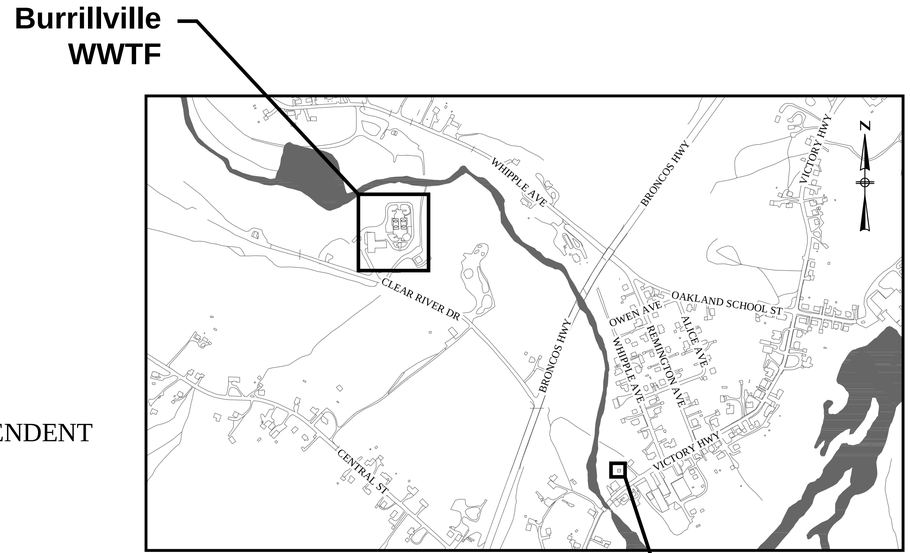
TOWN OF BURRILLVILLE, RI
BURRILLVILLE SEWER COMMISSION
WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS, CONTRACT NO. 20
MAY 2023

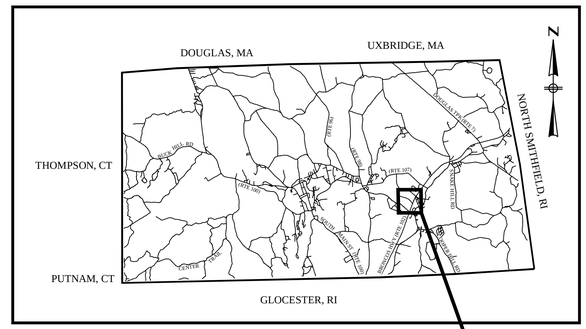
BURRILLVILLE SEWER COMMISSION

WILLIAM ANDREWS	CHAIRMAN
RICHARD NOLAN	VICE CHAIRMAN
RUSSELL FONTAINE	SECRETARY
GARY ROULEAU	MEMBER
DANIEL JOUBERT	MEMBER
MICHAEL EMOND	WWTF SUPERINTENDENT



LOCUS MAP
NOT TO SCALE

Oakland Pump Station



LOCATION MAP
NOT TO SCALE

Project Location

PREPARED BY:

BETA
www.BETA-Inc.com

JAMES LYNCH 7967 5-5-23 REGISTERED PROFESSIONAL ENGINEER

REGISTERED PROFESSIONAL _____ DATE _____

LEGEND

EXISTING

- 8" PVC S — GRAVITY SEWER PIPE
- 6" PVC FM — SEWER FORCE MAIN
- 12" RCP D — DRAIN PIPE
- SEWER MANHOLE
- DRAIN MANHOLE
- CATCH BASIN
- PLANT WATER HYDRANT
- EOH — ELECTRICAL OVERHEAD
- EUG — ELECTRICAL UNDERGROUND
- EHH — ELECTRICAL HANDHOLE
- UTILITY POLE / LIGHT POLE
- CURB OR BERM (TYPE AS NOTED)
- EOP — EDGE OF PAVEMENT
- BUILDING
- PAVEMENT
- X — X — X — CHAIN LINK FENCE
- WOOD FENCE
- TREE / SHRUB
- TREE LINE
- PROPERTY LINE
- EASEMENT LINE
- B1 — BANK / WETLAND FLAG
- EDGE OF RIVER / STREAM
- 50-FT WETLAND BUFFER
- 100-FT WETLAND BUFFER
- 195 — CONTOUR – MAJOR (5FT)
- 196 — CONTOUR – MINOR (1FT)

PROPOSED

- SEWER MAIN BYPASS PIPE
- SEWER MAIN BYPASS PUMP
- SEWER PIPE
- GATE VALVE
- TEE
- BEND
- SOLID SLEEVE / CONNECT TO EXISTING
- EOP — EDGE OF PAVEMENT
- PAVEMENT
- X — X — X — CHAIN LINK FENCE
- BOLLARD
- TP-1 — TEST PIT
- EROSION CONTROL / STRAW WATTLES
- SAWCUT

GENERAL NOTES

1. VERTICAL DATUM = NAVD 88 AND HORIZONTAL COORDINATES ARE IN RHODE ISLAND STATE PLANE COORDINATE SYSTEM (NAD 83).
2. FEMA MAP NUMBER 44007C0135G EFFECTIVE MARCH 2, 2009 INDICATES THE TREATMENT PLANT IS LOCATED IN A ZONE AE FLOOD PLAIN WITH BASE FLOOD ELEVATION OF 315.60 (NAVD 88) AND THE OAKLAND PUMP STATION IS LOCATED IN A ZONE AE FLOOD PLAIN WITH BASE FLOOD ELEVATION OF 313.0 (NAVD 88).
3. THE MOST CURRENT VERSION OF THE BURRILLVILLE SEWER COMMISSION'S CONSTRUCTION STANDARDS SHALL CONTROL, EXCEPT WHERE OTHERWISE SPECIFIED OR SHOWN IN THE CONTRACT DOCUMENTS.
4. EXISTING BUILDING CONDITIONS AT THE TREATMENT PLANT DIGITIZED/SCANNED FROM 'WASTEWATER TREATMENT FACILITIES' RECORD DRAWINGS, 1977 (METCALF & EDDY, INC.), A SURVEY BY MARC N. NYBERG ASSOCIATES, INC. DATED MAY 20, 2014, RHODE ISLAND GIS INFORMATION, AND FIELD EDITS BY BETA GROUP, INC.
5. EXISTING BUILDING CONDITIONS AT THE OAKLAND PUMP STATION DIGITIZED/SCANNED FROM 'SANITARY SEWERS, PUMP STATIONS AND APPURTENANT WORK FOR OAKLAND / MAPLEVILLE' RECORD DRAWINGS, 1992 (BETA ENGINEERING, INC.), RHODE ISLAND GIS INFORMATION, AND FIELD EDITS BY BETA GROUP, INC.
6. THE LIMIT OF WORK SHOWN AT THE TREATMENT PLANT IS WITHIN PROPERTY OWNED BY THE TOWN OF BURRILLVILLE, RI., ASSESSOR'S PARCEL 161-040. THE LIMIT OF WORK SHOWN AT OAKLAND PUMP STATION IS WITHIN PROPERTY OWNED BY THE TOWN OF BURRILLVILLE, RI., ASSESSOR'S PARCEL 179-116 AND THE TEMPORARY CONSTRUCTION EASEMENT. THE CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED PERMITS AND/OR FEES ASSOCIATED WITH WORK. CONTRACTOR SHALL NOT WORK OUTSIDE LIMITS OF PROPOSED WORK WITHOUT WRITTEN PERMISSION OF THE PROPERTY OWNER AND THE TOWN.
7. EXISTING UTILITIES HAVE BEEN PLOTTED FROM THE BEST AVAILABLE DATA AND AS APPROXIMATE ONLY. THE CONTRACTOR MUST NOTIFY DIG SAFE PRIOR TO ANY EXCAVATION, DEMOLITION WORK IN PUBLIC OR PRIVATE WAYS OR UTILITY COMPANY RIGHT OF WAY OR EASEMENT (PUBLIC AND PRIVATE). THE LOCATION, SIZE, AND MATERIAL OF EXISTING PIPES, DUCTS, CONDUITS AND OTHER UNDERGROUND STRUCTURES AND/OR UTILITIES SHOWN ON THESE PLANS ARE FROM THE BEST SOURCES AVAILABLE AT PRESENT AND ARE NOT WARRANTED TO BE EXACT, NOR IS IT WARRANTED THAT ALL UNDERGROUND PIPES, UTILITIES OR STRUCTURES ARE SHOWN. EXACT LOCATIONS TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR.
8. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR THE RESOLUTION OF THE CONFLICT.
9. THE CONTRACTOR SHALL ALTER THE MASONRY OF THE TOP SECTION OF ALL EXISTING DRAINAGE AND SANITARY STRUCTURES AS NECESSARY FOR THE CHANGES IN GRADE, AND RESET ALL WATER, AND DRAINAGE FRAMES, GRATES AND BOXES TO THE PROPOSED FINISH SURFACE GRADE. REQUIRED NEW MASONRY SHALL BE CLAY BRICK CONFORMING TO RHODE ISLAND STANDARDS, OR APPROVED ALTERNATE MATERIAL.
10. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, CABLE TV, FIRE ALARM AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES.
11. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION OR BETTER AT THE CONTRACTOR'S EXPENSE.
12. THE TERM "PROPOSED" (PROP.) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET" (R&R).
13. WHERE EXISTING MATERIALS ARE ENCOUNTERED WHICH, IN THE OPINION OF THE OWNER/ENGINEER ARE UNSUITABLE FOR BEDDING, BACK FILLING OR OTHER INTENDED USE, SUCH MATERIALS SHALL BE REMOVED AS DIRECTED AND REPLACED BY THE CONTRACTOR WITH SUITABLE CRUSHED STONE OR BORROW, AS DIRECTED BY THE OWNER/ENGINEER.
14. JOINTS BETWEEN NEW BITUMINOUS CONCRETE ROADWAY PAVEMENT AND SAWCUT EXISTING PAVEMENT SHALL BE SEALED WITH BITUMEN AND BACKSANDED.
15. CATCH BASIN AND MANHOLE FRAMES AND GRATES/COVERS SHALL CLEARLY ALIGN WITH THE OPENINGS IN THE PRECAST STRUCTURES AND THE GRADE OF THE ROADWAY.
16. CONTRACTOR SHALL VERIFY EXISTING GRADE ELEVATIONS. IF ANY ADJUSTMENT IS REQUIRED DUE TO DIFFERENT EXISTING GRADES FOUND IN THE FIELD, THE CONTRACTOR SHALL NOTIFY AND SEEK THE APPROVAL OF THE ENGINEER PRIOR TO PERFORMING THE WORK.
17. EXCEPT WHERE NOTED BY PROPOSED CONTOUR LINES AND/OR SPOT GRADES, ALL FINAL CONTOUR LINE ELEVATIONS SHALL BE THE SAME AS EXISTING CONTOUR LINE ELEVATIONS.

CONSTRUCTION NOTES

1. THE INSTALLATION, TESTING, FUEL, AND MAINTENANCE OF THE BYPASS PUMPING SYSTEM SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION OPERATIONS AND MAINTENANCE ACTIVITIES ASSOCIATED WITH THE BYPASS AND BYPASS CONTROLS WITH THE OWNER. THE BYPASS SYSTEM DEPICTED ON THE CONTRACT PLANS IS FOR GENERAL INFORMATION ONLY. THE DESIGN AND LAYOUT IS THE RESPONSIBILITY OF THE CONTRACTOR. SUBMIT DETAILED SHOP DRAWINGS OF THE SPECIFIED BYPASS PUMPS, PIPING, FLOW METER, AND APPURTENANCES FOR THE BYPASS PUMPING SYSTEM IN ACCORDANCE WITH SECTION 01300 – SUBMITTALS AND SECTION 02149 – MAINTAINING EXISTING FLOW. INCLUDE CAPAOWNER DATA AND CONTROL SYSTEM DESCRIPTION FOR THE PUMPS.
2. CONTRACTOR SHALL SUBMIT DESCRIPTIONS OF THE PROCEDURES FOR INSTALLING THE BYPASS SYSTEM AND FOR OPERATING THE BYPASS PUMPING ARRANGEMENT. REFER TO SPECIFICATION SECTION 02149. THE OWNER, ENGINEER, AND CONTRACTOR SHALL BE PRESENT FOR TESTING AND CUT OVER OF BYPASS CONTROLS AND BYPASS PUMPING.
3. THE BYPASS SYSTEM, INCLUDING PUMPS, PIPING, AUTOMATIC LEVEL CONTROL AND ALARM ANNUNCIATION, SHALL BE IN PLACE, TESTED, AUTOMATICALLY OPERATED FOR UP TO THREE DAYS AND APPROVED BY THE OWNER PRIOR TO COMMENCING WORK IN THE STATION.
4. ALL TOWN OF BURRILLVILLE OWNED VALVES AND EQUIPMENT ARE TO BE OPERATED BY TOWN OF BURRILLVILLE PERSONNEL ONLY. ENGINEER TO COORDINATE WITH BURRILLVILLE DPW FOR ALL VALVE OPERATIONS.
8. THROUGHOUT BYPASS PUMPING, THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MAINTAINING EXISTING FLOWS, OPERATING AND MAINTAINING THEIR BYPASS SYSTEM.
9. DISTURBED AREAS SHALL BE RESTORED AT NO ADDITIONAL COST TO THE OWNER.
10. DISTURBED GRASSED AREAS SHALL BE RESTORED IN ACCORDANCE WITH SPECIFICATION SECTION 02930.
11. DISTURBED PAVED AREAS SHALL BE RESTORED IN ACCORDANCE WITH SPECIFICATION SECTION 02500 AND DETAIL SHOWN ON CD-3.
12. THE CONTRACTOR SHALL PROTECT EXISTING MONITORING WELLS PRESENT ON THE SITE. DAMAGED MONITORING WELLS SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

ENVIRONMENTAL NOTES

1. SEE SPECIFICATION SECTION 02055 – REMOVAL AND DISPOSAL OF UNDERGROUND STORAGE TANKS AND 02075 – REMOVAL AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL FOR REQUIREMENTS.

YARD PIPING NOTES

1. INVERTS AND DIRECTIONS OF PIPES AND CONDUITS ARE SHOWN FOR THE PURPOSE OF INDICATING THE BASIC PARAMETERS USED DURING THE DESIGN. HOWEVER, MINOR CHANGES IN HORIZONTAL AND VERTICAL LOCATIONS MAY BE REQUIRED DURING CONSTRUCTION AS FIELD CONDITIONS WARRANT. FINAL LOCATIONS OF OTHER PIPES AND/OR CONDUITS SHALL BE DETERMINED IN THE FIELD. ANY CHANGES SHALL BE APPROVED BY THE ENGINEER.
2. CONTRACTOR SHALL CONDUCT TEST PITS AS SHOWN AND AS REQUIRED IN ORDER TO ASCERTAIN THE EXACT LOCATION OF EXISTING UNDERGROUND UTILITIES, TO FIELD VERIFY THE EXACT SIZE, MATERIAL, LOCATION, INVERT ELEVATION AND ALIGNMENT (VERTICAL AND HORIZONTAL) OF EXISTING UNDERGROUND UTILITIES, PIPES, AND STRUCTURES.
3. UNLESS OTHERWISE NOTED, MINIMUM COVER FOR PIPES AND/OR DUCTS SHALL BE AS FOLLOWS: WATER 5'-0"; SEWER 4'-6"; DRAIN 4'-0"; GAS 3'-6"; ELECTRIC 2'-6". ANY PIPE AND/OR DUCT WITH LESS THAN 2'-0" OF COVER SHALL HAVE AN ADDITIONAL 6" OF CONCRETE ENCASEMENT ON THE UPPER PORTION.
4. EXISTING PIPES RETAINED, BUT WHICH MUST BE REMOVED IN ORDER TO INSTALL NEW PIPES, SHALL BE REINSTALLED OR REPLACED IN KIND.
5. ALL PIPING SHALL BE PROVIDED WITH FLEXIBLE DRESSER STYLE CONNECTIONS WHERE EXITING OR ENTERING STRUCTURES AND BUILDINGS. FLEXIBLE DRESSER STYLE CONNECTIONS SHALL BE COORDINATED WITH PIPE MANUFACTURER AND APPROVED BY THE ENGINEER.
6. ALL NEW PIPING REQUIRED TO BE INSTALLED UNDER THIS CONTRACT IS SHOWN IN BOLD LINES. ALL EXISTING PIPING IS SCREENED.
7. ALL NEW AND EXISTING PIPING BEING INSTALLED SHALL BE SUITABLY SUPPORTED AND BRACED AT ALL TIMES BY THE CONTRACTOR.
8. THE CONTRACTOR SHALL PROVIDE CONCRETE THRUST BLOCKS FOR ALL UNDERGROUND PIPING, BENDS AND TEES IN PRESSURE LINES AS DETAILED AND SPECIFIED.
9. CONCRETE CLOSURE COLLARS, FIELD FABRICATED ELBOWS AND/OR SPECIAL BENDS ROTATED AS NECESSARY SHALL BE INSTALLED TO ALIGN NEW PIPING WITH EXISTING PIPING
10. PROVIDE SEPARATION BETWEEN SEWER/DRAIN/WATER TO THE MAXIMUM EXTENT FEASIBLE IN ACCORDANCE WITH THE TOWN OF BURRILLVILLE'S CONSTRUCTION STANDARDS.

ABBREVIATIONS

A	AIR	FeSO	FERROUS SULFATE	SHT.	SHEET
AGE	AERATED GRIT CHAMBER EFFLUENT	FFE	FINISHED FLOOR ELEVATION	SSC	SECONDARY SCUM
ALS	ALUM SOLUTION LINE	FL	FLANGE	STL	STEEL
APPROX.	APPROXIMATE	FM	FORCE MAIN	SW	SERVICE WATER
ATE	AERATION TANK EFFLUENT	FT	FLEXIBLE TUBE	SIW	CHLORINE REMOVAL INJECTION WATER
BIT.	BITUMINOUS	GALV.	GALVANIZED	SMH	SEWER MANHOLE
BSL	BLENDED SLUDGE LINE	HHWR	HEATING HOT WATER RETURN	SS	STAINLESS STEEL
CA	COMPRESSED AIR	HHWS	HEATING HOT WATER SUPPLY	TS&V	TAPPING SLEEVE AND VALVE
CB	CATCH BASIN	I.D.	INSIDE DIAMETER	TOC	TOP OF CONCRETE
CI	CAST IRON	INF	INFLUENT	TYP.	TYPICAL
CIW	CHLORINE INJECTION WATER	INV.	INVERT	UGND.	UNDERGROUND
CONC.	CONCRETE	LS	LIME SLURRY	WWTF	WASTEWATER TREATMENT FACILITY
COL.	COLUMN	MAX.	MAXIMUM		
C.L.	CENTERLINE	MH	MANHOLE		
CLF	CHAIN LINK FENCE	MIN.	MINIMUM		
CLS	CHLORINE SOLUTION	MJ	MECHANICAL JOINT		
CMU	CONCRETE MASONRY UNIT	NaS	SODIUM SULFIDE		
CTE	CONNECT TO EXISTING	NaOH	SODIUM HYDROXIDE		
CU	COPPPER	O.C.	ON CENTER		
CW	CITY WATER	O.D.	OUTSIDE DIAMETER		
DI	DUCTILE IRON	PE	PRIMARY EFFLUENT		
DIA.	DIAMETER	PSC	PRIMARY SCUM		
DW	DEWATERING	PSL	PRIMARY SLUDGE LINE		
DWY	DRIVEWAY	PROP.	PROPOSED		
ECC.	ECCENTRIC	PVC	POLYVINYL CHLORIDE		
EFC	EFFLUENT FROM FILTER CELLS	RCP	REINFORCED CONCRETE PIPE		
EFF	EFFLUENT	RFC	REJECT FROM FILTER CELLS		
EFW	EFFLUENT FLUSHING WATER	R&D	REMOVE AND DISPOSE		
EL.	ELEVATION	R&R	REMOVE AND RESET		
EOP	EDGE OF PAVEMENT	RSL	RETURN SLUDGE LINE		
EXIST.	EXISTING	SCH	SCHEDULE		
FE	FINAL EFFLUENT	SDS	CHLORINE REMOVAL		
FeCL	FERRIC CHLORIDE	SG	SLIDE GATE / SLUICE GATE		

PLAN INDEX

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SUBCONSULTANT

PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

LEGEND, GENERAL NOTES, & INDEX

NO.	REVISIONS	DATE

DRAWN BY: CJM

DESIGNED BY: AJG

CHECKED BY: JRD

ISSUE DATE: MAY 2023

BETA JOB NO.: 6861-105

SCALE

NONE

For Review Only

SHEET NO.

G-1

J:\BURRILLVILLE\WWTF - HEADWORKS IMPROVEMENTS\ACAD\DRAWINGFILES\PLANSET\GENERAL-NOTES-LEGEND-INDEX.DWG

5/31/2023

SMH 1+40 (S)
RIM = 320±
INV IN (18" E) = 308.28
INV OUT (18" N) = 308.28

CB
RIM = 316.50
INV = 313.24

SMH 0+00
RIM=316.96
INV IN (36" N) = 297.26
INV IN (12" S) = 302.06
INV OUT (36" E) = 297.26

DMH
RIM=317.54
INV IN&OUT =311.29

50' WETLAND BUFFER

SMH 2+02 (N)
Rim = 316.52
INV IN (36" W) = 297.62
INV IN (6" E) = 300.62±
INV OUT (36" S) = 297.62

Clear River

100' RIVERBANK BUFFER

Grass

Bit. Dwy

Planting

Wall

Walk

*Flag

10"Tree

Door Sill = 319.87

Door Sill = 320.12

Conc.

Bollards

OPERATION BUILDING

Hypo Tanks

RIP-RAP OVERFLOW

Gate

INFILTRATION BASIN

TRANSFORMER

Guy

Pole 306-30

Door Sill = 316.41

Col.

MH RIM=316.00
INV=312.9

CB
RIM = 315.41
INV = 312.91

CHEMICAL BUILDING
FFE = 316.50

FILTER SYSTEM

INFLUENT WET WELL

REJECT PUMP STATION & VALVE PIT

CHEMICAL INJECTION MH

CHEMICAL HANDHOLE

CB
RIM = 316.41
INV OUT (12" N) = 313.21

CB
RIM = 315.80
INV = 312.30

MH
RIM = 318.26

EHH

EOH

SMH 3+62 (S)
RIM = 322±
INV IN (18" SE) = 308.60
INV IN (8" NE) = 308.60
INV OUT (18" W) = 308.60

PRIMARY SETTLING TANK 1
Top of Conc. = 324.03
Weir = 320.93

AERATION TANK 1
Weir = 319.06

FINAL SETTLING TANK 1
Top of Conc. = 321.08
Weir = 317.40

PUMP HOUSE

AERATED GRIT CHAMBER
Top Conc. = 327.35
Weir = 323.95

ROLLOFF CONTAINER

Top of Conc. = 323.60

PRIMARY SETTLING TANK 2
Top of Conc. = 323.98
Weir = 320.88

AERATION TANK 2
Weir = 319.01

FINAL SETTLING TANK 2
Top of Conc. = 321.06
Weir = 317.42

DIVERSION STRUCTURE

CHLORINE CONTACT TANK
Weir = 315.74
Weir = 315.46

Top Water = 306.1

Weir = 314.91
Grating = 317.21

OUTFALL

TREELINE (TYP.)

SEPTAGE RECEIVING
WASH DOWN CB
RIM = 322.79
INV OUT (8" SW) = 316.29

Light

BURRILLVILLE ANIMAL SHELTER
131 CLEAR RIVER DRIVE

J:\BURRILLVILLE\WWTF - HEADWORKS IMPROVEMENTS\ACAD\DRAWINGFILES\PLANSET\CIVIL-EXIST-WWTF.DWG

5/16/2023

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BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

WWTF - EXISTING SITE PLAN

NO.	REVISIONS	DATE

DRAWN BY:	CJM
DESIGNED BY:	AJG
CHECKED BY:	JRD
ISSUE DATE:	MAY 2023
BETA JOB NO.:	6861-105

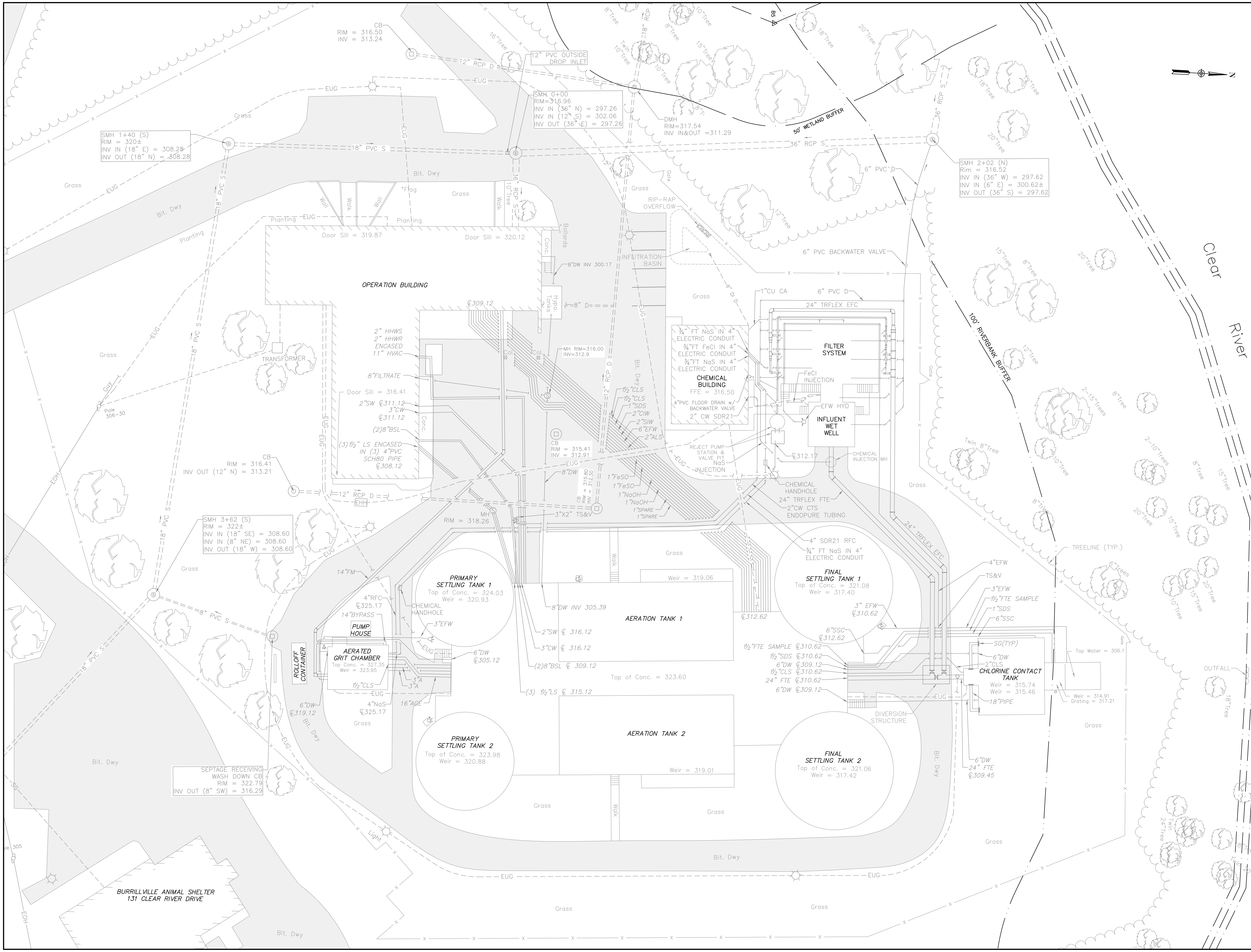
SCALE

20 0 20 40
SCALE IN FEET: 1"=20'

For Review Only

SHEET NO.

C-1.1



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5/16/2023

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

WWTF - EXISTING YARD PIPING PLAN

NO.	REVISIONS	DATE

DRAWN BY: CJM

DESIGNED BY: AJG

CHECKED BY: JRD

ISSUE DATE: MAY 2023

BETA JOB NO.: 6861-105

SCALE

20 0 20 40

SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

For Review Only

SHEET NO.

C-1.2

REMOVE LOAM AND PROVIDE 12" OF DENSE GRADED FILL

MAINTAIN DRIVEWAY ACCESS AT ALL TIMES FOR PLANT PERSONNEL AND SEPTAGE HAULERS

12" PVC OUTSIDE DROP INLET

MODIFY AND RESTORE MANHOLE TOP SECTION AS REQUIRED TO ACCOMMODATE SUCTION PIPING

APPROX. ELEVATION OF NEAREST UPSTREAM SEWER SERVICE IS HIGHER THAN 303.93 (ON WHIPPLE AVE)

PROVIDE RAMPS OVER BYPASS PIPING AT WALKWAY

MAINTAIN DRIVEWAY ACCESS AT ALL TIMES FOR PLANT PERSONNEL AND SEPTAGE HAULERS

PROPOSED TEMPORARY CONDUIT AND SIGNAL WIRING FROM BYPASS FLOW METER TO WWTF SCADA SYSTEM

PROPOSED TEMPORARY SEWER BYPASS

DISCHARGE TO GRIT CHAMBER

PROVIDE RAMPS OVER BYPASS PIPING WITHIN DRIVEWAY

APPROX. INV. ELEVATION 308.60

SMH 0+00
RIM=316.96
INV IN (36" N) = 297.26
INV IN (12" S) = 302.06
INV OUT (36" E) = 297.26

SMH 1+40 (S)
RIM = 320±
INV IN (18" E) = 308.28
INV OUT (18" N) = 308.28

SMH 2+02 (N)
Rim = 316.52
INV IN (36" W) = 297.62
INV IN (6" E) = 300.62±
INV OUT (36" S) = 297.62

SMH 3+63 (S)
RIM = 321±
INV IN (18" SE) = 308.60
INV IN (8" NE) = 308.60
INV OUT (8" W) = 308.60

CB
RIM = 316.50
INV = 313.24

CB
RIM = 316.41
INV OUT (12" E) = 313.21

CB
RIM = 315.41
INV = 312.91

CB
RIM = 315.80
INV = 312.30

DMH
RIM=317.54
INV IN&OUT =311.29

MH RIM=316.00
INV=312.9

MH
RIM = 318.26

SEPTAGE RECEIVING WASH DOWN CB
RIM = 322.79
INV OUT (8" SW) = 316.29

OPERATION BUILDING

PRIMARY SETTLING TANK 1
Top of Conc. = 324.03
Weir = 320.93

PRIMARY SETTLING TANK 2
Top of Conc. = 323.98
Weir = 320.88

AERATION TANK 1
Weir = 319.06
Top of Conc. = 323.60

AERATION TANK 2
Weir = 319.01

FINAL SETTLING TANK 1
Top of Conc. = 321.08
Weir = 317.40

AERATED GRIT CHAMBER
Top Conc. = 327.35
Weir = 323.95

PUMP HOUSE

ROLLOFF CONTAINER

CHEMICAL BUILDING
FFE = 316.50

FILTER SYSTEM

INFLUENT WET WELL

REJECT PUMP STATION & VALVE PIT

CHEMICAL INJECTION MH

CHEMICAL HANDHOLE

INFILTRATION BASIN

RIP-RAP OVERFLOW

TRANSFORMER

Hypo. Tanks

Door Sill = 319.87

Door Sill = 320.14

Door Sill = 316.41

BURRILLVILLE ANIMAL SHELTER
131 CLEAR RIVER DRIVE

50' WETLAND BUFFER

100' RIVERBANK BUFFER

TREELINE (TYP.)

18" PVC S

36" RCP S

8" PVC S

Bit. Dwy

Grass

Planting

Wall

Walk

Bollards

Conc.

Col.

