			
BUBBLE LIQUID LEVEL ELEMENT			
ULTRASONIC LEVEL TRANSDUCER			
RADAR LEVEL TRANSDUCER			
GUIDED WAVE RADAR			

FLOW METERS

MAGNETIC FLOW METER	M	M	M
VENTURI FLOW METER			
PARSHALL FLUME			
ULTRASONIC FLOW METER			
PITOT FLOW METER			
AVERAGING PITOT FLOW METER			
THERMAL MASS FLOW METER			
TURBINE FLOW METER	M	M	M
ORIFICE PLATE			

ABBREVIATIONS LEGEND

AMD	ADMITTANCE
ATC	AUTOMATIC TEMPERATURE CONTROLLER
ATR	AUTOMATIC TRANSFER RELAY
CL	CHLORINE
CP	CONTROL PANEL
CR	CONTROL RELAY
CV	CONTROL VALVE
DOB	DRIVE/OFF/BYPASS
ESTOP	EMERGENCY STOP
ETM	ELAPSED TIME METER
FOR	FORWARD-OFF-REVERSE
FNR	FORWARD-NEUTRAL-REVERSE
HOA	HAND-OFF-AUTO
I	CURRENT
INF	INFLUENT
ISR	INTRINSICALLY SAFE RELAY
ISB	INTRINSIC SAFETY BARRIER
IT	INFORMATIONAL TECHNOLOGY
LCS	LOCAL CONTROL STATION
LEL	LOWER EXPLOSIVE LIMIT
LOR	LOCAL-OFF-REMOTE
MES	MANAGED ETHERNET SWITCH
MBS	MAINTENANCE BY-PASS SWITCH
MCC	MOTOR CONTROL CENTER
MS	MOTOR STARTER
O/L	OVERLOAD
OCA	OPEN-CLOSE-AUTO
OIT	OPERATOR TERMINAL
OT	OPERATIONAL TECHNOLOGY
PLC	PROGRAMMABLE LOGIC CONTROLLER
RESET	ALARM RESET
SV	SOLENOID VALVE
TR	TIMER RELAY
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
ULT	ULTRASONIC
UPS	UNINTERRUPTIBLE POWER SUPPLY
VFD	VARIABLE FREQUENCY DRIVE

INDICATOR LIGHT COLOR LEGEND

RUN/OPEN	GREEN
STOP/CLOSED	RED
WARNING	AMBER
ALARM	RED
POWER	WHITE

LOOP IDENTIFICATION CONVENTION:

THE FOLLOWING IS A STANDARD LOOP IDENTIFICATION CONVENTION FOR THE PUMP STATION. THE COMPLETE LOOP NUMBER WILL INCLUDE NESTED REFERENCES TO THE FACILITY AND PROCESS SYSTEM. THE LOOP IDENTIFICATION INCLUDES A LOOP PREFIX, LOOP INSTRUMENT TYPE / EQUIPMENT TYPE, LOOP NUMBER / SUFFIX. A BREAKDOWN OF THE FULL LOOP IDENTIFICATION SYSTEM IS BELOW.

PROCESS FLOW SCHEMATIC INSTRUMENT BALLOONS / LOOP IDENTIFIERS WILL BE SIMPLIFIED TO NOT SHOW THE LOOP PREFIX WITH THE FACILITY. A NOTE ON THESE DRAWINGS WILL IDENTIFY THE PREFIX.

LOOP DRAWING INSTRUMENT AND EQUIPMENT LOOP IDENTIFIERS WILL BE SIMPLIFIED TO NOT SHOW THE LOOP PREFIX WITH THE FACILITY/PROCESS(S). A NOTE ON THE BOTTOM RIGHT OF THESE DRAWINGS WILL IDENTIFY THE PREFIX.

LOOP IDENTIFICATION BREAKDOWN:

XX – @@ – #### &

- XX — LOOP PREFIX - AS REQUIRED — PUMP STATION IDENTIFIER
- – — HYPHEN
- @@ — INSTRUMENT/ELEMENT TYPE (AS REQUIRED: AE, FE, ETC), EQUIPMENT TYPE (AS REQUIRED: SV, CV, ETC), OR PANEL TYPE (AS REQUIRED: CP, LCS, ETC.) — REFER TO INSTRUMENTATION DRAWING LEGEND FOR INSTRUMENT/ELEMENT ABBREVIATION. REFER TO DRAWINGS FOR EQUIPMENT TYPE AND PANEL TYPE.
- – — HYPHEN
- #### — LOOP NUMBER — EQUIPMENT OR SYSTEM IDENTIFIER
- & — LOOP SUFFIX - AS REQUIRED — USED TO IDENTIFY IDENTICAL LOOPS ON IDENTICAL EQUIPMENT, SUCH AS MULTIPLE LEVEL ELEMENTS IN ONE TANK

NOTES:

1. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
2. PROVIDE SIGNAL REPEATERS/CONVERTERS/BOOSTERS AS REQUIRED BASED UPON EQUIPMENT SELECTED BY INSTRUMENTATION SUPPLIER, DISTANCE AND LOCATION.
3. PROVIDE DRIP SHIELDS TO PROTECT ALL PANELS LOCATED UNDERNEATH PIPES OR OTHER LIQUID-CONTAINING STRUCTURES.
4. REFERENCE PROCESS AND ELECTRICAL DRAWINGS FOR LOCATION OF PANELS AND FIELD INSTRUMENTATION.
5. CONTRACTOR TO COORDINATE NEEDED VOLTAGE BASED UPON EQUIPMENT SUPPLIED.
6. ALL FLOOR MOUNTED CONTROL PANELS SHALL BE INSTALLED ON 4" HIGH CONCRETE EQUIPMENT PADS.
7. WHERE INPUT AND OUTPUT SIGNALS TO A PLC IS REQUIRED, PROVIDE PROPER TYPE AND QUANTITY OF INPUT/OUTPUT MODULES (I/O).
8. CONTRACTOR SHALL COORDINATE THE TYPE OF ANALOG SIGNAL PROVIDED BY THE EQUIPMENT OR FIELD DEVICES WITH THE PROPER TYPE PLC I/O.
9. ALL ANALOG SIGNALS WILL BE 4-20mA, UNLESS OTHERWISE INDICATED OR REQUIRED.
10. ALL FIELD INSTRUMENTS SHALL BE POWERED FROM THEIR RESPECTIVE CONTROLS PANELS WITH UPS POWER UNLESS OTHERWISE NOTED. LOCAL CONTROL PANELS REQUIRE TWO POWER SOURCES, ONE FROM THE CONTROL PANEL UPS, ONE FROM A LIGHTING PANEL, UNLESS OTHERWISE NOTED.
11. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR WHEN MODIFYING AND/OR REPLACING EXISTING CONTROL PANELS AND FIELD INSTRUMENT LOCAL PANELS INTO TERMINATION BOXES.
12. PROVIDE DESIGNATED TERMINALS AND MODULES FOR ALL SHOWN I/O POINTS (EXISTING, NEW, AND FUTURE). FUTURE I/O SHALL BE COUNTED TOWARD THE TOTAL I/O COUNT WHEN CALCUATING THE PERCENTAGE OF PROVIDED SPARE I/O.
13. ALL LOCAL CONTROL STATION ARE PROVIDED BY OTHERS UNLESS STATED OTHERWISE. ALL LOCAL CONTROL PANELS ARE PROVIDED BY SYSTEM INTEGRATOR UNLESS STATED OTHER WISE.

NO	REVISIONS	APP'D	DATE
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PROJECT NO: 21119
DESIGNED: Q.SNYDER
CAD COORD: A.NESBIT
CAD: Q.SNYDER
CHECKED: P.DENIS
DATE: 04/2025
APPROVED: P.DENIS
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE — PAUL J. DENIS No. 15330 — REGISTERED PROFESSIONAL ENGINEER

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CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

LEGEND, ABBREVIATIONS, AND NOTES

DRAWING
I-01

J:\ENG\MEBATH\21119-HARWARDINFOSWMM-MODEL_DRAWINGS\INS\21119-IS.DWG | Legend | 1:1(0.12364677 ") — | 5/16/2025 9:13:40 AM | QUINN.SNYDER

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NETWORK LEGEND

UNMANAGED LAYER 2 SWITCH (UES)

CELL ROUTER / RADIO ROUTER

POWER AND DATA PORT

UPS — UNINTERRUPTIBLE POWER SUPPLY (UPS)

MODULAR PROGRAMMABLE LOGIC CONTROLLER (PLC)

OIT — OPERATOR INTERFACE TERMINAL

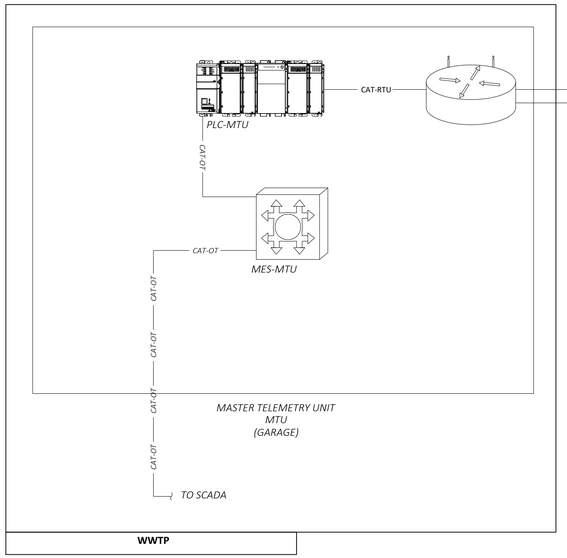
WIRELESS CONNECTION

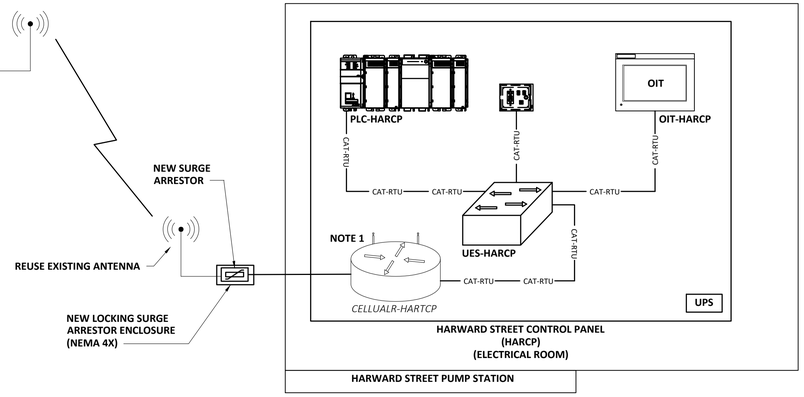
CAT-RTU — CAT CABLE - REMOTE TELEMETRY NETWORK (NEW)

CAT-RTU — CAT CABLE - REMOTE TELEMETRY NETWORK (EXISTING)

CAT-MTU — CAT CABLE - MASTER TELEMETRY NETWORK (NEW)

CAT-MTU — CAT CABLE - MASTER TELEMETRY NETWORK (EXISTING)





NOTES:

1. WHILE THE STATION IS ON BYPASS PUMPING, THE EXISTING CELLULAR MODEM WILL BE REMOVED FROM THE EXISTING CONTROL PANEL AND INSTALLED IN THE NEW CONTROL PANEL. THE EXISTING ANTENNA WILL BE REUSED WITH NEW ANTENNA CABLE. A NEW SURGE ARRESTOR ENCLOSURE WITH NEW SURGE ARRESTORS WILL BE INSTALLED. THE EXISTING CELLULAR MODEM IS A MULTITECH MTR-LNA7-B07-US.

NO	REVISIONS	APP'D	DATE
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STATE OF MAINE
PAUL J. DENIS
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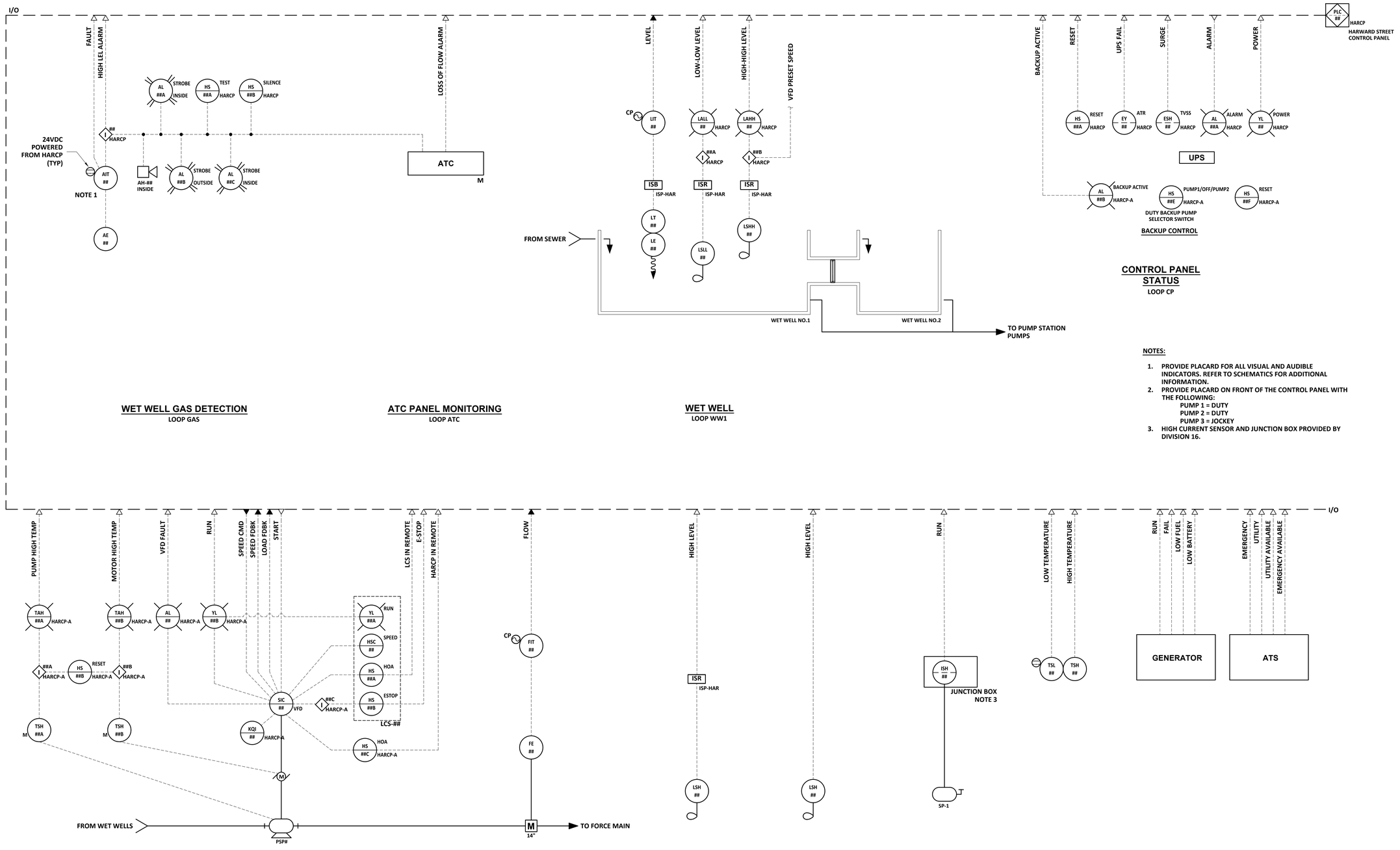
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

NETWORK DIAGRAM

DRAWING
I-02

J:\ENG\MES\BATH\21119-HARWARDINFOSWMM-MODEL_DRAWINGS\IN\521119-IS.DWG | Network | 1:10.12364677 | — | 5/16/2025 9:14:18 AM | QUINN.SNYDER

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WET WELL GAS DETECTION
LOOP GAS

ATC PANEL MONITORING
LOOP ATC

WET WELL
LOOP WW1

NOTES:

1. PROVIDE PLACARD FOR ALL VISUAL AND AUDIBLE INDICATORS. REFER TO SCHEMATICS FOR ADDITIONAL INFORMATION.
2. PROVIDE PLACARD ON FRONT OF THE CONTROL PANEL WITH THE FOLLOWING:
   PUMP 1 = DUTY
   PUMP 2 = DUTY
   PUMP 3 = JOCKEY
3. HIGH CURRENT SENSOR AND JUNCTION BOX PROVIDED BY DIVISION 16.

PUMP STATION PUMPS
(TYP OF 3)

PUMP STATION PUMP NO.1 (PSP-1); ## = PSP1 (DUTY)
PUMP STATION PUMP NO.2 (PSP-2); ## = PSP2 (DUTY)
PUMP STATION PUMP NO.3 (PSP-3); ## = PSP3 (JOCKEY)

PUMP STATION FLOW
LOOP PSP

SEWER MANHOLE
LOOP SMH

PUMP ROOM FLOOD MONITORING
LOOP PUMPRM

SUMP PUMP
LOOP SP1

ELECTRICAL ROOM MONITORING
LOOP ELERM

GENERATOR AND ATS
LOOP GEN

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CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

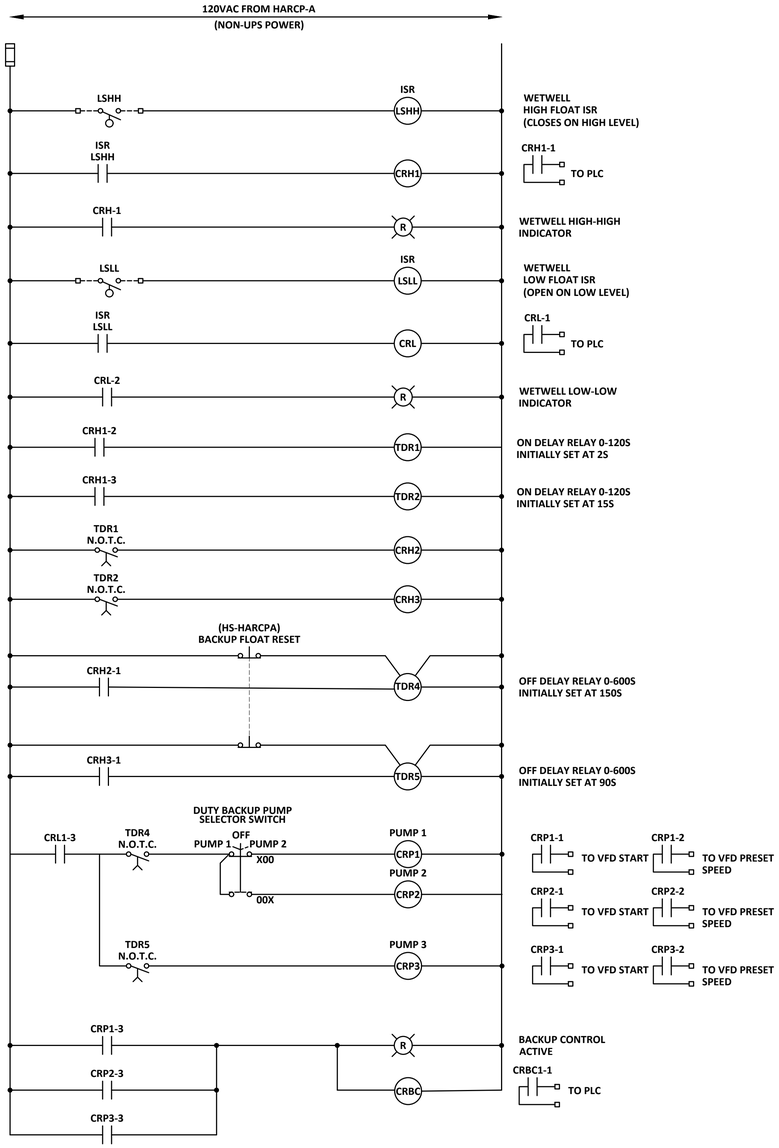
LOOP DRAWINGS

BUILDING(S) / PROCESS(ES) SHOWN: HARWARD STREET PUMP STATION
PREFIX: HAR

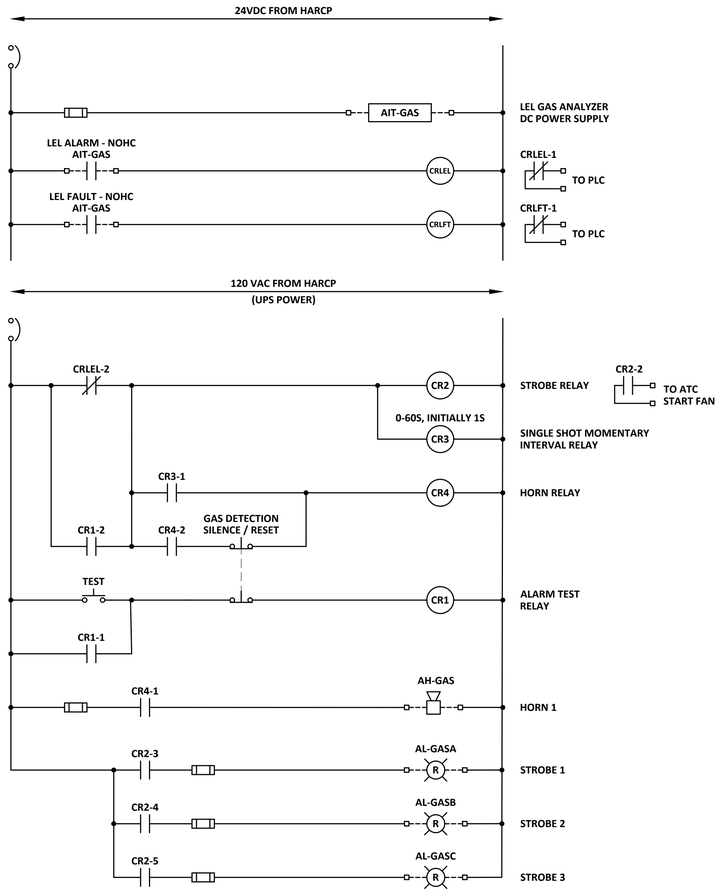
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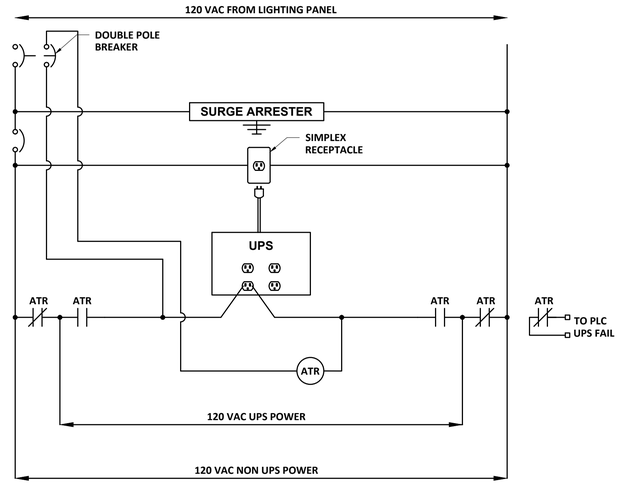
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SCHEMATIC DIAGRAM
BACKUP FLOAT
CONTROL DIAGRAM
NTS



TYPICAL GAS DETECTION
SCHEMATIC DIAGRAM
NTS



AUTOMATIC TRANSFER RELAY (ATR)
SCHEMATIC DIAGRAM
NTS

THE ABOVE CONTROL SCHEMATIC DIAGRAM APPLIES TO THE FOLLOWING EQUIPMENT:

1. WET WELL GAS DETECTION

NOTES:

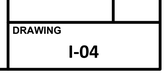
1. SCHEMATICS ARE SHOWN IN DE-ENERGIZED STATE.

2. SCHEMATICS ARE REPRESENTATIVE OF THE DESIGN INTENT, AND MAY REQUIRE MODIFICATION BASED ON EQUIPMENT SUBMITTALS. OTHER SCHEMATICS WILL BE ACCEPTED IF THEY MEET THE INTENT.
   - 2.1. ATR CIRCUIT:
     - 2.1.1. ATR SHALL TRANSFER POWER TO EQUIPMENT FROM UPS TO UTILITY POWER IN THE EVENT OF UPS FAILURE. OPERATOR SHALL HAVE ABILITY TO TRANSFER OFF OF UPS POWER USING AN MBS SWITCH.
   - 2.2. BACKUP FLOAT CONTROL SCHEMATIC:
     - 2.2.1. THE OPERATOR SHALL BE ABLE TO SELECT WHICH DUTY PUMP SHALL BE USED AS THE LEAD BACKUP PUMP. THE LAG BACKUP PUMP WILL BE THE JOCKEY PUMP.
     - 2.2.2. WHEN THE HIGH-HIGH FLOAT IS TRIPPED FOR A PERIOD OF TIME, THE SELECTED LEAD BACKUP PUMP WILL RUN UNTIL A RUN-TIME TIMER EXPIRES OR THE LOW-LOW FLOAT IS TRIPPED.
     - 2.2.3. IF THE HIGH-HIGH LEVEL FLOAT IS TRIPPED FOR A PERIOD OF TIME AFTER THE LEAD PUMP HAS TURNED ON, THE LAG BACKUP PUMP WILL RUN UNTIL A RUN-TIME TIMER EXPIRES OR THE LOW-LOW FLOAT IS TRIPPED.
     - 2.2.4. PRESSING THE RESET BUTTON WILL TEMPORARILY TURN OFF THE BACKUP PUMPS AND RESET THE COUNTDOWN TIMERS.
   - 2.3. GAS DETECTION SCHEMATIC:
     - 2.3.1. FAULT AND AND ALARM CONDITIONS WILL BE CONFIGURED AS FAILSAFE, NORMALLY OPEN, HELD CLOSED.
     - 2.3.2. AN ALARM CONDITION WILL TURN ON THE STROBES AND HORN, FAULT WILL NOT.
     - 2.3.3. THE STROBES AND HORN WILL REMAIN ON UNTIL THE CONDITION HAS CLEARED. THE STROBES AND HORN WILL NOT LATCH.
     - 2.3.4. IF AN ALARM CONDITION IS ACTIVE, A SILENCE BUTTON SHALL TURN OFF THE HORN, BUT THE STROBES WILL REMAIN ILLUMINATED.
     - 2.3.5. THE STROBES AND HORN WILL BE ABLE TO BE TESTED. WHEN THEY ARE BEING TESTED, THEY WILL REMAIN ACTIVE UNTIL THE SILENCE BUTTON IS DEPRESSED.

3. ISR'S SHALL BE 120VAC POWERED AND SHALL BE MOUNTED IN THE INTRINSICALLY SAFE PANEL.

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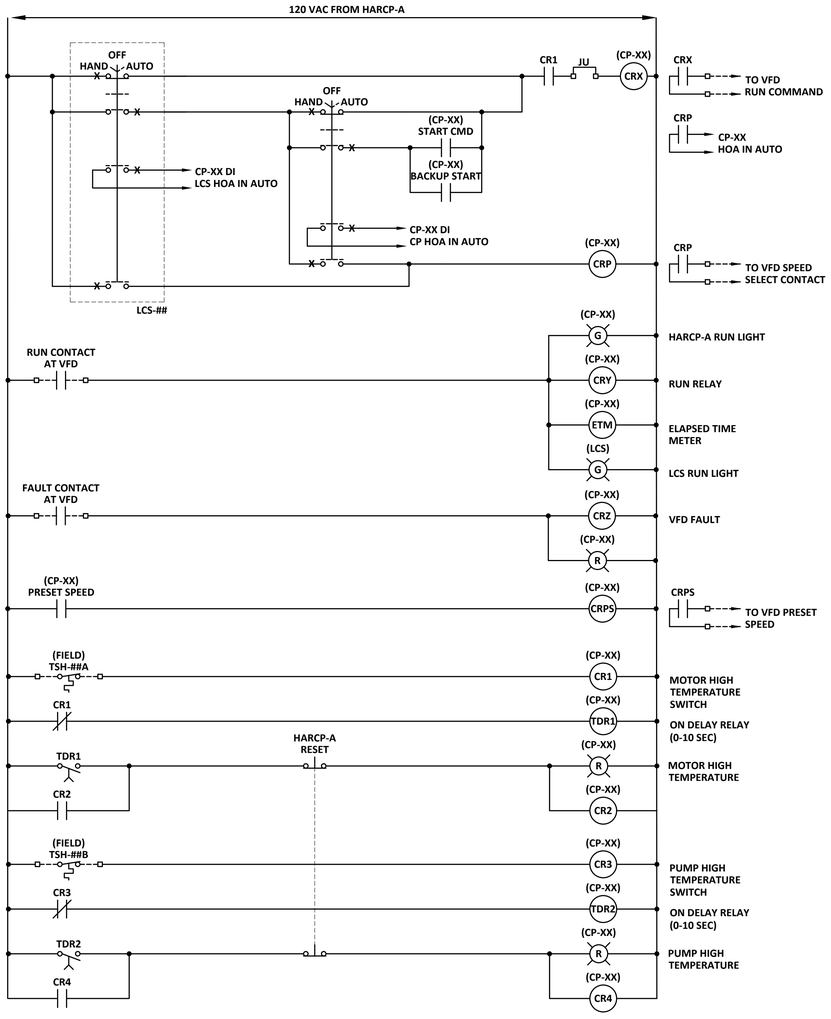
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

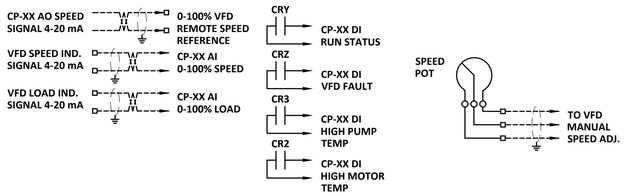
SCHEMATIC DIAGRAMS I

DRAWING
I-04

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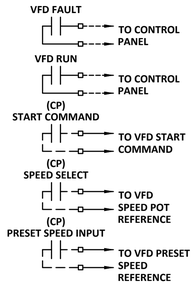


VFD SUBMERSIBLE PUMP SCHEMATIC DIAGRAM

THE ABOVE CONTROL SCHEMATIC DIAGRAM APPLIES TO THE FOLLOWING EQUIPMENT:

1. PUMP STATION PUMPS NO.1,2,3 (PSP-1,2,3); LOOPS ## = PSP1, PSP2, PSP3

CP-XX = HARCP-A



NOTES:
1. VFD SCHEMATIC IS TO BE USED BY THE VFD PROVIDER REFERENCED IN SPECIFICATION 16000.
2. THE SCHEMATICS ARE REPRESENTATIVE OF DESIGN INTENT AND SHALL NOT BE INTERPRETED AS A WIRING DIAGRAM. THE GENERAL CONTRACTOR AND VFD MANUFACTURER ARE RESPONSIBLE FOR MAKING THE NECESSARY ADJUSTMENTS TO THE SCHEMATICS FOR SPECIFIC REQUIREMENTS OF THE PROVIDED EQUIPMENT.
3. THE SCHEMATIC MAY NOT INCLUDE ALL NECESSARY APPURTENANCES, SEE SPECIFICATION 16000 FOR ALL REQUIREMENTS.

TYPICAL VFD SCHEMATIC

NTS

NOTES:
1. SCHEMATICS ARE SHOWN IN DE-ENERGIZED STATE.
2. SCHEMATICS ARE REPRESENTATIVE OF THE DESIGN INTENT, AND MAY REQUIRE MODIFICATION BASED ON EQUIPMENT SUBMITTALS. OTHER SCHEMATICS WILL BE ACCEPTED IF THEY MEET THE INTENT.

NO	REVISIONS	APP'D	DATE
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CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

SCHEMATIC DIAGRAMS II

DRAWING
I-05

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ELECTRICAL LEGEND

POWER

- PUSHBUTTON OR SELECTOR SWITCH STATION
- MAINTAINED RED MUSHROOM-HEAD EMERGENCY STOP P.B.
- PANELBOARD, SURFACE MTD.
- EQUIPMENT, TERMINAL, OR CONTROL CABINET
- MOTOR
- JUNCTION BOX
- 200/3 — UNFUSED SAFETY SWITCH, RATING AS NOTED
  - POLES
  - AMPERES
- FUSED SAFETY SWITCH
  - SIZED AS RECOMMENDED BY MFR
- C — LIGHTING OR POWER CONTACTOR
- T — THERMOSTAT
- UTILITY METER
- P — PHOTOELECTRIC CELL
- P / M — PHOTOELECTRIC CELL WITH MOTION SENSOR

SINGLE LINE DIAGRAM

- 100AF — FRAME SIZE / CIRCUIT BREAKER
- 70AT — TRIP AMPS
- COMBINATION MOTOR STARTER AND BREAKER
- GROUND CONNECTION
- S — MOTOR (HP AS SHOWN)
- M — METER
  - A - AMMETER
  - V - VOLTMETER
  - W - WATTMETER
- TRANSFORMER
- SAFETY DISCONNECT SWITCH
- SURGE CAPACITOR
- LIGHTNING ARRESTER
- DELTA CONNECTION
- WYE CONNECTION
- GROUND CONNECTION
- N / E — TRANSFER SWITCH
- SPD — SURGE PROTECTION DEVICE

SECURITY SYSTEM

- CR — CARD READER
- CAMERA

WIRING

- WIRING, CONCEALED IN FINISHED AREAS, EXPOSED WHERE PERMITTED BY SPECIFICATIONS
- WIRING INSTALLED IN OR BELOW FLOOR SLAB
- EBU-XX — HOME RUN TO DEVICE (EBU, ATC, ETC.)
- P101 — HOME RUN (NUMBER REFERS TO CONDUIT AND WIRE SCHEDULE AND EQUIPMENT SCHEDULE)
- DC — DC WIRING
- 3C#12 W/GND, 1"C — CONDUIT AND WIRE
- CONDUIT DOWN
- CONDUIT UP
- #XX — INDICATES THE CIRCUIT # OF THE RESPECTIVE PANELBOARD REFERENCED. SEE GENERAL NOTES 6 FOR CONDUIT AND WIRING REQUIREMENTS
- PTP-123 / P93 — HOME RUN (NUMBER REFERS TO CONDUIT AND WIRE IN EQUIPMENT SCHEDULE)

GROUNDING

- GROUND ROD
- EXOTHERMIC WELD CONNECTION
- BOLTED CONNECTION
- G — BARE COPPER CONDUCTOR RUN EXPOSED
- G — BARE COPPER CONDUCTOR EMBEDDED IN CONCRETE OR BURIED

SCHEMATIC DIAGRAM

- CR — CONTROL RELAY
- M — MOTOR CONTACTOR
- CONTACT NORMALLY OPEN
- CONTACT NORMALLY CLOSED
- OVERLOAD HEATER ELEMENT
- SELECTOR SWITCH
- START PUSHBUTTON, MOMENTARY CONTACT
- STOP PUSHBUTTON, MOMENTARY CONTACT
- RED MUSHROOM-HEAD MAINTAINED-TYPE EMERGENCY STOP PUSHBUTTON
- LIMIT SWITCH
- TIMED CONTACT
- R — PILOT LIGHT, LETTER INDICATES COLOR
  - G — GREEN
  - R — RED
  - A — AMBER
- FUSE
- CONNECTION POINT FOR EXTERNAL DEVICE
- INTERNAL CONNECTION POINT