Guy

Pole 306

Pole 242

Pole 305

Light

EOH

EHH

SS

Twin 8" Tree

2-10" Trees

3-15" Trees

BYPASS NOTES:

1. REFER TO SPECIFICATION SECTION 02149 MAINTAINING FLOW AND CONSTRUCTION NOTES.
2. THE CONTRACTOR'S SEQUENCE OF CONSTRUCTION SHALL BE BASED ON THE SCHEDULE SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE OWNER AND ENGINEER AS SPECIFIED.
3. THE ORDER OF CONSTRUCTION SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER AND ENGINEER; SUCH APPROVAL OR DIRECTION, HOWEVER, SHALL IN NO WAY RELIEVE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM THE WORK IN STRICT ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONSTRUCTION PLANS AND SPECIFICATIONS HAVE BEEN DEVELOPED TO MINIMIZE THE CONSTRUCTION IMPACTS ON THE OPERATION OF THE TOWN'S WWTF.
4. WHENEVER THE CONTRACTOR'S PROPOSED WORK WILL REQUIRE THE OWNER TO DEVIATE FROM THE NORMAL OPERATION OF THE WWTF THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING. SUCH NOTIFICATION SHALL BE SUBMITTED ONE WEEK PRIOR TO THE PLANNED CONSTRUCTION ACTIVITY.
5. THE EXISTING INFLUENT FLOW METER IS UTILIZED TO FLOW PACE CHEMICAL ADDITIONS AT THE WWTF. THE FLOW METER PROVIDED BY THE CONTRACTOR SHALL BE TEMPORARILY WIRED INTO THE WWTF SCADA SYSTEM FOR USE WHILE UNDER BYPASS.
6. THE HEADWORKS SHALL REMAIN UNDER BYPASS UNTIL THE SCREENING EQUIPMENT IS INSTALLED AND READY FOR TESTING.
7. NON-SCREENED INFLUENT FLOW SHALL NOT ENTER THE WET WELL ONCE CLEANING HAS BEEN COMPLETED.
8. **THE OPERATIONS BUILDING SEWER DISCHARGES TO THE INFLUENT CHANNEL IN THE HEADWORKS. THE CONTRACTOR SHALL MANAGE FLOW WHEN BYPASSING THE HEADWORKS.**

PREPARED BY

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

WWTF - PROPOSED BYPASS PLAN

NO.	REVISIONS	DATE

DRAWN BY: CJM

DESIGNED BY: AJG

CHECKED BY: JRD

ISSUE DATE: MAY 2023

BETA JOB NO.: 6861-105

SCALE

20 0 20 40
SCALE IN FEET: 1"=20'

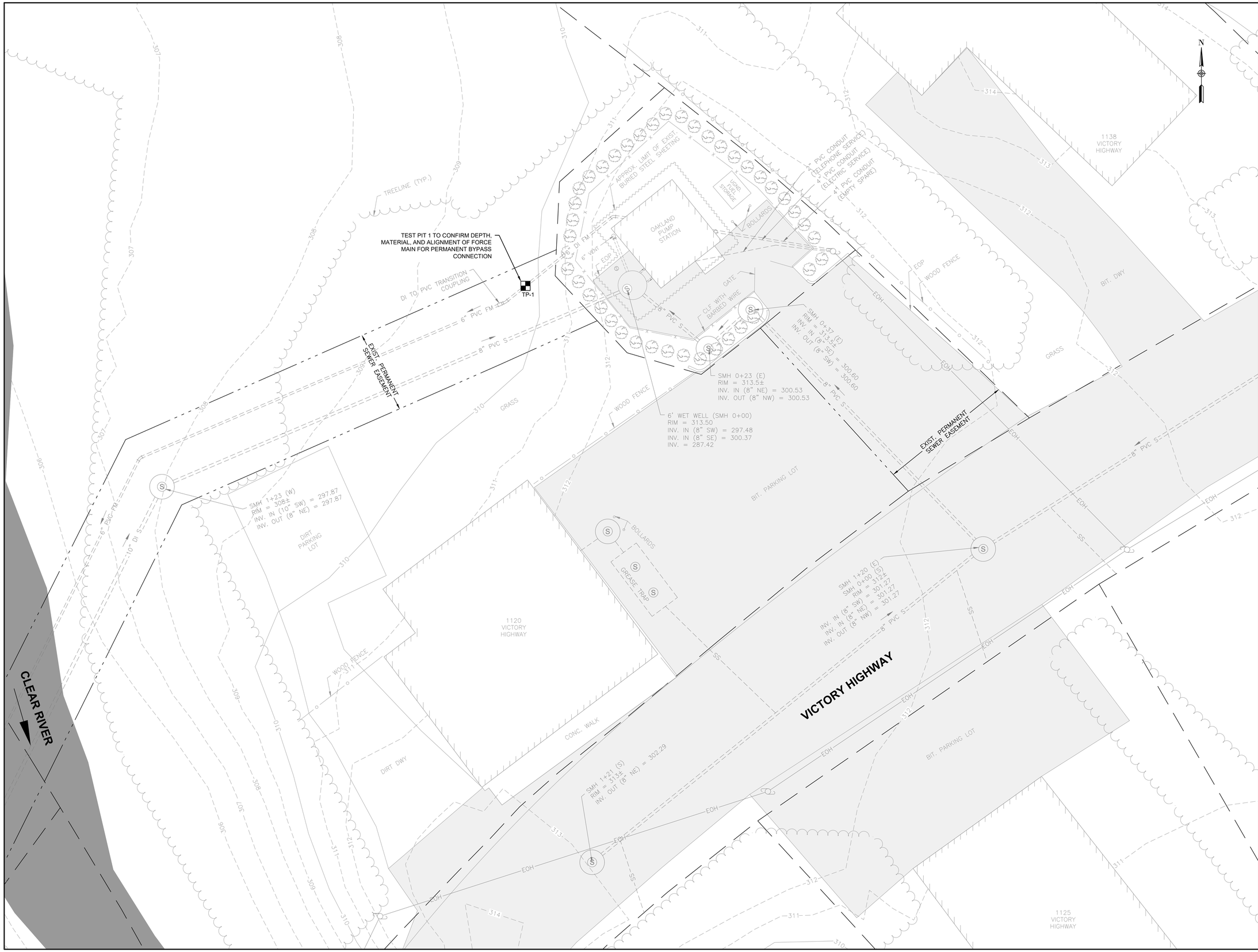
For Review Only

SHEET NO.

C-1.3

J:\BURRILLVILLE\WWTF - HEADWORKS IMPROVEMENTS\ACAD\DRAWINGFILES\PLANSET\CIVIL-PROP-WWTF.DWG

5/16/2023



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BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

OAKLAND PS - EXISTING SITE PLAN

NO.	REVISIONS	DATE

DRAWN BY:	CJM
DESIGNED BY:	AJG
CHECKED BY:	JRD
ISSUE DATE:	MAY 2023
BETA JOB NO.:	6861-105

SCALE

10 0 10 20
SCALE IN FEET: 1"=10'

For Review Only

SHEET NO.

C-2.1

J:\BURRILLVILLE\WWTF - HEADWORKS IMPROVEMENTS\ACAD\DRAWINGFILES\PLANSET\CIVIL-EXIST-OAKLAND.DWG

5/16/2023

REMOVE & DISPOSE OF EXIST. UNDERGROUND FUEL STORAGE TANK, PIPING, VENT, AND APPURTENANCES (SEE CIVIL DETAIL SHEETS)

REMOVE & DISPOSE OF 6" CI WET WELL VENT (SEE MECHANICAL SHEETS)

REMOVE & STOCKPILE EXISTING 6' CHAIN LINK FENCE. RESET AFTER COMPLETION OF THE WORK.

REMOVE & DISPOSE OF TREES (TYP. FOR 17)

REMOVE & DISPOSE OF EXISTING PAVEMENT TO LIMITS SHOWN (EDGE OF PAVEMENT SHOWN BOLD)

REMOVE & DISPOSE OF WET WELL TOP SLAB AND MANHOLE COVER (SEE MECHANICAL SHEETS)

REMOVE & DISPOSE OF EXISTING 6' CEDAR STOCKADE FENCE

APPROX. LIMIT OF EXIST. BURIED STEEL SHEETING

OAKLAND PUMP STATION

4" PVC CONDUIT (TELEPHONE SERVICE)
4" PVC CONDUIT (ELECTRIC SERVICE)
4" PVC CONDUIT (EMPTY SPARE)

DI TO PVC TRANSITION COUPLING

6" PVC FM

8" PVC S

EXIST. PERMANENT SEWER EASEMENT

SMH 0+23 (E)
RIM = 313.5±
INV. IN (8" NE) = 300.53
INV. OUT (8" NW) = 300.53

6' WET WELL (SMH 0+00)
RIM = 313.50
INV. IN (8" SW) = 297.48
INV. IN (8" SE) = 300.37
INV. = 287.42

SMH 0+37 (E)
RIM = 313.5±
INV. IN (8" SE) = 300.60
INV. OUT (8" SW) = 300.60

SMH 1+23 (W)
RIM = 308±
INV. IN (10" SW) = 297.87
INV. OUT (8" NE) = 297.87

SMH 1+20 (E)
SMH 0+00 (S)
RIM = 312±
INV. IN (8" SW) = 301.27
INV. IN (8" NE) = 301.27
INV. OUT (8" NW) = 301.27

SMH 1+21 (S)
RIM = 313±
INV. OUT (8" NE) = 302.29

10" DI S

6" PVC FM

1138 VICTORY HIGHWAY

1120 VICTORY HIGHWAY

1125 VICTORY HIGHWAY

VICTORY HIGHWAY

CLEAR RIVER

TREELINE (TYP.)

WOOD FENCE

CLF WITH BARBED WIRE

GATE

BOLLARDS

GREASE TRAP

CONC. WALK

DIRT PARKING LOT

DIRT DWY

BIT. DWY

BIT. PARKING LOT

GRASS

EOP

EOH

SS

VENT

N

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5/16/2023

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BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

OAKLAND PS - DEMOLITION SITE PLAN

NO.	REVISIONS	DATE

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CHECKED BY:	JRD
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BETA JOB NO.:	6861-105

SCALE

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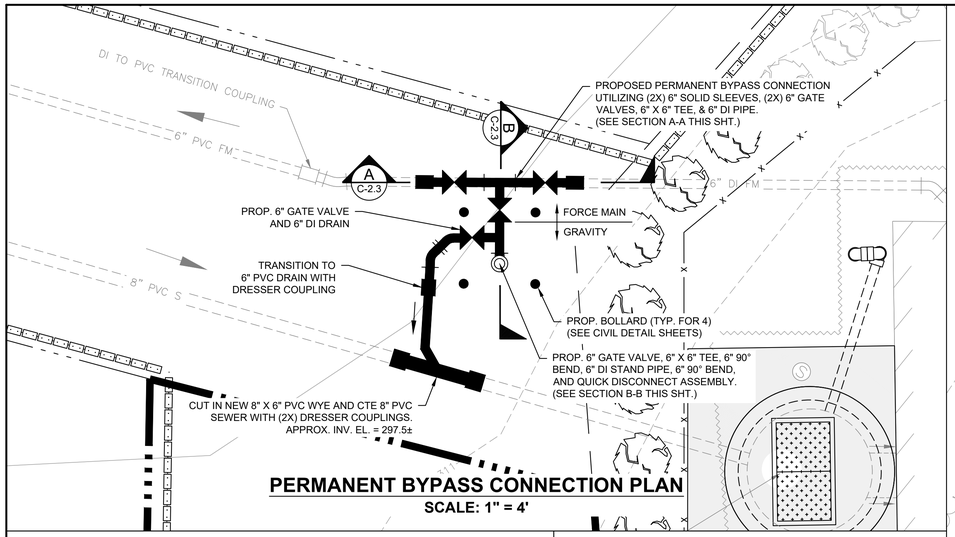
SCALE IN FEET: 1"=10'

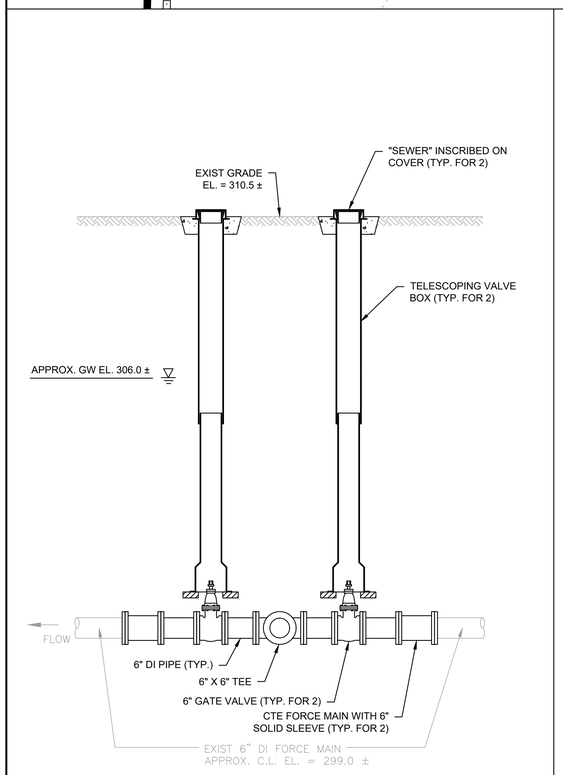
For Review Only

SHEET NO.

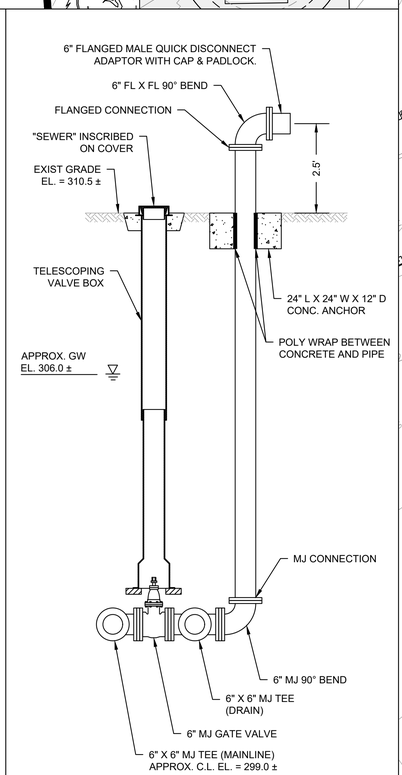
C-2.2



PERMANENT BYPASS CONNECTION PLAN
SCALE: 1" = 4'



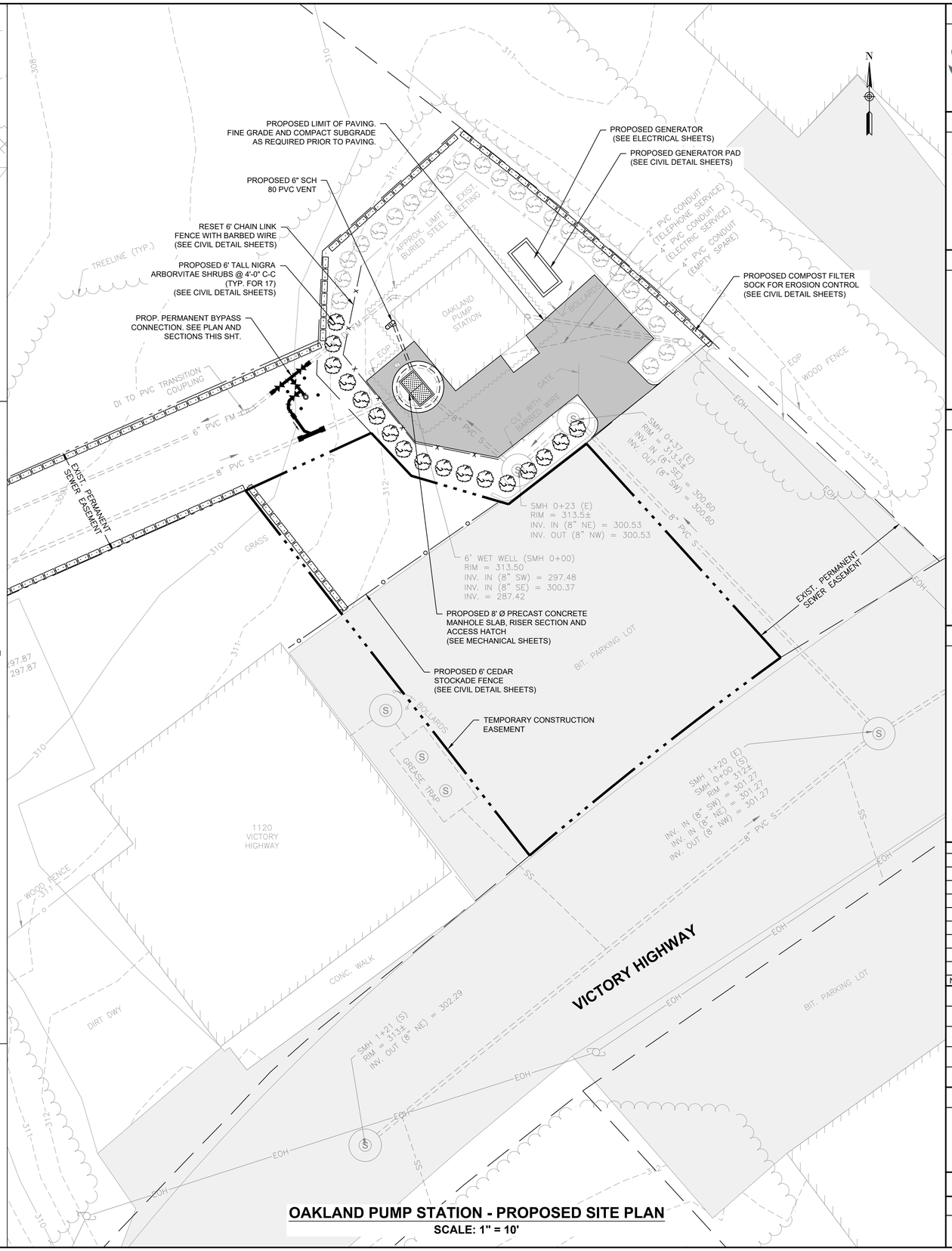
PROPOSED SECTION A
SCALE: 1" = 2'-0" (C-2.3)



PROPOSED SECTION B
SCALE: 1" = 2'-0" (C-2.3)

BYPASS NOTES:

1. VOLUME OF EXISTING 6" FORCE MAIN IS APPROXIMATELY 2,200 GALLONS.
2. GRAVITY SANITARY SEWER PIPING AND FITTINGS SHALL BE EPOXY COATED WITH PROTECTO 401 BY INDURALL.



OAKLAND PUMP STATION - PROPOSED SITE PLAN
SCALE: 1" = 10'

PREPARED BY

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BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

OAKLAND PS - PROPOSED SITE PLAN

NO.	REVISIONS	DATE

DRAWN BY:	CJM
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BETA JOB NO.:	6861-105

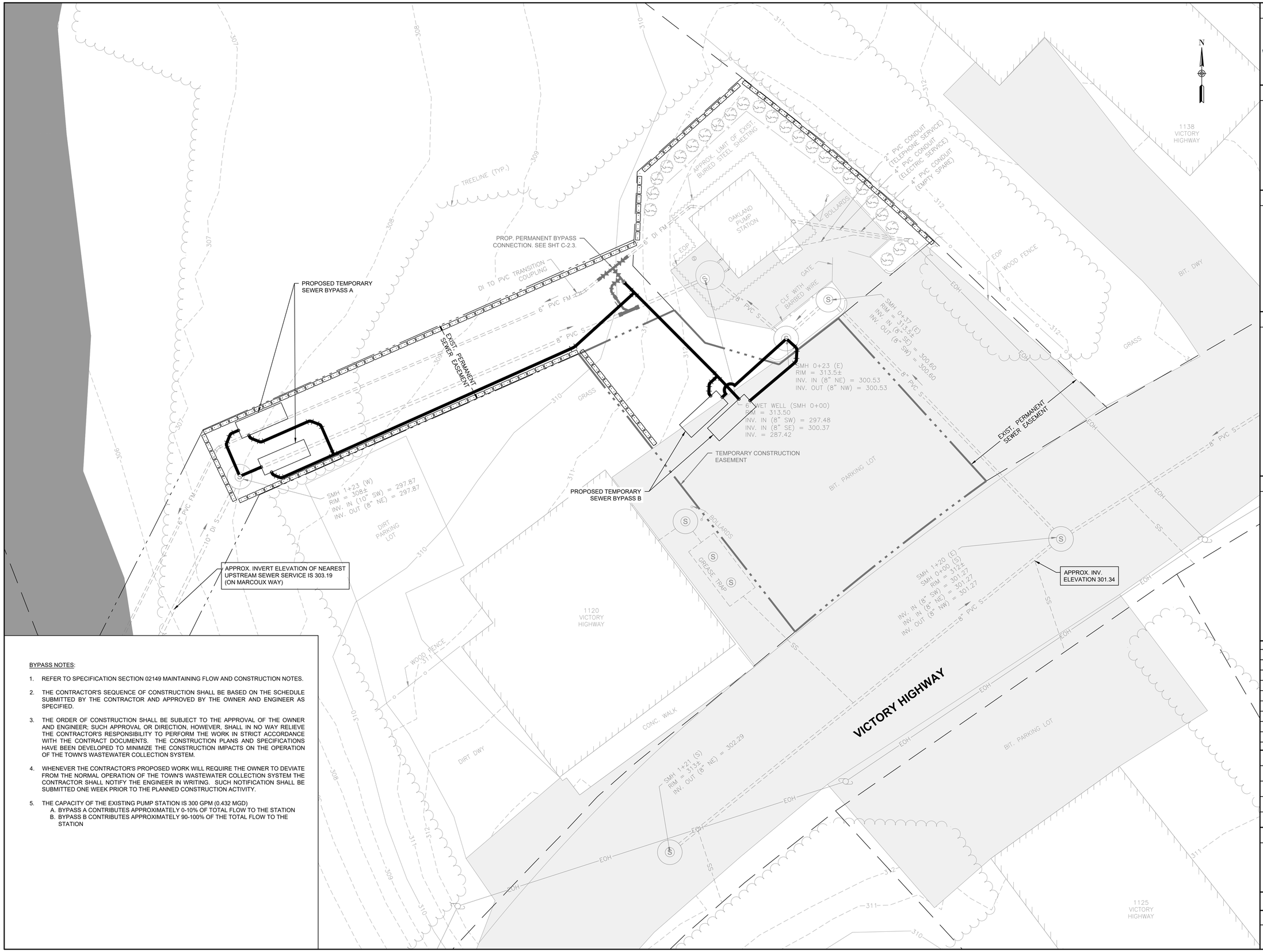
SCALE

10 0 10 20
SCALE IN FEET: 1"=10'

For Review Only

SHEET NO.

C-2.3



BYPASS NOTES:

1. REFER TO SPECIFICATION SECTION 02149 MAINTAINING FLOW AND CONSTRUCTION NOTES.
2. THE CONTRACTOR'S SEQUENCE OF CONSTRUCTION SHALL BE BASED ON THE SCHEDULE SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE OWNER AND ENGINEER AS SPECIFIED.
3. THE ORDER OF CONSTRUCTION SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER AND ENGINEER; SUCH APPROVAL OR DIRECTION, HOWEVER, SHALL IN NO WAY RELIEVE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM THE WORK IN STRICT ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONSTRUCTION PLANS AND SPECIFICATIONS HAVE BEEN DEVELOPED TO MINIMIZE THE CONSTRUCTION IMPACTS ON THE OPERATION OF THE TOWN'S WASTEWATER COLLECTION SYSTEM.
4. WHENEVER THE CONTRACTOR'S PROPOSED WORK WILL REQUIRE THE OWNER TO DEVIATE FROM THE NORMAL OPERATION OF THE TOWN'S WASTEWATER COLLECTION SYSTEM THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING. SUCH NOTIFICATION SHALL BE SUBMITTED ONE WEEK PRIOR TO THE PLANNED CONSTRUCTION ACTIVITY.
5. THE CAPACITY OF THE EXISTING PUMP STATION IS 300 GPM (0.432 MGD)
   A. BYPASS A CONTRIBUTES APPROXIMATELY 0-10% OF TOTAL FLOW TO THE STATION
   B. BYPASS B CONTRIBUTES APPROXIMATELY 90-100% OF THE TOTAL FLOW TO THE STATION

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BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

OAKLAND PS - PROPOSED BYPASS PLAN

NO.	REVISIONS	DATE

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BETA JOB NO.:	6861-105

SCALE

10 0 10 20
SCALE IN FEET: 1"=10'

For Review Only

SHEET NO.

C-2.4

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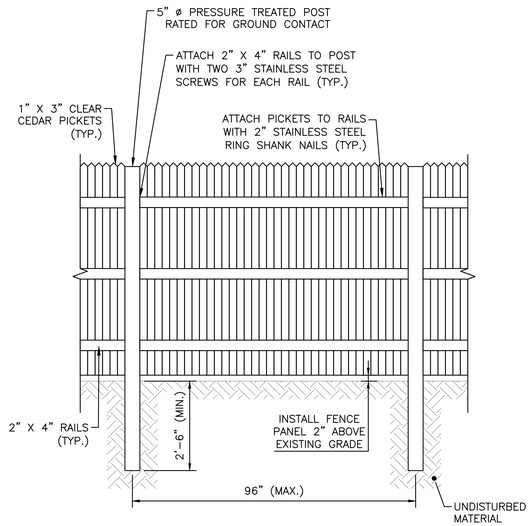
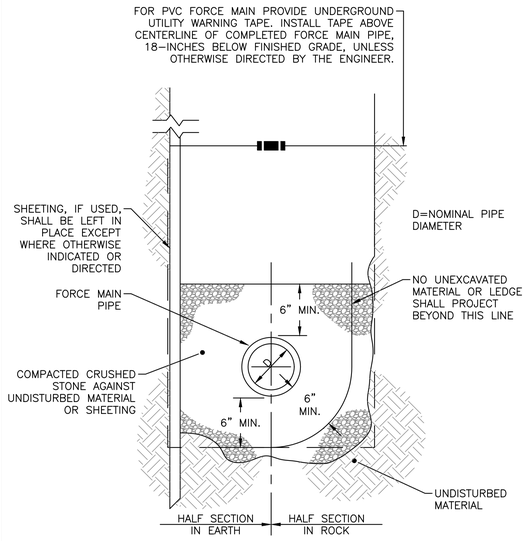
5/16/2023



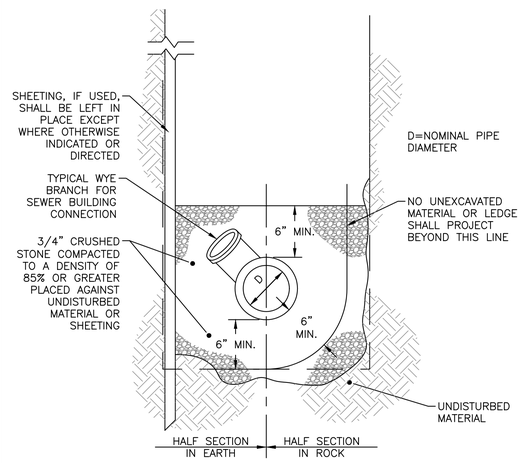
NOTES:

1. LUMBER SIZES SHOWN ARE NOMINAL.

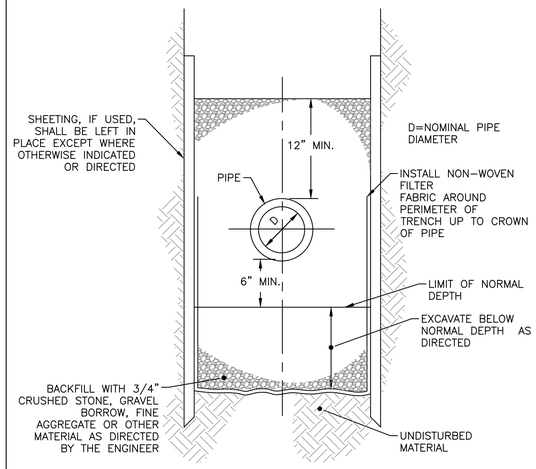
WOOD FENCE DETAIL
NOT TO SCALE



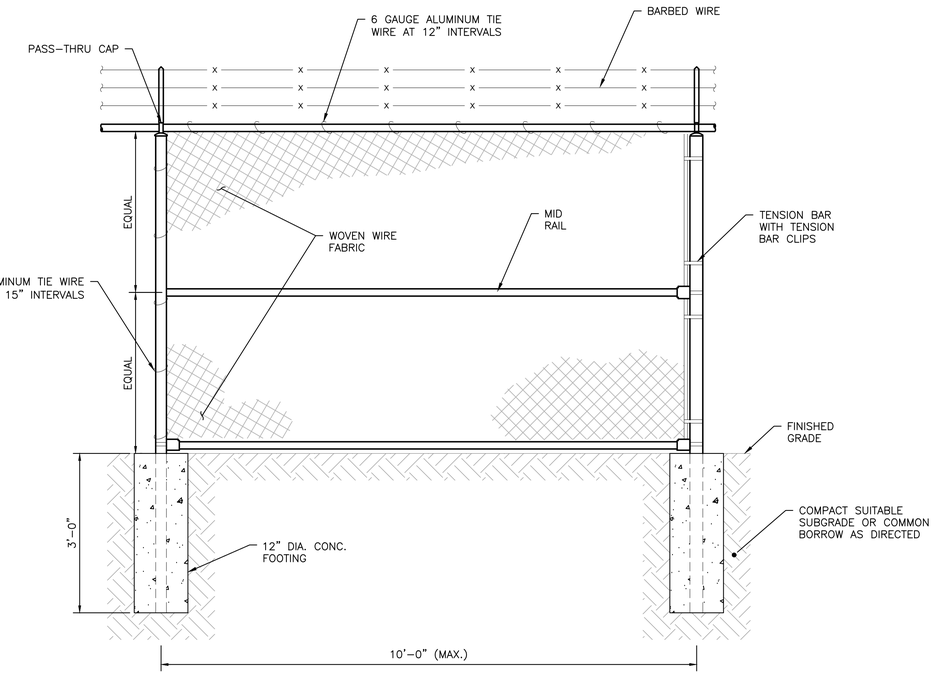
FORCE MAIN TRENCH SECTION
NOT TO SCALE



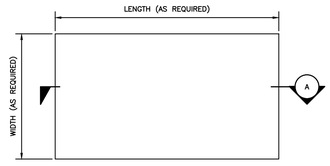
GRAVITY SEWER TRENCH SECTION FOR 4" DIA. OR GREATER PVC PIPE
NOT TO SCALE



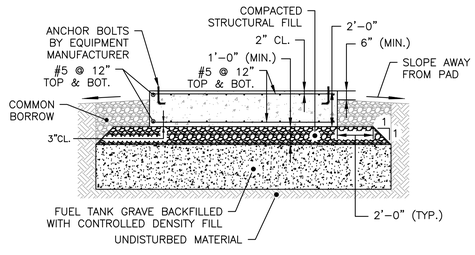
TRENCH SECTION (TO BE USED WHERE UNSUITABLE FOUNDATION MATERIAL EXISTS BELOW NORMAL DEPTH)
NOT TO SCALE



CHAIN LINK FENCE DETAIL
NOT TO SCALE



PLAN

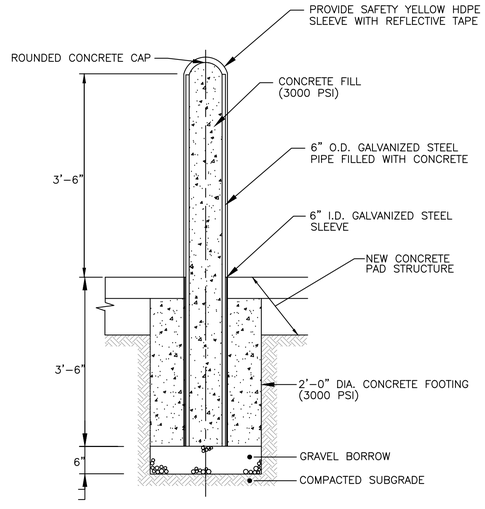


SECTION A

NOTES:

1. LENGTH AND WIDTH OF GENERATOR PAD TO BE COORDINATED WITH GENERATOR SUPPLIER.
2. CONCRETE TO BE 3500 PSI WITH A MAX 4" SLUMP.
3. TOP SURFACE OF PAD TO BE STEEL TROWELED TO LEVEL SMOOTH FINISH.
4. REFER TO MANUFACTURER'S DRAWINGS FOR GENERATOR ANCHOR REQUIREMENTS AND LOCATIONS.
5. COORDINATE REQUIRED PENETRATIONS WITH ELECTRIC AND PLUMBING CONTRACTOR.

GENERATOR PAD DETAIL
NOT TO SCALE



CONCRETE-FILLED STEEL BOLLARD
NOT TO SCALE

PREPARED BY

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SUBCONSULTANT

PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

CIVIL DETAILS - I

NO.	REVISIONS	DATE

DRAWN BY:	CJM
DESIGNED BY:	AJG
CHECKED BY:	JRD
ISSUE DATE:	MAY 2023
BETA JOB NO.:	6861-105

SCALE

AS SHOWN

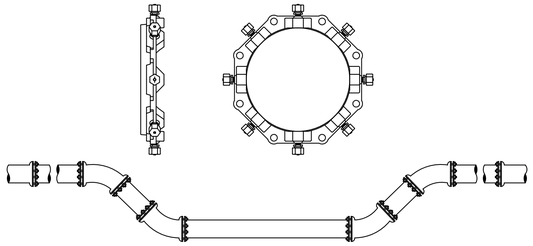
For Review Only

SHEET NO.

CD-1

J:\BURRILLVILLE\WWTF - HEADWORKS IMPROVEMENTS\ACAD\DRAWINGFILES\PLANSET\CIVIL-DETAILS.DWG

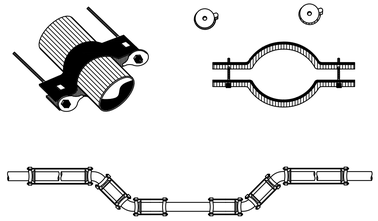
5/16/2023



NOTES:

1. DEVICES NEED TO BE PLACED BEYOND THE AREA OF RESTRAINTS IN ACCORDANCE WITH MANUFACTURES RECOMMENDATIONS.
2. RESTRAINED JOINT LENGTHS TO BE IN ACCORDANCE WITH SPECIFICATION SECTION 02618.

TYPICAL THRUST RESTRAINT WEDGE ACTION TYPE JOINTS
NOT TO SCALE

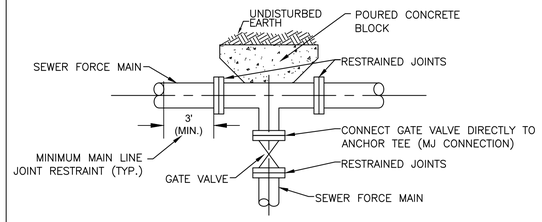


SCHEDULE OF TIE RODS		
PIPE SIZE	NUMBER OF RODS PER FITTING	DIAMETER OF RODS
4"–12"	2	3/4"

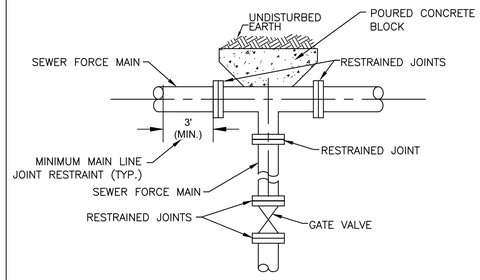
NOTES:

1. DEVICES NEED TO BE PLACED BEYOND THE AREA OF RESTRAINTS IN ACCORDANCE WITH MANUFACTURES RECOMMENDATIONS.
2. RESTRAINED JOINT LENGTHS TO BE IN ACCORDANCE WITH SPECIFICATION SECTION 02618.

TYPICAL THRUST RESTRAINT USING TIE RODS AND FRICTION CLAMPS
NOT TO SCALE



ANCHOR TEE BRANCH

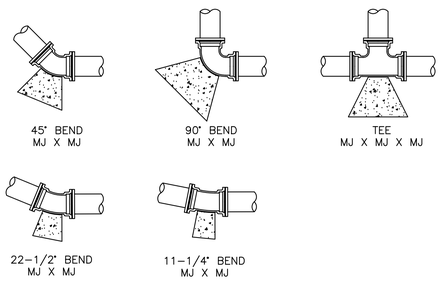


STANDARD BRANCH

NOTES:

1. ALL FITTING AND VALVES SHALL BE "ALL–BELL" FITTINGS.
2. ALL CONNECTIONS SHALL BE RESTRAINED MECHANICAL JOINT (MJ) CONNECTIONS.
3. MAIN LINE TO BE RESTRAINED A MINIMUM OF THREE FEET ON EITHER SIDE OF TEE.
4. SEE RESTRAINT TABLES FOR BRANCH LINE RESTRAINT REQUIREMENTS.

TYPICAL DUCTILE IRON FORCE MAIN BRANCHES
NOT TO SCALE

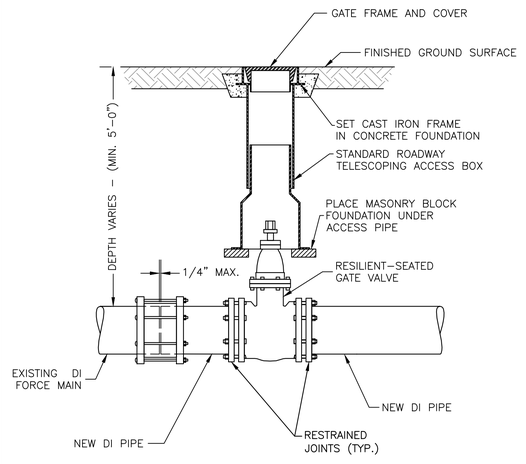


PIPE SIZE	MINIMUM SURFACE AREA (S.F.) OF CONCRETE AGAINST UNDISTURBED EARTH				
	11¼°	22½°	45°	90°	TEE
6"	0.5	1.1	2.1	3.9	2.8
8"	0.9	1.8	3.6	6.6	4.7

NOTES:

1. PORTLAND TYPE II CEMENT CONCRETE MEETING SPECIFICATION SECTION 03300 AND SHALL BE PLACED SO AS TO NOT INTERFERE WITH THE JOINTS OF THE FITTING. CONCRETE SHALL BE 4000 PSI.
2. POLYPROPYLENE SHEETING SHALL BE PLACED AROUND FITTINGS PRIOR TO POURING CONCRETE IN ACCORDANCE WITH AWWA C105.
3. ALL JOINTS SHALL BE RESTRAINED IN ACCORDANCE WITH SPECIFICATION SECTION 02618.

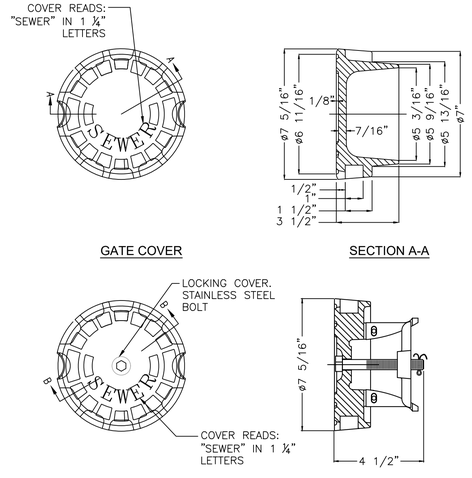
THRUST BLOCK BEARING AREAS
NOT TO SCALE



NOTES:

1. ALL EXCAVATION, BACKFILLING AND PAVING SHALL BE IN ACCORDANCE WITH THE TOWN OF BURRILLVILLE REQUIREMENTS.

GATE VALVE
NOT TO SCALE



GATE COVER

SECTION A-A

DIVISION GATE COVER

SECTION B-B

NOTES:

1. GATE COVER SHALL HAVE A MINIMUM HEIGHT OF 3.5 INCHES AND MINIMUM WEIGHT OF 13 POUNDS, BRAND NAME BIBBY–STE–CROIX OR EQUAL.

GATE VALVE COVERS
NOT TO SCALE

PREPARED BY

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www.BETA-Inc.com

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BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

CIVIL DETAILS - II

NO.	REVISIONS	DATE

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DESIGNED BY: AJG
CHECKED BY: JRD
ISSUE DATE: MAY 2023
BETA JOB NO.: 6861-105

SCALE

AS SHOWN

For Review Only

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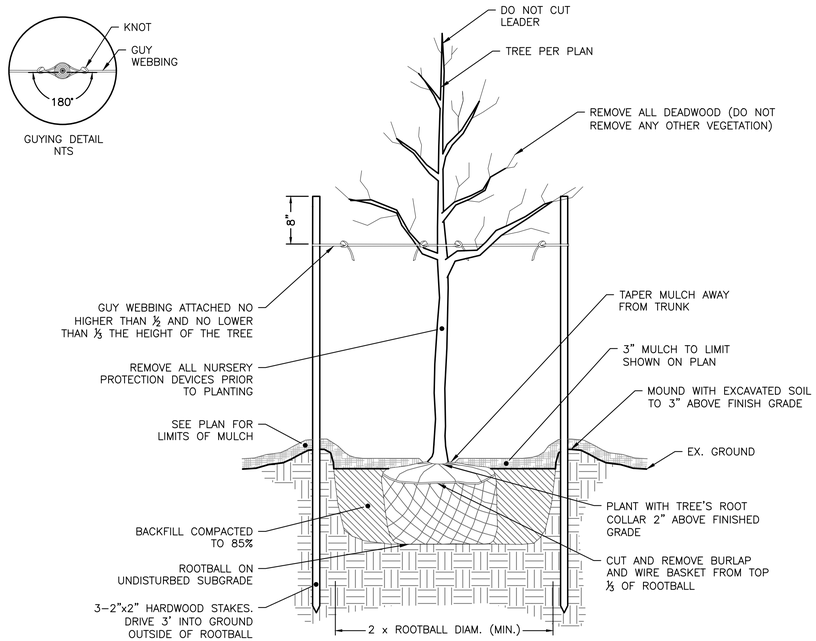
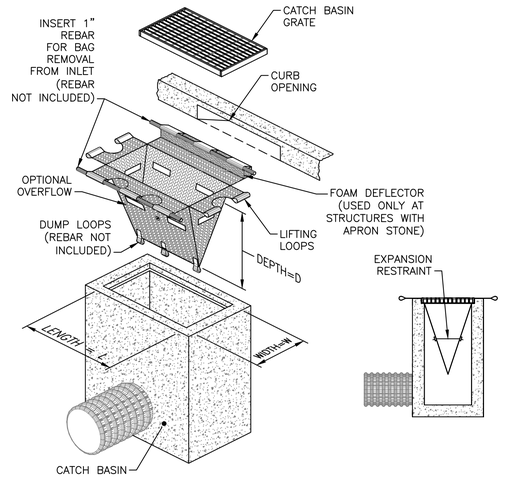
CD-2



NOTES:

1. AFTER THE GUARANTEE PERIOD, THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF STAKES AND GUY WEBBING.

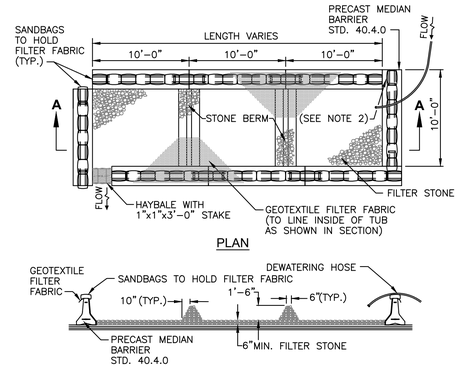
DECIDUOUS TREE STAKING & PLANTING
NOT TO SCALE



NOTES:

1. CONTRACTOR SHALL MAINTAIN ALL SILT SACK SEDIMENT CONTROL DEVICE INSTALLATIONS AND REPLACE WHEN SATURATED WITH SEDIMENT BASED ON MANUFACTURER RECOMMENDATIONS. SILT SACK SHALL BE INSPECTED AFTER EVERY RAIN EVENT BUT NO LONGER THAN EVERY TWO WEEKS.
2. SILT SACK SHALL BE DOUBLE NEEDLE SEWN POLYPROPLYENE GEOTEXTILE FABRIC AND RATED FOR HIGH FLOW UNLESS OTHERWISE DIRECTED.
3. CONTRACTOR SHALL PROVIDE CURB OPENING DEFLECTOR AT ALL CATCH BASINS AS NECESSARY.

INLET SEDIMENT CONTROL DEVICE (SILT SACK)
(WITH OPTIONAL CURB DEFLECTOR)
NOT TO SCALE

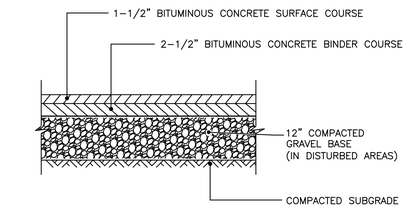


SECTION

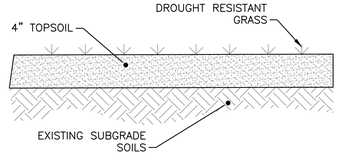
NOTES:

1. SHALL BE IN ACCORDANCE WITH SECTION 208 OF THE R.I. STANDARD SPECIFICATIONS.
2. PROVIDE ADDITIONAL SAND BAGS AS REQUIRED TO FILL SPACE BETWEEN ADJACENT BARRIERS.

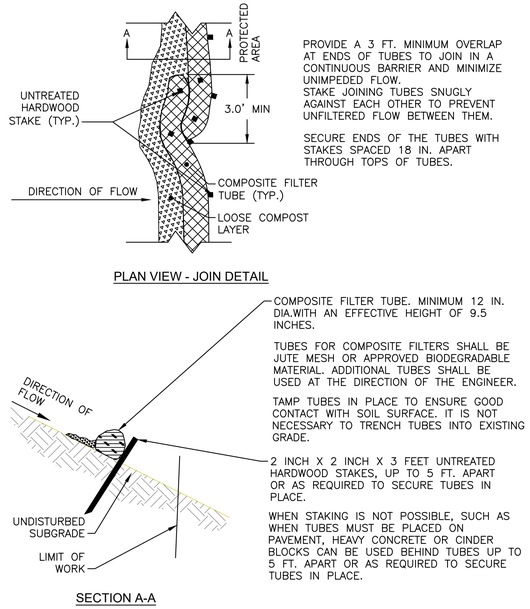
DEWATERING BASIN
NOT TO SCALE



TYPICAL PAVEMENT DETAIL
NOT TO SCALE



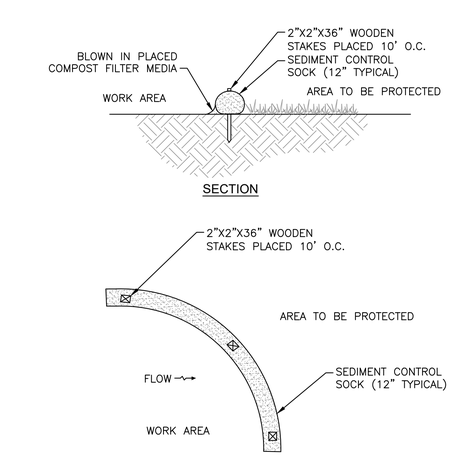
GROUND COVER DETAIL
NOT TO SCALE



PLAN VIEW - JOIN DETAIL

SECTION A-A

COMPOST FILTER TUBE - FOR EROSION CONTROL
NOT TO SCALE



SECTION

PLAN

NOTES:

1. SOCKS SHALL BE PLACED IN A ROW WITH ENDS OVERLAPPING THE ADJACENT SOCK.
2. SOCKS SHALL BE SECURELY ANCHORED IN PLACE BY STAKES DRIVEN THOUGH THE SOCKS.
3. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
4. SOCKS SHALL BE REMOVED WHEN WORK IS COMPLETE AN THE AREA HAS STABILIZED.

SEDIMENT CONTROL "COMPOST SOCK"
NOT TO SCALE

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

CIVIL DETAILS - III

NO.	REVISIONS	DATE

DRAWN BY: CJM
DESIGNED BY: AJG
CHECKED BY: JRD
ISSUE DATE: MAY 2023
BETA JOB NO.: 6861-105

SCALE

AS SHOWN

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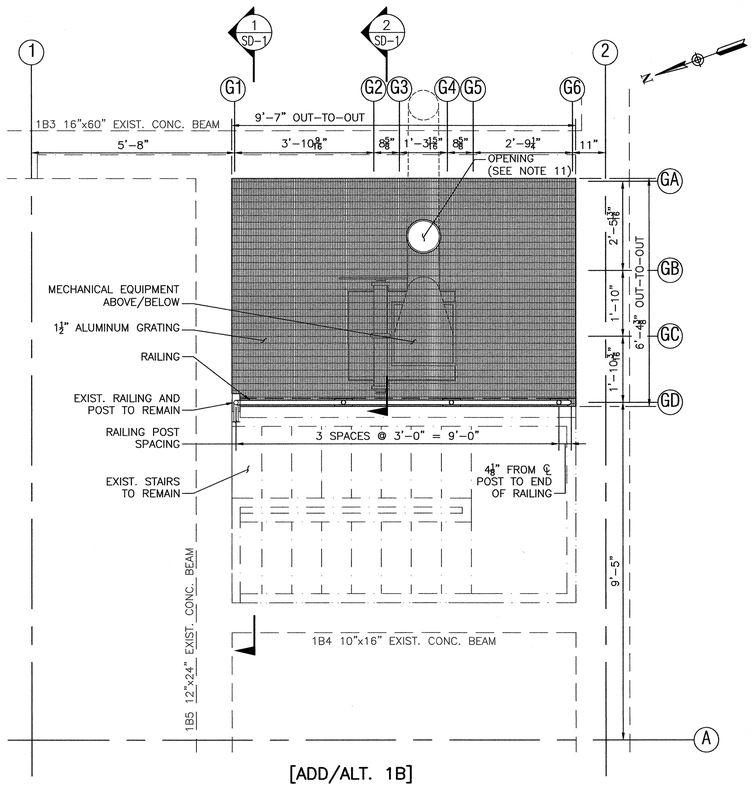
CD-3

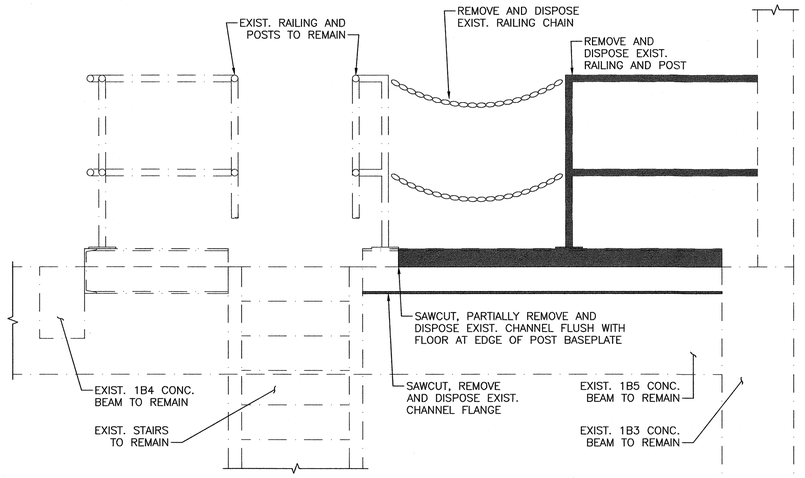
5/16/2023 J:\BURRILLVILLE\WWTF - HEADWORKS IMPROVEMENTS\ACAD\DRAWINGFILES\PLANSET\CIVIL-DETAILS.DWG



[ADD/ALT. 1B]

ELEVATED PLATFORM GRATING PLAN

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



SECTION 1 – DEMOLITION

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

GENERAL NOTES:

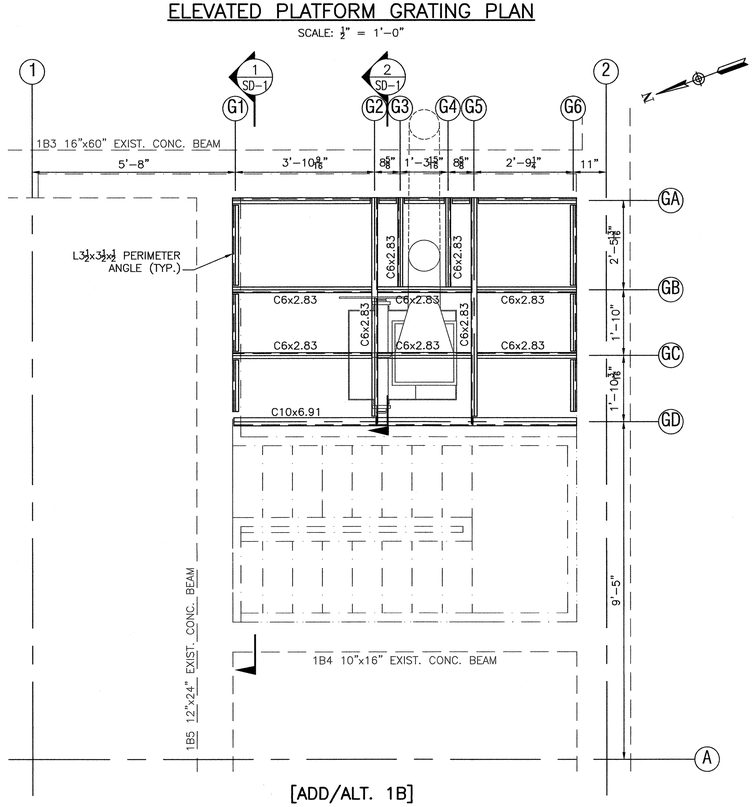
1. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS PRIOR TO THE START OF CONSTRUCTION.
2. LOAD CRITERIA:
   UNIFORM LIVE LOAD = 150 PSF

METAL GRATING NOTES:

1. GRATING, COVER PLATES, ANGLE FRAMES AND SUPPORTS SHALL BE ALL ALUMINUM CONSTRUCTION UNLESS OTHERWISE NOTED. COVER PLATES SHALL BE DIAMOND PLATE ALUMINUM ALLOY 6061–T6. GRATING SHALL BE ALUMINUM ALLOY 6063–T6.
2. FASTENERS, ANCHORS, BOLTS, NUTS AND WASHERS FOR GRATING, COVER PLATES AND SUPPORTS SHALL BE TYPE 316 STAINLESS STEEL.
3. FIELD VERIFY GRATING SUPPORT LOCATIONS BEFORE FABRICATING GRATING, AT TRENCHES 12" OR LESS PROVIDE 1"x3/16" GRATING WITH SUPPORTS AT 3'–0" ON CENTER. PLATE SUPPORTS WITH EXTREME CARE TO PROVIDE TOLERANCES SHOWN OR SPECIFIED.
4. GRATING PANEL LAYOUT SHALL PROVIDE FOR THE REMOVAL OF GRATING AROUND PIPE AND OTHER GRATING PENETRATIONS.
5. BAND ALL GRATING ALONG EDGES AND AROUND OPENINGS WITH CONTINUOUS BAR SAME DEPTH & THICKNESS AS BEARING BARS.
6. ALL ANGLE FRAMES FOR GRATING AND COVER PLATES ARE TO BE MITERED AND WELDED AT CORNERS.
7. ALL GRATING IS TO BE SECURELY FASTENED TO SUPPORTS, UNLESS OTHERWISE NOTED.
8. ALL COVER PLATES SHALL BE SECURELY FASTENED TO SUPPORTS WITH 3/8" STAINLESS STEEL FLAT–HEAD MACHINE SCREWS AT 2'–0" ON CENTER, UNLESS OTHERWISE NOTED.
9. ANY ADDITIONAL GRATING SUPPORTS SHALL BE ALUMINUM, DESIGNED BY THE CONTRACTOR AND SHOWN ON THE GRATING PANEL LAYOUT.
10. COAT ALL ALUMINUM IN DIRECT CONTACT WITH CONCRETE WITH A BITUMASTIC COATING.
11. CONTRACTOR TO COORDINATE OPENINGS WITH THE EQUIPMENT MANUFACTURER.

ALUMINUM FRAMING NOTES:

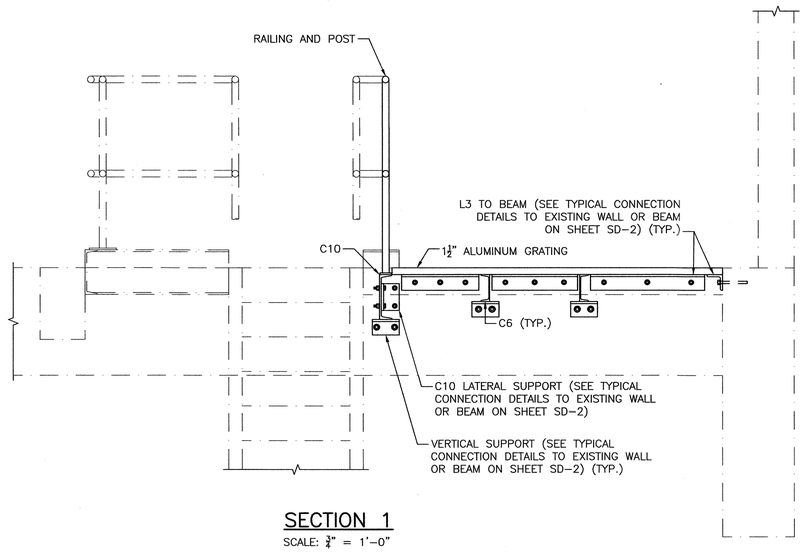
1. ALL ALUMINUM STOCK SHALL BE 6061–T6.
2. WELDS SHALL USE 5556 FILLER ALLOY.
3. BOLTS, NUTS, AND WASHERS SHALL BE 316 STAINLESS STEEL.



[ADD/ALT. 1B]

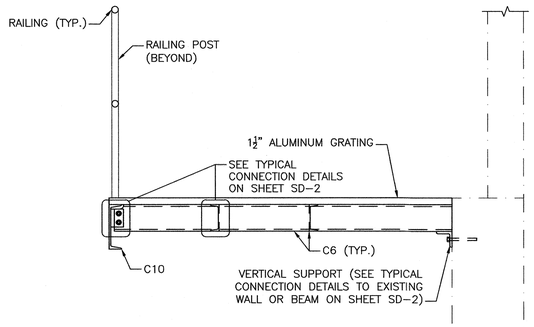
ELEVATED PLATFORM FRAMING PLAN

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



SECTION 1

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



SECTION 2

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

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

STRUCTURAL DETAILS - I

NO.	REVISIONS	DATE

DRAWN BY:	DW
DESIGNED BY:	PJK/DW
CHECKED BY:	CWJ
ISSUE DATE:	MAY 2023
BETA JOB NO.:	6861-105

SCALE

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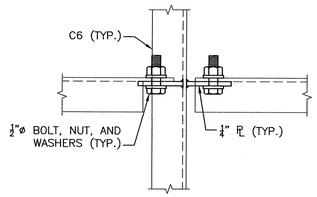
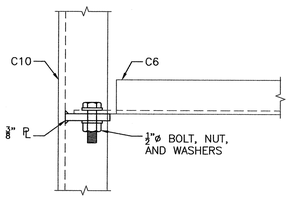
SHEET NO.

SD-1



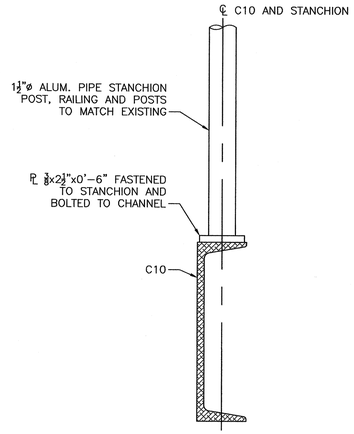
NOTE:
CROSS MEMBERS SCREENED FOR CLARITY.

TOP VIEW

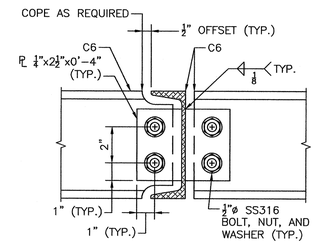


NOTE:
CROSS MEMBERS SCREENED FOR CLARITY.

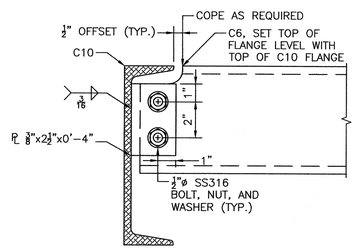
TOP VIEW



SIDE VIEW
[RAILING POST TO C10]



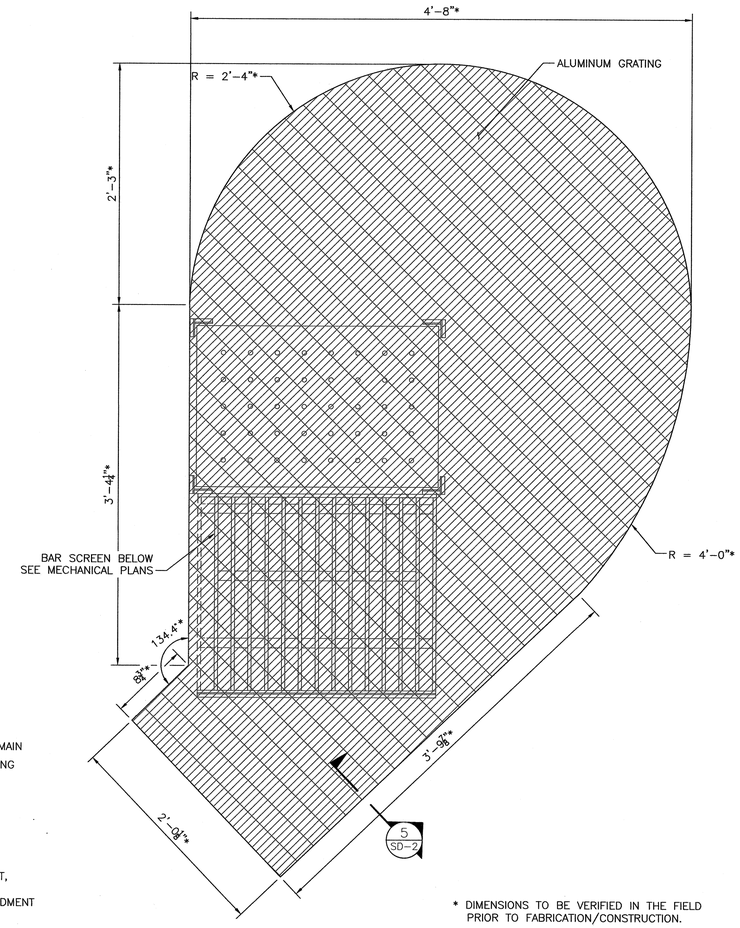
SIDE VIEW
[C6 TO C6]



SIDE VIEW
[C6 TO C10]

TYPICAL CONNECTION DETAILS

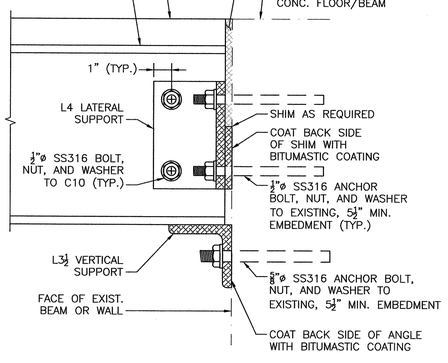
SCALE: 3" = 1'–0"



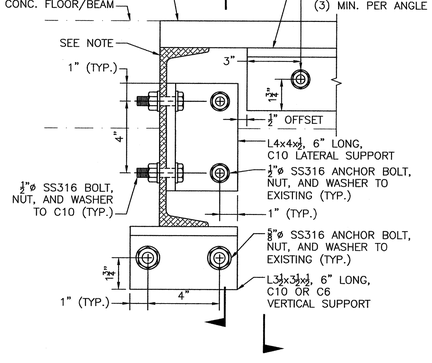
* DIMENSIONS TO BE VERIFIED IN THE FIELD PRIOR TO FABRICATION/CONSTRUCTION.

BAR RACK GRATING

SCALE: $1\frac{1}{2}$" = 1'–0"



SECTION 3
[VERTICAL AND LATERAL SUPPORTS]

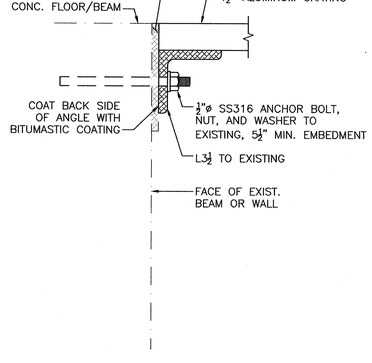


[GENERAL]

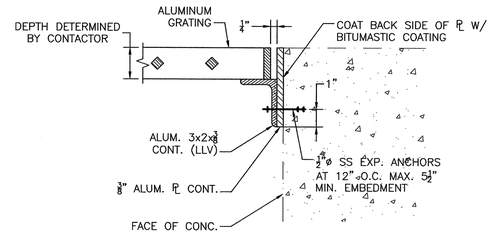
NOTE:
C10 SHOWN, C6 SIMILAR. OMIT LATERAL SUPPORT AT C6.

TYPICAL CONNECTION DETAILS TO EXISTING BEAM OR WALL

SCALE: 3" = 1'–0"



SECTION 4
[L3$\frac{1}{2}$ TO BEAM OR WALL]



SECTION 5
NOT TO SCALE

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

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NO.	REVISIONS	DATE

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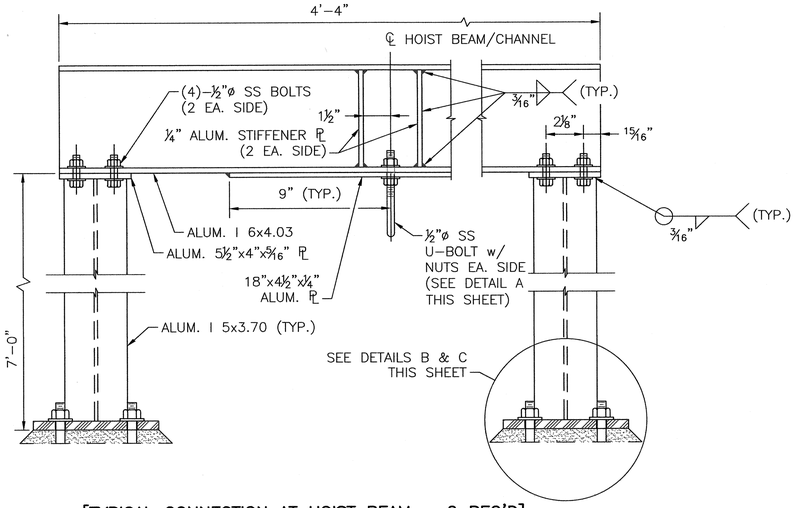
SD-2

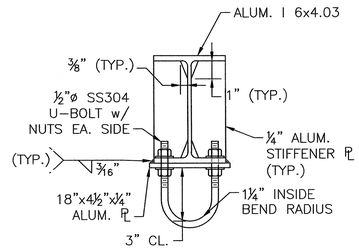
5/15/2023 \\BETA-INC.COM\RIENV\RONBURRILLVILLE\WWTF - HEADWORKS IMPROVEMENTS\ACAD\DRAWINGFILES\PLANSETS\STRUCTURAL-DETAILS.DWG



[TYPICAL CONNECTION AT HOIST BEAM – 2 REQ'D]

HOIST FRAME ELEVATION

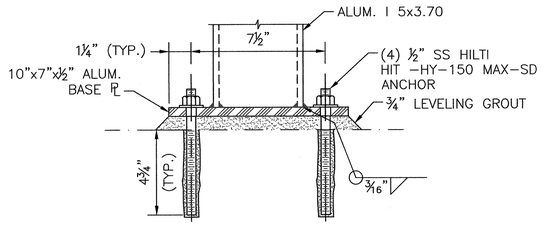
SCALE: 3" = 1'-0"



[LIFT HOOK AT BAR SCREEN]

DETAIL A

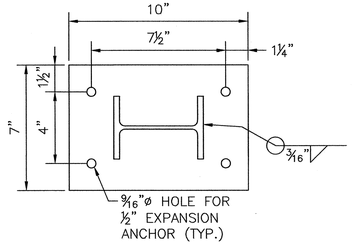
SCALE: 3"=1'-0"



[TYPICAL BASE PLATE SECTION FOR HOIST COLUMN]

DETAIL B

SCALE: 3" = 1'-0"



[TYPICAL BASE PLATE PLAN FOR HOIST COLUMN – 4 REQ'D]

DETAIL C

SCALE: 3" = 1'-0"

ALUMINUM HOIST NOTES:

1. ALL ALUMINUM STOCK SHALL BE 6061-T6.
2. WELDS SHALL USE 5556 FILLER ALLOY.
3. BOLTS, NUTS, AND WASHERS SHALL BE STAINLESS STEEL 316.