LIGHTING FIXTURES

- Ma,#3 — LIGHT FIXTURE, 2x4 SURFACE OR RECESSED TROFFER TYPE
  - "M" INDICATES FIXTURE TYPE (SEE LIGHT FIXTURE SCHEDULE)
  - "a" INDICATES SWITCH CONTROL
  - #3" INDICATES CIRCUIT NUMBER
- LIGHT FIXTURE, STRIP, OPEN REFLECTOR, ENCLOSED OR WRAPAROUND TYPE
- WALL MOUNTED FIXTURE
- CEILING FIXTURE
- LIGHT WITH GLOBE AND GUARD
- EXIT SIGN, CEILING MOUNTED ARROW INDICATES EGRESS DIRECTION SHADING INDICATES SIGN FACE
- EXIT SIGN, WALL MOUNTED SHADING INDICATES SIGN FACE
- EMERGENCY LIGHTING BATTERY UNIT WITH 2 LAMP HEADS
- REMOTE EMERGENCY LIGHTING 1 OR 2 LAMP HEADS
- POLE MOUNTED SITE LIGHT
- AL-102 — ALARM LIGHT "AL-102" INDICATED DEVICE TYPE/TAG

SITE PLAN

- UTILITY POLE
- LIGHT POLE
- GUY WIRE
- T — TRANSFORMER
- EHH THH — ELECTRICAL, CONTROL, TELECON/FIBER HANDHOLE
- DUCTBANK SECTION CUT
- DUCTBANK

WIRING DEVICES

- 20 AMPERE, 120 VOLT DUPLEX RECEPTACLE
- GFI 20 AMPERE, 120 VOLT DUPLEX RECEPTACLE
- S — SINGLE POLE WALL SWITCH
  - WP — WEATHERPROOF
  - EP — EXPLOSION PROOF
  - M — MANUAL MOTOR STARTER
- SPECIAL PURPOSE RECEPTACLE
- J — JUNCTION BOX
- #XX — INDICATES THE CIRCUIT # OF THE RESPECTIVE PANELBOARD REFERENCED. SEE GENERAL NOTES 6 AND 19 FOR CONDUIT AND WIRING REQUIREMENTS

NOTE:
ALL NOTES AND SYMBOL LISTS SHALL BE CONSIDERED AS APPLICABLE TO ALL ELECTRICAL DRAWINGS FOR THIS PROJECT. SYMBOLS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY AND DO NOT INDICATE THEIR INCORPORATION IN THE DESIGN.

ABBREVIATIONS

A	AMPERE
AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
AI	ANALOG INPUT (PLC)
AIC	AMPERE INTERRUPTING CAPACITY
AO	ANALOG OUTPUT (PLC)
AR	AS REQUIRED
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CP	CONTROL PANEL
CR	CONTROL RELAY
CPT	CONTROL POWER TRANSFORMER
CU	COPPER
DC	DIRECT CURRENT
DI	DIGITAL INPUT (PLC)
DO	DIGITAL OUTPUT (PLC)
EC	ELECTRICAL CONTRACTOR
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EP	EXPLOSION PROOF CL I DIV 1 GR D
EPR	ETHYLENE PROPYLENE RUBBER
EQUIP	EQUIPMENT
ES	EMERGENCY STOP
EX	EXTERIOR
EXTG	EXISTING
FBO	FURNISHED BY OTHERS
FE	FLOW ELEMENT
FIT	FLOW INDICATOR TRANSMITTER
FNR	FORWARD NEUTRAL REVERSE
FS	FLOW SWITCH
FU	FUSE
FVR	FULL VOLTAGE REVERSING
FVNR	FULL VOLTAGE NON-REVERSING
FWE	FURNISHED WITH EQUIPMENT
FVNR	FULL VOLTAGE NON-REVERSING
GND	GROUND
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER
HZ	HERTZ
IMC	INTERMEDIATE METAL CONDUIT
ISR	INTRINSICALLY SAFE RELAY
JB	JUNCTION BOX
JU	JUMPER WIRE
K	KILO
KCMIL	THOUSAND CIRCULAR MILS
KV	KILOVOLT
KVA	KILOVOLT-AMPERE
L	LOCAL
LCP	LOCAL CONTROL PANEL
LCS	LOCAL CONTROL STATION
LE	LEVEL ELEMENT
LI	LEVEL INDICATOR
LIT	LEVEL INDICATOR TRANSMITTER
LP	LIGHTING PANEL
LS	LEVEL SWITCH
	L=LOW, H=HIGH, LL=LOW LOW, HH=HIGH HIGH
LT	LEVEL TRANSMITTER
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFR	MANUFACTURER
MLO	MAIN LUG ONLY
MS	MOTOR STARTER
MTD	MOUNTED
NC	NORMALLY CLOSED
NEG	NEGATIVE
NEU	NEUTRAL
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OH	OVERHEAD
OL	OVERLOAD
P	POLE
PB	PUSHBUTTON
PE	PRESSURE ELEMENT
PF	POWER FACTOR
PH	PHASE
PIT	PRESSURE INDICATOR TRANSMITTER
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PRI	PRIMARY
PT	PRESSURE TRANSMITTER
PVC	POLYVINYL CHLORIDE
R	REMOTE
RGS	RIGID GALVANIZED STEEL CONDUIT
RSC	RIGID STEEL CONDUIT
S	SURFACE
SEC	SECONDARY
SHLD	SHIELDED CABLE
SI	SPEED INDICATOR
SN	SOLID NEUTRAL
SP	SPARE
SPD	SURGE PROTECTIVE DEVICE
SW	SWITCH
SYM	SYMMETRICAL
T	TRANSFORMER
TB	TERMINAL BLOCKS
TDR	TIME DELAY RELAY
TE	TEMPERATURE ELEMENT
TIT	TEMPERATURE INDICATING TRANSMITTER
TL	TEMPERATURE LOW
TRANSF	TRANSFORMER
TS	TEMPERATURE SWITCH
TWS,TWSP	TWISTED SHIELDED CABLE
V	VOLT
VA	VOLT-AMPERE
VFD	VARIABLE FREQUENCY DRIVE
W	WIRE
XLP	CROSS LINKED POLYETHYLENE
XFMR	TRANSFORMER
ZSC	LIMIT SWITCH CLOSED
ZSO	LIMIT SWITCH OPEN

SYMBOLS LEGEND

DESCRIPTION

- 2 / E–1 — SECTION NUMBER, BUILDING SECTION, DRAWING NUMBER
- 2 / E–1 — WALL OR PARTIAL SECTION
- 2 / E–1 — DETAIL DESIGNATION

GENERAL NOTES

1. ALL CONDUIT AND EQUIPMENT SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE CURRENT NATIONAL ELECTRICAL CODE.
2. CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY ONLY AND SHALL BE INSTALLED IN A MANNER TO PREVENT CONFLICTS WITH EQUIPMENT AND STRUCTURES. EXPOSED CONDUITS SHALL BE INSTALLED PARALLEL TO BEAMS AND WALLS.
3. CONDUITS SHALL BE PROPERLY TERMINATED WITH NEAT CONNECTIONS TO ALL ASSOCIATED EQUIPMENT.
4. CONTROL AND INSTRUMENTATION CONDUIT SIZES AND NUMBER OF CONDUCTORS ARE TO BE DETERMINED FROM SCHEMATIC DIAGRAMS, INSTRUMENTATION DIAGRAMS, AND/OR SPECIFICATIONS, IF NOT DIRECTLY SHOWN ON POWER PLANS. THE WIRING DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUIT REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL AND INSTRUMENTATION EQUIPMENT. MODIFICATIONS REVIEWED BY THE ENGINEER WITH NO EXCEPTIONS TAKEN, MAY BE MADE BY THE CONTRACTOR TO ACCOMMODATE EQUIPMENT ACTUALLY PURCHASED. THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON THE DRAWINGS AND SPECIFICATIONS. EACH CONTROL AND INSTRUMENTATION CONDUIT SHALL ALSO CONTAIN 10 PERCENT SPARE CONDUCTORS, WITH A MINIMUM OF TWO SPARES, UP TO THE LIMIT OF CONDUIT FILL AS SPECIFIED BY THE NATIONAL ELECTRICAL CODE. INSTRUMENTATION SHIELDED CABLES SHALL BE INSTALLED IN RGS CONDUIT. SEPARATE FROM OTHER POWER WIRING.
5. EACH CONDUIT TO CARRY GROUND WIRE(S) IN ADDITION TO NUMBER OF CONDUCTORS SHOWN ON DRAWINGS OR PER NOTE 4 ABOVE. ALL GROUNDING MUST CONFORM TO ARTICLE 250 OF CURRENT NATIONAL ELECTRICAL CODE.
6. MINIMUM CONDUIT SIZE SHALL BE 3/4" TRADE SIZE, UNLESS OTHERWISE NOTED ON THE ELECTRICAL DRAWINGS. GENERAL LIGHTING, RECEPTACLE AND HVAC POWER CIRCUITS MAY BE 1/2" TRADE SIZE CONDUIT INSTALLED PER NEC. MINIMUM POWER WIRING SHALL BE 2C#12 AWG WITH GROUND AND 2C#14 AWG FOR CONTROL. MINIMUM INSTRUMENTATION CABLE SHALL BE 2/C#16 AWG TWS AND 3C#16 AWG TWS FOR SPEED POTENTIOMETERS AND RTD'S. PROVIDE CONDUIT AND WIRING AS INDICATED.
7. ALL SURFACE MOUNTED PANELS ON THE INSIDE OF EXTERIOR WALLS ABOVE GRADE, OR IN OTHER LOCATIONS CONSIDERED AS DAMP, SHALL BE MOUNTED TO MAINTAIN A 1/4" AIR SPACE BETWEEN THE ENCLOSURE AND THE WALL.
8. ELECTRICAL EQUIPMENT LOCATIONS ARE APPROXIMATE ONLY. COORDINATE LOCATIONS WITH PROCESS PIPING AND OTHER DRAWINGS. CONTRACTOR SHALL COORDINATE MANUFACTURER'S EQUIPMENT REQUIREMENTS WITH SPACE AVAILABLE. FINAL CONTROL PANEL LOCATIONS SHALL BE FIELD COORDINATED.
9. ALL FIELD CONTROL CONDUCTORS WILL TERMINATE AT INDIVIDUAL TERMINAL BLOCKS WITHIN THE CONTROL ENCLOSURE. SERIES AND PARALLEL CONNECTION OF FIELD CONTROL CONDUCTORS WILL BE MADE ONLY AT CONTROL PANEL OR MOTOR CONTROL CENTER TERMINAL BLOCKS.
10. GROUND ALL CONDUCTOR SHIELDS AT CONTROL PANEL ONLY - DO NOT GROUND SHIELDS AT BOTH ENDS.
11. AT THE FOLLOWING LOCATIONS, UNLESS OTHERWISE NOTED, PULL, JUNCTION, TERMINAL, SWITCH, AND OUTLET BOXES SHALL BE CAST IRON WHERE STEEL CONDUIT IS TERMINATED; OR SHALL BE CAST ALUMINUM WHERE ALUMINUM CONDUIT IS TERMINATED:
    - A - AT LOCATIONS WHERE VAPORTIGHT LIGHTING FIXTURES AND/OR WATERTIGHT RECEPTACLES ARE INDICATED.
    - B - AT LOCATIONS ON OR IN ALL OUTSIDE WALLS.
    - C - OUTDOORS
12. NAMEPLATES SHALL CONFORM STRICTLY TO INSTRUCTIONS IN THE ELECTRICAL SPECIFICATIONS AND ON THE DRAWINGS. THE FOLLOWING SHALL HAVE NAMEPLATES:
    - A - ALL LOCAL CONTROL STATIONS AT OR NEAR EQUIPMENT
    - B - ALL PANELBOARDS, MOTOR CONTROL CENTERS
    - C - GANGED LIGHT SWITCHES
    - D - PROCESS CONTROL PANELS
13. PIPE SLEEVES FOR CONDUITS PASSING FROM NON-HAZARDOUS AREAS TO HAZARDOUS AREAS SHALL HAVE CAULKING APPLIED TO MAKE THE INSTALLATION GASTIGHT.
14. CONTRACTOR SHALL PROVIDE ALL CONDUIT, WIRING, EQUIPMENT, AND CONTROL DEVICES AS INDICATED BY SCHEMATICS, SINGLE LINE DIAGRAMS, SCHEDULES, PLANS, SPECIFICATIONS, AND VENDOR DOCUMENTATION TO PROVIDE A COMPLETE WORKING SYSTEM. SINCE NOT ALL HOME RUNS ARE SHOWN ON PLANS, THE CONTRACTOR SHALL REFERENCE ALL SINGLE LINE AND SCHEMATIC DIAGRAMS, SCHEDULES, AND VENDOR DOCUMENTATION TO DETERMINE CONDUIT AND WIRING REQUIREMENTS.
15. PROVIDE CONCRETE HOUSEKEEPING PADS (4" HIGH) UNDER ELECTRICAL AND INSTRUMENTATION EQUIPMENT THAT IS DESIGNED TO BE FLOOR MOUNTED. PROVIDE SUBMITTAL SKETCH FOR ENGINEER REVIEW.
16. CONTRACTOR SHALL PROVIDE A COMPLETE WORKING OPERATING SYSTEM IN ACCORDANCE WITH ALL DRAWINGS, SPECIFICATIONS, CODES AND STANDARDS.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL OF THE ELECTRICAL DRAWINGS AND CONDUIT AND WIRE SCHEDULES RELATIVE TO THE CONDUIT AND WIRE TO BE PROVIDED ON THIS PROJECT. THE INTENT OF THE CONTRACT DOCUMENTS IS TO PROVIDE DETAILED INFORMATION OF SPECIFIC INDIVIDUAL RUNS OF CONDUIT AND WIRE TO SPECIFIC EQUIPMENT. THE CONTRACTOR IS DIRECTED TO COMBINE CONDUIT AND WIRE RUNS AS MUCH AS POSSIBLE. THE LIMITING FACTOR FOR COMBINING CONDUIT AND WIRE SHALL BE BASED ON THE DERATING FACTORS ALLOWED PER THE NATIONAL ELECTRICAL CODE (NEC) BASED ON EQUIPMENT RATINGS AND REQUIRED AMPACITY RATINGS. CONTRACTOR IS DIRECTED TO USE THE MOST COST-EFFECTIVE CONDUIT AND WIRE RUNS CONSISTENT WITH THESE REQUIREMENTS. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
18. 120V CIRCUITS EXCEEDING 100 FEET IN LENGTH SHALL BE NO 10 AWG WIRING, MINIMUM.
19. POWER CONDUITS FOR THREE PHASE AND SINGLE PHASE CIRCUITS (DESIGNATED WITH "P" NUMBERS) ARE SHOWN ON POWER PLANS, WITH CONDUIT SIZES AND WIRING INFORMATION INDICATED IN THE CONDUIT AND WIRE SCHEDULES.
20. CONTROL AND INSTRUMENTATION SIGNAL CONDUITS (DESIGNATED WITH "C" AND "S" NUMBERS OR, ALTERNATIVELY, INDICATED BY WAY OF A LEGEND) ARE SHOWN ON CONTROL AND INSTRUMENTATION WIRING DIAGRAMS, WITH CONDUIT SIZES AND WIRING INFORMATION INDICATED EITHER IN THE LEGEND OR IN CONDUIT AND WIRE SCHEDULES. THE CONTRACTOR SHALL NOTE THAT THE MAJORITY OF CONTROL AND INSTRUMENTATION SIGNAL CONDUITS AND WIRING REQUIRED FOR THIS CONTRACT IS INDICATED IN THE AFOREMENTIONED LEGEND AND DOES NOT APPEAR IN THE CONDUIT AND WIRE SCHEDULES. FOR INSTRUMENTS REQUIRING 120V POWER SUPPLIES, THIS INFORMATION IS ALSO SHOWN ON THE CONTROL AND INSTRUMENTATION WIRING DIAGRAMS.
21. PROVIDE CONDUIT EXPANSION PROTECTION FOR ALL EXTERIOR CONDUIT SYSTEMS.
22. FOR ALL OUTDOOR ELECTRICAL EQUIPMENT AND INSTRUMENTATION, CONTRACTOR SHALL USE CONDUIT INSTALLATION MEANS AND METHODS NECESSARY TO MITIGATE MOISTURE AND CONDENSATION PER NEC AND INSTALLATION METHODS LISTED IN SPECIFICATIONS. MITIGATION METHODS INCLUDE DRIP LOOPS, AVOIDING TOP ENTRY, USE OF BREATHERS, DRAINS, AND DUCT SEALANT AS NECESSARY.
23. DO NOT SCALE DISTANCES OR DIMENSIONS FROM THE DRAWINGS. WRITTEN DIMENSIONS SHALL PREVAIL. REPORT ANY DISCREPANCIES TO THE ENGINEER.