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BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

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BETA JOB NO.:	6861-105

SCALE

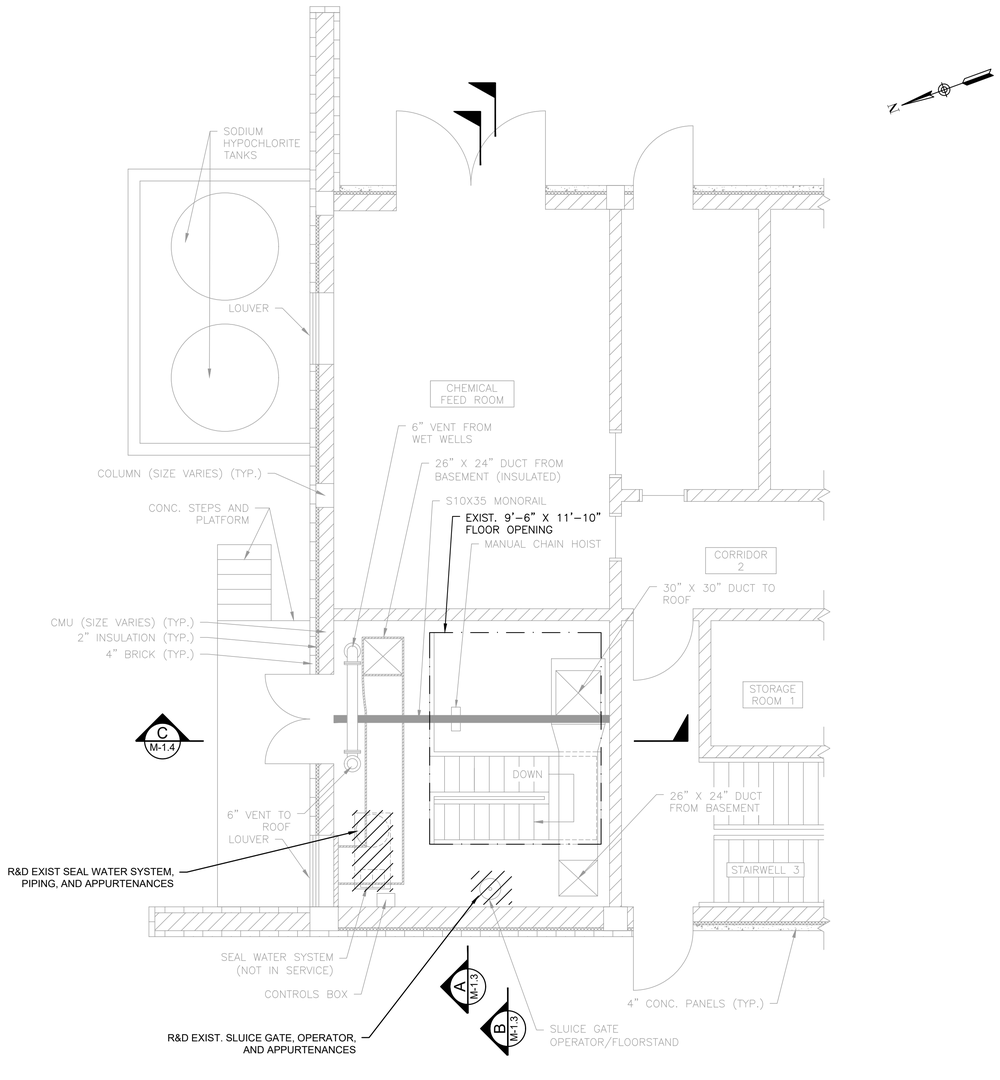
AS SHOWN

SHEET NO.

SD-3

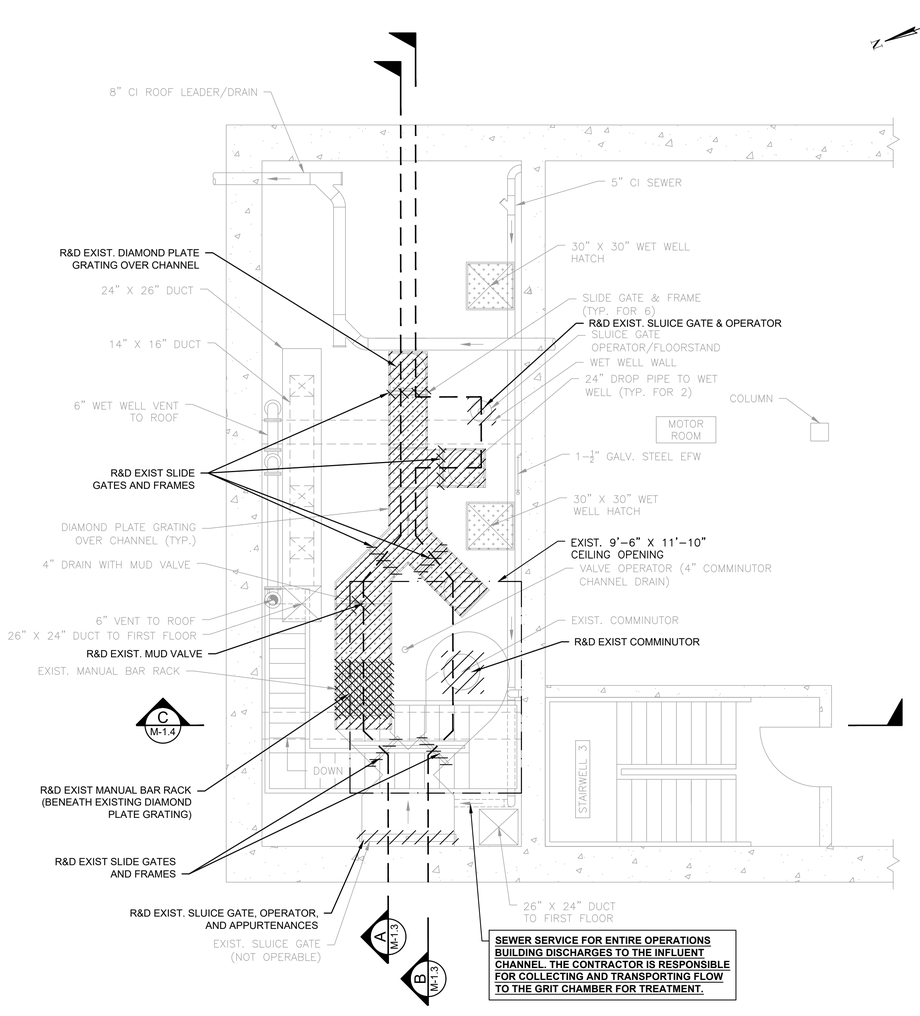
MECHANICAL DEMOLITION NOTES:

1. ALL DEMOLITION AND REMOVAL OF EXISTING CONSTRUCTION, UTILITIES EQUIPMENT, AND APPURTENANCES SHALL BE ACCOMPLISHED WITHOUT DAMAGING THE INTEGRITY OF EXISTING STRUCTURES, EQUIPMENT, AND APPURTENANCES THAT ARE TO REMAIN. EQUIPMENT DESIGNATED BY THE OWNER TO BE SALVAGED SHALL BE REMOVED AND DELIVERED BY THE CONTRACTOR TO AN AREA AT THE TREATMENT FACILITY, INDICATED BY THE ENGINEER. REFER TO SPECIFICATION SECTION 02050-DEMOLITION.
2. ALL DEMOLITION MATERIAL INCLUDING CONCRETE, PIPE, AND BRICK THAT WAS IN CONTACT WITH SEWAGE SHALL BE CLEANED IN ACCORDANCE WITH RIDEM REQUIREMENTS AND DISPOSED OF ACCORDINGLY. ONCE CLEANED, DEMOLITION MATERIALS SHALL NOT BE CONSIDERED SPECIAL WASTE.
3. MATERIALS TO BE REMOVED THAT ARE NOT DESIGNATED TO BE SALVAGED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED OFF-SITE AND DISPOSED OF AT THE CONTRACTORS' EXPENSE.
4. THE CONTRACTOR IS RESPONSIBLE FOR THE LEGAL AND PROPER DISPOSAL OF ALL DEMOLITION MATERIAL ACCORDING TO ANY RELEVANT LAWS OF THE STATE OF RHODE ISLAND.
5. ADDITIONAL DEMOLITION WORK IS SHOWN ON THE STRUCTURAL, PLUMBING, H&V, I&C, AND ELECTRICAL DRAWINGS.
6. ALL REQUIRED DEMOLITION WORK SHALL BE DONE ACCORDING TO THE SEQUENCE OF OPERATIONS PLAN SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
7. PLANS OF THE EXISTING HEADWORKS FACILITY WERE BASED ON THE EXISTING DRAWINGS. THE DRAWINGS SHOW OVERALL DIMENSIONS OF THE STRUCTURE, AND THE LOCATION OF MAJOR EQUIPMENT AND PIPING. MISCELLANEOUS EQUIPMENT, PIPING, CONCRETE EQUIPMENT PADS, PIPE SUPPORTS, AND MATERIALS ARE NOT NECESSARILY SHOWN BUT ARE INCLUDED IN THE DEMOLITION. THE CONTRACTOR SHALL INSPECT THE HEADWORKS FACILITY DURING THE BIDDING PHASE OF THE PROJECT TO FAMILIARIZE THEMSELVES WITH THE EXTENT OF THE DEMOLITION WORK REQUIRED.



FIRST FLOOR PLAN - DEMOLITION

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



BASEMENT PLAN - DEMOLITION

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

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BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

HEADWORKS - DEMOLITION PLANS - I

NO.	REVISIONS	DATE

DRAWN BY: CJM
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ISSUE DATE: MAY 2023
BETA JOB NO.: 6861-105

SCALE

4 0 4 8
SCALE IN FEET: 1"=4'

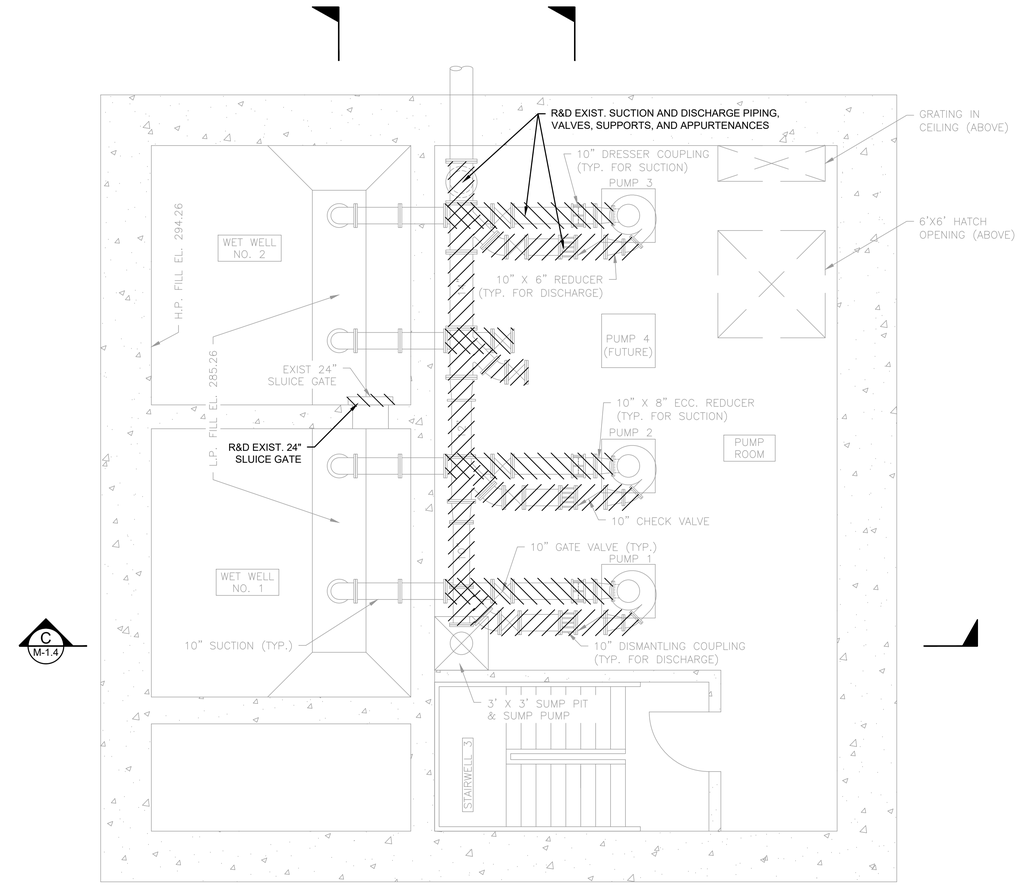
For Review Only

SHEET NO.

M-1.1

J:\BURRILLVILLE\WWTF - HEADWORKS IMPROVEMENTS\ACAD\DRAWINGFILES\PLANSET\MECHANICAL-EXIST-HEADWORKS.DWG

5/16/2023



SUB-BASEMENT PLAN - DEMOLITION

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

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BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

HEADWORKS - DEMOLITION PLANS - II

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SCALE

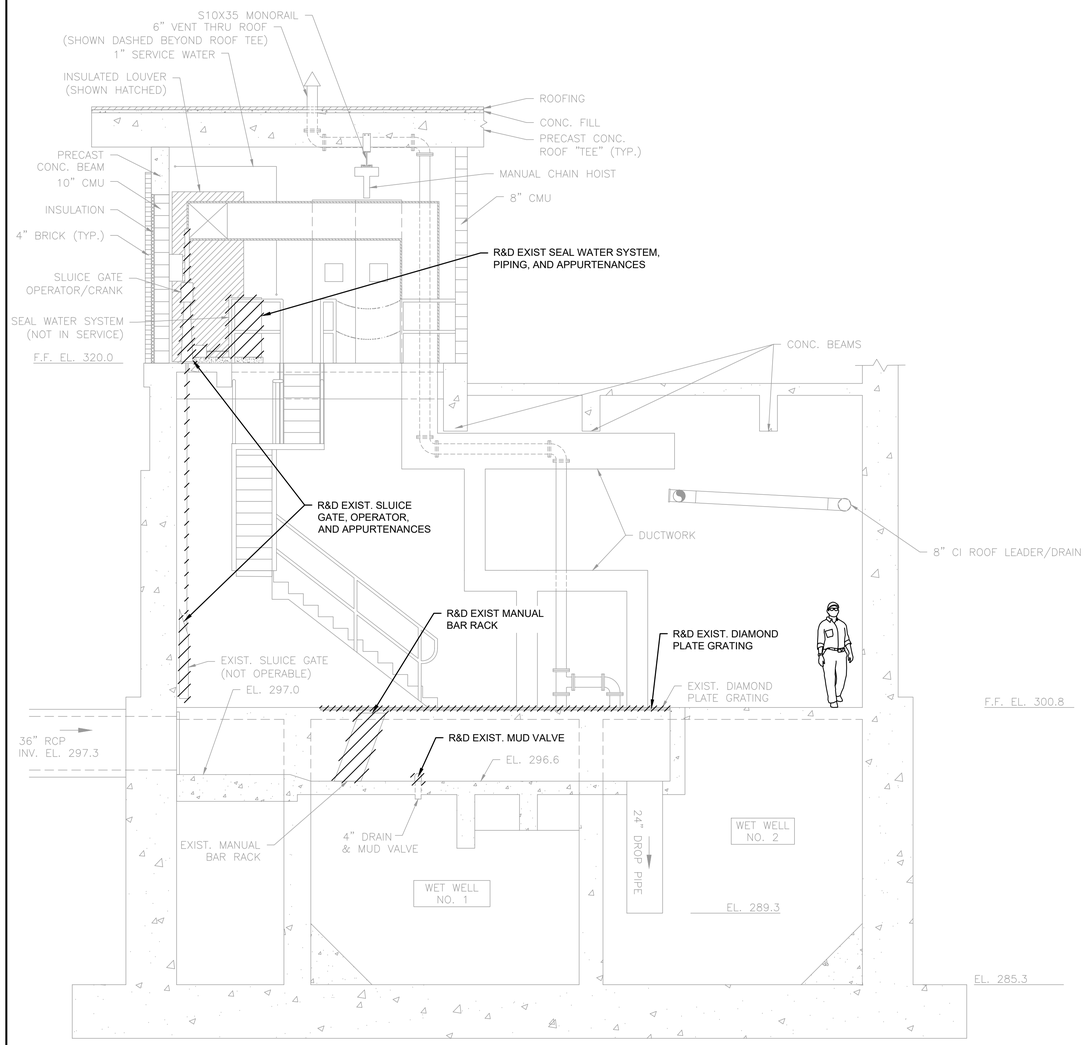
4 0 4 8
SCALE IN FEET: 1"=4'

For Review Only

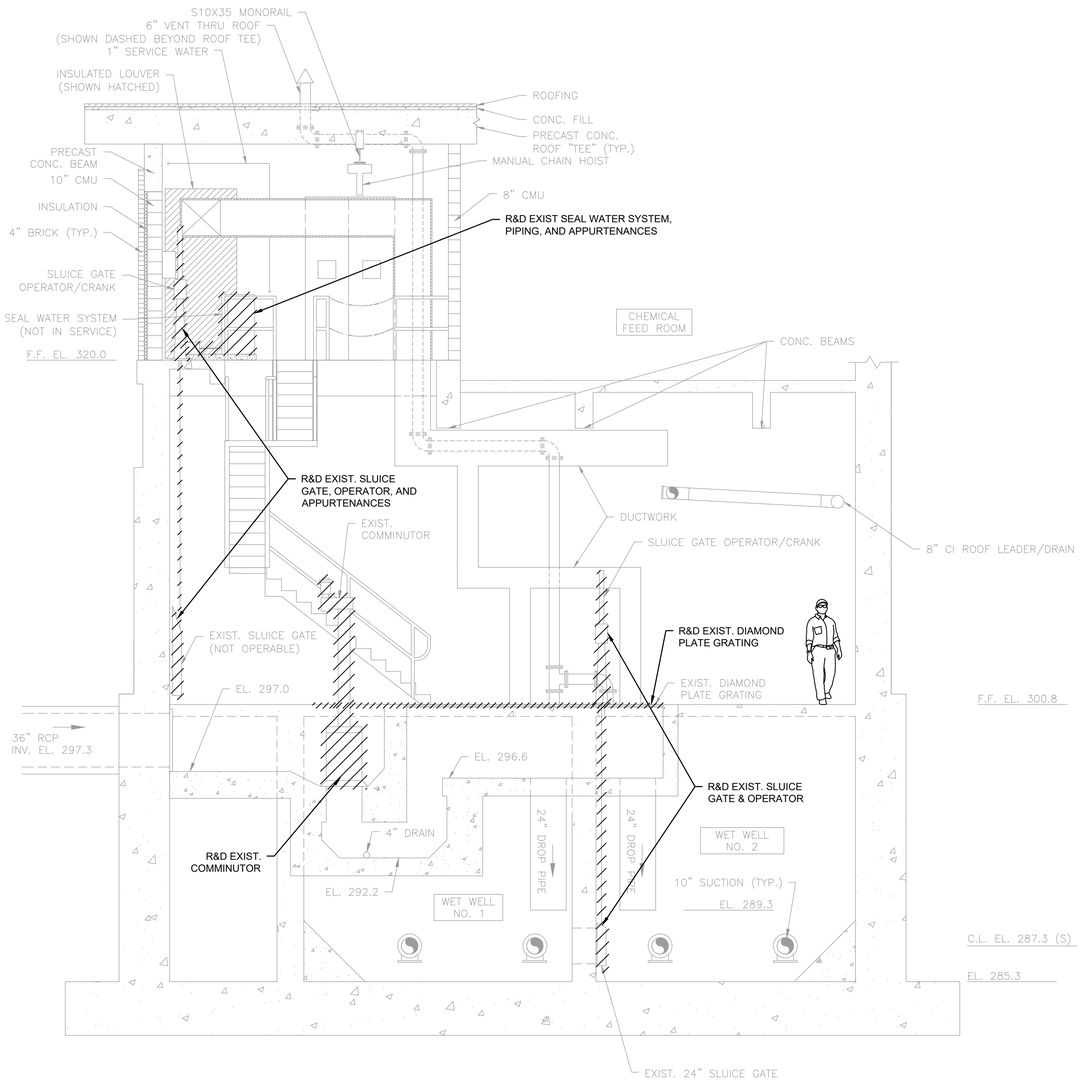
SHEET NO.

M-1.2

5/16/2023 J:\BURRILLVILLE\WWTF - HEADWORKS IMPROVEMENTS\ACAD\DRAWINGFILES\PLANSET\MECHANICAL-EXIST-HEADWORKS.DWG



DEMOLITION SECTION A
SCALE: 1/4" = 1'-0" M-1.1



DEMOLITION SECTION B
SCALE: 1/4" = 1'-0" M-1.1

PREPARED BY

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BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

HEADWORKS - DEMOLITION SECTIONS - I

NO.	REVISIONS	DATE

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CHECKED BY:	JRD
ISSUE DATE:	MAY 2023
BETA JOB NO.:	6861-105

SCALE

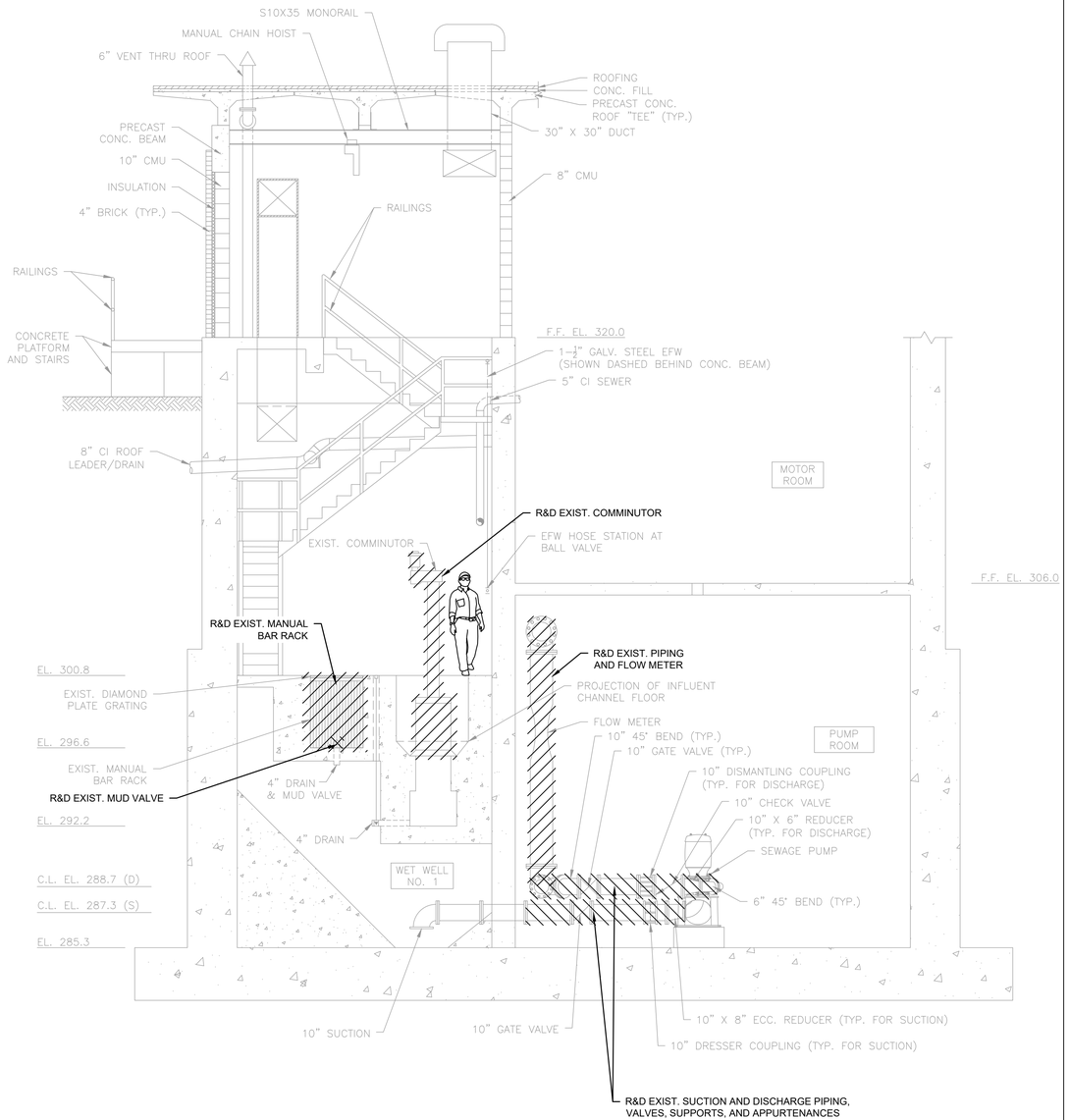
4 0 4 8
SCALE IN FEET: 1"=4'

For Review Only

SHEET NO.

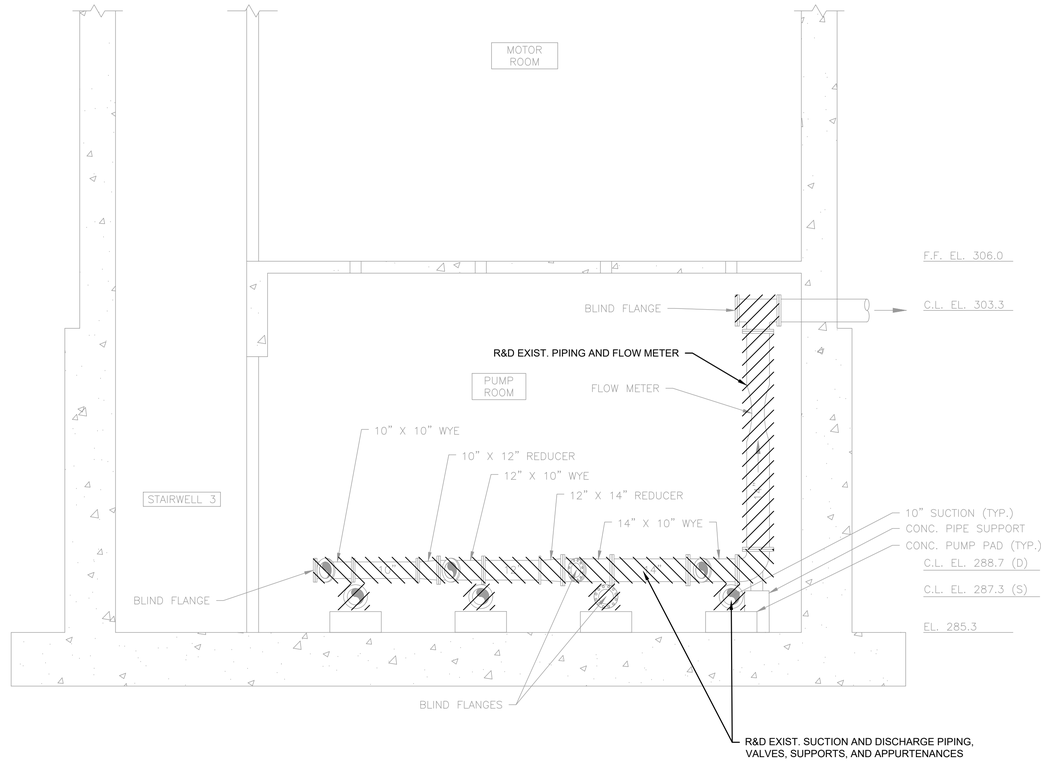
M-1.3

5/16/2023 J:\BURRILLVILLE\WWTF - HEADWORKS IMPROVEMENTS\ACAD\DRAWINGFILES\PLANSET\MECHANICAL-EXIST-HEADWORKS.DWG



DEMOLITION SECTION C / M-1.1

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



DEMOLITION SECTION D / M-1.2

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

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BETA JOB NO.:	6861-105

SCALE

4 0 4 8
SCALE IN FEET: 1"=4'

For Review Only

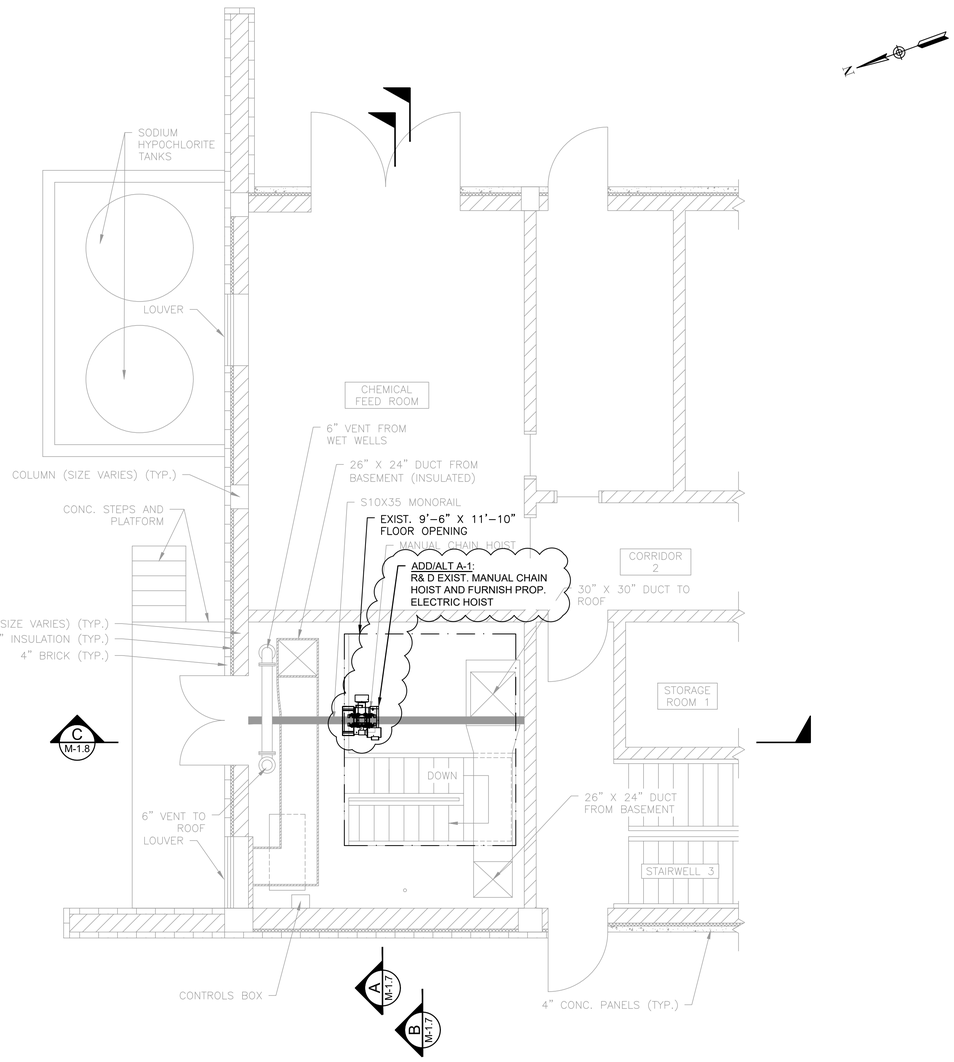
SHEET NO.

M-1.4

GENERAL NOTES:

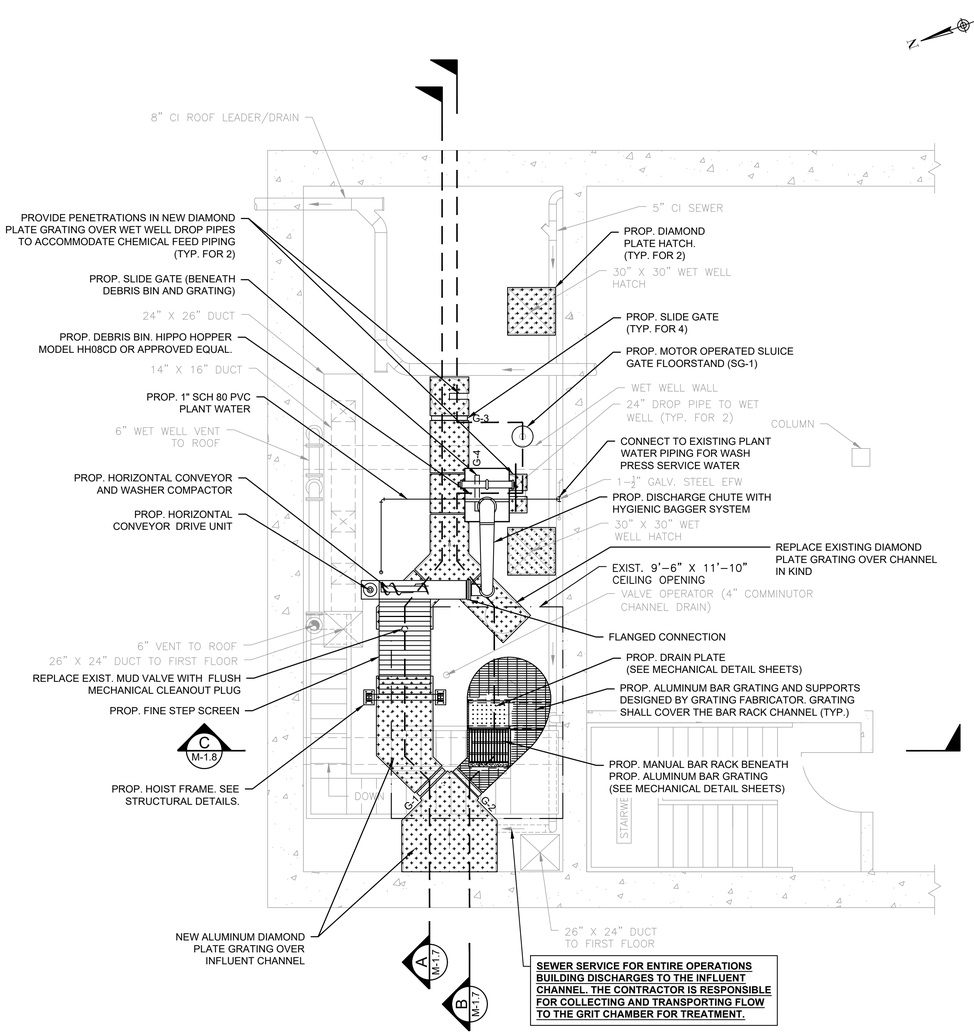
INSTALLATION OF NEW EQUIPMENT WITHIN THE HEADWORKS BUILDING IS BROKEN DOWN INTO THE FOLLOWING BASE BID WITH ADD/ALTERNATES:

1. **BASE BID ITEM 1:** INSTALL THE PROPOSED MANUAL BAR RACK, SLUICE GATES, NEW GRATING AND GRATING MODIFICATIONS, DEBRIS BIN, NEW FLOW METER AND PIPING, ALL OTHER APPURTENANT WORK, AND THE INFLUENT FINE SCREEN WITH SCREENINGS DISCHARGED TO THE LOWER LEVEL.
   1.1. PROPOSED WORK UNDER THE BASE BID ITEM IS SHOWN BOLD THIS SHEET.
2. **ADD/ALTERNATE A-1**: REMOVE AND DISPOSE OF THE EXISTING MANUAL CHAIN HOIST AND INSTALL THE PROPOSED ELECTRIC HOIST.
   2.1. PROPOSED WORK UNDER THIS ADD/ALTERNATE ITEM IS SHOWN WITH A REV CLOUD.
3. **ADD/ALTERNATE A-2:** INSTALL THE PROPOSED VERTICAL CONVEYOR WITH SCREENINGS DISCHARGED TO THE UPPER LEVEL AND THE PROPOSED UPPER LEVEL PLATFORM.
   3.1. PROPOSED WORK UNDER THIS ADD/ALTERNATE ITEM IS NOT SHOWN THIS SHEET.
4. **ADD/ALTERNATE A-3**: REMOVE, DISPOSE, AND REPLACEMENT OF PIPING & APPURTENANCES AS SHOWN IN THE PUMP ROOM
   4.1. PROPOSED WORK UNDER THIS ADD/ALTERNATE ITEM NOT SHOWN ON THIS SHEET..



FIRST FLOOR PLAN - PROPOSED

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



BASEMENT PLAN - PROPOSED

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

NOTES:

1. SEE MECHANICAL DETAIL SHEETS FOR ALL WORK INVOLVING THE MANUAL BAR RACK CHANNEL.

PREPARED BY

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REGISTERED PROFESSIONAL

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7967
5-5-23
REGISTERED PROFESSIONAL ENGINEER
CIVIL

SUBCONSULTANT

PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

HEADWORKS - PROPOSED PLANS - I

NO.	REVISIONS	DATE

DRAWN BY:	CJM
DESIGNED BY:	AJG
CHECKED BY:	JRD
ISSUE DATE:	MAY 2023
BETA JOB NO.:	6861-105

SCALE

4 0 4 8
SCALE IN FEET: 1"=4'

For Review Only

SHEET NO.

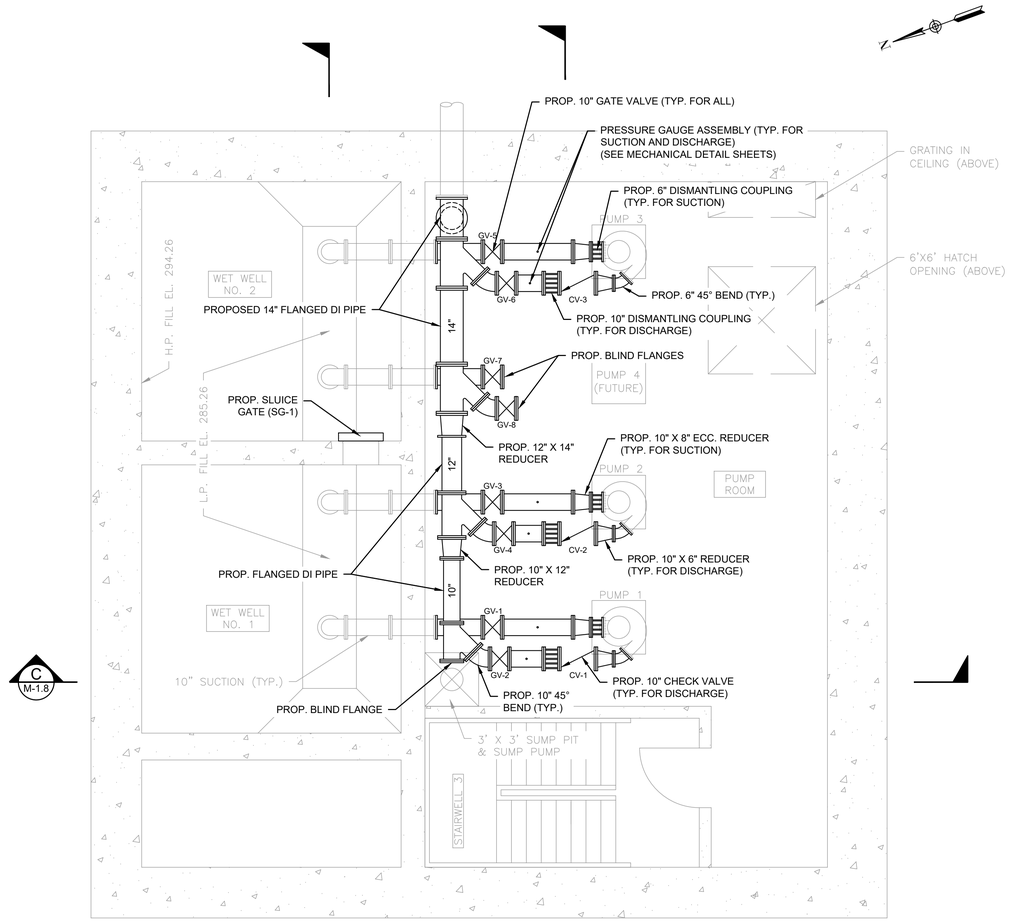
M-1.5

5/16/2023 J:\BURRILLVILLE\WWTF - HEADWORKS IMPROVEMENTS\ACAD\DRAWINGFILES\PLANSET\MECHANICAL-PROP-HEADWORKS.DWG

GENERAL NOTES:

INSTALLATION OF NEW EQUIPMENT WITHIN THE HEADWORKS BUILDING IS BROKEN DOWN INTO THE FOLLOWING BASE BID WITH ADD/ALTERNATES:

1. **BASE BID ITEM 1:** INSTALL THE PROPOSED MANUAL BAR RACK, SLUICE GATES, NEW GRATING AND GRATING MODIFICATIONS, DEBRIS BIN, ALL OTHER APPURTENANT WORK, AND THE INFLUENT FINE SCREEN WITH SCREENINGS DISCHARGED TO THE LOWER LEVEL.
   1.1. PROPOSED WORK UNDER THE BASE BID ITEM IS NOT SHOWN ON THIS SHEET.
2. **ADD/ALTERNATE A-1**: REMOVE AND DISPOSE OF THE EXISTING MANUAL CHAIN HOIST AND INSTALL THE PROPOSED ELECTRIC HOIST.
   2.1. PROPOSED WORK UNDER THIS ADD/ALTERNATE ITEM IS NOT SHOWN THIS SHEET.
3. **ADD/ALTERNATE A-2:** INSTALL THE PROPOSED VERTICAL CONVEYOR WITH SCREENINGS DISCHARGED TO THE UPPER LEVEL AND THE PROPOSED UPPER LEVEL PLATFORM.
   3.1. PROPOSED WORK UNDER THIS ADD/ALTERNATE ITEM IS NOT SHOWN THIS SHEET.
4. **ADD/ALTERNATE A-3**: REMOVE, DISPOSE, AND REPLACEMENT OF PIPING & APPURTENANCES AS SHOWN IN THE PUMP ROOM
   4.1. PROPOSED WORK UNDER THIS ADD/ALTERNATE ITEM IS SHOWN BOLD ON THIS SHEET..



SUB-BASEMENT PLAN - PROPOSED

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

PREPARED BY

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REGISTERED PROFESSIONAL

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BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

HEADWORKS - PROPOSED PLANS - II

NO.	REVISIONS	DATE

DRAWN BY:	CJM
DESIGNED BY:	AJG
CHECKED BY:	JRD
ISSUE DATE:	MAY 2023
BETA JOB NO.:	6861-105

SCALE

4 0 4 8
SCALE IN FEET: 1"=4'

For Review Only

SHEET NO.

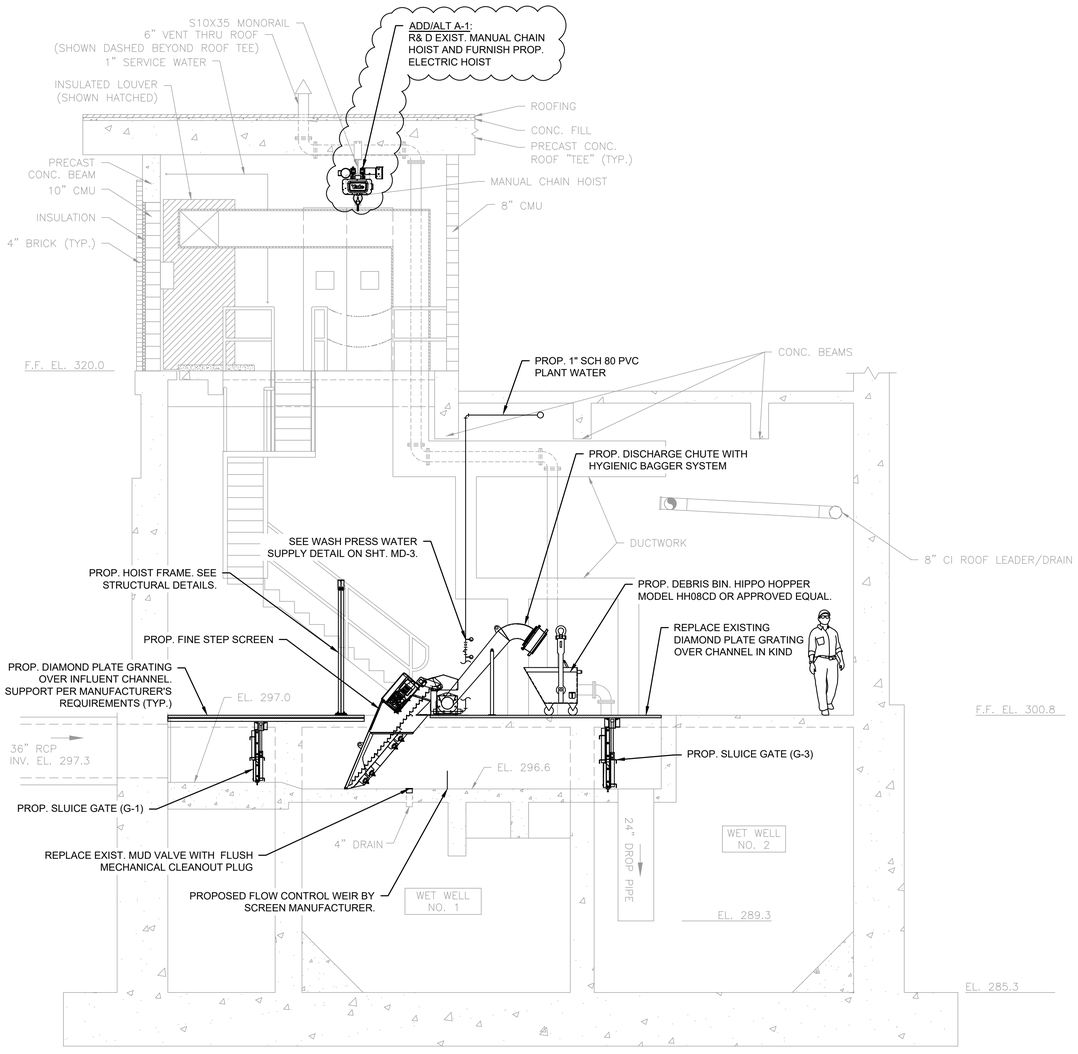
M-1.6

5/16/2023 J:\BURRILLVILLE\WWTF - HEADWORKS IMPROVEMENTS\ACAD\DRAWINGFILES\PLANSET\MECHANICAL-PROP-HEADWORKS.DWG

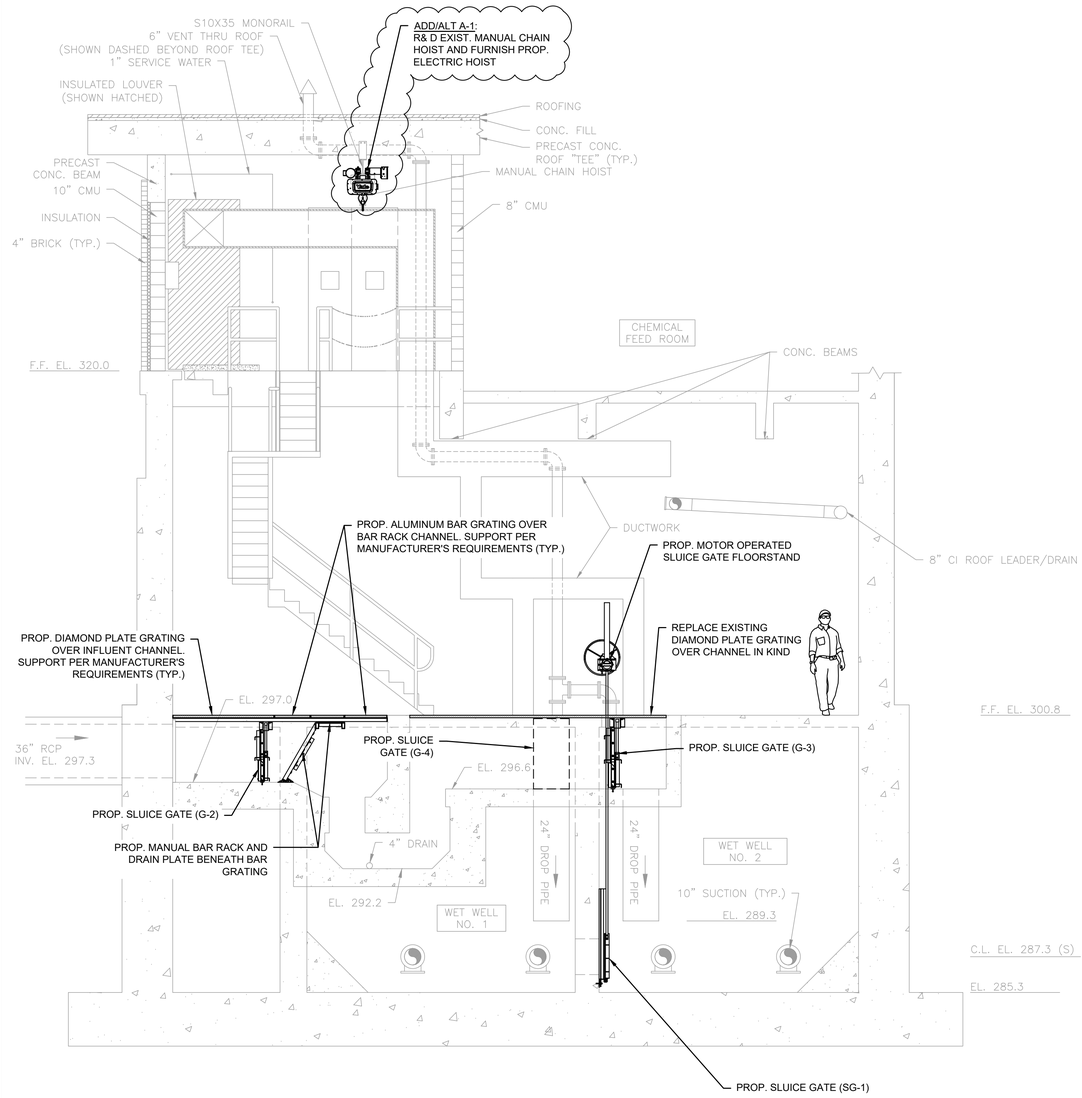
GENERAL NOTES:

INSTALLATION OF NEW EQUIPMENT WITHIN THE HEADWORKS BUILDING IS BROKEN DOWN INTO THE FOLLOWING BASE BID WITH ADD/ALTERNATES:

1. **BASE BID ITEM 1:** INSTALL THE PROPOSED MANUAL BAR RACK, SLUICE GATES, NEW GRATING AND GRATING MODIFICATIONS, DEBRIS BIN, NEW FLOW METER AND PIPING. ALL OTHER APPURTENANT WORK, AND THE INFLUENT FINE SCREEN WITH SCREENINGS DISCHARGED TO THE LOWER LEVEL.
   1.1. PROPOSED WORK UNDER THE BASE BID ITEM IS SHOWN BOLD THIS SHEET.
2. **ADD/ALTERNATE A-1**: REMOVE AND DISPOSE OF THE EXISTING MANUAL CHAIN HOIST AND INSTALL THE PROPOSED ELECTRIC HOIST.
   2.1. PROPOSED WORK UNDER THIS ADD/ALTERNATE ITEM IS SHOWN WITH A REV CLOUD.
3. **ADD/ALTERNATE A-2:** INSTALL THE PROPOSED VERTICAL CONVEYOR WITH SCREENINGS DISCHARGED TO THE UPPER LEVEL AND THE PROPOSED UPPER LEVEL PLATFORM.
   3.1. PROPOSED WORK UNDER THIS ADD/ALTERNATE ITEM IS NOT SHOWN THIS SHEET.
4. **ADD/ALTERNATE A-3**: REMOVE, DISPOSE, AND REPLACEMENT OF PIPING & APPURTENANCES AS SHOWN IN THE PUMP ROOM
   4.1. PROPOSED WORK UNDER THIS ADD/ALTERNATE ITEM IS NOT SHOWN ON THIS SHEET..



PROPOSED SECTION A
SCALE: 1/4" = 1'-0"
M-1.6



NOTES:

1. SEE MECHANICAL DETAIL SHEETS FOR ALL WORK INVOLVING THE MANUAL BAR RACK CHANNEL.
2. PROPOSED INFLUENT SCREEN, CONVEYOR, AND PLANT WATER PIPING NOT SHOWN FOR CLARITY.

PROPOSED SECTION B
SCALE: 1/4" = 1'-0"
M-1.6

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SUBCONSULTANT

PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

HEADWORKS - PROPOSED SECTIONS - I

NO.	REVISIONS	DATE

DRAWN BY:	CJM
DESIGNED BY:	AJG
CHECKED BY:	JRD
ISSUE DATE:	MAY 2023
BETA JOB NO.:	6861-105

SCALE

4 0 4 8
SCALE IN FEET: 1"=4'

For Review Only

SHEET NO.

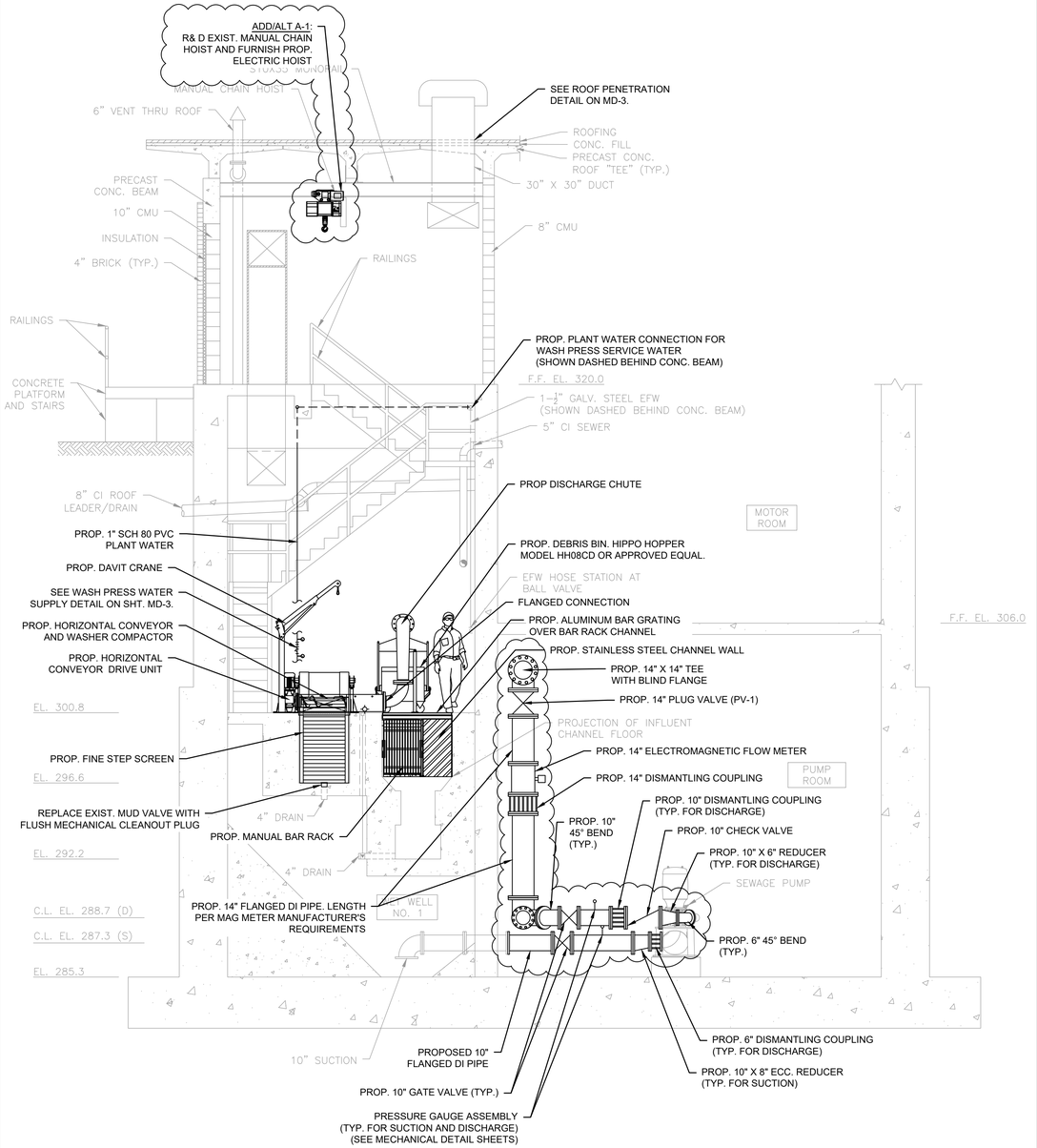
M-1.7

5/16/2023 I:\BURRILLVILLE\WWTF - HEADWORKS IMPROVEMENTS\ACAD\DRAWINGFILES\PLANSET\MECHANICAL-PROP-HEADWORKS.DWG

GENERAL NOTES:

INSTALLATION OF NEW EQUIPMENT WITHIN THE HEADWORKS BUILDING IS BROKEN DOWN INTO THE FOLLOWING BASE BID WITH ADD/ALTERNATES:

1. **BASE BID ITEM 1:** INSTALL THE PROPOSED MANUAL BAR RACK, SLUICE GATES, NEW GRATING AND GRATING MODIFICATIONS, DEBRIS BIN, ALL OTHER APPURTENANT WORK, AND THE INFLUENT FINE SCREEN WITH SCREENINGS DISCHARGED TO THE LOWER LEVEL.
   1.1. PROPOSED WORK UNDER THE BASE BID ITEM IS SHOWN BOLD ON THIS SHEET.
2. **ADD/ALTERNATE A-1**: REMOVE AND DISPOSE OF THE EXISTING MANUAL CHAIN HOIST AND INSTALL THE PROPOSED ELECTRIC HOIST.
   2.1. PROPOSED WORK UNDER THIS ADD/ALTERNATE ITEM IS NOT SHOWN THIS SHEET.
3. **ADD/ALTERNATE A-2:** INSTALL THE PROPOSED VERTICAL CONVEYOR WITH SCREENINGS DISCHARGED TO THE UPPER LEVEL AND THE PROPOSED UPPER LEVEL PLATFORM.
   3.1. PROPOSED WORK UNDER THIS ADD/ALTERNATE ITEM IS NOT SHOWN THIS SHEET.
4. **ADD/ALTERNATE A-3**: REMOVE, DISPOSE, AND REPLACEMENT OF PIPING & APPURTENANCES AS SHOWN IN THE PUMP ROOM
   4.1. PROPOSED WORK UNDER THIS ADD/ALTERNATE ITEM IS SHOWN BOLD WITHIN A REV CLOUD ON THIS SHEET..



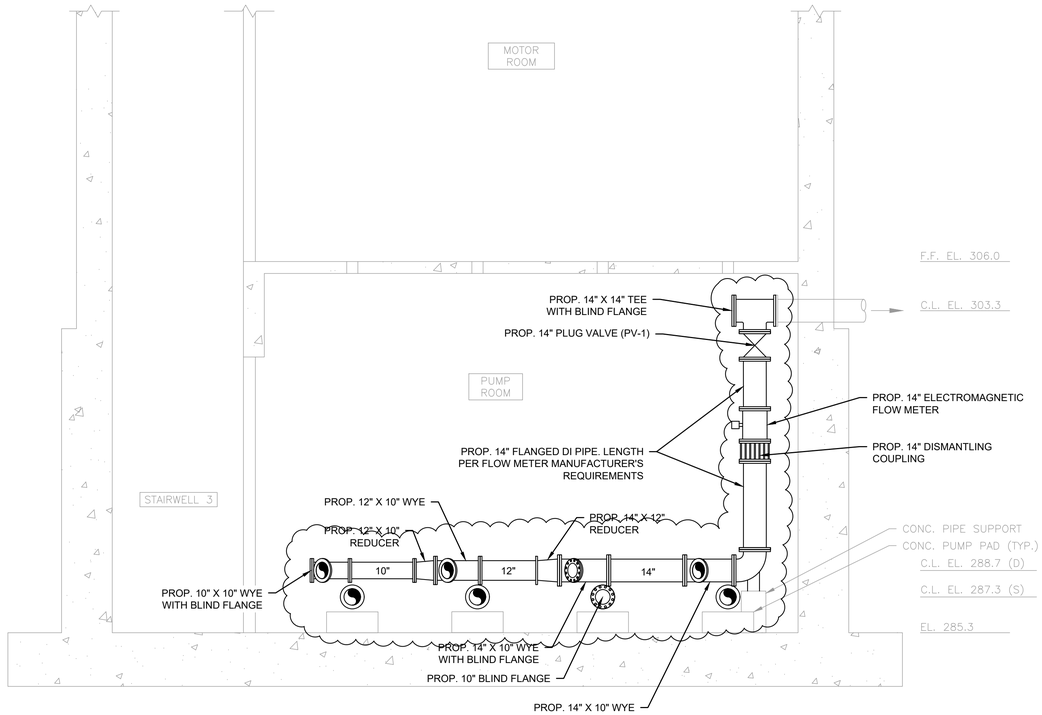
NOTES:

1. SEE MECHANICAL DETAIL SHEETS FOR ALL WORK INVOLVING THE MANUAL BAR RACK CHANNEL.

PROPOSED SECTION

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

C M-1.6



PROPOSED SECTION

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

D M-1.6

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

HEADWORKS - PROPOSED SECTIONS - II

NO.	REVISIONS	DATE

DRAWN BY: CJM
DESIGNED BY: AJG
CHECKED BY: JRD
ISSUE DATE: MAY 2023
BETA JOB NO.: 6861-105

SCALE

4 0 4 8
SCALE IN FEET: 1"=4'

For Review Only

SHEET NO.