GENERAL DEMOLITION NOTES:

1. THE EXISTING ELECTRICAL PLAN FOR THIS PROJECT IS BASED ON INFORMATION PROVIDED BY OTHERS AND FIELD SURVEY OF THE SITE. GENERAL CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
2. FIELD VERIFY ALL CONDITIONS AFFECTING THE WORK PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
3. PROTECT ALL EXISTING ITEMS AND EQUIPMENT ADJACENT TO THE WORK AREA. ALL EXISTING ITEMS, EQUIPMENT AND MATERIALS DAMAGED OR AFFECTED BY THE WORK SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
4. THE EXISTING FACILITY SHALL REMAIN OPERATIONAL DURING CONSTRUCTION. SEE SPECIFICATION FOR ADDITIONAL DETAILS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE DEMOLITION AND CONSTRUCTION WITH THE OWNER'S REQUIREMENTS TO MAINTAIN FACILITY OPERATION. ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY SERVICES AS NECESSARY.
5. PATCH, REPAIR AND REFINISH ALL EXISTING SURFACES AFFECTED BY THE WORK, TO THE SATISFACTION OF THE ENGINEER.
6. ALL ITEMS SHOWN ON THE PLANS WITH SHADING ARE TO BE REMOVED AND DISPOSED OF, UNLESS OTHERWISE INDICATED. THIS SHALL INCLUDE ALL ASSOCIATED CONDUIT, WIRING, BOXES, DEVICES, CONTROLS, ETC. UNLESS OTHERWISE NOTED. THE OWNER RESERVES THE RIGHT TO RETAIN ANY EQUIPMENT OR MATERIALS. THE CONTRACTOR WILL STORE ON SITE AND PROTECT SUCH ITEMS IN A MANNER ACCEPTABLE TO THE OWNER AND ENGINEER. ALSO REFER TO THE STRUCTURAL, MECHANICAL, PROCESS AND ELECTRICAL DRAWINGS FOR A COMPLETE REQUIREMENT OF DEMOLITION WORK FOR THIS PROJECT.
7. ALL 120/208V ELECTRICAL EQUIPMENT TO REMAIN WHICH IS FED FROM PANELBOARDS OR EQUIPMENT DESIGNATED AS BEING REMOVED OR RELOCATED, SHALL REMAIN AND BE REWIRED FROM NEW OR RELOCATED PANELBOARDS OR EQUIPMENT AS NOTED ON THE MODIFIED DRAWINGS OR AS REQUIRED BY THE INTENDED OVERALL DEMOLITION OF THIS WORK. REMOVE EXISTING CONDUIT AND WIRING FROM THE APPLICABLE EXISTING PANELBOARD OR EQUIPMENT BACK TO THE CIRCUITS NEAREST PULLBOX, CONTROLLING DEVICE OR FIXTURE LOCATED OUTSIDE THE AREA BEING DEMOLISHED AND RE-FEED AS NOTED ON THE MODIFIED DRAWINGS. RE-FEED THE EXISTING EQUIPMENT WITH NEW CONDUIT AND WIRING FOR A COMPLETE INSTALLATION. SPLICING OF WIRING SHALL NOT BE ALLOWED.
8. THE EXISTING PANELBOARD CIRCUIT DESCRIPTIONS SHOWN WERE TAKEN FROM EXISTING PANELBOARD DIRECTORIES OBTAINED IN THE FIELD AND/OR BY EXISTING RECORD DRAWING PANELBOARD SCHEDULES. THE ACCURACY OF THESE DESCRIPTIONS HAS NOT BEEN FIELD VERIFIED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL CIRCUITRY, AS APPLICABLE FOR THIS PROJECT, ASSOCIATED WITH THE PANEL, AND REPORT ANY DISCREPANCIES TO THE ENGINEER.

NEMA CLASSIFICATIONS FOR NEW ELECTRICAL EQUIPMENT AND ENCLOSURES

(UNLESS OTHERWISE NOTED)

ROOM NAME	NEMA RATING
WET WELL ENTRANCE	7 (CLASS 1, DIV. 1) (SEE NOTE 2)
WET WELL	7 (CLASS 1, DIV. 1) (SEE NOTE 2)
PUMP ROOM	4X
ELECTRICAL ROOM	12
GENERAL OUTDOORS	4X
AIR RELEASE SMH	7 (CLASS 1, DIV. 2, GR C&D)

NOTES:

1. AREAS WITHIN 3' OF A VENT DISCHARGE THAT SERVES A CLASS 1, DIV. 1 ENVIRONMENT ARE RATED NEMA 7(CLASS 1, DIV. 1) AND BETWEEN 3' AND 5' OF THE VENT DISCHARGE ARE RATED NEMA 7(CLASS 1, DIV. 2).
2. AREAS WITHIN 3' OF A VENT DISCHARGE THAT SERVES A CLASS 1, DIV. 2 ENVIRONMENT ARE RATED NEMA 7(CLASS 1, DIV 2).
3. AREAS WITHIN 3' ENVELOPE OF VERTICAL OPENINGS (DOOR, HATCH, ETC.) ACCESSING A CLASS 1, DIV. 1 ENVIRONMENT ARE RATED NEMA 7(CLASS 1, DIV. 2).
4. AREAS WITHIN 18" ABOVE AND 3' HORIZONTAL OF A HORIZONTAL OPENING (DOOR, HATCH, ETC.) FROM A CLASS 1, DIV. 1 ENVIRONMENT ARE RATED NEMA 7(CLASS 1, DIV. 2).
5. AREAS FROM MINIMUM OPERATING WATER SURFACE TO TOP OF TANK WALLS; ENVELOPE 18" ABOVE TOP OF THE TANK AND EXTENDING 18" BEYOND THE EXTERIOR WALLS; ENVELOPE 18" ABOVE GRADE EXTENDING 10' HORIZONTALLY FROM THE EXTERIOR TANK WALLS FOR PRIMARY SEDIMENTATION, TANKS THAT ARE CLASSIFIED DOWNSTREAM OF PRIMARY SEDIMENTATION TANKS, OR TANKS THAT PROCEED PRIMARY SEDIMENTATION WHERE LIQUID TURBULENCE IS NOT INDUCED BY AERATION, WHICH ARE OPEN TO THE ATMOSPHERE, ARE RATED NEMA 7(CLASS 1, DIV. 2). THE AREA BEYOND THE ENVELOPE IS UNCLASSIFIED.
6. AREAS WITHIN 10' ENVELOPE OF EQUIPMENT AND OPEN TANKS/CHANNELS/STRUCTURES THAT ARE OPEN TO THE ATMOSPHERE PRIOR TO PRIMARY SEDIMENTATION OR AEROBIC TREATMENT WHERE LIQUID TURBULENCE IS INDUCED BY AERATION ARE RATED NEMA 7(CLASS 1, DIV. 2) THE AREA BEYOND THE ENVELOPE IS UNCLASSIFIED.

** CONDUIT INSTALLATION SCHEDULE

AREA NEMA RATING PER NEMA SCHEDULE	CONDUIT REQUIRED IN EXPOSED AREAS	CONDUIT REQUIRED IN NON EXPOSED AREAS	CONDUITS EMERGING FROM GRADE OR SLAB 12" AFF
1/12	* ALUMINUM	EMT	RGS PVC COATED
3R	* ALUMINUM	RGS	RGS PVC COATED
4	* ALUMINUM	RGS	RGS PVC COATED
4X	* ALUMINUM	RGS	RGS PVC COATED
4X CORROSIVE	RGS PVC COATED	RGS	RGS PVC COATED
4X CORROSIVE ABOVE 8'	PVC SCHEDULE 80	RGS	N/A
7	RGS PVC COATED	RGS	RGS PVC COATED
* IN CONCRETE SLAB	N/A	PVC SCHEDULE 40	RGS PVC COATED
* BELOW GRADE DUCT ENCASED IN CONCRETE	N/A	PVC SCHEDULE 40	RGS PVC COATED
* BELOW GRADE DUCT NON ENCASED	N/A	PVC SCHEDULE 80	RGS PVC COATED

** SEE SPECIFICATIONS FOR FURTHER INFORMATION
* SIGNAL CONDUITS SHALL BE RGS

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			
6			

PROJECT NO: 21119
DESIGNED: C.ABELL
CAD COORD: A.MESBIT
CAD: M.HOPPER
CHECKED: A.ROBERT
DATE: 05/2025
APPROVED: C.ABELL
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE — CHRISTOPHER N. ABELL — No. 13021 — LICENSED PROFESSIONAL ENGINEER — 5/15/25

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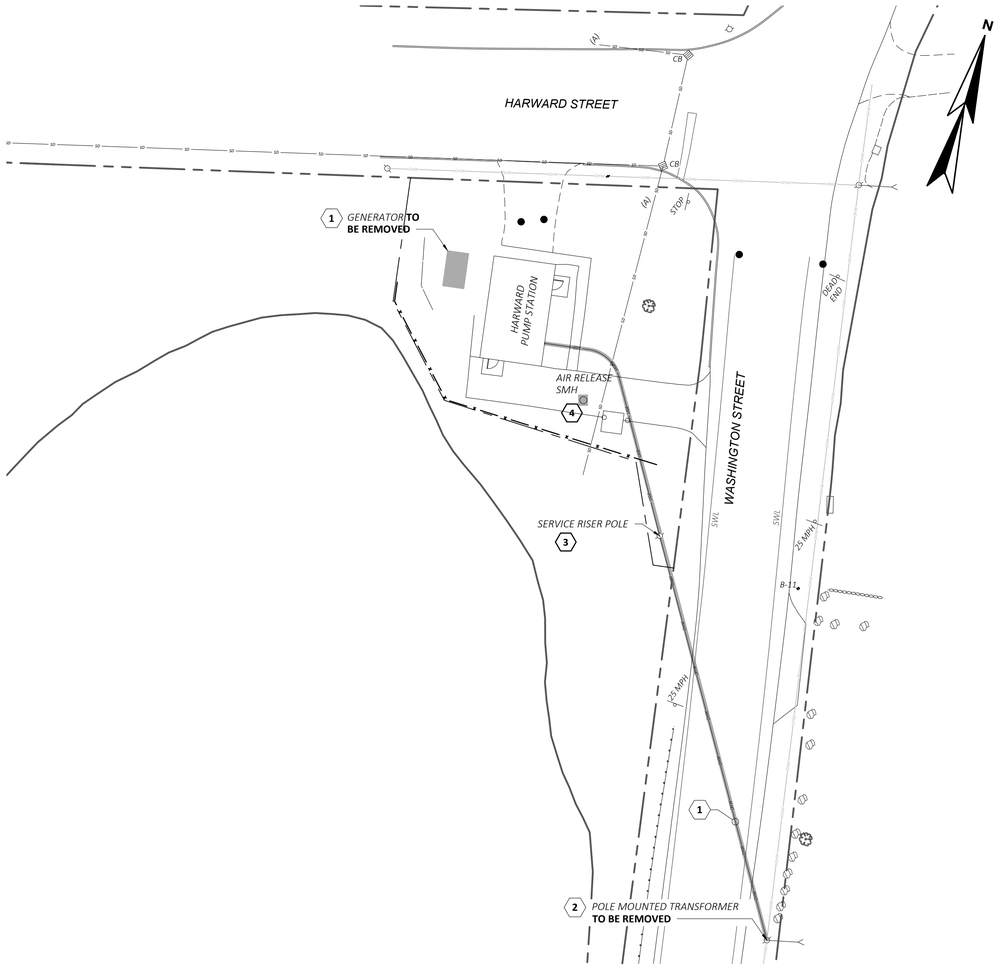
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

ELECTRICAL NOTES, LEGEND, ABBREVIATIONS, NEMA AND CONDUIT INSTALLATION SCHEDULE

DRAWING
E-01

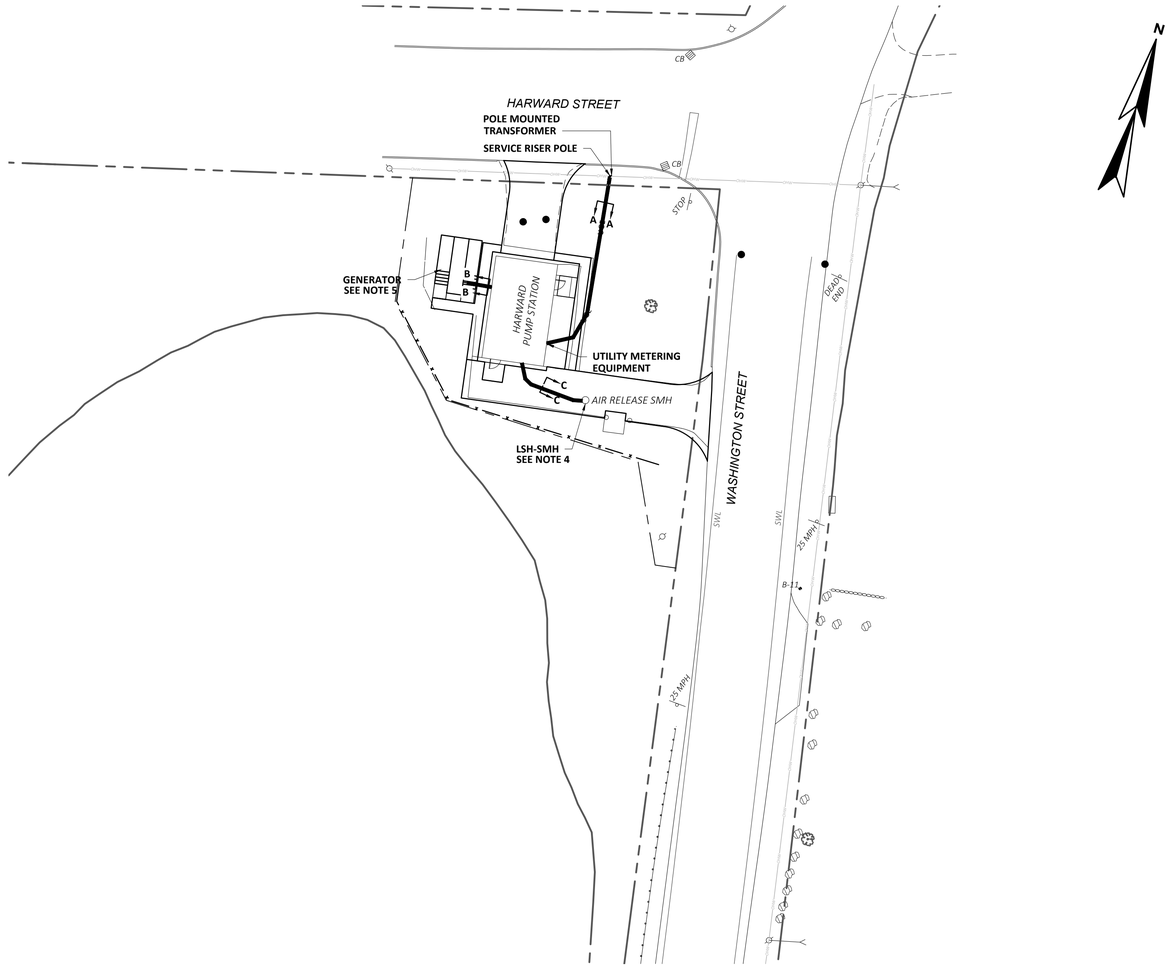
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1 HARWARD PUMP STATION ELECTRICAL SITE DEMOLITION PLAN

SCALE: 1"= 20'

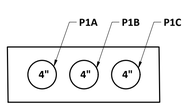


HARWARD PUMP STATION ELECTRICAL SITE MODIFICATION PLAN

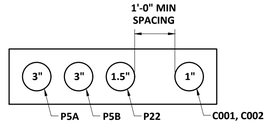
SCALE: 1"= 20'

DEMOLITION NOTES:

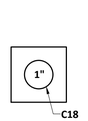
1. ELECTRICAL EQUIPMENT INDICATED WITH SHADING SHALL BE DISCONNECTED AND REMOVED ALONG WITH ALL OF THE ASSOCIATED CONDUIT, WIRE, PULLBOXES, ETC. IN IT'S ENTIRETY FOR A COMPLETE DEMOLITION, UNLESS OTHERWISE NOTED. ALL ABANDONED BELOW GRADE CONDUIT SHALL BE CUT AND CAPPED AT GRADE LEVEL. REFER TO NOTE 1 ON THIS DRAWING FOR ADDITIONAL DEMOLITION NOTES.
2. REMOVE OVERHEAD SERVICE, TELEPHONE BOXES, POLE MOUNTED TRANSFORMERS FOR A COMPLETE DEMOLITION.
3. REMOVE ALL WIRING AND HARDWARE FROM THE RISER. POLE IS TO REMAIN FOR FUTURE USE BY THE CITY.
4. REMOVE RECEPTACLE, FLOW METER, AND ALL ASSOCIATED CONDUIT BACK TO THE LIGHTING PANEL AND CONTROL PANEL.



SECTION A-A
NTS



SECTION B-B
NTS



SECTION C-C
NTS

NOTES:

1. FOR ELECTRICAL LEGEND, ABBREVIATIONS AND NOTES, REFER TO DRAWING E-01.
2. INFORMATION CONTAINED IN THESE PLANS AND DIAGRAMS HAS BEEN OBTAINED IN PART FROM EXISTING PLANT ELECTRICAL DRAWINGS, SITE CONDITIONS AND SHOP DRAWINGS. THE CONTRACTOR SHALL FIELD VERIFY ALL INFORMATION AND CIRCUITRY AFFECTING HIS OR HER WORK PRIOR TO COMMENCING THE WORK FOR THIS CONTRACT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
3. WORK REGARDING THE OVERHEAD ELECTRICAL SERVICE IS TO BE PERFORMED BY THE POWER COMPANY. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE POWER COMPANY.
4. COORDINATE LOCATION OF FORCE MAIN WITH NEW DUCT BANK.
5. CONTRACTOR TO COORDINATE LOCATION OF THE GENERATOR AND INSTALL THE GENERATOR SUCH THAT THE CONTROL PANEL IS FACING THE BUILDING.