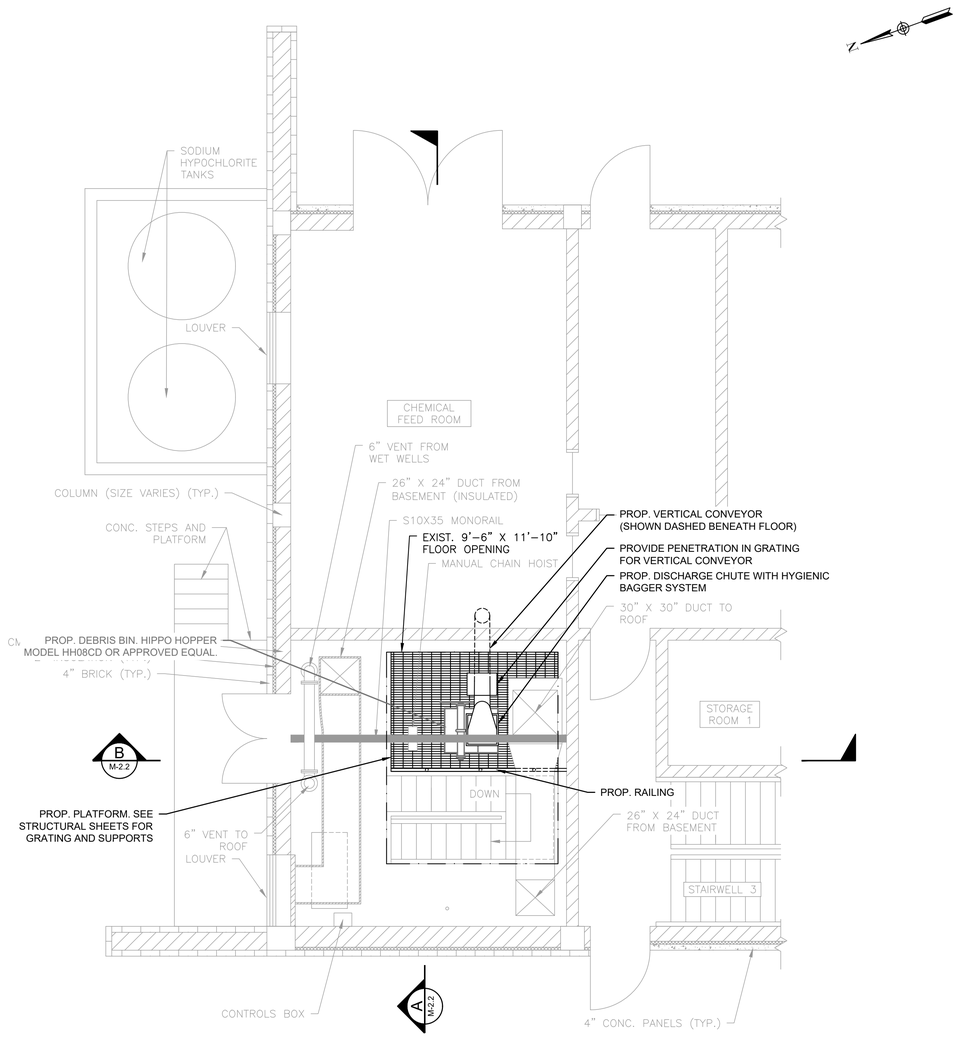
M-1.8

J:\BURRILLVILLE\WWTF - HEADWORKS IMPROVEMENTS\ACAD\DRAWINGFILES\PLANSET\MECHANICAL-PROP-HEADWORKS.DWG
5/16/2023

GENERAL NOTES:

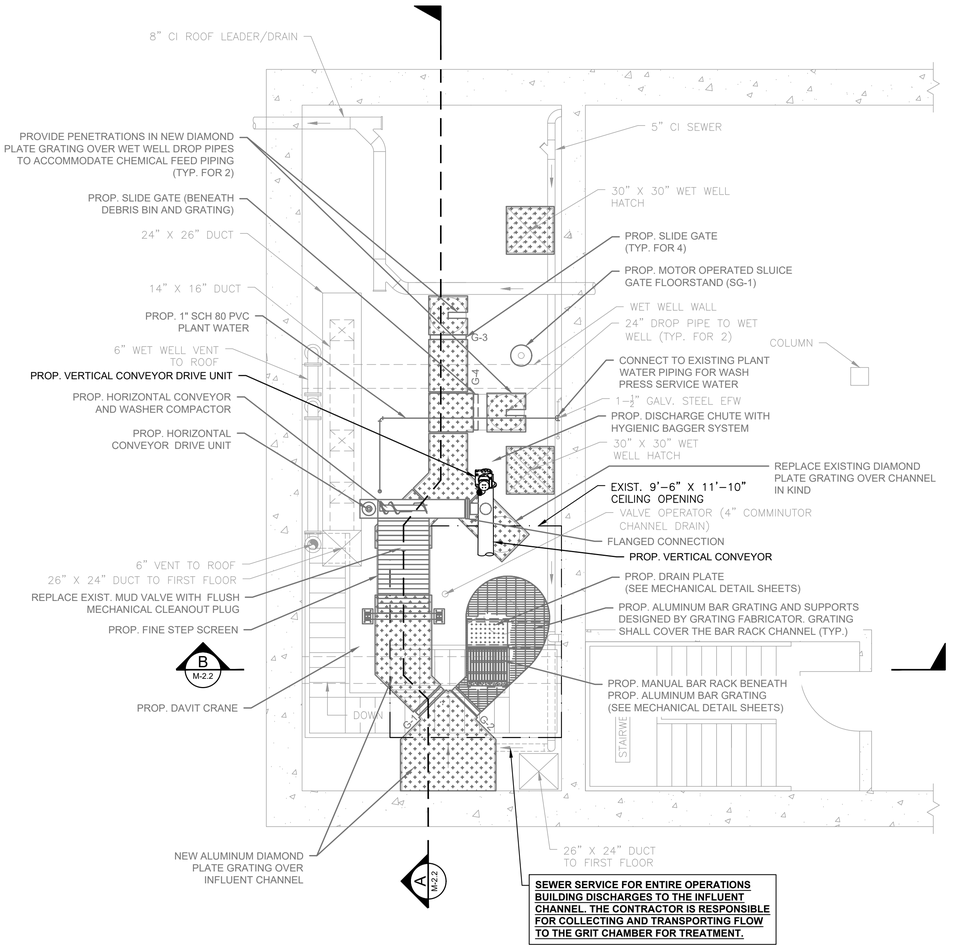
INSTALLATION OF NEW EQUIPMENT WITHIN THE HEADWORKS BUILDING IS BROKEN DOWN INTO THE FOLLOWING BASE BID WITH ADD/ALTERNATES:

1. **BASE BID ITEM 1:** INSTALL THE PROPOSED MANUAL BAR RACK, SLUICE GATES, NEW GRATING AND GRATING MODIFICATIONS, DEBRIS BIN, AND, ALL OTHER APPURTENANT WORK, AND THE INFLUENT FINE SCREEN WITH SCREENINGS DISCHARGED TO THE LOWER LEVEL.
   1.1. PROPOSED WORK UNDER THE BASE BID ITEM IS SHOWN SCREENED THIS SHEET.
2. **ADD/ALTERNATE A+1**: REMOVE AND DISPOSE OF THE EXISTING MANUAL CHAIN HOIST AND INSTALL THE PROPOSED ELECTRIC HOIST.
   2.1. PROPOSED WORK UNDER THIS ADD/ALTERNATE ITEM IS NOT SHOWN THIS SHEET.
3. **ADD/ALTERNATE A-2:** INSTALL THE PROPOSED VERTICAL CONVEYOR WITH SCREENINGS DISCHARGED TO THE UPPER LEVEL AND THE PROPOSED UPPER LEVEL PLATFORM.
   3.1. PROPOSED WORK UNDER THIS ADD/ALTERNATE ITEM IS SHOWN BOLD THIS SHEET.
4. **ADD/ALTERNATE A-3**: REMOVE, DISPOSE, AND REPLACEMENT OF PIPING & APPURTENANCES AS SHOWN IN THE PUMP ROOM
   4.1. PROPOSED WORK UNDER THIS ADD/ALTERNATE ITEM IS NOT SHOWN ON THIS SHEET..



FIRST FLOOR PLAN - PROPOSED

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



SEWER SERVICE FOR ENTIRE OPERATIONS BUILDING DISCHARGES TO THE INFLUENT CHANNEL. THE CONTRACTOR IS RESPONSIBLE FOR COLLECTING AND TRANSPORTING FLOW TO THE GRIT CHAMBER FOR TREATMENT.

BASEMENT PLAN - PROPOSED

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

PREPARED BY

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REGISTERED PROFESSIONAL

SUBCONSULTANT

PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

HEADWORKS - PROPOSED PLANS (ADD-ALTERNATE A-2)

NO.	REVISIONS	DATE

DRAWN BY: CJM
DESIGNED BY: AJG
CHECKED BY: JRD
ISSUE DATE: MAY 2023
BETA JOB NO.: 6861-105

SCALE

4 0 4 8
SCALE IN FEET: 1"=4'

For Review Only

SHEET NO.

M-2.1

5/16/2023 J:\BURRILLVILLE\WWTF - HEADWORKS IMPROVEMENTS\ACAD\DRAWINGFILES\PLANSET\MECHANICAL-PROP-HEADWORKS.DWG

GENERAL NOTES:

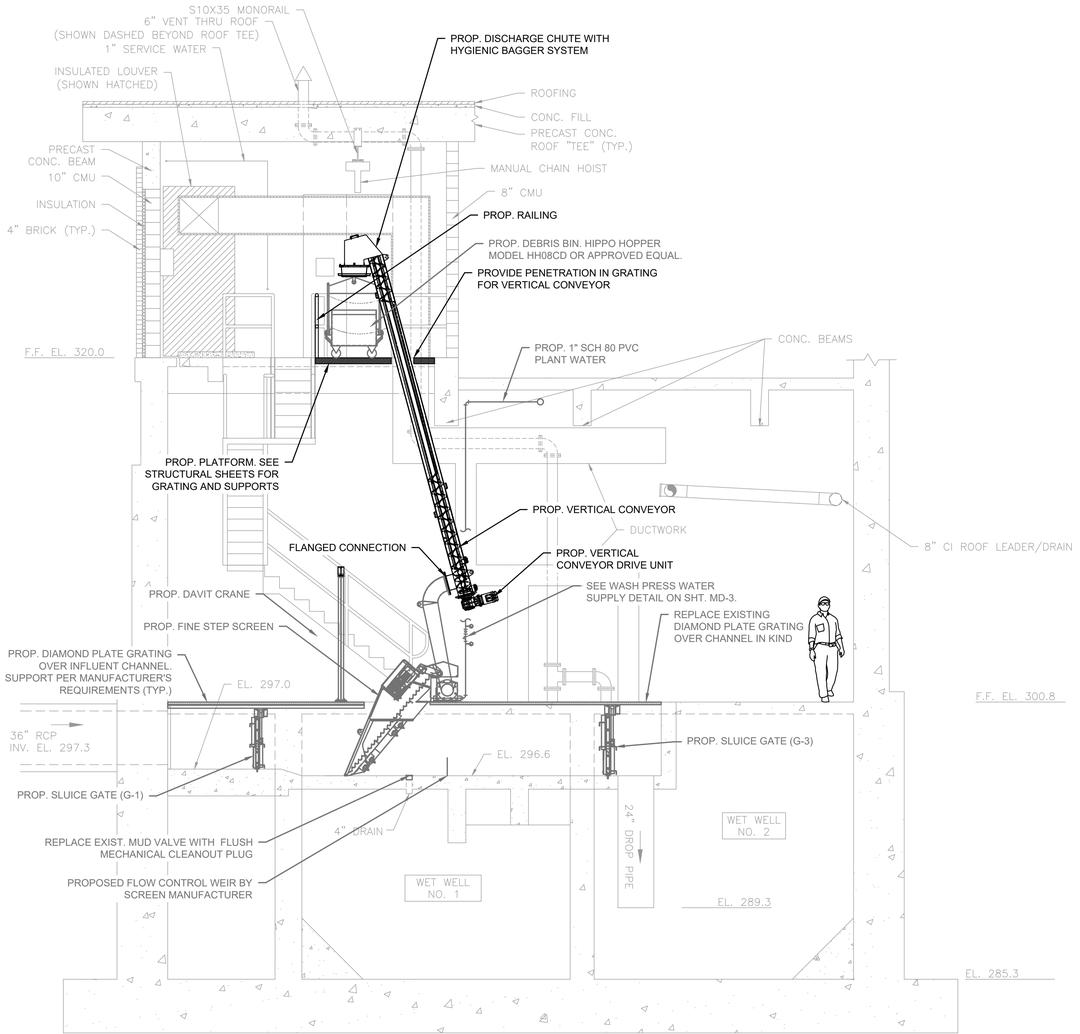
INSTALLATION OF NEW EQUIPMENT WITHIN THE HEADWORKS BUILDING IS BROKEN DOWN INTO THE FOLLOWING BASE BID WITH ADD/ALTERNATES:

1. **BASE BID ITEM 1:** INSTALL THE PROPOSED MANUAL BAR RACK, SLUICE GATES, NEW GRATING AND GRATING MODIFICATIONS, DEBRIS BIN, NEW FLOW METER AND PIPING, ALL OTHER APPURTENANT WORK, AND THE INFLUENT FINE SCREEN WITH SCREENINGS DISCHARGED TO THE LOWER LEVEL.
   1.1. PROPOSED WORK UNDER THE BASE BID ITEM IS SHOWN SCREENED THIS SHEET.

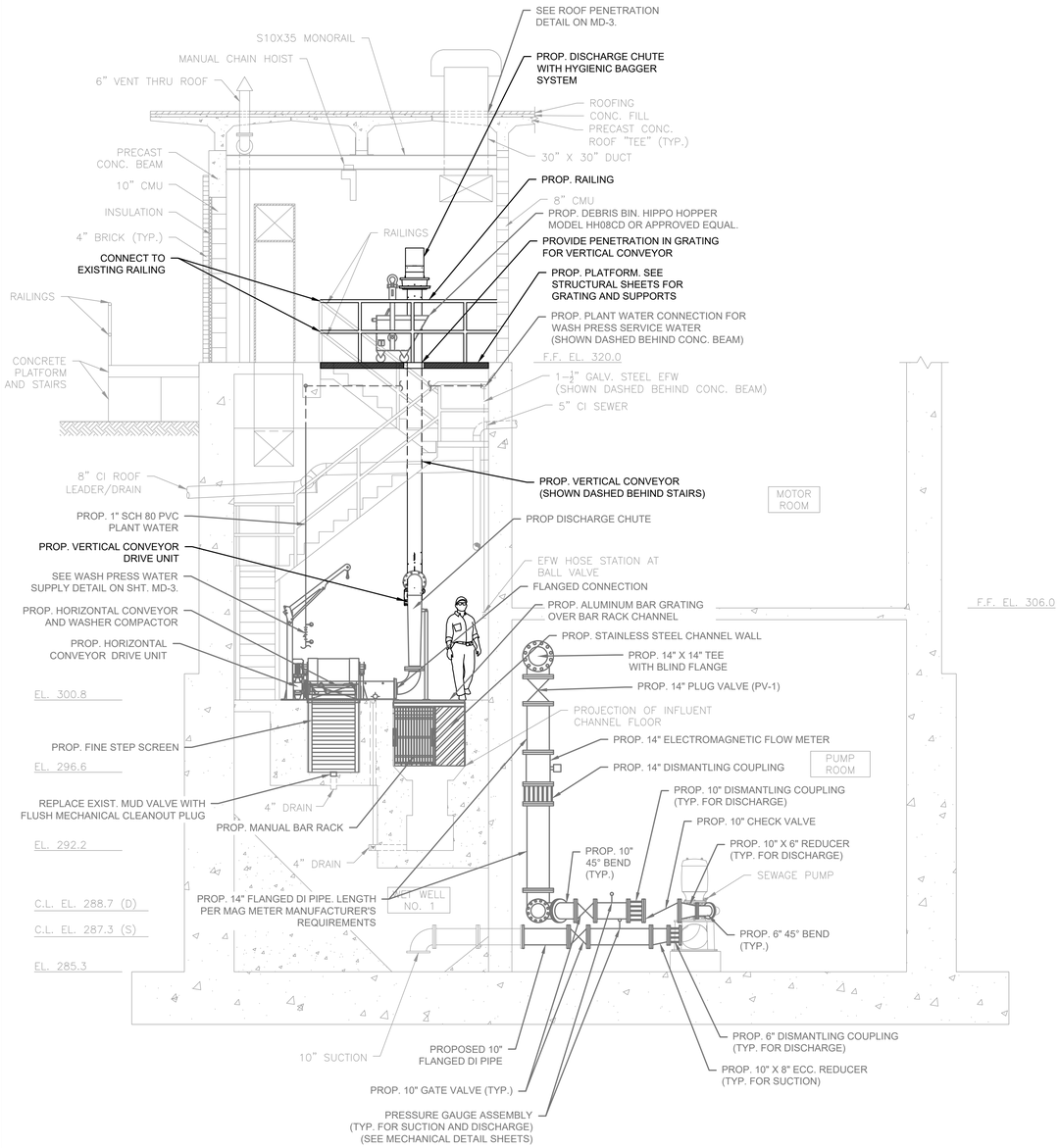
2. **ADD/ALTERNATE A-1**: REMOVE AND DISPOSE OF THE EXISTING MANUAL CHAIN HOIST AND INSTALL THE PROPOSED ELECTRIC HOIST.
   2.1. PROPOSED WORK UNDER THIS ADD/ALTERNATE ITEM IS NOT SHOWN THIS SHEET.

3. **ADD/ALTERNATE A-2:** INSTALL THE PROPOSED VERTICAL CONVEYOR WITH SCREENINGS DISCHARGED TO THE UPPER LEVEL AND THE PROPOSED UPPER LEVEL PLATFORM.
   3.1. PROPOSED WORK UNDER THIS ADD/ALTERNATE ITEM IS SHOWN BOLD THIS SHEET.

4. **ADD/ALTERNATE A-3**: REMOVE, DISPOSE, AND REPLACEMENT OF PIPING & APPURTENANCES AS SHOWN IN THE PUMP ROOM
   4.1. PROPOSED WORK UNDER THIS ADD/ALTERNATE ITEM IS SHOWN ON THIS SHEET..



PROPOSED SECTION A
SCALE: 1/4" = 1'-0"
M-2.1



PROPOSED SECTION B
SCALE: 1/4" = 1'-0"
M-2.1

PREPARED BY

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BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

HEADWORKS - PROPOSED SECTIONS (ADD-ALTERNATE A-2)

NO.	REVISIONS	DATE

DRAWN BY:	CJM
DESIGNED BY:	AJG
CHECKED BY:	JRD
ISSUE DATE:	MAY 2023
BETA JOB NO.:	6861-105

SCALE

4 0 4 8
SCALE IN FEET: 1"=4'

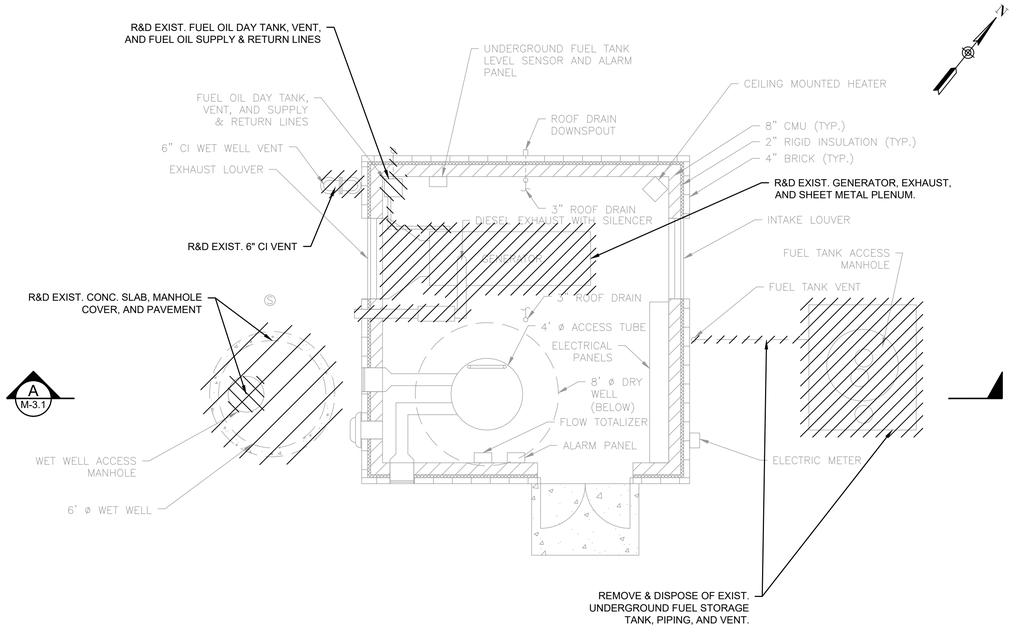
For Review Only

SHEET NO.

M-2.2

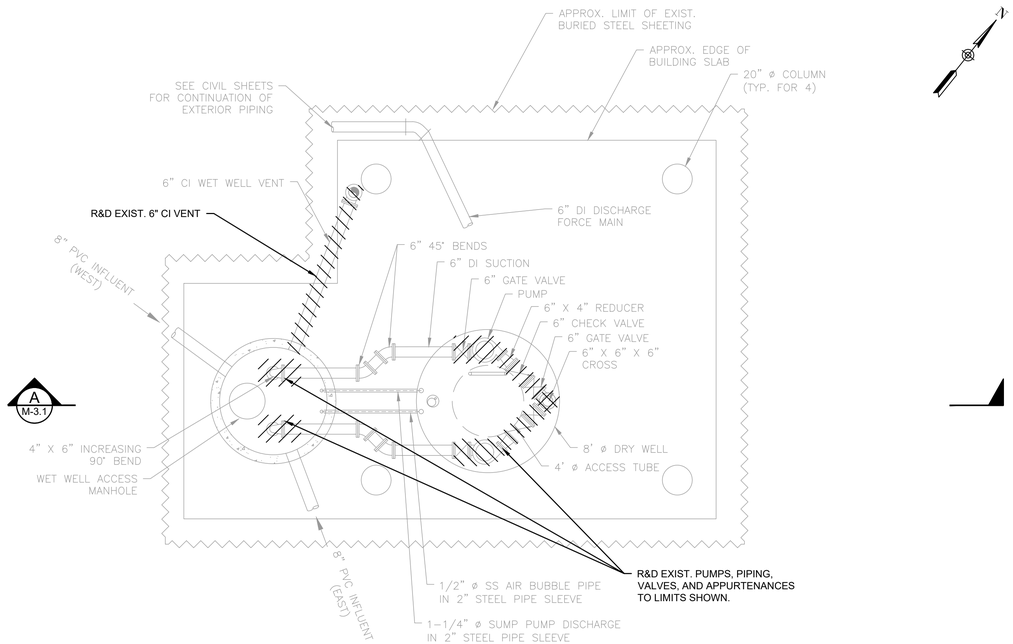
J:\BURRILLVILLE\WWTF - HEADWORKS IMPROVEMENTS\ACAD\DRAWINGFILES\PLANSET\MECHANICAL-PROP-HEADWORKS.DWG

5/16/2023



PUMP STATION PLAN (ABOVE GRADE) - DEMOLITION

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

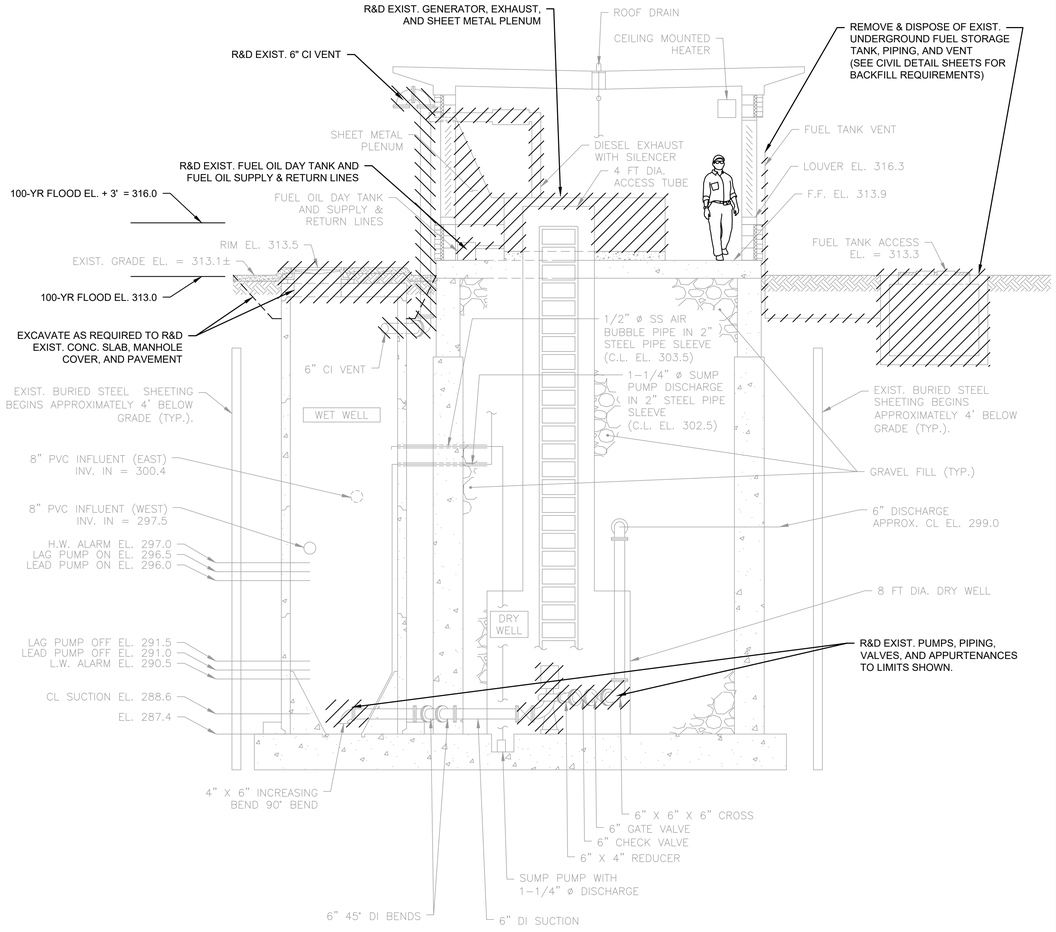


PUMP STATION PLAN (BELOW GRADE) - DEMOLITION

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

MECHANICAL DEMOLITION NOTES:

1. ALL DEMOLITION AND REMOVAL OF EXISTING CONSTRUCTION, UTILITIES EQUIPMENT, AND APPURTENANCES SHALL BE ACCOMPLISHED WITHOUT DAMAGING THE INTEGRITY OF EXISTING STRUCTURES, EQUIPMENT, AND APPURTENANCES THAT ARE TO REMAIN. EQUIPMENT DESIGNATED BY THE OWNER TO BE SALVAGED SHALL BE REMOVED AND DELIVERED BY THE CONTRACTOR TO AN AREA AT THE TREATMENT FACILITY, INDICATED BY THE ENGINEER. REFER TO SPECIFICATION SECTION 02050-DEMOLITION.
2. ALL DEMOLITION MATERIAL INCLUDING CONCRETE, PIPE, AND BRICK THAT WAS IN CONTACT WITH SEWAGE SHALL BE CLEANED IN ACCORDANCE WITH RIDEM REQUIREMENTS AND DISPOSED OF ACCORDINGLY. ONCE CLEANED, DEMOLITION MATERIALS SHALL NOT BE CONSIDERED SPECIAL WASTE.
3. MATERIALS TO BE REMOVED THAT ARE NOT DESIGNATED TO BE SALVAGED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED OFF-SITE AND DISPOSED OF AT THE CONTRACTORS' EXPENSE.
4. THE CONTRACTOR IS RESPONSIBLE FOR THE LEGAL AND PROPER DISPOSAL OF ALL DEMOLITION MATERIAL ACCORDING TO ANY RELEVANT LAWS OF THE STATE OF RHODE ISLAND.
5. ADDITIONAL DEMOLITION WORK IS SHOWN ON THE STRUCTURAL, PLUMBING, H&V, I&C, AND ELECTRICAL DRAWINGS.
6. ALL REQUIRED DEMOLITION WORK SHALL BE DONE ACCORDING TO THE SEQUENCE OF OPERATIONS PLAN SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
7. PLANS OF THE EXISTING HEADWORKS FACILITY WERE BASED ON THE EXISTING DRAWINGS. THE DRAWINGS SHOW OVERALL DIMENSIONS OF THE STRUCTURE, AND THE LOCATION OF MAJOR EQUIPMENT AND PIPING. MISCELLANEOUS EQUIPMENT, PIPING, CONCRETE EQUIPMENT PADS, PIPE SUPPORTS, AND MATERIALS ARE NOT NECESSARILY SHOWN BUT ARE INCLUDED IN THE DEMOLITION. THE CONTRACTOR SHALL INSPECT THE HEADWORKS FACILITY DURING THE BIDDING PHASE OF THE PROJECT TO FAMILIARIZE THEMSELVES WITH THE EXTENT OF THE DEMOLITION WORK REQUIRED.



NOTES:

1. SEAL PENETRATIONS THROUGH EXTERIOR WALLS AFTER REMOVAL OF GENERATOR EXHAUST PIPE AND DAY TANK VENT.

DEMOLITION SECTION

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

A
M-3.1

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CIVIL

SUBCONSULTANT

PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

OAKLAND PS - DEMOLITION PLAN & SECTION

NO.	REVISIONS	DATE

DRAWN BY:	CJM
DESIGNED BY:	AJG
CHECKED BY:	JRD
ISSUE DATE:	MAY 2023
BETA JOB NO.:	6861-105

SCALE

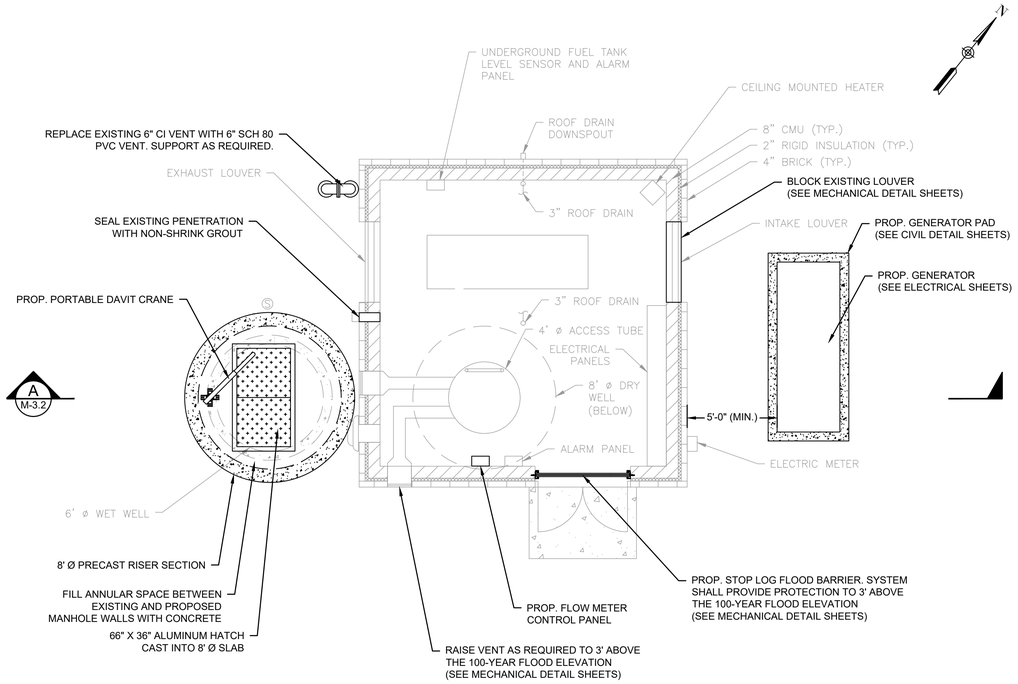
4 0 4 8
SCALE IN FEET: 1"=4'

For Review Only

SHEET NO.

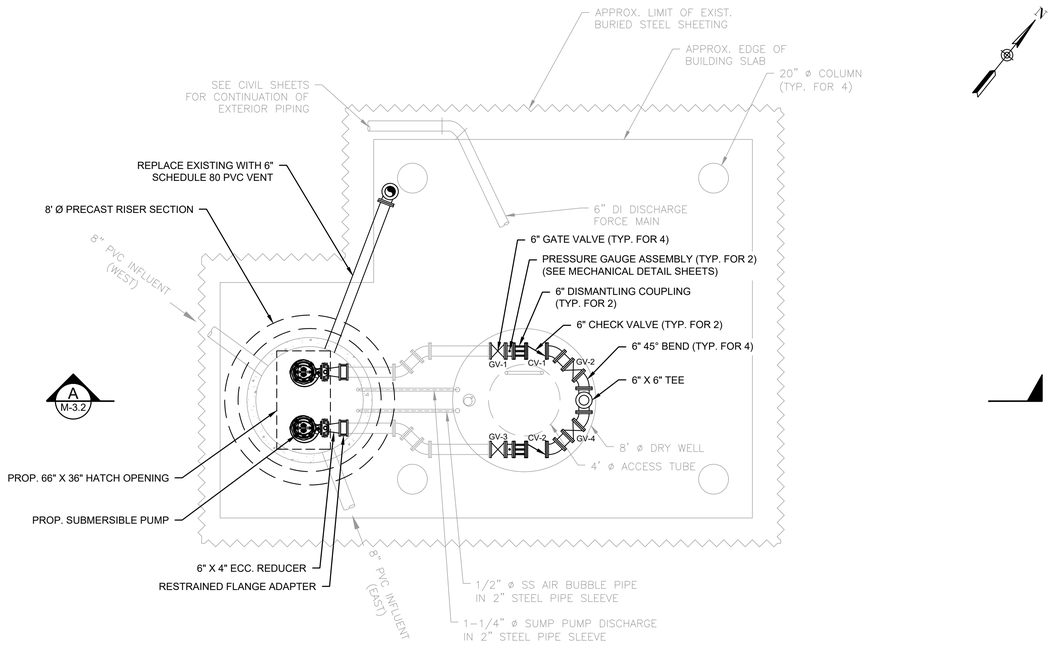
M-3.1

5/16/2023 J:\BURRILLVILLE\WWTF - HEADWORKS IMPROVEMENTS\ACAD\DRAWINGFILES\PLANSET\MECHANICAL-EXIST-OAKLAND.DWG



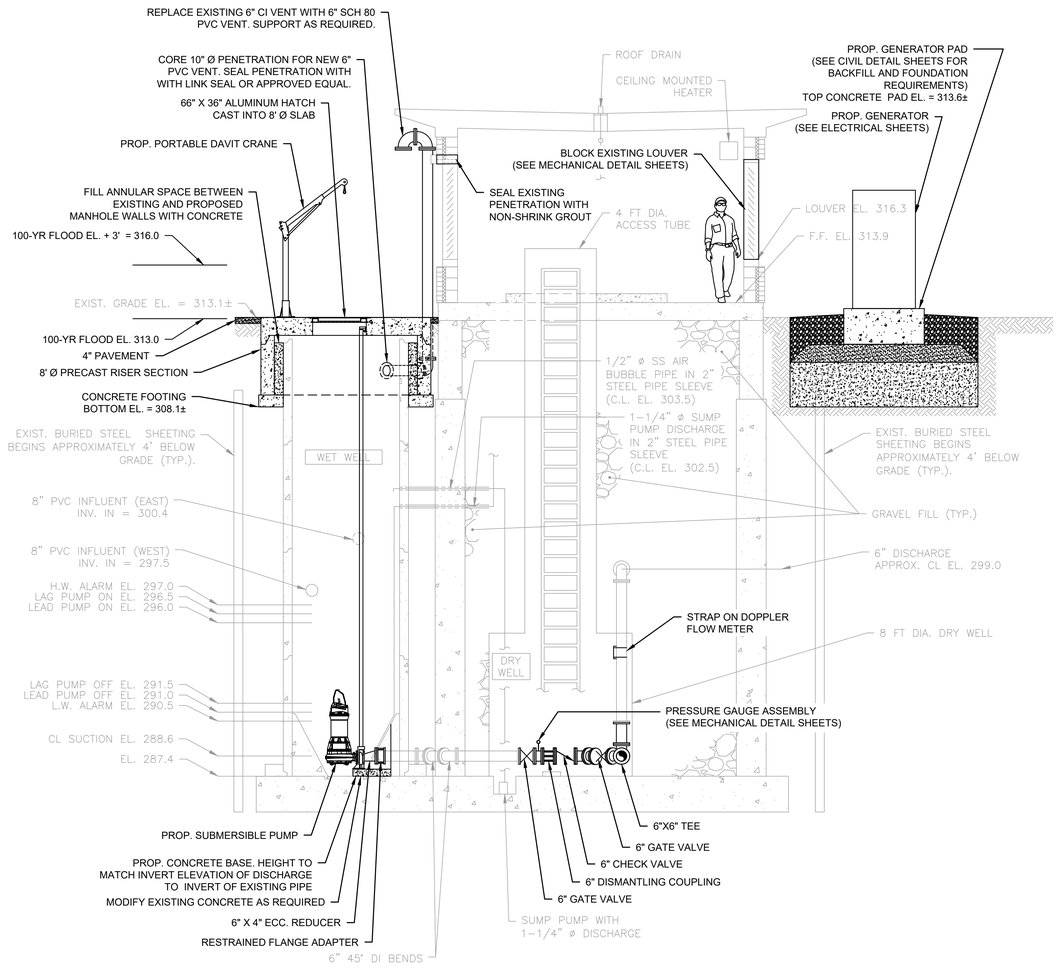
PUMP STATION PLAN (ABOVE GRADE) - PROPOSED

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



PUMP STATION PLAN (BELOW GRADE) - PROPOSED

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



PROPOSED SECTION

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

A M-3.2

PREPARED BY

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REGISTERED PROFESSIONAL

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

OAKLAND PS - PROPOSED PLAN & SECTION

NO.	REVISIONS	DATE

DRAWN BY: CJM

DESIGNED BY: AJG

CHECKED BY: JRD

ISSUE DATE: MAY 2023

BETA JOB NO.: 6861-105

SCALE

4 0 4 8
SCALE IN FEET: 1"=4'

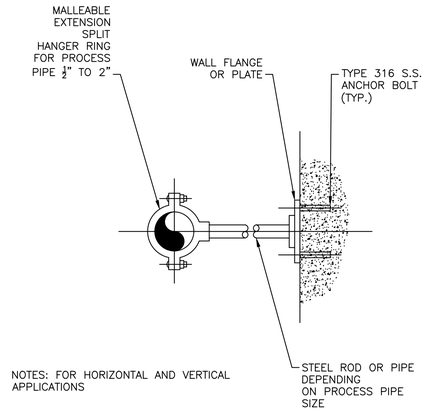
For Review Only

SHEET NO.

M-3.2

J:\BURRILLVILLE\WWTF - HEADWORKS IMPROVEMENTS\ACAD\DRAWINGFILES\PLANSETMECHANICAL-PROP-OAKLAND.DWG

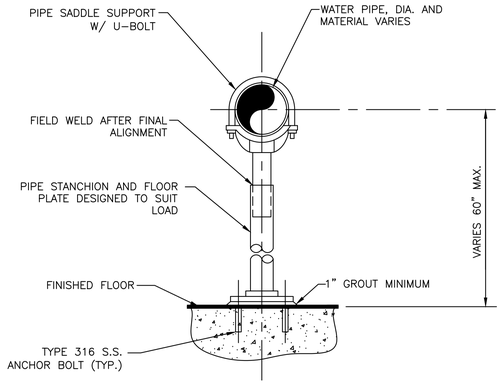
5/16/2023



NOTES: FOR HORIZONTAL AND VERTICAL APPLICATIONS

GRINNELL FIGURE 138 OR EQUAL

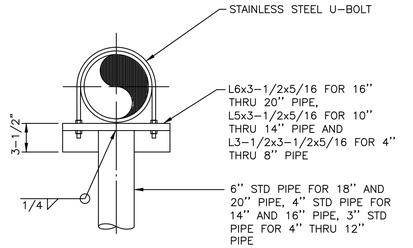
WALL PIPE SUPPORT
NOT TO SCALE



NOTES:

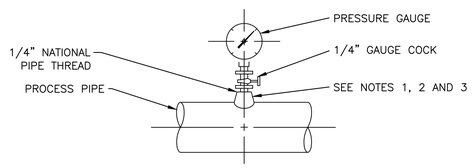
1. PROVIDE HALF-ROUND RIGID INSULATION WAND INSULATION SHIELD FOR INSULATED PIPING.
2. PROVIDE NEOPRENE ISOLATION PAD UNDER SUPPORT FOOT FOR ISOLATED PIPING OR WHEN SUPPORT IS ADJACENT TO MECHANICAL EQUIPMENT.

FLOOR PIPE SUPPORT
NOT TO SCALE

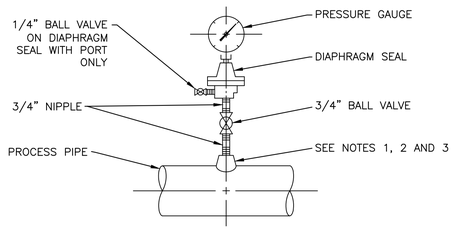


NOTE: USE STANDARD AWWA RING FLANGE FOR BASE.

PIPE SUPPORT
NOT TO SCALE



PRESSURE GAUGE

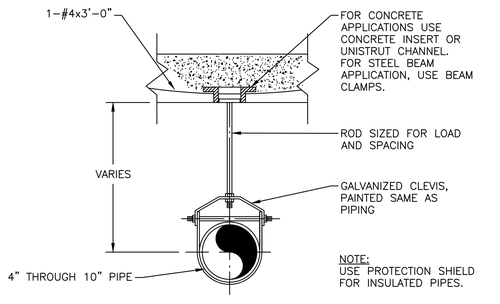


DIAPHRAGM PRESSURE GAUGE

NOTES:

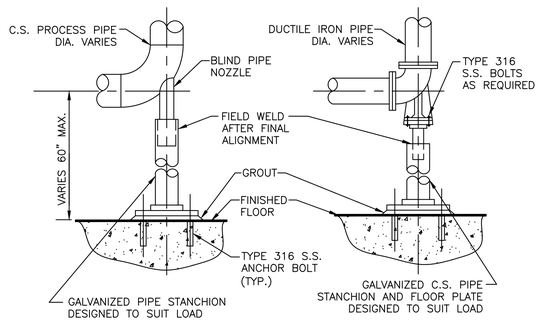
1. FOR STEEL, GALVANIZED STEEL, AND PVC 2 1/2" AND SMALLER, USE A BUSHING IN A TEE.
2. FOR DUCTILE IRON AND FIBERGLASS REINFORCED PLASTIC PIPE. ALL SIZES, USE PIPE SADDLE WITH BUSHING.
3. FOR STEEL AND STAINLESS STEEL PIPES 3" AND LARGER, AND PRESSURE VESSELS, USE THRED-O-LET AS SHOWN.
4. PROVIDE SNUBBER FOR POSITIVE DISPLACEMENT PUMP INSTALLATIONS.

PRESSURE GAUGE MOUNTING DETAILS
NOT TO SCALE

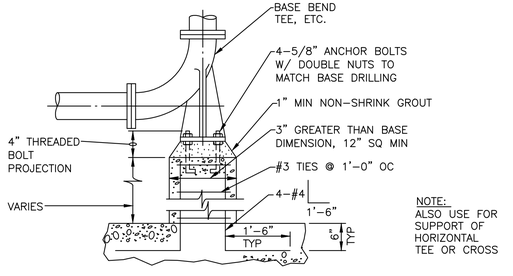


GRINNELL FIGURE 260 OR EQUAL

PIPE HANGER
NOT TO SCALE



FLOOR PIPE SADDLE
NOT TO SCALE



NOTE: ALSO USE FOR SUPPORT OF HORIZONTAL TEE OR CROSS

BASE BEND
NOT TO SCALE

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

MECHANICAL DETAILS - I

NO.	REVISIONS	DATE

DRAWN BY: CJM
DESIGNED BY: AJG
CHECKED BY: JRD
ISSUE DATE: MAY 2023
BETA JOB NO.: 6861-105

SCALE

AS SHOWN

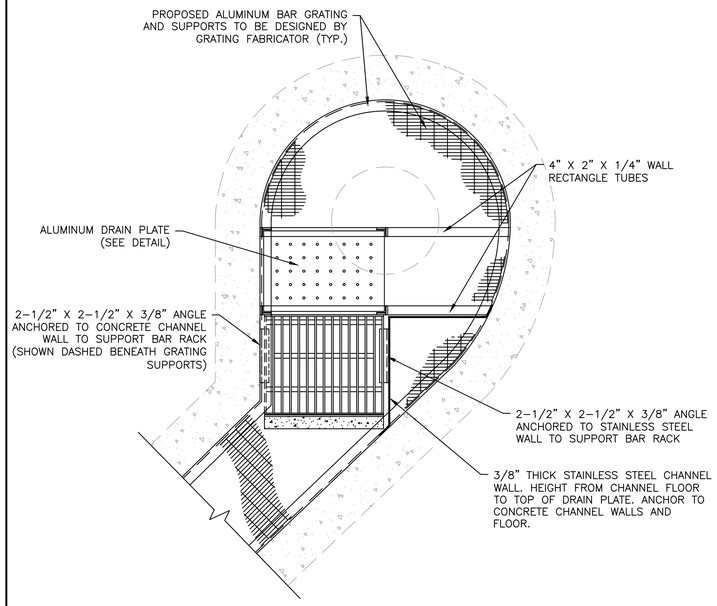
For Review Only

SHEET NO.

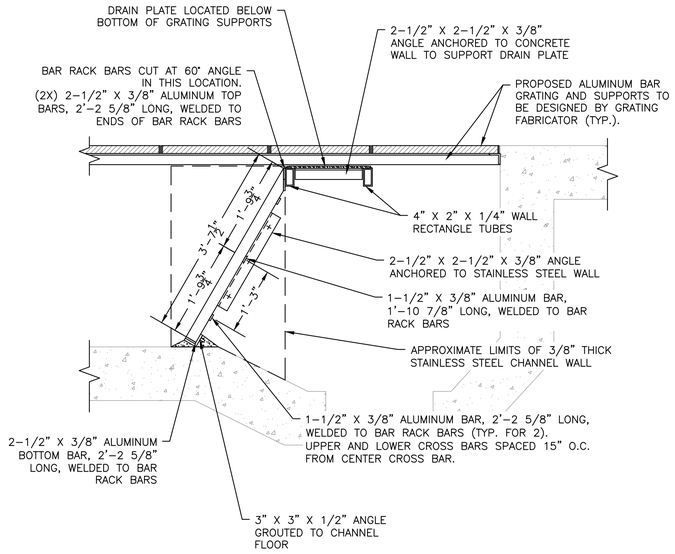
MD-1

J:\BURRILLVILLE\WWTF - HEADWORKS IMPROVEMENTS\ACAD\DRAWINGFILES\PLANSET\MECHANICAL-DETAILS.DWG

5/16/2023

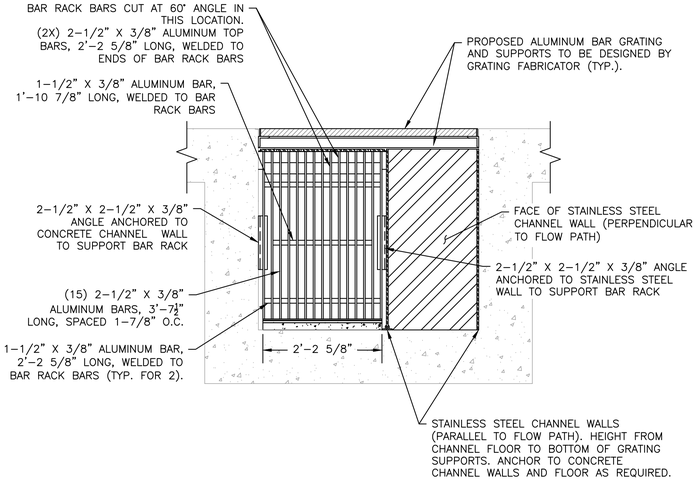


BAR RACK DETAIL - PLAN
NOT TO SCALE

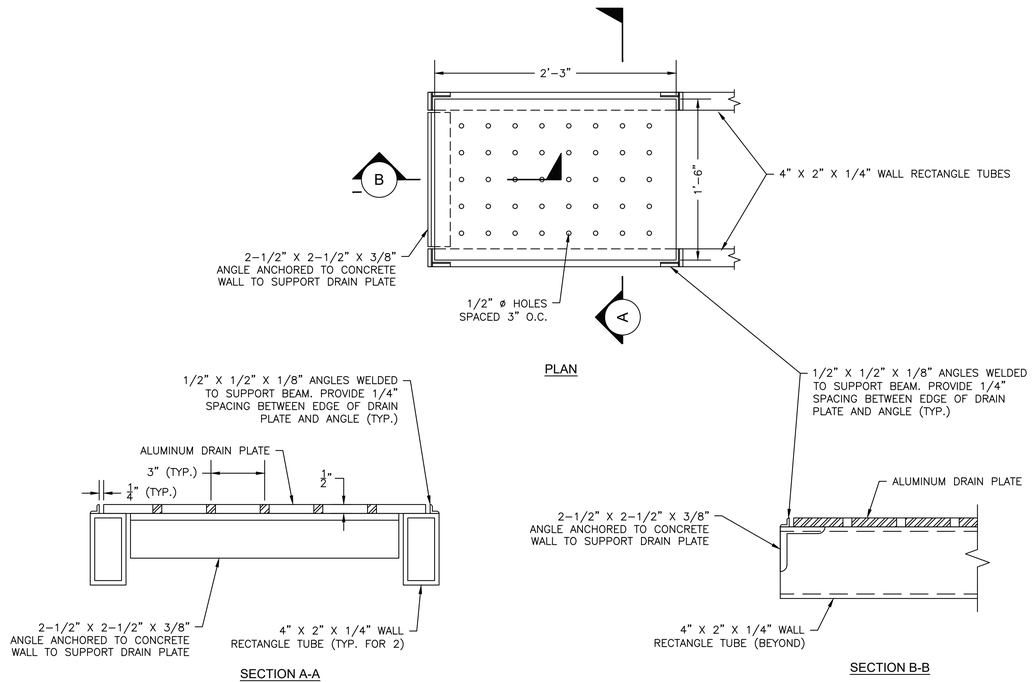


NOTES:
1. ANGLE OF THE BAR RACK IS 30° FROM THE VERTICAL AXIS.
2. BAR RACK SHALL NOT EXTEND BEYOND THE BOTTOM OF THE ALUMINUM BAR GRATING.

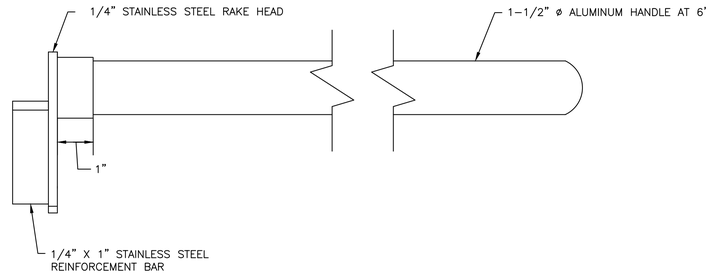
BAR RACK DETAIL - PROFILE
NOT TO SCALE

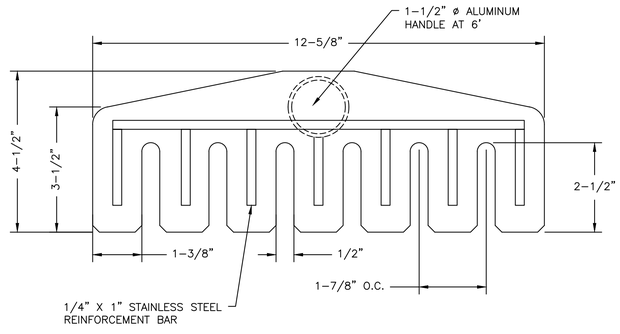


BAR RACK DETAIL - ELEVATION
NOT TO SCALE



DRAIN PLATE DETAILS
NOT TO SCALE





BAR RACK RAKE
NOT TO SCALE

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BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

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SCALE

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MD-2

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5/16/2023

SLUICE GATE SCHEDULE (WWTF HEADWORKS)							
DESIGNATION	TYPE	SIZE (WxH)	GATE MATERIAL	MOUNTING TYPE	OPERATOR	OPENING INVERT ELEV. (FT)	OPERATING FLOOR ELEV. (FT)
G-1	NON-RISING STEM MULTI-LEAF	24"x28"	316 SS	CHANNEL MOUNTED	NUT	296.6 ±	300.8
G-2	NON-RISING STEM MULTI-LEAF	24"x28"	316 SS	CHANNEL MOUNTED	NUT	296.6 ±	300.8
G-3	NON-RISING STEM MULTI-LEAF	24"x32"	316 SS	CHANNEL MOUNTED	NUT	296.6 ±	300.8
G-4	NON-RISING STEM MULTI-LEAF	24"x32"	316 SS	CHANNEL MOUNTED	NUT	296.6 ±	300.8
SG-1	SELF CONTAINED RISING STEM	24"x30"	316 SS	WALL MOUNTED	MOTOR OPERATED	286.3 ±	300.8

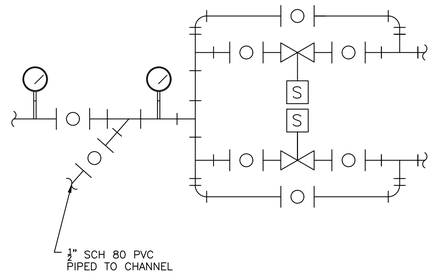
NOTE: DRILL EXISTING GATE THIMBLE AS REQUIRED TO INSTALL SG-1.

VALVE SCHEDULE (WWTF HEADWORKS)							
VALVE TAG	NO. REQUIRED	VALVE TYPE	SIZE	MATERIAL	ACTUATOR	LOCATION	CONNECTION
GV-1 TO GV-8	8	GATE VALVE	10"	DUCTILE IRON	MANUAL	PUMP ROOM	FL X FL
CV-1 TO CV-3	3	SWING CHECK	10"	CAST IRON	WEIGHTED LEVER	PUMP ROOM	FL X FL
PV-1	1	PLUG VALVE	14"	CAST IRON	CHAIN WHEEL	PUMP ROOM	FL X FL

WWTF - SLUICE GATE AND VALVE SCHEDULES
NOT TO SCALE

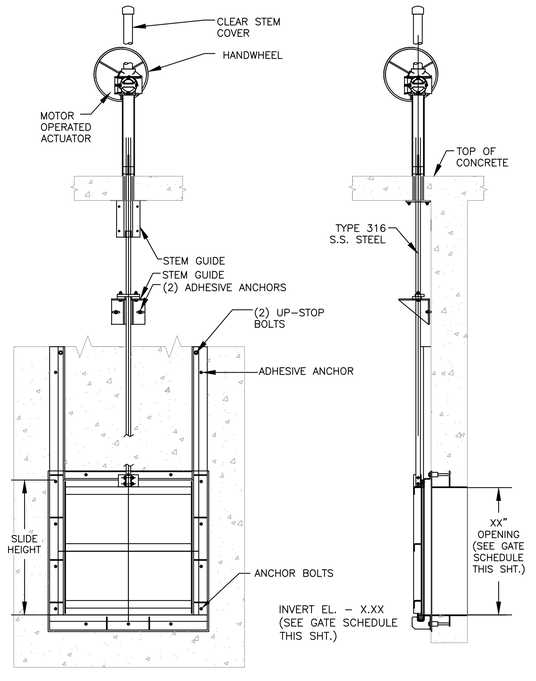
LEGEND

SOLENOID VALVE
GATE VALVE
PRESSURE GAUGE
BALL VALVE
SILL COCK
WYE STRAINER



NOTES:
1. ALL SOLENOID VALVES TO HAVE BYPASS CONFIGURATION AS SHOWN.

WASH PRESS WATER SUPPLY DETAIL
NOT TO SCALE



SLUICE GATE (SG-1)
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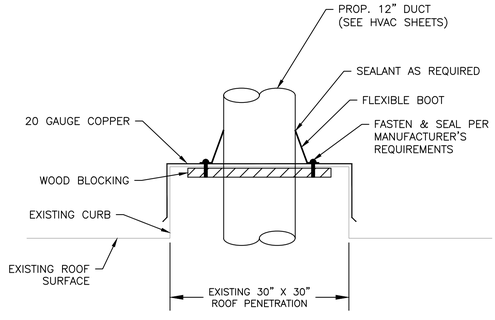

DUCTWORK ROOF PENETRATION DETAIL
NOT TO SCALE

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BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

MECHANICAL DETAILS - III

NO.	REVISIONS	DATE

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ISSUE DATE: MAY 2023
BETA JOB NO.: 6861-105

SCALE

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SHEET NO.

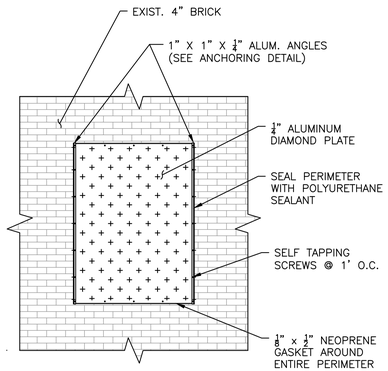
MD-3

PUMP SCHEDULE (OAKLAND PUMP STATION)										
PUMP TAG	PUMP CONFIGURATION	NO. REQUIRED	CAPACITY		MOTOR		DISCHARGE SIZE (IN)	TYPE	MINIMUM EFFICIENCY AT DESIGN POINT (%)	SHUT OFF HEAD (FT)
			FLOW (GPM)	TDH (FT)	POWER (HP)	PUMP SPEED (RPM)				
SP-1 SP-2	SINGLE PUMP OPERATION	2	470	94	25	1800	4"	SUBMERSIBLE SOLIDS HANDLING	56%	115

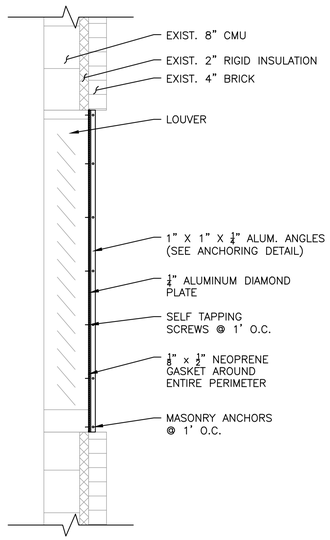
VALVE SCHEDULE (OAKLAND PUMP STATION)							
VALVE TAG	NO. REQUIRED	VALVE TYPE	SIZE	MATERIAL	ACTUATOR	LOCATION	CONNECTION
GV-1 TO GV-4	4	GATE VALVE	6"	DUCTILE IRON	MANUAL	DRY WELL	FL X FL
CV-1 TO CV-2	2	SWING CHECK	6"	CAST IRON	WEIGHTED LEVER	DRY WELL	FL X FL

OAKLAND - VALVE & PUMP SCHEDULES

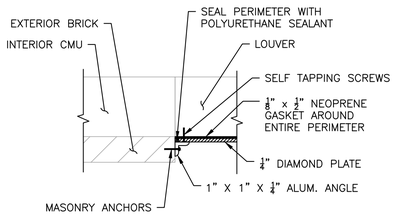
NOT TO SCALE



EXTERIOR ELEVATION - EAST WALL



SECTION



ANCHORING DETAIL - PLAN

PAINT EXTERIOR ALUMINUM AS FOLLOWS:

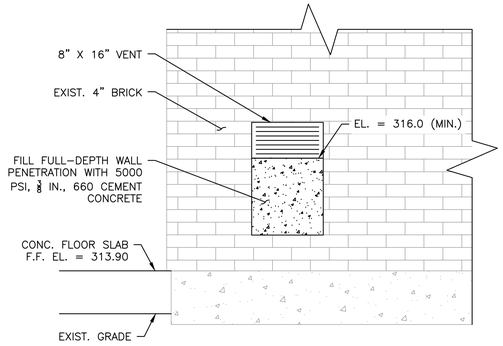
1. SURFACE PREPARATION: PRESSURE WASH WITH OAKITE AND SAND AND WITH 3M SCOTCH-BRITE NYLON PADS.

2. ONE COAT:
   2.1. TNEMEC N69/66HS HI-BUILD EPOXOLINE AT 2.0 MILS DFT.
   2.2. PPG PMC AMERLOCK 400 HI-BUILD EPOXY AT 2.0 TO 3.0 MILS DFT.
   2.3. DUPONT 25P HIGH SOLIDS AT 4.0 MILS DFT.

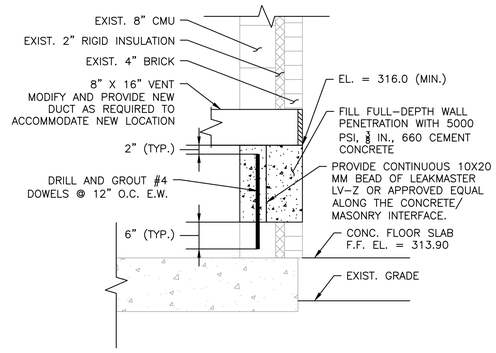
3. AND ONE COAT:
   3.1. TNEMEC 73 ENDURA-SHIELD AT 2.0 MILS DFT.
   3.2. PPG PMC AMERCOAT 450H POLYURETHANE AT 3.0 MILS DFT.
   3.3. DUPONT HIGH SOLIDS IMRON 2.8 AT 4.0 MILS DFT.

LOUVER DETAILS

NOT TO SCALE



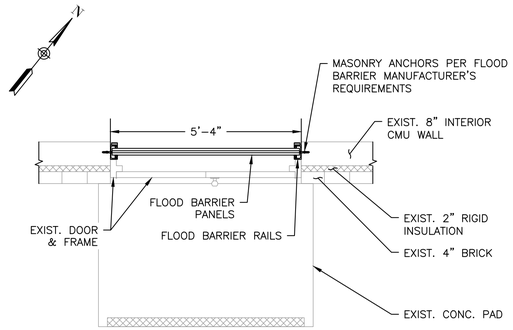
EXTERIOR ELEVATION - SOUTH WALL



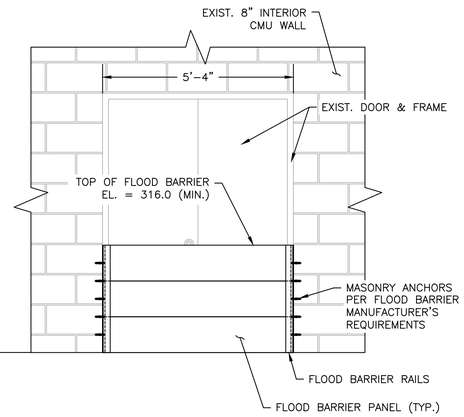
WALL SECTION

VENT RELOCATION AND CMU WALL REPAIR DETAIL

NOT TO SCALE



PLAN - ENTRANCE / SOUTH WALL



INTERIOR ELEVATION - SOUTH WALL

FLOOD BARRIER DETAIL

NOT TO SCALE

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BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

MECHANICAL DETAILS - IV

NO.	REVISIONS	DATE

DRAWN BY:	CJM
DESIGNED BY:	AJG
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ISSUE DATE:	MAY 2023
BETA JOB NO.:	6861-105

SCALE

AS SHOWN

For Review Only

SHEET NO.

MD-4

5/16/2023 J:\BURRILLVILLE\WWTF - HEADWORKS IMPROVEMENTS\ACAD\DRAWINGFILES\PLANSET\MECHANICAL-DETAILS.DWG

GENERAL NOTES

1. HVAC WORK IS INDICATED DIAGRAMMATICALLY. EXACT LOCATIONS OF ALL COMPONENTS ARE TO BE DETERMINED IN THE FIELD AND BY THE ACTUAL BUILDING CONDITIONS. EXISTING DUCTS, PIPING OR EQUIPMENT INTERFERING WITH OTHER INSTALLATIONS SHALL BE RELOCATED AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER. EXACT LOCATIONS MUST HAVE THE APPROVAL OF THE ARCHITECT.
2. ALL WORK SHALL BE COORDINATED WITH ALL OTHER TRADES BEFORE ANY INSTALLATION IS MADE.
3. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH STATE CODES, MANUFACTURER'S APPROVED PUBLISHED LITERATURE, AND AUTHORITIES HAVING JURISDICTION.
4. INSTALLATION OF EQUIPMENT SHALL PERMIT ACCESSIBILITY FOR SERVICE AND/ OR REPLACEMENT.
5. ALL CEILING MOUNTED EQUIPMENT SHALL BE INSTALLED IN SUCH A WAY THAT LIGHTS, PIPING, AND DUCTWORK DO NOT BLOCK ACCESS TO UNITS AND RELATED ACCESSORIES.
6. HVAC CONTRACTOR SHALL COORDINATE ALL WALL, CEILING, FLOOR, ROOF AND BEAM PENETRATIONS WITH ARCHITECT AND STRUCTURAL ENGINEER.
7. ALL DUCT SIZES SHOWN ARE NET INSIDE CLEAR DIMENSIONS.
8. PROVIDE VOLUME DAMPERS AT EVERY MAIN BRANCH TAKE-OFF AND AS INDICATED AND IN SUCH OTHER LOCATIONS WHERE REQUIRED TO PROPERLY BALANCE THE SYSTEM. DO NOT INSTALL VOLUME DAMPERS IN NECKS OF DIFFUSERS OR AT DISCHARGE OR INLET GRILLES IN DUCTWORK.
9. PROVIDE INSTRUMENT TEST HOLES WITH CAPS IN AIR DISTRIBUTION SYSTEMS AS REQUIRED TO BALANCE SYSTEM.
10. HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHEETMETAL TRANSITIONS AT AIR TERMINAL UNITS, FANS, COILS, AND OTHER SIMILAR HVAC EQUIPMENT.
11. ALL OPEN ENDED DUCTS IN THE CEILING PLENUM SHALL BE UNOBSTRUCTED FOR A MINIMUM DISTANCE OF 24" FROM THE OPENING TO ALLOW FREE AIR FLOW AND SHALL HAVE 3/4" WIRE MESH SCREENING.
12. ALL MISCELLANEOUS STRUCTURAL SUPPORTS REQUIRED FOR HVAC EQUIPMENT INSTALLATION SHALL BE PROVIDED BY HVAC SUBCONTRACTOR.
13. EXACT LOCATION OF CEILING DIFFUSERS, GRILLES AND REGISTERS TO BE DETERMINED BY ARCHITECTURAL REFLECTED CEILING PLAN.
14. INSTALL ALL PIPING BELOW DUCTWORK UNLESS CLEARANCE CONDITION REQUIRES PIPING TO BE ABOVE.
15. EXACT ELEVATION FOR SIDE WALL DIFFUSERS, REGISTERS AND GRILLES SHALL BE APPROVED BY THE ARCHITECT BEFORE INSTALLATION.
16. UNLESS OTHERWISE NOTED, ALL PIPING RUNOUTS SHALL BE 3/4"
17. ALL EXPOSED EQUIPMENT (REGISTERS, UNIT HEATERS, ETC..) SHALL HAVE COLORS SELECTED BY THE ARCHITECT, UNLESS NOTED OTHERWISE.
18. HVAC SUBCONTRACTOR SHALL BLANK OFF AND INSULATE ALL UNUSED LOUVER AREA.
19. PITCH AIR INTAKE PLENUMS AND PROVIDE DRAIN TO NEAREST FLOOR DRAIN.
20. ALL REGISTERS, GRILLES AND DIFFUSERS LOCATED IN WALLS NEAR FLOOR SHALL BE HEAVY-DUTY TYPE DESIGNED TO WITHSTAND RUGGED IMPACT. REFER TO SCHEDULE. THE SECTION OF DUCTWORK BEHIND THE AIR DEVICE SHALL BE PAINTED FLAT BLACK.
21. EXACT LOCATION OF THERMOSTAT TO BE COORDINATED WITH FINAL LOCATION OF WALL MOUNTED ARCHITECTURAL AND ELECTRICAL EQUIPMENT.
22. PROVIDE FLEXIBLE CONNECTOR ON INTAKES AND DISCHARGES OF ALL AIR HANDLING UNITS.
23. ROOF OPENINGS SHALL BE SIZED FROM APPROVED SHOP DRAWINGS.
24. ALL DAMPER MOTORS SHALL BE 24 VOLT.