NO	REVISIONS	APP'D	DATE
1			
2			
3			
4			
5			

PROJECT NO: 21119
DESIGNED: C.ABELL
CAD COORD: A.MESBIT
CAD: M.HOPPER
CHECKED: A.ROBERT
DATE: 05/2025
APPROVED: C.ABELL
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS



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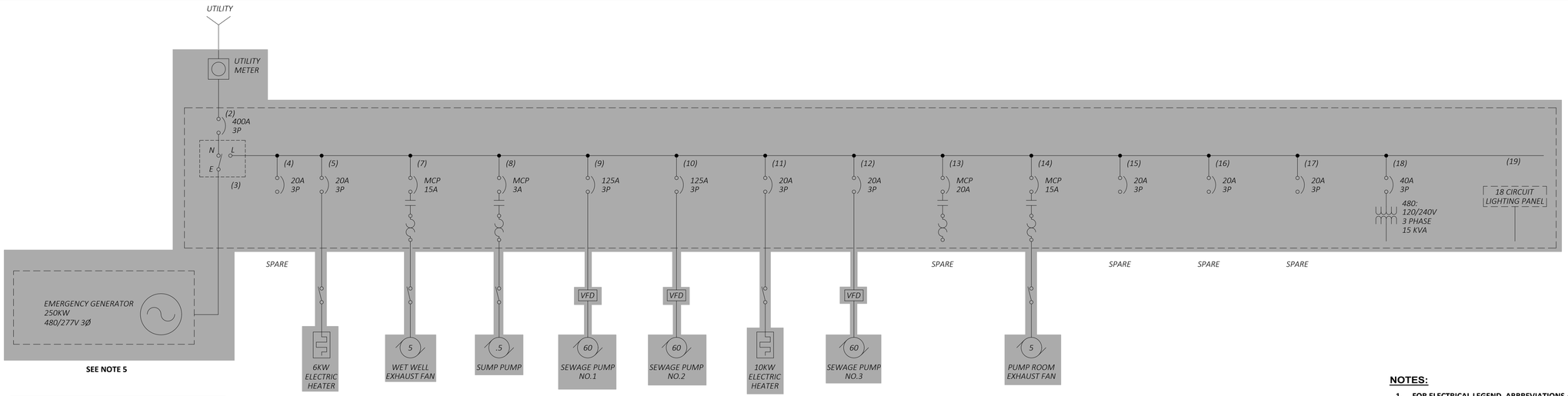
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

ELECTRICAL DEMOLITION AND MODIFICATION SITE PLANS

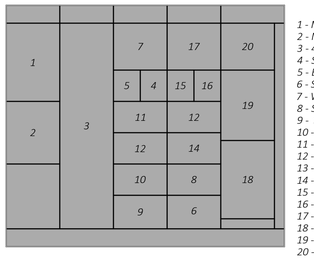
DRAWING
E-02

J:\ENGR\BATH\21119-HARWARDINFOSWMM-MODEL_DRAWINGS\ELEC\21119-ES-SITE.DWG | Site | 12.5849 | --- | 5/15/2025 10:05:48 AM | SANDY.MAURO

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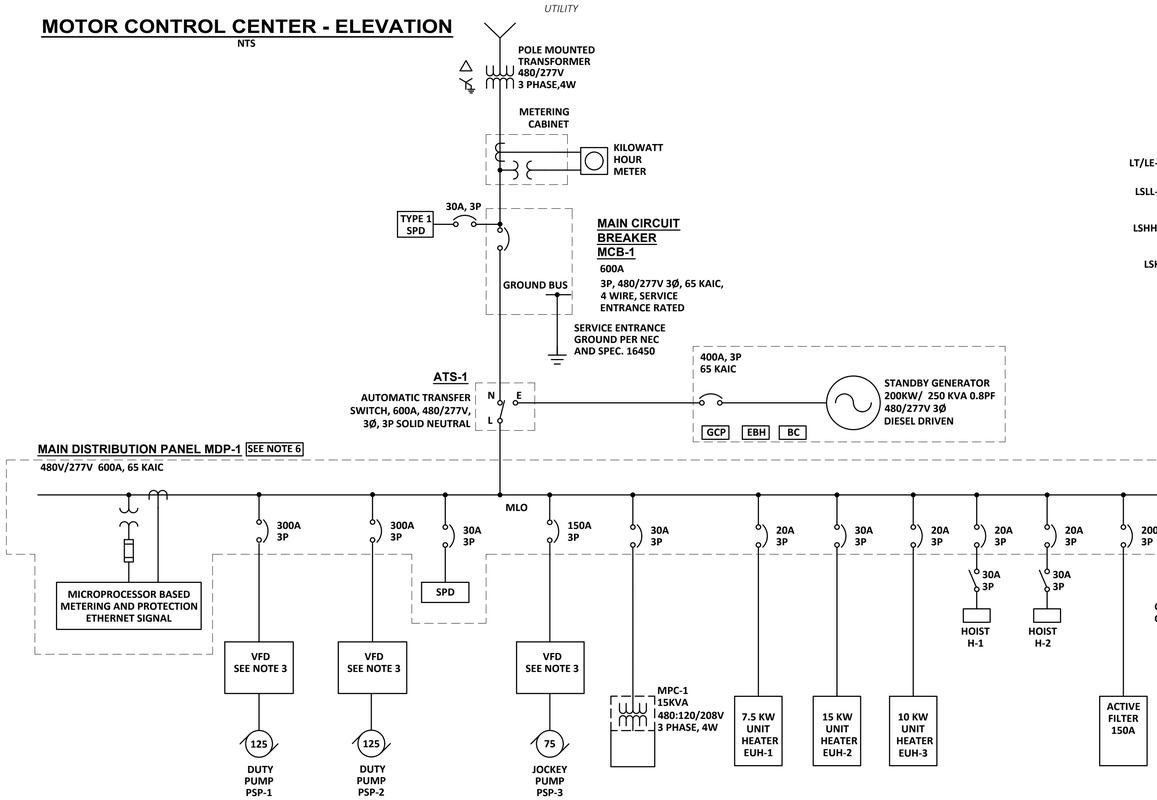


HARWARD PUMP STATION
SINGLE LINE DIAGRAM - DEMOLITION
NTS

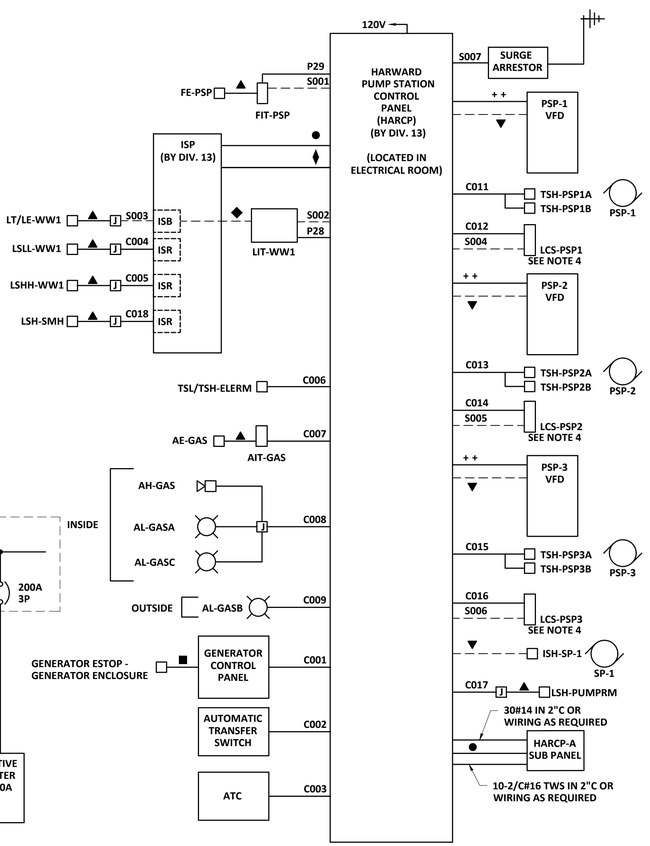


1 - METER
2 - MAIN BREAKER
3 - 400A AUTOMATIC TRANSFER SWITCH
4 - SPARE
5 - ELECTRIC HEATER
6 - SPACE
7 - WET WELL EXHAUST FAN
8 - SUMP PUMP
9 - SEWAGE PUMP NO.1
10 - SEWAGE PUMP NO.2
11 - ELECTRIC UNIT HEATER
12 - SEWAGE PUMP NO.3
13 - SPARE
14 - PUMP ROOM EXHAUST FAN
15 - SPARE
16 - SPARE
17 - SPARE
18 - CIRCUIT BREAKER AND 7.5 KVA TRANSFORMER
19 - 18 CIRCUIT LIGHTING PANEL
20 - SPACE

MOTOR CONTROL CENTER - ELEVATION
NTS



HARWARD PUMP STATION
SINGLE LINE DIAGRAM - MODIFICATION
NTS



HARWARD PUMP STATION
CONTROL AND INSTRUMENTATION DIAGRAM
NTS

NOTES:

1. FOR ELECTRICAL LEGEND, ABBREVIATIONS AND NOTES, REFER TO DRAWING E-01.
2. INFORMATION CONTAINED IN THESE PLANS AND DIAGRAMS HAS BEEN OBTAINED IN PART FROM EXISTING PLANT ELECTRICAL DRAWINGS, SITE CONDITIONS AND SHOP DRAWINGS. THE CONTRACTOR SHALL FIELD VERIFY ALL INFORMATION AND CIRCUITRY AFFECTING THEIR WORK PRIOR TO COMMENCING THE WORK FOR THIS CONTRACT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
3. PROVIDE CONNECTIONS OF DRY CONTACTS FROM THE CONTROL PANEL FOR START, RUN, FAULT, AND E-STOP ALONG WITH ANALOG WIRING WITHIN THE VARIABLE FREQUENCY DRIVE.
4. LOCAL CONTROL STATION SHALL BE PROVIDED WITH AN HOA SELECTOR SWITCH, E-STOP, RUN LIGHT, AND A SPEED POTENTIOMETER.
5. GENERATOR IS TO BE RETAINED BY THE OWNER.
6. PROVIDE A PAD LOCK HASP ACCESSORY TO BE ABLE TO ATTACH A PADLOCK FOR LOCK OUT/TAG OUT FOR THE BREAKER FOR THE FOLLOWING EQUIPMENT: PUMP STATION PUMP 1, PUMP STATION PUMP 2, PUMP STATION PUMP 3, MINI POWER CENTER, AND THE ACTIVE HARMONIC FILTER.

DEMOLITION NOTES:

1. ELECTRICAL EQUIPMENT INDICATED WITH SHADING SHALL BE DISCONNECTED AND REMOVED ALONG WITH ALL OF THE ASSOCIATED CONDUIT, WIRE, PULLBOXES, ETC. IN IT'S ENTIRETY FOR A COMPLETE DEMOLITION, UNLESS OTHERWISE NOTED. ALL ABANDONED BELOW GRADE CONDUIT SHALL BE CUT AND CAPPED AT GRADE LEVEL. REFER TO NOTE 1 ON THIS DRAWING FOR ADDITIONAL DEMOLITION NOTES.

LEGEND:

1. THE FOLLOWING SYMBOLS SHOWN ON THE CONTROL AND INSTRUMENTATION DIAGRAMS SHALL BE NOTED AS FOLLOWS:

- ▲ MANUFACTURER SUPPLIED CABLE, PROVIDE CONDUIT SIZED AS REQUIRED
- ■ PROVIDE 3/4"C, 4#14
- ▬ PROVIDE 3/4"C, 6#14
- ◄ PROVIDE 3/4"C, 8#14
- \+ PROVIDE 3/4"C, 10#14
- ✳ PROVIDE 3/4"C, 12#14
- ♦ PROVIDE 3/4"C, 14#14
- \+ + PROVIDE 1"C, 16#14
- ●● PROVIDE 1"C, 18#14
- ● PROVIDE 3/4"C, 2#12 & 1#12 GND (POWER SUPPLY)
- ◆ PROVIDE 3/4"C, (1)-2C #16 TWS
- X PROVIDE 3/4"C, (2)-2C #16 TWS
- ▼ PROVIDE 1"C, (3)-2C #16 TWS
- ○ PROVIDE 1"C, (2)-3/C #16 TWS
- ▟ PROVIDE 3/4"C, CAT 6 ETHERNET CABLE

NO	REVISIONS	APP'D	DATE
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PROJECT NO: 21119
DESIGNED: C.ABELL
CAD COORD: A.MESBIT
CAD: M.HOPPER
CHECKED: A.ROBERT
DATE: 05/2025
APPROVED: C.ABELL
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE CHRISTOPHER N. ABELL No. 13021 LICENSED PROFESSIONAL ENGINEER 5/15/25

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207.725.8721 | www.wright-pierce.com
11 BOWDOIN MILL ISLAND, SUITE 140, TOPSHAM, ME 04086

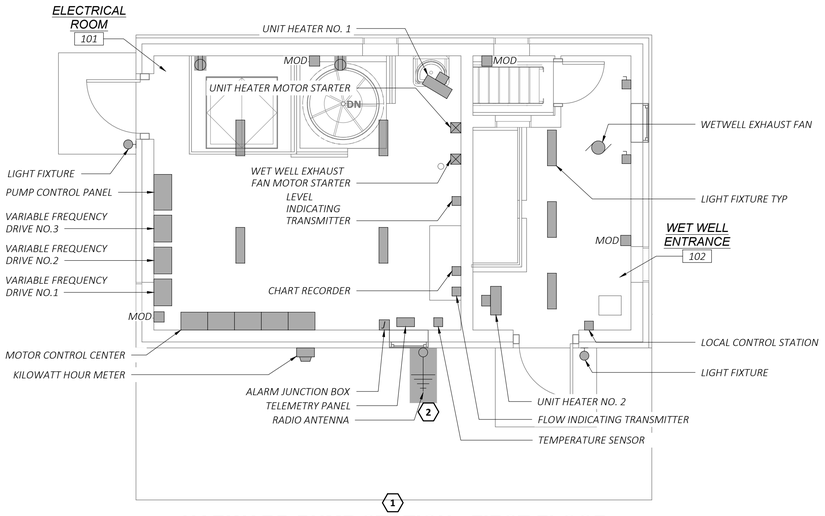
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

SINGLE LINE DIAGRAMS

DRAWING
E-03

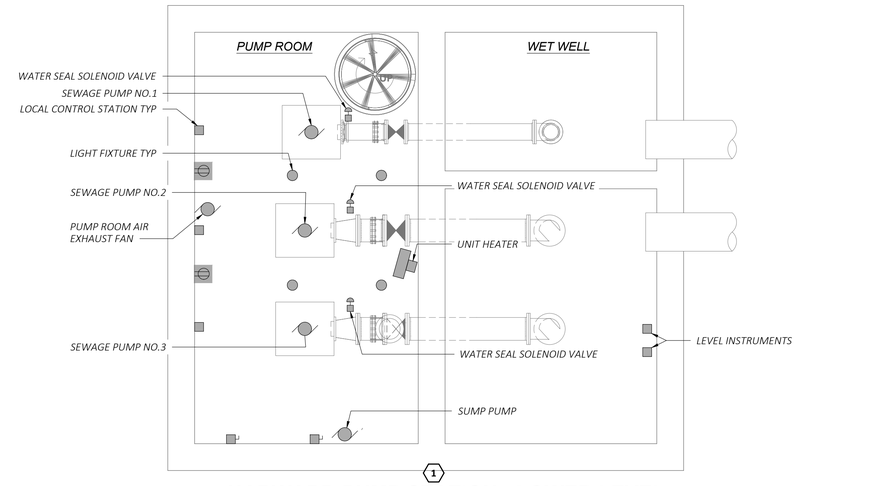
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LAST SAVED BY: SANDY.MAURO 5/13/2025 2:33 PM



HARWARD PUMP STATION - FIRST FLOOR DEMOLITION PLAN

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



HARWARD PUMP STATION - LOWER LEVEL DEMOLITION PLAN

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

NOTES:

1. FOR ELECTRICAL LEGEND, ABBREVIATIONS AND NOTES, REFER TO DRAWING E-01.
2. INFORMATION CONTAINED IN THESE PLANS AND DIAGRAMS HAS BEEN OBTAINED IN PART FROM EXISTING PLANT ELECTRICAL DRAWINGS, SITE CONDITIONS AND SHOP DRAWINGS. THE CONTRACTOR SHALL FIELD VERIFY ALL INFORMATION AND CIRCUITRY AFFECTING THEIR WORK PRIOR TO COMMENCING THE WORK FOR THIS CONTRACT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES.

DEMOLITION NOTES:

1. ELECTRICAL EQUIPMENT INDICATED WITH SHADING SHALL BE DISCONNECTED AND REMOVED ALONG WITH ALL OF THE ASSOCIATED CONDUIT, WIRE, PULLBOXES, ETC. IN IT'S ENTIRETY FOR A COMPLETE DEMOLITION, UNLESS OTHERWISE NOTED. ALL ABANDONED BELOW GRADE CONDUIT SHALL BE CUT AND CAPPED AT GRADE LEVEL. REFER TO NOTE 1 ON THIS DRAWING FOR ADDITIONAL DEMOLITION NOTES.
2. REMOVE WIRE BACK TO PANEL

NO	REVISIONS	APP'D	DATE
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6			

PROJECT NO: 21119
DESIGNED: C.ABELL
CAD COORD: A.MESBIT
CAD: M.HOPPER
CHECKED: A.ROBERT
DATE: 05/2025
APPROVED: C.ABELL
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE · CHRISTOPHER N. ABELL No. 13021 · LICENSED PROFESSIONAL ENGINEER · 5/15/25

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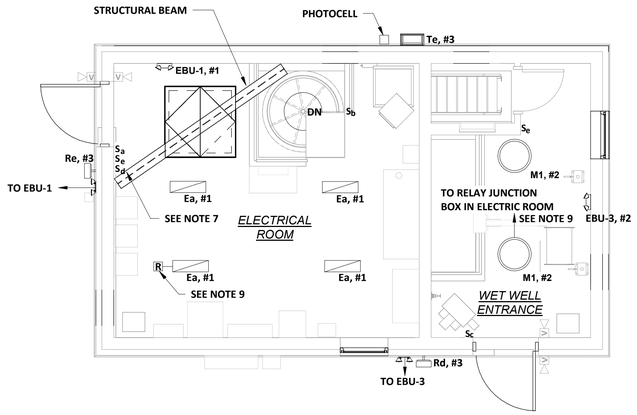
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

LOWER LEVEL AND FIRST FLOOR - DEMOLITION PLANS

DRAWING
E-04

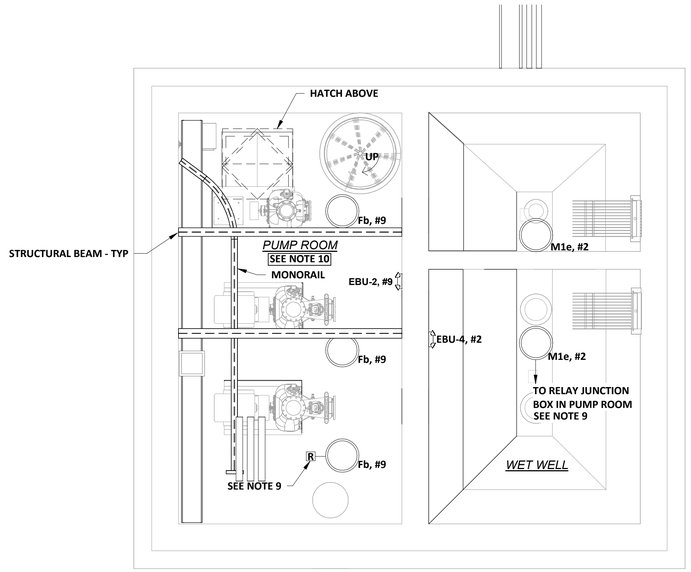
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HARWARD STREET PUMP STATION - FIRST FLOOR LIGHTING PLAN

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



HARWARD STREET PUMP STATION - LOWER LEVEL LIGHTING PLAN

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

NOTES:

1. FOR ELECTRICAL LEGEND, ABBREVIATIONS AND NOTES, REFER TO DRAWINGS E-01.
2. CIRCUIT NUMBERS INDICATED ON THIS DRAWING REFER TO PANELBOARD LP-1, UNLESS OTHERWISE NOTED.
3. REFER TO THE ELECTRICAL EQUIPMENT SCHEDULE FOR CIRCUIT, WIRING, CONDUIT AND ADDITIONAL INFORMATION.
4. PROVIDE ELECTRICAL MOUNTING STRUCTURE FOR A COMPLETE INSTALLATION. REFER TO DETAIL ON THE ELECTRICAL DETAIL DRAWINGS FOR ADDITIONAL INFORMATION.
5. REFER TO CONTROL AND INSTRUMENTATION WIRING DIAGRAMS FOR ADDITIONAL CONDUIT AND WIRING REQUIREMENTS.
6. NOT ALL PIPING AND DUCT WORK IS SHOWN FOR CLARITY.
7. THE OUTDOOR LIGHTS ARE TO BE CONTROLLED BY THE PHOTOCELL THROUGH THEIR RESPECTIVE LIGHT SWITCHES.
8. ALL EQUIPMENT IN THE ELECTRICAL ROOM AND WET WELL ENTRANCE SHALL BE INSTALLED ABOVE THE DESIGN FLOOD ELEVATION. REFER TO ARCHITECTURAL DRAWINGS FOR THE DESIGN FLOOD ELEVATION.
9. PROVIDE A RELAY WITHIN A JUNCTION BOX TO BE ENERGIZED WHEN THE LIGHTS ARE TURNED ON. THE CONTACT IS TO BE SENT TO THE AUTOMATIC TEMPERATURE CONTROL PANEL FOR CONTROL OF THE HVAC SYSTEM. RELAYS ARE TO BE LOCATED OUT OF THE EXPLOSION PROOF AREA.
10. PENDANT MOUNT LIGHT FIXTURES 4' FROM THE CEILING.

NO	REVISIONS	APP'D	DATE
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PROJECT NO: 2119
DESIGNED: C. ABELL
CAD COORD: A.NESBIT
CAD: M.HOPPER
CHECKED: A.ROBERT
DATE: 04/2025
APPROVED: C. ABELL
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE — CHRISTOPHER N. ABELL No. 13021 — LICENSED PROFESSIONAL ENGINEER — 5/15/25

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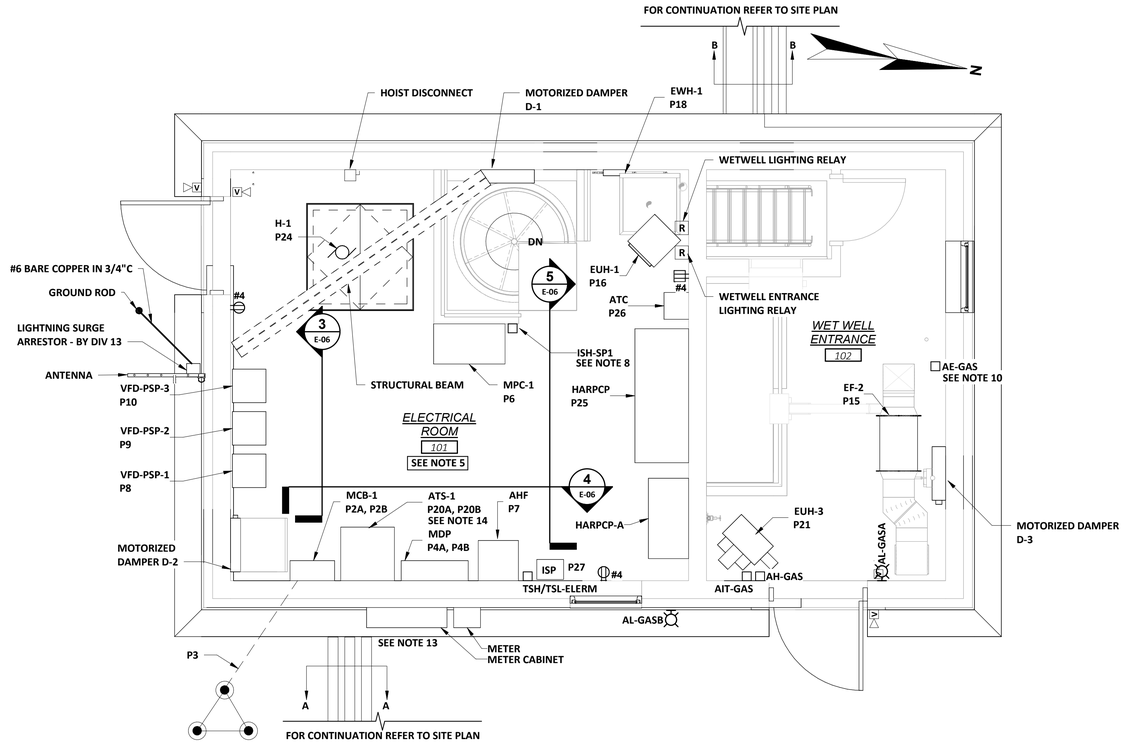
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

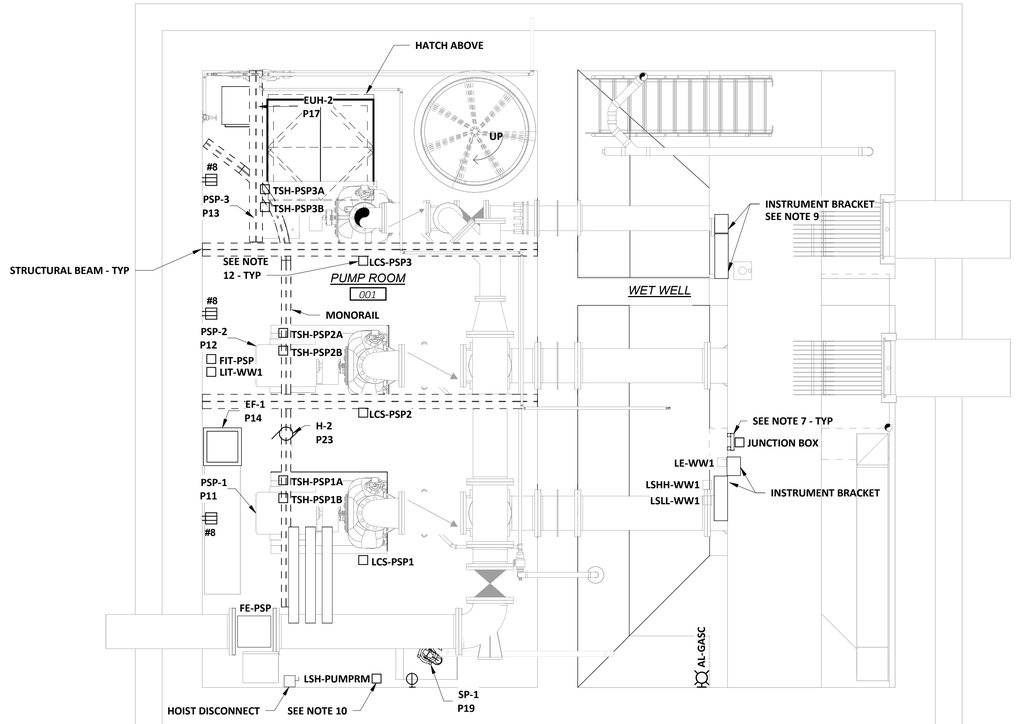
LIGHTING MODIFICATION PLANS

DRAWING
E-05

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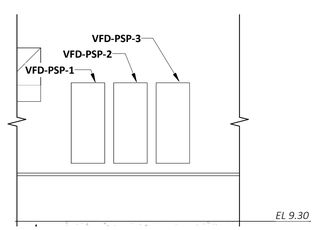
SEE NOTE 15

HARWARD STREET PUMP STATION - FIRST FLOOR POWER PLAN

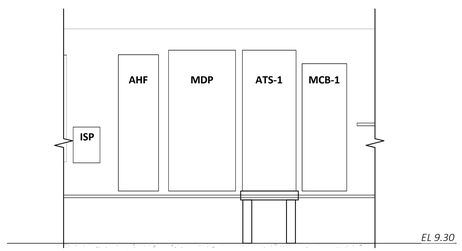
SCALE: 3/8" = 1'-0"

HARWARD STREET PUMP STATION - LOWER LEVEL POWER PLAN

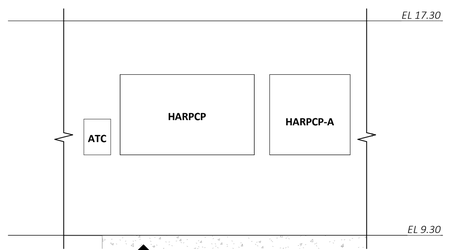
SCALE: 3/8" = 1'-0"



3 E-06 SECTION
SCALE: 3/8" = 1'-0"



4 E-06 SECTION
SCALE: 3/8" = 1'-0"



5 E-06 SECTION
SCALE: 3/8" = 1'-0"

NOTES:

1. FOR ELECTRICAL LEGEND, ABBREVIATIONS AND NOTES, REFER TO DRAWINGS E-01.
2. CIRCUIT NUMBERS INDICATED ON THIS DRAWING REFER TO PANELBOARD LP-1, UNLESS OTHERWISE NOTED.
3. REFER TO THE ELECTRICAL EQUIPMENT SCHEDULE FOR CIRCUIT, WIRING, CONDUIT AND ADDITIONAL INFORMATION.
4. ALL EQUIPMENT IN THE ELECTRICAL ROOM AND WET WELL ENTRANCE SHALL BE INSTALLED ABOVE THE DESIGN FLOOD ELEVATION. REFER TO ARCHITECTURAL DRAWINGS FOR THE DESIGN FLOOD ELEVATION.
5. REFER TO CONTROL AND INSTRUMENTATION WIRING DIAGRAMS FOR ADDITIONAL CONDUIT AND WIRING REQUIREMENTS.
6. NOT ALL PIPING AND DUCT WORK IS SHOWN FOR CLARITY.
7. PROVIDE ELECTRICAL MOUNTING STRUCTURE FOR A COMPLETE INSTALLATION. REFER TO DETAIL ON THE ELECTRICAL DETAIL DRAWINGS FOR ADDITIONAL INFORMATION.
8. INSTALL WIRING TO THE SUMP PUMP RECEPTACLE THROUGH A CURRENT RELAY FOR SCADA MONITORING. PROVIDE JUNCTION BOX FOR THE RELAY.
9. INSTALL A SECOND SET OF BRACKETS (PROVIDED BY DIV 13) TO HANG INSTRUMENTS IN THE OTHER WETWELL. PROVIDE ADEQUATE LENGTHS OF CABLES TO BE ABLE TO MOVE THE INSTRUMENTS FROM EITHER WETWELL.
10. INSTALL FLOAT SWITCH TO ALARM AT 4" ABOVE FLOOR.
11. INSTALL GAS DETECTOR ELEMENT 2" FROM THE CEILING.
12. FIELD LOCATE OF THE LOCAL CONTROL STATIONS WITH THE OWNER.
13. STUB UP SPARE CONDUIT AND CAP.
14. CONTRACTOR TO PROVIDE A STAND COMPRISED OF 4"C CHANNEL OR METAL CHANNEL AS REQUIRED TO SUPPORT THE AUTOMATIC TRANSFER SWITCH FROM THE FLOOR.
15. CONDUITS ENTERING ENCLOSURES FROM BELOW THE PROTECTED FLOOD ELEVATION ARE TO HAVE SEALANT INSTALLED WITHIN THE CONDUITS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

NO	REVISIONS	APP'D	DATE
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PROJECT NO: 21119
DESIGNED: C. ABELL
CAD COORD: A.NESBIT
CAD: M.HOPPER
CHECKED: A.ROBERT
DATE: 04/2025
APPROVED: C. ABELL
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE
CHRISTOPHER N. ABELL
No. 13021
LICENSED PROFESSIONAL ENGINEER
5/15/25

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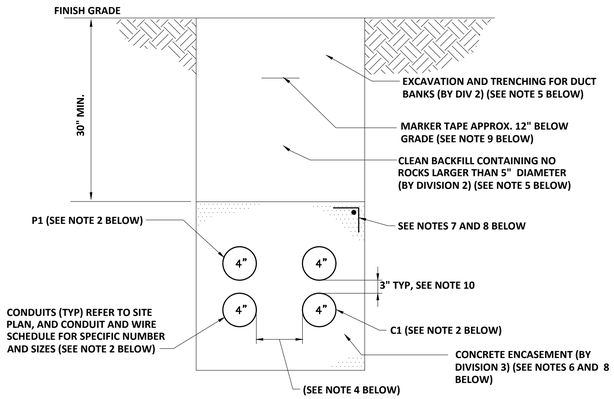
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

POWER MODIFICATION PLANS

DRAWING
E-06

Autodesk Docs://ME-Bath-21119-HarwardPSAInterceptor-Upgrades/21119-HarwardPumpStation.rvt

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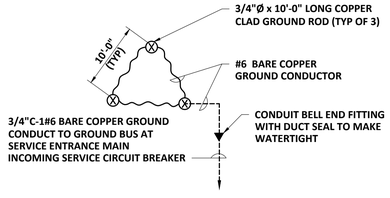


(REFER TO NOTES BELOW FOR ADDITIONAL REQUIREMENTS)

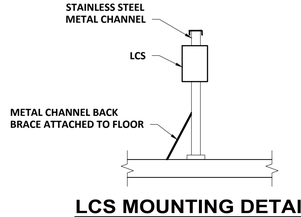
NOTES: (DUCT BANK DETAIL)

1. DIMENSIONS TYPICAL FOR ALL DUCT BANKS, UNLESS OTHERWISE NOTED.
2. FOR CONDUIT DETAILS, SEE CONDUIT AND WIRE SCHEDULES. REFERENCES P1 AND C1 DENOTES CONDUIT NUMBERS. REFER TO SPECIFIC DUCT BANK SECTIONS AND CONDUIT AND WIRE SCHEDULES FOR DETAILS.
3. THIS TYPICAL DUCT BANK SECTION HAS BEEN SHOWN AS AN EXAMPLE OF THE REQUIREMENTS FOR THE UNDERGROUND INSTALLATION FOR THE DUCT BANK SYSTEM. THIS DENOTES SPECIFIC SPACING, CONCRETE ENCASEMENT, REINFORCING, ETC. REQUIRED FOR DUCT BANK INSTALLATIONS. THE SPECIFIC CONDUIT SIZING AND NUMBERS HAVE BEEN SHOWN BY EACH SPECIFIC DUCT BANK SECTION.
4. IT SHALL BE REQUIRED THAT A MINIMUM OF 1'-0" CLEARANCE BE PROVIDED AT ALL TIMES BETWEEN ALL POWER CONDUITS AND ALL SIGNAL AND/OR CONTROL CONDUITS IN ORDER TO AVOID ANY ELECTRICAL NOISE INTERFERENCE WITH THE CABLES OR WIRES WITHIN THESE SIGNAL AND CONTROL CONDUITS.
5. EXCAVATION, TRENCHING AND BACKFILLING SHALL BE FURNISHED AND INSTALLED UNDER DIVISION 2 OF THIS CONTRACT.
6. CONCRETE ENCASEMENT SHALL BE FURNISHED AND INSTALLED UNDER DIVISION 3 OF THIS CONTRACT.
7. REINFORCING STEEL SHALL BE FURNISHED AND INSTALLED UNDER DIVISION 3 OF THIS CONTRACT.
8. REFER TO THE CONTRACT DRAWINGS FOR SPECIFIC DETAILS FOR CONCRETE ENCASEMENT AND REINFORCING OF ELECTRICAL DUCT BANKS.
9. INSTALL MARKER TAPE THE ENTIRE LENGTH OF EACH DUCT BANK.
10. THERE SHALL BE 3" SPACING SEPARATION BETWEEN ALL CONDUITS, EXCEPT AS NOTED. ALSO THERE SHALL BE 3" SPACING ALL AROUND OUTSIDE OF THE CONDUIT DUCTBANK (TYP).

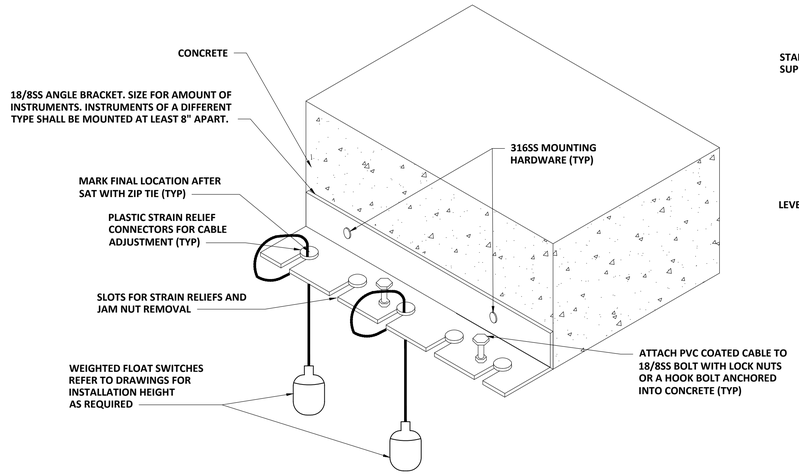
TYPICAL DUCT BANK DETAIL
NTS



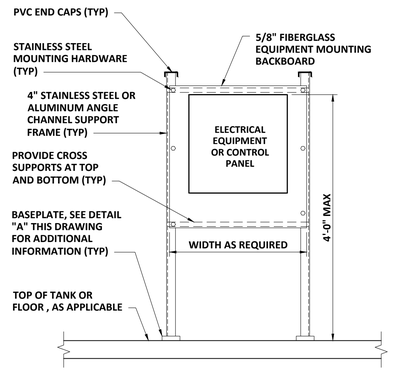
BUILDING GROUND SYSTEM PLAN
NTS



LCS MOUNTING DETAIL
NTS

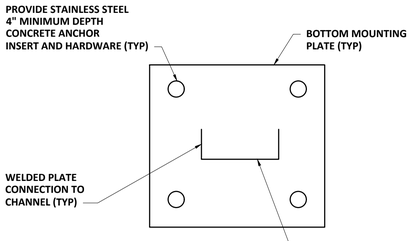


TYPICAL FLOAT SWITCH SUPPORT AND INSTALLATION DETAIL
NTS



FRONT VIEW

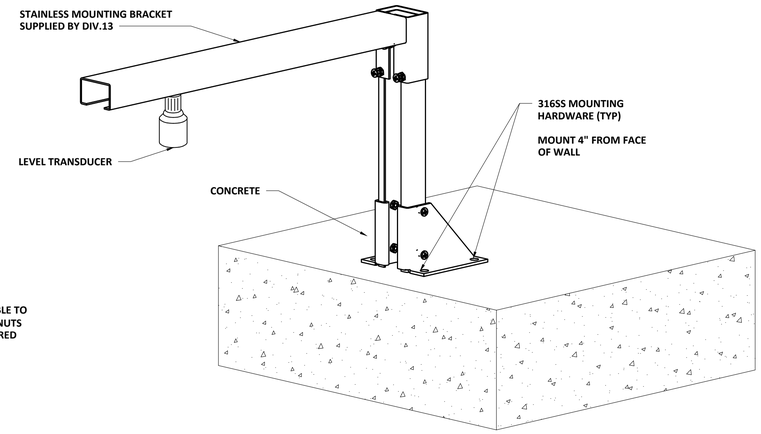
EQUIPMENT MOUNTING STRUCTURE TYPICAL
NTS



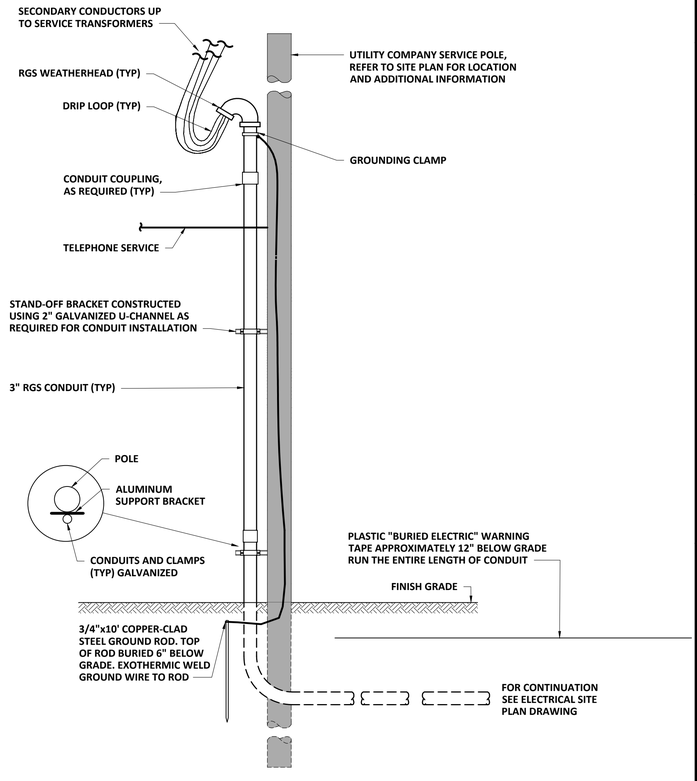
NOTES:

1. THE DETAIL SHOWN FOR MOUNTING OF THE EQUIPMENT NOTED SHALL APPLY TO ALL SIMILAR EQUIPMENT MOUNTING. THIS SHALL BE INSTALLED AT ALL LOCATIONS FOR MOUNTING OF PANELS, EQUIPMENT, DISCONNECT SWITCHES, CONTROL STATIONS, ETC., WHERE THERE IS LIMITED MOUNTING STRUCTURES TO MOUNT THIS EQUIPMENT. REFER TO ADDITIONAL ELECTRICAL DETAILS AND MOUNTING SHOWN ON THE CONTRACT DRAWINGS.
2. DIMENSIONS SHOWN ARE MINIMUM. PROVIDE FINAL SIZE OF BACK PANEL TO SUIT EQUIPMENT TO BE INSTALLED.

DETAIL "A"
NTS



WET WELL OR TANK FLOOR MOUNT RADAR SUPPORT
NTS



RISER POLE NOTES:

1. THE CONTRACTOR SHALL PROVIDE UNDERGROUND CONDUIT AND ROUTING AS SHOWN ON THIS DETAIL, SITE PLANS AND AS NOTED ON THE CONDUIT AND WIRING SCHEDULE. COORDINATE FINAL LOCATIONS OF CONTACT POLE WITH THE UTILITY COMPANY.

ELECTRICAL SERVICE RISER POLE DETAIL
NTS

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PROJECT NO: 21119
DESIGNED: C.ABELL
CAD COORD: A.MESBIT
CAD: S.MAURO
CHECKED: A.ROBERT
DATE: 05/2025
APPROVED: C.ABELL
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE — CHRISTOPHER N. ABELL No. 13021 — LICENSED PROFESSIONAL ENGINEER — 5/15/25

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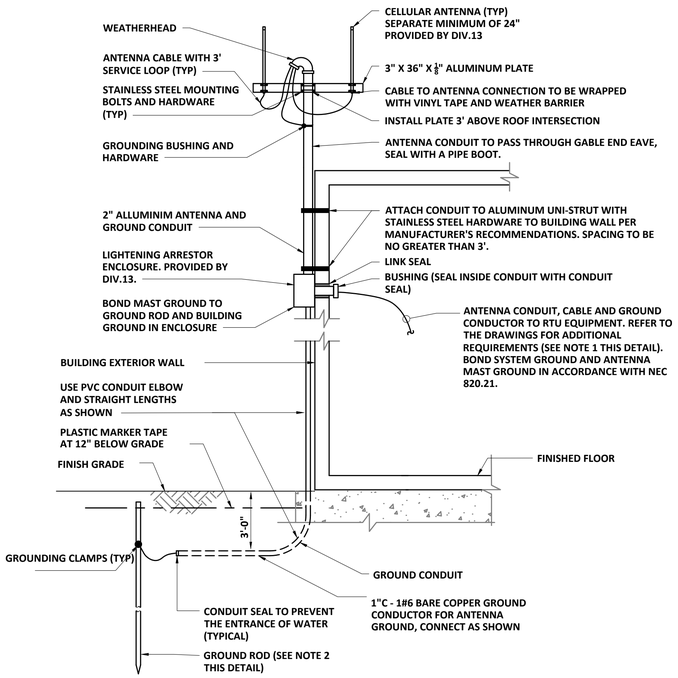
CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

ELECTRICAL DETAILS

DRAWING
E-07

J:\ENG\MEL\BATH\21119-HARWARDINFOSWMM-MODEL_DRAWINGS\ELE\21119-ES-DETAILS.DWG | Details | 1:10.12364677 | --- | 5/15/2025 10:09:05 AM | SANDY.MAURO

LAST SAVED BY: SANDY.MAURO 5/15/2025 7:34 AM

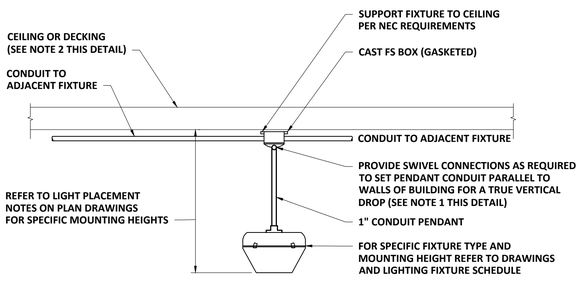


ANTENNA MOUNTING AND GROUNDING TYPICAL DETAIL NOTES:

1. SEE CONDUIT AND WIRING SCHEDULES FOR SIZING REQUIREMENTS AND ROUTING.
2. PROVIDE 3/4"x10'-0" LONG COPPER CLAD GROUND ROD FOR ANTENNA AND RTU GROUNDING SYSTEM. DRIVE GROUND ROD VERTICALLY SUCH THAT TOP OF ROD IS A MINIMUM OF 6" BELOW FINISHED GRADE. ALL CONNECTIONS TO GROUND ROD SHALL BE ACCOMPLISHED USING EXOTHERMIC WELDS. NO MECHANICAL CONNECTIONS SHALL BE USED BELOW FINISHED GRADE. FOR GROUNDING DETAILS REFER TO ELECTRICAL DETAIL DRAWINGS.
3. PRIOR TO FINAL PERMANENT INSTALLATION OF THE ANTENNA TO THE ANTENNA POLE, THE CONTRACTOR SHALL PRETEST THE RADIO SIGNAL TO CHECK FOR PROPER SIGNAL PROPAGATION. INSTALL NEW ANTENNA AT HEIGHT AND LOCATION AS REQUIRED TO OBTAIN MAXIMUM SIGNAL STRENGTH.

CELLULAR ANTENNA MOUNTING AND GROUNDING TYPICAL DETAIL

NTS

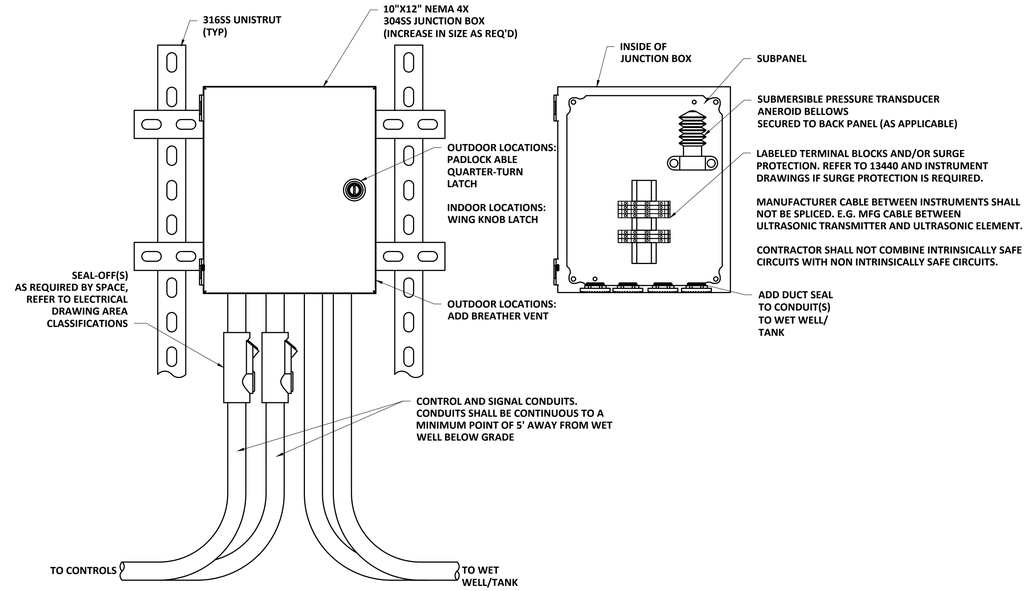


NOTES THIS DETAIL:

1. ANY FIXTURE NOT PROPERLY INSTALLED SHALL BE DISCONNECTED AND RE-INSTALLED PROPERLY FOR FINAL ACCEPTANCES BY THE ENGINEER. ANY ADDITIONAL COSTS SHALL BE AT THE EXPENSE OF THIS CONTRACTOR.
2. THIS DETAIL IS SHOWN DIAGRAMMATICALLY, CEILING AND CEILING JOIST ORIENTATION MAY NOT REFLECT ACTUAL FIELD CONDITIONS.
3. PROVIDE GROUNDING LUG, JUMPERS AND BUSHINGS AS REQUIRED TO BOND CONDUIT, LIGHT FIXTURE AND BOXES PER NEC REQUIREMENTS.

TYPICAL LED LIGHTING FIXTURE MOUNTING INSTALLATION DETAIL

NTS



SECTION A-A

SIGNAL JUNCTION BOX DETAIL

NTS

NO	REVISIONS	APP'D	DATE
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5			

PROJECT NO: 21119
DESIGNED: C.ABELL
CAD COORD: A.MESBIT
CAD: M.HOPPER
CHECKED: A.ROBERT
DATE: 05/2025
APPROVED: C.ABELL
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE — CHRISTOPHER N. ABELL No. 13021 — LICENSED PROFESSIONAL ENGINEER — 5/15/25

WRIGHT-PIERCE
207.725.8721 | www.wright-pierce.com
11 BOWDOIN MILL ISLAND, SUITE 140, TOPSHAM, ME 04086

CITY OF BATH, MAINE
HARWARD STREET PUMP STATION AND SEWER INTERCEPTOR UPGRADE

ELECTRICAL DETAILS II

DRAWING
E-08

J:\ENG\ME\BATH\21119-HARWARDINFOSWMM-MODEL_DRAWINGS\ELE\21119-ES-DETAILS.DWG | Detailed | 1:10.12364677 | — | 5/15/2025 10:06:00 AM | SANDY.MAURO

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CODE	LIGHT SOURCE		VOLTS	MOUNTING	MANUFACTURER	CATALOG NO.	DESCRIPTION
	TYPE	LAMPING					
E	LED	36 W	120	CEILING	COOPER-METALUX OR EQUAL	4WSNLED-LD4-40SL-F-UNV-L835-CD1-U	4 FT. WALL MOUNT ENCL., LED, ACRYLIC LENS, 4045 LUMENS
F	LED	64W	120	CEILING	COOPER-METALUX OR EQUAL	SSLED-LD5-9-N-UNV-L835-CD1-U	LED-HIGH BAY INDUSTRIAL, UL LISTED WET LOCATION, 9,000 LUMENS, MEDIUM DISTRIBUTION, SUSPENSION MOUNTED
M1	LED	59W	120	PENDANT	CROUSE-HINDS OR EQUAL	EVLLA-5L-N-J-5-UNV1	CORROSION-RESISTANT LED VAPORTIGHT STANCHION FIXTURE, COPPER-FREE ALUMINUM. PROVIDE WITH TEMPERED GLASS GLOBE AND STAINLESS STEEL GUARD. FOR CLASS I, DIV 1 LOCATION, 6200LUMENS.
R	LED	12W LED	120	WALL *	COOPER-LUMARK OR EQUAL	XTOR1B	LED COMPACT WALLPACK, UL WET LOCATION, BRONZE FINISH
T	LED	32W LED	120	WALL *	COOPER-LUMARK OR EQUAL	LDWP-GL-4B-ED-7040	LED WALLPACK, UL WET LOCATION, BRONZE FINISH, BOROSILICATE GLASS DOOR, 4200 LUMENS
	LED	12W	120	WALL*	ESW SUPPLY OR EQUAL	XPEL-U-2-2W	LED EMERG. BATTERY UNIT W/2 LAMPS, NI-CAD BATTERY, FOR CLASS 1,DIVISION 1 LOCATIONS, 3.7W REMOTE OUTPUT CAPABILITY
	LED	(2) 1.9W, 9.6VDC	120	WALL *	LITHONIA OR EQUAL	WLTU-LED	LED EMERG. BATTERY UNIT W/2 LAMPS, NI-CAD BATTERY, FOR WET LOCATIONS, 3.7W REMOTE OUTPUT CAPABILITY
	LED	(2) 10W, 30VDC	120	WALL *	HUBBELL OR EQUAL	EBS23DH-PTA	EXPLOSION-PROOF EMERG. BATTERY UNIT W/ (2) 10W LAMP HEADS, NI-CD BATTERY, COPPER-FREE ALUMINUM HOUSING
	LED	(1) 1.5W, 3.6VDC OR (1) 1.5W, 9.6VDC	3.6VDC OR 9.6VDC	WALL *	LITHONIA OR EQUAL	ELA Q L0309	LED SINGLE HEAD REMOTE EMERGENCY LIGHT FOR DRY LOCATIONS, FULLY ADJUSTABLE LAMP HEAD
	LED	(2) 1.5W, 3.6VDC OR (2) 1.5W, 9.6VDC	3.6VDC OR 9.6VDC	WALL *	LITHONIA OR EQUAL	ELA T QWP L0309	DOUBLE HEAD, REMOTE, WET LOCATION LISTED EMERGENCY LIGHT WITH CAST ALUMINUM LAMP HOLDERS, FULLY ADJUSTABLE LAMP HEAD
	LED		120	WALL, 7'AFF	COOPER-SURE-LITES OR EQUAL	UX72WHSD	SELF-POWERED EXIT, NI-CAD BATTERY, SUITABLE FOR USE IN WET LOCATION WITH LASER POINTER FOR TEST SWITCH ACTIVATION WITH SELF DIAGNOSTIC SYSTEM
	LED		120	WALL, 7'AFF	PHILLIPS OR EQUAL	CEXN	SELF-POWERED, HAZARDOUS LOCATION EXIT SIGN, CLASS I, DIV. 1, GROUP D, NI-CAD BATTERY

PANEL

VOLTAGE: 240 / 120
PHASE: 1
WIRE: 3
AIC: 10,000
BUS RATING: 100A

PANEL LOCATION: MCC ROOM (HARDWARD PUMP STATION)
FEEDER POINT:
MOUNTING: SURFACE
MAIN TYPE: ___ MLO ___X___ MCB ___100___ TRIP AMPS

CKT NO.	AMPS	NO. POLES	DESCRIPTION	PHASE (VA) A	PHASE (VA) B	DESCRIPTION	NO. POLES	AMPS	CKT NO.
1	20	1	SPARE			DRY WELL HEATER	1	50	2
3	20	1	SPARE						4
5	20	1	SPARE			LIGHTING WETWELL	1	20	6
7	20	1	GENERATOR BATTERY CHARGER AND LIGHT			RECEPTALES	1	20	8
9	20	1	GENERATOR OIL HEATER			PUMP ROOM EXHAUST FAN (OFF)	1	20	10
11	20	1	ALARM PANEL AND TRANSMITTING EQUIPEMENT			LIGHTING PUMP ROOM	1	20	12
13	20	1	SPARE (OFF)			SUMP PUMP- METERING MANHOLE	1	20	14
15	20	1	RECEPTALE DRY WELL (OFF)			MILLTRONICS LEVEL CONTROLLER	1	20	16
17	20	2	GENERATOR COOLANT HEATER			FLOW MONITORING EQUIPMENT	1	20	18
19						LIGHTING MCC ROOM	1	20	20
21	100	2	MAIN BREAKER						
23									
			SUB-TOTAL:	0	0				
			TOTAL:	0					
			ESTIMATED DEMAND LOAD:	100%	0.0	KVA			
			DEMAND LINE CURRENT:		0.0	AMPS			

TO BE REMOVED

PANEL MPC-1

VOLTAGE: 208 / 120
PHASE: 3
WIRE: 4
AIC: 10,000
BUS RATING: 100

PANEL LOCATION: ELECTRIC ROOM
FEEDER POINT: MINI POWR CENTER
MOUNTING: SURFACE
MAIN TYPE: ___ MLO ___X___ MCB ___60___ TRIP AMPS

CKT NO.	AMPS	NO. POLES	DESCRIPTION	PHASE (VA) A	PHASE (VA) B	PHASE (VA) C	DESCRIPTION	NO. POLES	AMPS	CKT NO.
1	20	1	ELECTRICAL ROOM LIGHTING	216			WETWELL ENTRANCE LIGHTING	1	20	2
				150						
3	20	1	OUTDOOR LIGHTING		200		ELECTRICAL ROOM RECEPTACLES	1	20	4
					720					
5	20	1	EXHAUST FAN EF-1			700	SUMP PUMP SP-1	1	20	6
						1200				
7	20	1	SPARE	0			PUMP ROOM RECEPTACLES	1	20	8
				540						
9	20	1	PUMP ROOM LIGHTING		260		SPARE	1	20	10
					0					
11	20	1	EXHAUST FAN EF-2			1200	ATC PANEL	1	20	12
						300				
13	20	2	HOT WATER HEATER EWH-1	2050			SPARE	1	20	14
				0						
15					2050		SPARE	1	20	16
					0					
17	20	1	SPARE			0	SPARE	1	20	18
						0				
19	20	1	WETWELL LIGHTING	200			PUMP CONTROL PANEL HARCP	1	20	20
				1000						
21	-	-	SPARE		0		SPARE	1	20	22
					0					
23	60	2	GENERATOR LIGHTING PANEL			2000	SPARE	1	30	24
						-				
25		-		2000			SPARE	1	15	26
				-						
27	-	-	SPACE		-		SPARE	1	20	28
					-					
29	-	-	SPACE			-	SPARE	1	20	30
						-				
			SUB-TOTAL:	6156	3230	5400				
			TOTAL:		14786					
			ESTIMATED DEMAND LOAD:	80%	11.8	KVA				
			DEMAND LINE CURRENT:		32.8	AMPS				

NO	REVISIONS	APP'D	DATE
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PROJECT NO: 21119
DESIGNED: C.ABELL
CAD COORD: A.MESBIT
CAD: S.MAURO
CHECKED: A.ROBERT
DATE: 05/2025
APPROVED: C.ABELL
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS



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CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

ELECTRICAL SCHEDULES I

DRAWING
E-09

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HARWARD PUMP STATION EQUIPMENT SCHEDULE

GENERAL INFORMATION				DESTINATION				REMARKS/NOTES
CONDUIT NUMBER	EQUIPMENT TAG	DESCRIPTION	LOCATION	SIZE	CONDUCTOR	FROM	TO	
P1A		UTILITY SERVICE	SITE	4"	4#350 KCMIL	POLE MOUNTED TRANSFORMER	METERING CABINET	
P1B		UTILITY SERVICE	SITE	4"	4#350 KCMIL	POLE MOUNTED TRANSFORMER	METERING CABINET	
P1C		UTILITY SERVICE	SITE	4"	PULL STRING	POLE MOUNTED TRANSFORMER	METERING CABINET	SPARE
P2A	MCB-1	MAIN CIRCUIT BREAKER	SITE	3"	4#350 KCMIL	UTILITY METER	MCB-1	
P2B	MCB-1	MAIN CIRCUIT BREAKER	SITE	3"	4#350 KCMIL	UTILITY METER	MCB-1	
P3	-		SITE	1"	2/0 BARE COPPER	MCB-1	SERVICE GROUNDING SYSTEM	
P4A	MDP-1	POWER DISTRIBUTION PANEL	ELECTRIC ROOM	3"	4#350KCMIL, #1 GND	ATS-1	MDP-1	
P4B	MDP-1	POWER DISTRIBUTION PANEL	ELECTRIC ROOM	3"	4#350KCMIL, #1 GND	ATS-1	MDP-1	
P5A	GEN-1	GENERATOR	SITE	3"	4#350KCMIL, 1#3 GND	ATS-1	GEN-1	
P5B	GEN-1	GENERATOR	SITE	3"	4#350KCMIL, 1#3 GND	ATS-1	GEN-1	
P6	MPC-1	MINI POWER CENTER	ELECTRIC ROOM	3/4"	3#10, 1#10 GND	MDP-1	MPC-1	
P7	AHF	ACTIVE HARMONIC FILTER	ELECTRIC ROOM		3#3/0, 1#4 GND	MDP-1	AHF	
P8	VFD-PSP-1	VARIABLE FREQUENCY DRIVE	ELECTRIC ROOM	2-1/2"	3#250 KCML, #3 GND	MDP-1	VFD-PSP-1	
P9	VFD-PSP-2	VARIABLE FREQUENCY DRIVE	ELECTRIC ROOM	2-1/2"	3#250 KCML, #3 GND	MDP-1	VFD-PSP-2	
P10	VFD-PSP-3	VARIABLE FREQUENCY DRIVE	ELECTRIC ROOM	2-1/2"	3#250 KCML, #3 GND	MDP-1	VFD-PSP-3	
P11	PSP-1	DUTY PUMP	PUMP ROOM	2"	4/C #3/0 VFD CABLE	VFD-PSP-1	PSP-1	
P12	PSP-2	DUTY PUMP	PUMP ROOM	2"	4/C #3/0 VFD CABLE	VFD-PSP-2	PSP-2	
P13	PSP-3	JOCKEY PUMP	PUMP ROOM	2"	4/C #1/0 VFD CABLE	VFD-PSP-3	PSP-3	
P14	EF-1	EXHAUST FAN	ELECTRIC ROOM	3/4"	2#12, #12 GND	LIGHTING PANEL	EF-1	
P15	EF-2	EXHAUST FAN	WET WELL ENTRANCE	3/4"	2#12, #12 GND	LIGHTING PANEL	EF-2	
P16	EUH-1	ELECTRIC UNIT HEATER	ELECTRIC ROOM	3/4"	3#12, #12 GND	MDP-1	EUH-1	
P17	EUH-2	ELECTRIC UNIT HEATER	PUMP ROOM	3/4"	3#12, #12 GND	MDP-1	EUH-2	
P18	EWH-1	ELECTRIC WATER HEATER	PUMP ROOM	3/4"	2#12, #12 GND	LIGHTING PANEL	EWH-1	
P19	SP-1	SUMP PUMP	PUMP ROOM	3/4"	2#12, #12 GND	LIGHTING PANEL	SP-1	
P20A	ATS-1	AUTOMATIC TRANSFER SWITCH	ELECTRIC ROOM	3"	4#350 KCMIL, #1 GND	MCB-1	ATS-1	
P20B	ATS-1	AUTOMATIC TRANSFER SWITCH	ELECTRIC ROOM	3"	4#350 KCMIL, #1 GND	MCB-1	ATS-1	
P21	EUH-3	ELECTRIC UNIT HEATER	WET WELL ENTRANCE	3/4"	3#12, #12 GND	POWER DISTRIBUTION PANEL	EUH-3	
P22	GEN-LP	GENERATOR LIGHTING PANEL	GENERATOR	1"	2#6, #8 GND	POWER DISTRIBUTION PANEL	GENERATOR LIGHTING PANEL	
P23	H-2	ELECTRIC HOIST	PUMP ROOM	3/4"	3#12, #12 GND	MDP-1	H-2	
P24	H-1	ELECTRIC HOIST	ELECTRIC ROOM	3/4"	3#12, #12 GND	MDP-1	H-1	
P25	HARCP	PUMP CONTROL PANEL	ELECTRIC ROOM	3/4"	2#12, #12 GND	LP-1	HARCP	
P26	ATC	AUTOMATIC TEMPERATURE CONTROL PANEL	ELECTRIC ROOM	3/4"	2#12, #12 GND	LP-1	ATC	
P27	ISP	INTRINSICALLY SAFE RELAY PANEL	ELECTRIC ROOM	3/4"	2#12, #12 GND	HARCP	ISP	
P28	LIT-WW1	LEVEL INDICATING TRANSMITTER	PUMP ROOM	3/4"	2#14, #14 GND	HARCP	LIT-WW1	
P29	FIT-PSP	FLOW INDICATING TRANSMITTER	PUMP ROOM	3/4"	2#14, #14 GND	HARCP	FIT-PSP	
P30	NOT USED							
P31	NOT USED							
P32	NOT USED							
P33	NOT USED							
P34	NOT USED							

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PROJECT NO: 21119
DESIGNED: C.ABELL
CAD COORD: A.HESBIT
CAD: S.MAURO
CHECKED: A.ROBERT
DATE: 05/2025
APPROVED: C.ABELL
DATE: 05/2025
SUBMISSION: CONTRACT DRAWINGS

STATE OF MAINE — CHRISTOPHER N. ABELL No. 13021 — LICENSED PROFESSIONAL ENGINEER — 5/15/25

WRIGHT-PIERCE
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11 BOWDOIN MILL ISLAND, SUITE 140, TOPSHAM, ME 04086

CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
AND SEWER INTERCEPTOR UPGRADE

ELECTRICAL SCHEDULES II

DRAWING
E-10

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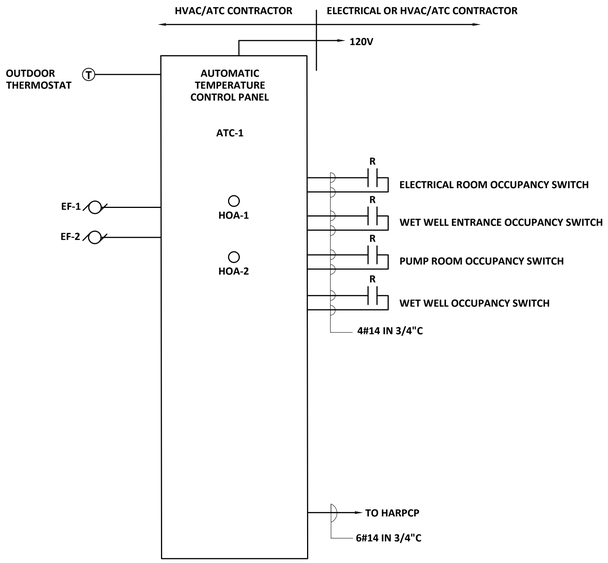
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CONDUIT AND WIRE SCHEDULE - CONTROL WIRING

CONDUIT NO	SIZE		DESTINATION		REMARKS
	CONDUIT	CONDUCTOR	FROM	TO	
C001	1"	10#14	GENERATOR CONTROL PANEL	AUTOMATIC TRANSFER SWTICH	
C002	1"	10#14	AUTOMATIC TRANSFER SWITCH	HARCP	
C003	1"	8#14	ATC	HARCP	
C004	3/4"	4#14	LSLL-WW1	ISP	
C005	3/4"	4#14	LSHH-WW1	ISP	
C006	3/4"	8#14	TSL/TSH-ELERM	HARCP	
C007	3/4"	8#14	AIT-GAS	HARCP	
C008	3/4"	4#14	AL-GASA/ AH-GAS	HARCP	
C009	3/4"	4#14	AL-GASB	HARCP	
C010	NOT USED				
C011	3/4"	8#14	TSH-PSP1A/ TSH-PSP1B	HARCP	
C012	3/4"	8#14	LCS-PSP1	HARCP	
C013	3/4"	8#14	TSH-PSP2A/ TSH-PSP2B	HARCP	
C014	3/4"	8#14	LCS-PSP2	HARCP	
C015	3/4"	8#14	TSH-PSP3A/ TSH-PSP3B	HARCP	
C016	3/4"	8#14	LCS-PSP3	HARCP	
C017	3/4"	4#14	LSH-PUMPRM	HARCP	
C018	1"	4#14	LSH-SMH	HARCP	
C019	NOT USED				
C020	NOT USED				
C021	NOT USED				
C022	NOT USED				
C023	NOT USED				
C024	NOT USED				

CONDUIT AND WIRE SCHEDULE - SIGNAL WIRING

CONDUIT NO	SIZE		DESTINATION		REMARKS
	CONDUIT	CONDUCTOR	FROM	TO	
S001	3/4"	(1)-2C #16 TWS	FIT-PSP	HARCP	
S002	3/4"	(1)-2C #16 TWS	LIT-WW1	HARCP	
S003	3/4"	(1)-2C #16 TWS	LT/LE-WW1	ISP	
S004	3/4"	(1)-3C #16 TWS	LCS-PSP1	HARCP	
S005	3/4"	(1)-3C #16 TWS	LCS-PSP2	HARCP	
S006	3/4"	(1)-3C #16 TWS	LCS-PSP3	HARCP	
S007	1-1/2"	ANTENNA CABLE	HARCP	RADIO ANTENNA	BY. DIV. 13
S008	NOT USED				
S009	NOT USED				
S010	NOT USED				
S011	NOT USED				
S012	NOT USED				
S013	NOT USED				
S014					
S015					



HVAC WIRING DIAGRAM
ATC-1
NTS

NO	REVISIONS	APP'D	DATE
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PROJECT NO: 21119
DESIGNED: C.ABELL
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CITY OF BATH, MAINE
HARWARD STREET PUMP STATION
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ELECTRICAL SCHEDULES III

DRAWING
E-11