ABBREVIATIONS

ACD	AUTOMATIC CONTROL DAMPER
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AHAP	AS HIGH AS POSSIBLE
AP	ACCESS PANEL
ARCH	ARCHITECT
ATC	AUTOMATIC TEMPERATURE CONTROL
BDD	BACKDRAFT DAMPER
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
BOD	BOTTOM OF DUCT
CAP	CAPACITY
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CO	CLEANOUT
CONT	CONTROLLER
CP	CUT AND CAP
DIA	DIAMETER
DB	DRY BULB TEMPERATURE
DC	DUST COLLECTOR
DDC	DIRECT DIGITAL CONTROL
DN	DOWN
DWG	DRAWING
DX	DIRECT EXPANSION COOLING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EBB	ELECTRIC BASEBOARD RADIATION
ECH	ELECTRIC CABINET HEATER
ECON	AIR-SIDE ECONOMIZER
EF	EXHAUST FAN
EFF	EFFICIENCY
ELV	ELEVATION
ER	EXHAUST REGISTER
ESP	EXTERNAL STATIC PRESSURE
ETR	EXISTING TO REMAIN
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
FA	FREE AREA
FD	FIRE DAMPER
FLA	FULL LOAD AMPS
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FT	FEET
FTR	FINNED TUBE RADIATION
GAL	GALLONS
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GF	GLYCOL FEED
GPM	GALLONS PER MINUTE
HP	HORSEPOWER
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HGRH	HOT GAS REHEAT
HW	HOT WATER
HZ	HERTZ
IN	INCHES
KE	KITCHEN EXHAUST
KW	KILOWATTS
LAT	LEAVING AIR TEMPERATURE
LD	LINEAR DIFFUSER
LF	LINEAR FEET
LWT	LEAVING WATER TEMPERATURE
MBH	THOUSANDS OF BTU'S PER HOUR
MCC	MOTOR CONTROL CENTER
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAT	OUTSIDE AIR TEMPERATURE
OBD	OPPOSED BLADE DAMPER
OD	OUTSIDE DIAMETER
OED	OPEN ENDED DUCT
POS	PROVIDED UNDER OTHER SECTIONS
PSI	POUNDS PER SQUARE INCH (GAUGE)
PD	PRESSURE DROP
PRV	PRESSURE REDUCING VALVE
PG	PROPYLENE GLYCOL
R	RETURN
RA	RETURN AIR
RB	REBALANCE
RF	RETURN/EXHAUST FAN
RG	RETURN GRILLE
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RR	RETURN REGISTER
S	SUPPLY
SA	SUPPLY AIR
SAT	SUPPLY AIR TEMPERATURE
SF	SQUARE FEET, SUPPLY FAN
SP	STATIC PRESSURE
SR	SUPPLY REGISTER
SS	STAINLESS STEEL
STL	STEEL
TYP	TYPICAL
UC	UNDERCUT DOOR
V	VOLTS
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
W/	WITH
W/O	WITHOUT
WB	WET BULB TEMPERATURE
WG	WATER GAUGE
WMS	WIRE MESH SCREEN

PIPING LEGEND

CD CONDENSATE DRAIN

EQUIPMENT TAG SYMBOLS & ABBREVIATIONS

EQUIPMENT NOT REQUIRING ELECTRIC SERVICE → TAG NO → SEE SCHEDULE FOR PERFORMANCE REQUIREMENTS ← TAG NO ← EQUIPMENT REQUIRING ELECTRIC SERVICE

AF	AIR FILTER
EF	EXHAUST FAN
ERU	ENERGY RECOVERY UNIT
EUH	ELECTRIC UNIT HEATER
FCU	FAN COIL UNIT
FMS	FLOW MEASURING STATION
HC	HEATING COIL
HV	HEATING AND VENTILATING UNIT
IRV	INTAKE ROOF VENT
MAU	MAKEUP AIR UNIT
REF	RETURN/EXHAUST FAN
RF	RETURN FAN
SF	SUPPLY FAN

INSTRUMENTATION

(PI)	LOCAL PRESSURE GAUGE W/SHUTOFF AND SNUBBER
(DPI)	DIFFERENTIAL PRESSURE GAUGE W/SHUTOFFS AND SNUBBERS
(TI)	LOCAL TEMPERATURE INDICATION
(Th)	HEATING ONLY THERMOSTAT
(Tc)	COOLING ONLY THERMOSTAT
(T)	HEATING/COOLING THERMOSTAT
(TT)	TEMPERATURE TRANSMITTER
(PT)	PRESSURE TRANSMITTER
(SD)	SMOKE DETECTOR
(HD)	HEAT DETECTOR
(FT)	FLOW TRANSMITTER
(SP)	STATIC PRESSURE SENSOR
(H)	HUMIDITY SENSOR OR HUMIDISTAT
CO2	CARBON DIOXIDE DETECTOR
(CO)	CARBON MONOXIDE DETECTOR
(OS)	OCCUPANCY SWITCH
(PS)	PRESSURE SENSOR SWITCH
(S)	OCCUPIED/UNOCCUPIED SWITCH

DUCTWORK LEGEND/SYMBOLS

- 12"x"10 — RECTANGULAR DUCTWORK – FIRST DIMENSION IS SIDE SHOWN (IN.) FREE AREA
- 12"ø — ROUND DUCT DIAMETER (IN.)
- SUPPLY/OUTSIDE AIR DUCTWORK UP
- SUPPLY/OUTSIDE AIR DUCTWORK DOWN
- RETURN/EXHAUST AIR DUCTWORK UP
- RETURN/EXHAUST AIR DUCTWORK DOWN
- FLEXIBLE CONNECTION
- ACOUSTICALLY LINED DUCTWORK
- R — CHANGE OF ELEVATION IN DIRECTION OF AIRFLOW (R)RISE,(D)DROP
- 12x10 — RECTANGULAR DUCT TRANSITION
- 12x10 / 8x6 — RECTANGULAR TO SINGLE LINE TRANSITION
- 12x10 / 10ø — RECTANGULAR TO ROUND TRANSITION
- MITERED ELBOW W/ TURNING VANES
- SUPPLY AIR DIFFUSER BELOW DUCT
- RETURN OR EXHAUST REGISTER BELOW DUCT
- ROUND DUCT UP
- SUPPLY AIR DIFFUSER (SQUARE OR RECTANGULAR)
- RETURN AIR GRILLE OR REGISTER
- VD — MANUAL VOLUME DAMPER
- ACD — AUTOMATIC CONTROL DAMPER
- SUPPLY AIR BLOW DIRECTION
- EXHAUST / RETURN / OR INTAKE

DIFFUSER/REGESTER TAG

TT-X	TYPE-BLOW (CD-1 = CEILING DIFFUSER, 1 WAY BLOW)
0000	CFM

- INLINE CENTRIFUGAL FAN
- ROOF FAN OR VENT

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Hvac Legend and Notes

NO.	REVISIONS	DATE

DRAWN BY: RLB
DESIGNED BY: RLB
CHECKED BY: RHB
ISSUE DATE: MAY 2023
BETA JOB NO.: 6861-105

SCALE

NONE

SHEET NO.

H-0.1

EF – EXHAUST FAN SCHEDULE

TAG NO.	LOCATION	CFM	ESP (IN WC)	SPEED (RPM)		DRIVE	ELECTRICAL DATA				MANUFACTURER & MODEL #	REMARKS
				FAN	MOTOR		HP	V	PH	HZ		
EF–1	ROOF	3,800	3.0	1636	1800	BELT	5	480	3	60	MK PLASTICS CNW 315	①②

① VFD RATED MOTOR ② FRP CONSTRUCTION

EUH ELECTRIC UNIT HEATER SCHEDULE

TAG NO.	BUILDING	CAPACITY	FAN DATA				MANUFACTURER MODEL NUMBER	REMARKS
		KW	CFM	V	PH	HZ		
EUH–1	HEADWORKS BUILDING	5	400	480	3	60	QMARK GUX5004832–D	EXPLOSION PROOF, WITH DISCONNECT

DIFFUSER, REGISTER & GRILLE SCHEDULE

TAG NO.	MODULE SIZE (IN)	ROUND APAPTER SIZE (IN)	FLEX DUCT SIZE (IN)	SQUARE DUCT SIZE (IN)	SERVICE	CFM RANGE		MAX. NC LEVEL	MANUFACTURER & MODEL NO.	REMARKS
						MIN	MAX			
SR–1	–	–	–	N/A	SUPPLY	–	–	–	–	
ER–1	–	–	–	N/A	EXHAUST	–	–	–	–	

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

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Hvac Schedules

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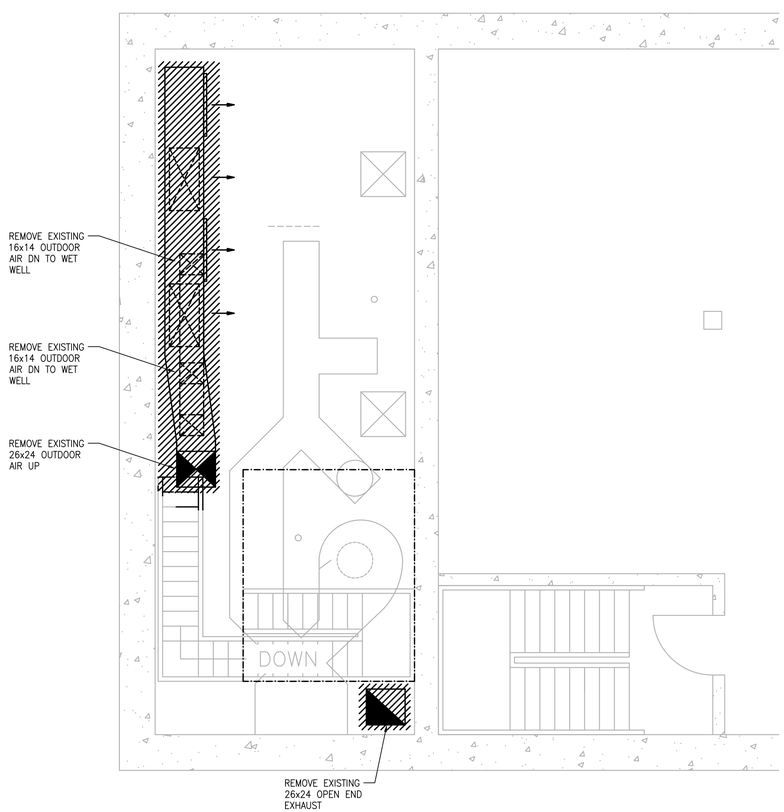
ISSUE DATE: MAY 2023
BETA JOB NO.: 6861-105

SCALE

NONE

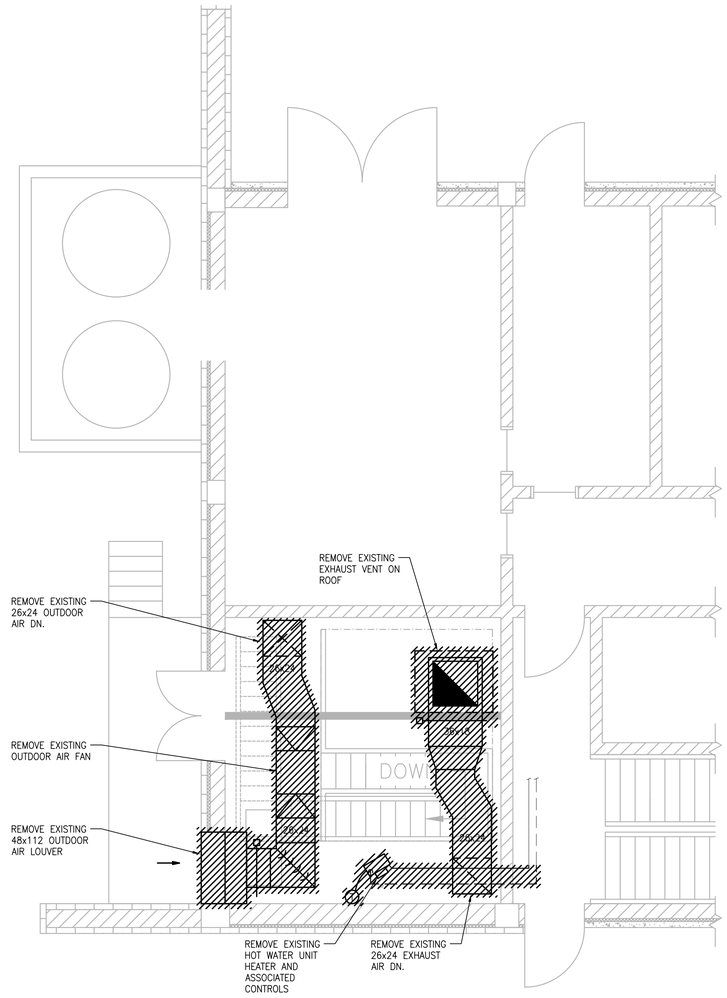
SHEET NO.

H-0.2



LOWER LEVEL DEMOLITION PLAN

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



UPPER LEVEL DEMOLITION PLAN

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

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Headworks

Hvac
Demolition
Plans

NO.	REVISIONS	DATE

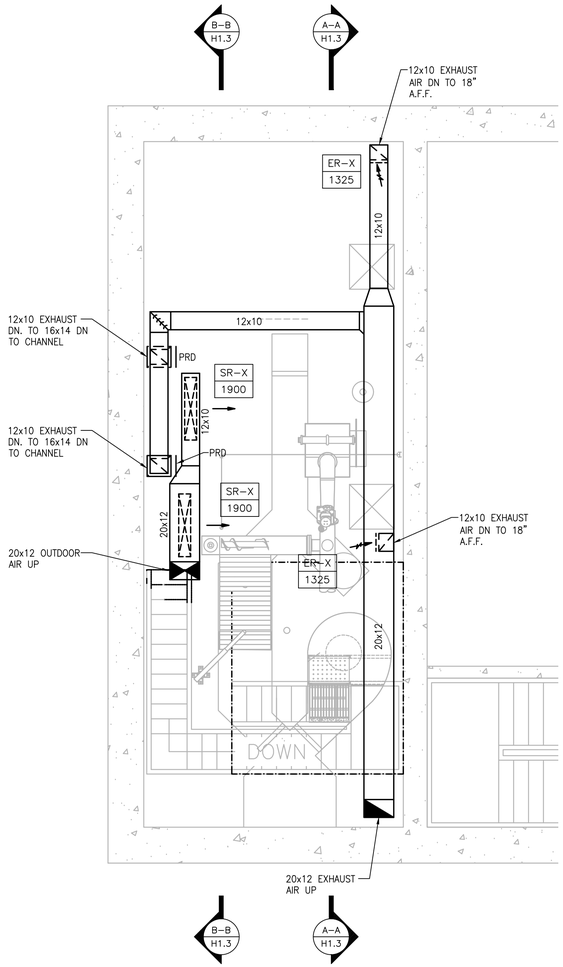
DRAWN BY: RLB
DESIGNED BY: RLB
CHECKED BY: RHB
ISSUE DATE: MAY 2023
BETA JOB NO.: 6861-105

SCALE

4 0 4 8
SCALE IN FEET: 1"=4'

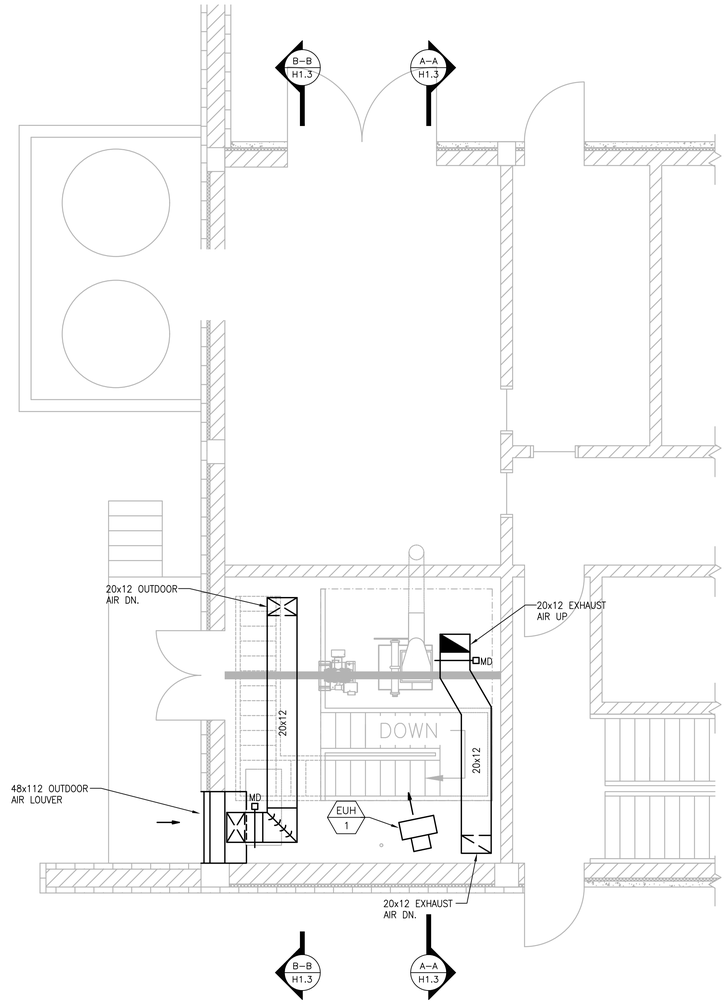
SHEET NO.

H-1.1



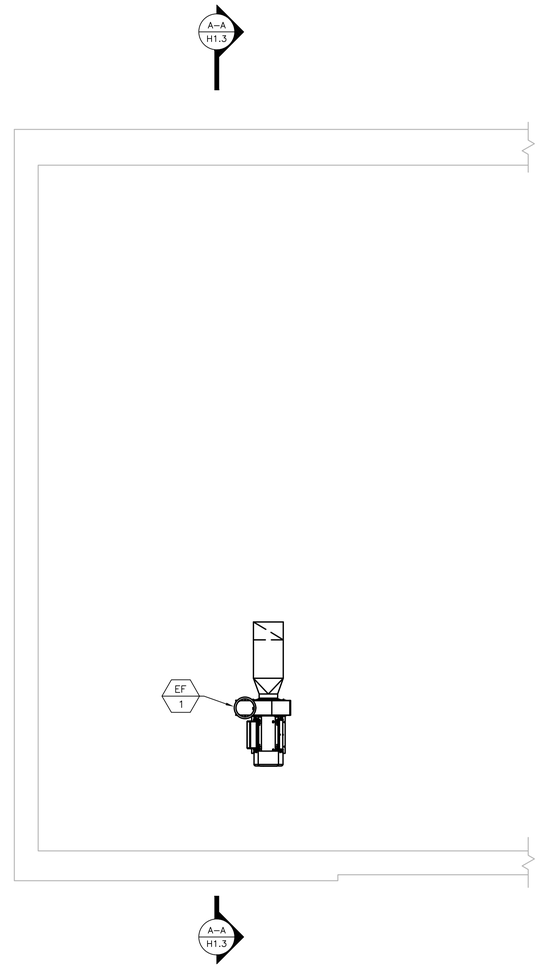
LOWER LEVEL NEW WORK PLAN

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



UPPER LEVEL NEW WORK PLAN

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



ROOF NEW WORK PLAN

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

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Headworks

Hvac New
Work Plans

NO.	REVISIONS	DATE

DRAWN BY: RLB

DESIGNED BY: RLB

CHECKED BY: RHB

ISSUE DATE: MAY 2023

BETA JOB NO.: 6861-105

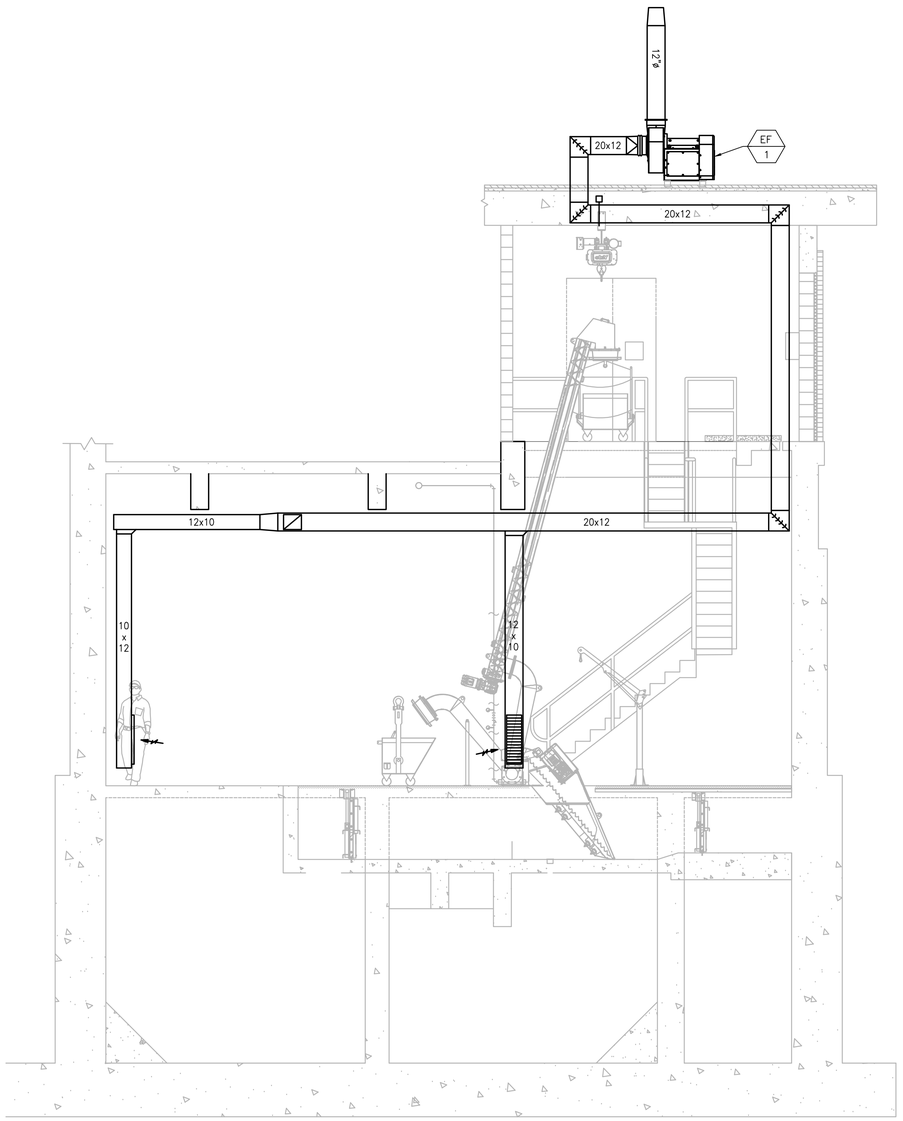
SCALE

4 0 4 8

SCALE IN FEET: 1"=4'

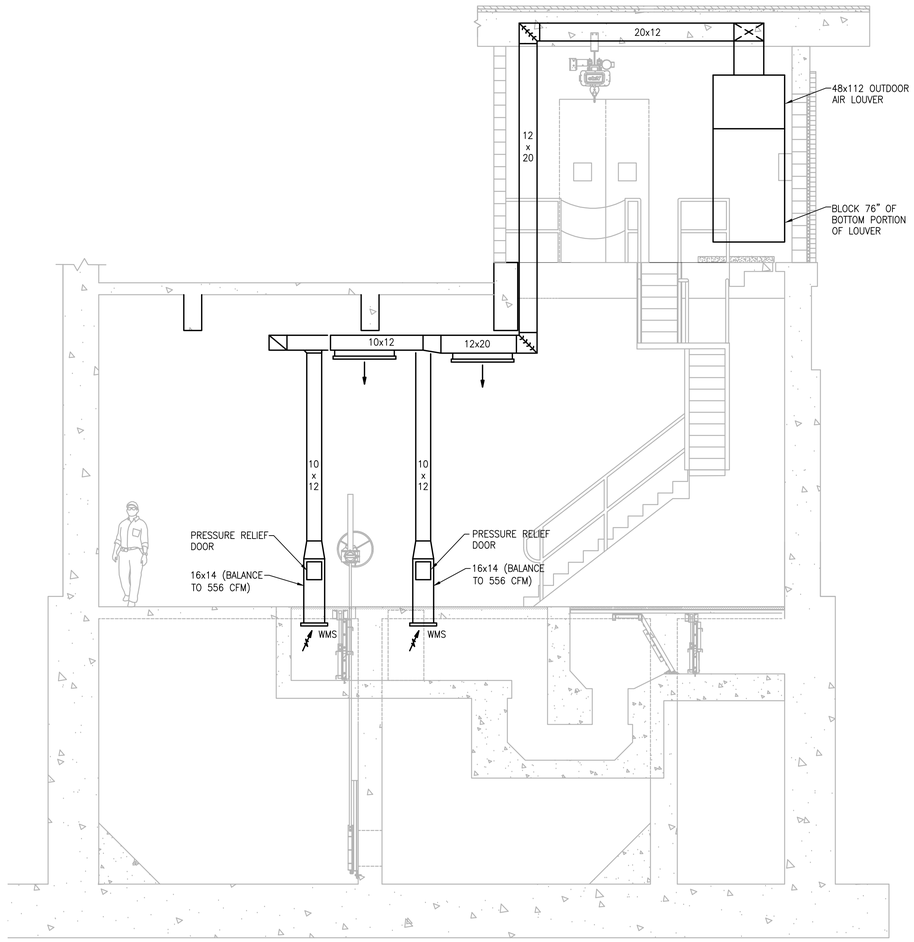
SHEET NO.

H-1.2



SECTION A–A

SCALE: 1/4"=1'–0"



SECTION B–B

SCALE: 1/4"=1'–0"

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Headworks

Hvac Sections

NO.	REVISIONS	DATE

DRAWN BY: RLB

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CHECKED BY: RHB

ISSUE DATE: MAY 2023

BETA JOB NO.: 6861-105

SCALE

4 0 4 8
SCALE IN FEET: 1"=4'

SHEET NO.

H-1.3

PLUMBING NOTES

1. THE WORK COVERED CONSISTS OF FURNISHING ALL LABOR AND MATERIALS NECESSARY TO INSTALL, COMPLETE AND READY FOR CONTINUOUS OPERATION, THE PLUMBING SYSTEMS, APPARATUS AND EQUIPMENT FOR THIS PROJECT.
2. ALL EQUIPMENT AND MATERIALS FURNISHED UNDER THE PLUMBING SUB-CONTRACT, LABOR AND TESTING PERFORMED HEREIN SHALL BE IN COMPLETE ACCORDANCE WITH THE STATE BUILDING CODE, LOCAL FUEL GAS AND PLUMBING CODES, ALL LOCAL CODES AND REGULATIONS, NATIONAL FIRE PROTECTION ASSOCIATION, INSURANCE REGULATIONS AND REQUIREMENTS GOVERNING SUCH WORK.
3. ANY AND ALL PERMITS REQUIRED FOR INSTALLATION OF ANY MATERIAL SHALL BE OBTAINED AS PART OF THE WORK OF THE SPECIFICATION INCLUDING ALL FEES OR EXPENSES INCURRED.
4. FOR PLUMBING SCHEDULES, REFER TO DRAWING P00.01.
5. FOR PLUMBING DETAILS, REFER TO DRAWINGS P03.01.
6. ALL PRODUCTS USED AS PART OF THE POTABLE WATER SYSTEM WHERE THE INTENDED PURPOSE IS TO DELIVER OR CONVEY POTABLE WATER FOR HUMAN CONSUMPTION SHALL BE LEAD FREE AND CONFORM TO THE LATEST "LEAD FREE" LAW.
7. WHERE WATER PIPING IS SHOWN DROPPING INTO PLUMBING CHASES WITH SIZES NOTED, THAT SIZE SHALL BE CARRIED FULL LENGTH THROUGH THE CHASE. REFER TO PLUMBING FIXTURE SCHEDULE ON THIS DRAWING FOR INDIVIDUAL FIXTURE CONNECTION SIZES.
8. UNLESS OTHERWISE NOTED, ALL HORIZONTAL DRAINAGE PIPING WHICH IS 3" OR LESS IN DIAMETER SHALL PITCH OF NOT LESS THAN 1/4" PER FOOT AND ALL HORIZONTAL DRAINAGE PIPING WHICH IS 4" OR LARGER IN DIAMETER SHALL PITCH OF NOT LESS THAN 1/8" PER FOOT.
9. ALL BELOW FLOOR PIPING THAT INTERSECTS A GRADE BEAM REQUIRES COORDINATION WITH STRUCTURAL.
10. PROVIDE ALL FLOOR CLEANOUTS WITH HUB AND SPIGOT; LEAD AND OAKUM JOINTS FROM CLEANOUT TO AND INCLUDING CONNECTION TO SANITARY OR STORM DRAIN.
11. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND HEIGHT OF ALL PLUMBING FIXTURES.
12. MISCELLANEOUS DISCREPANCIES OR OMISSIONS WHICH MIGHT APPEAR ON THE PLANS OR SPECIFICATIONS WILL NOT RELIEVE THE PLUMBING SUB-CONTRACTOR OF CODE COMPLIANCE.
13. ALL FLOOR DRAINS SHALL BE PROVIDED WITH A TRAP PRIMER CONNECTION. CONTRACTOR SHALL PROVIDE ALL ASSOCIATED EQUIPMENT NECESSARY TO PROVIDE A COMPLETE SYSTEM.
14. PROVIDE CLEANOUTS AT ALL CHANGE OF DIRECTIONS FOR STORM AND SANITARY/WASTE PIPING.
15. PROVIDE DANDY CLEANOUTS AT ALL EXPOSED STORM AND SANITARY/WASTE PIPING 18 INCHES (APPROXIMATELY) ABOVE FINISHED FLOOR WHERE PIPING GOES BELOW FINISHED FLOOR/GRADE.
16. PROVIDE WALL CLEANOUTS WITH ACCESS PANELS AT ALL STORM AND SANITARY/WASTE PIPING WITHIN PIPE CHASES OR WALLS.
17. HANDICAPPED ACCESSIBLE FIXTURES SHALL BE IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES AND THE RULES AND REGULATIONS OF THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD. WHERE THE TWO STANDARDS DIFFER, THE MORE STRINGENT SHALL APPLY.
18. ALL INTERIOR BURIED DOMESTIC WATER PIPING, NON-POTABLE WATER PIPING, TEMPERED WATER PIPING OR AIR PIPING SHALL BE SOFT ROLLED "K" COPPER COIL AND BE PROTECTED WITH A HIGH DENSITY RUBBER INSULATION. FITTINGS SHALL NOT BE PERMITTED IN OR UNDER SLAB. PROVIDE SLAB PENETRATIONS WITH SLEEVE AND FIRE STOPPING.

PLUMBING DEMOLITION NOTES

1. UNLESS OTHERWISE NOTED, ALL EXISTING PLUMBING SYSTEMS WITHIN HATCH MARKS (COLD WATER, HOT WATER, HOT WATER RETURN, SANITARY, RAIN LEADERS, ETC) AND ASSOCIATED EQUIPMENT IS TO BE DEMOLISHED OR SALVAGED. REMOVE THE EQUIPMENT TO BE DEMOLISHED OR SALVAGED PER SECTION 02050. ALL CONTROL DEVICES ASSOCIATED WITH THE DEMOLISHED EQUIPMENT SHALL BE REMOVED.
2. NO PIPING OR EQUIPMENT INDICATED FOR DEMOLITION WILL BE REUSED OR SALVAGED UNLESS SPECIFICALLY NOTED AS SUCH. ALL EQUIPMENT REMOVED SHALL BE REMOVED FROM SITE AND PROPERLY DISPOSED OF, PRIOR TO REMOVAL OF EQUIPMENT COORDINATE WITH OWNER FOR ANY EQUIPMENT THE OWNER WILL KEEP.
3. EXISTING EQUIPMENT INDICATED ON THE DEMOLITION PLANS ARE BASED ON SITE OBSERVATIONS AND IT IS NOT THE INTENTION OF THESE DRAWINGS TO SHOW ALL EQUIPMENT AND MATERIALS TO BE DISCONNECTED AND/OR REMOVED.

PLUMBING LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
	ETR	LIGHT LINE INDICATES EXISTING PIPING TO REMAIN
	RE	REMOVE EXISTING PIPING
	CTE	CONNECT TO EXISTING
	C&C	CUT & CAP
		BELOW FLOOR PIPING (INDICATED AS DOUBLE LINEWORK)
	CW	COLD WATER
NPCW	NPCW	NON-POTABLE COLD WATER
NPHW	NPHW	NON-POTABLE HOT WATER
	S or W	SOIL OR WASTE
	V	VENT
	RW	RAIN WATER CONDUCTOR
	CONT	CONTINUATION
	UP	PIPE RISE OR UP
	DN	PIPE DROP OR DOWN
	TEE	PIPE TEE
	SOV	SHUT-OFF VALVE
	PRV	PRESSURE REDUCING VALVE
	CV	CHECK VALVE
	BVA	BALANCING VALVE ASSEMBLY
	W & T	WASTE & TRAP
	CO	CLEANOUT PLUG
	FCO	FLUSH FLOOR CLEANOUT
	DCO	DANDY CLEANOUT
		CAPPED PIPE
		ARROW INDICATES DIRECTION OF FLOW
.01		ARROW INDICATES DIRECTION OF SLOPE
		UNION
	PA	PIPE ANCHORS
	PGD	PIPE GUIDES
	HB	HOSE BIBB
	WH	WALL HYDRANT
1 / P-1		DIAGRAM NO. & DWG. NO. REFERENCE
	FD "A"	FLOOR DRAIN & TYPE
	RD "A"	ROOF DRAIN & TYPE

PLUMBING LEGEND

ABBREVIATION	DESCRIPTION
WH-1	WATER HEATER & NUMBER
SS	SOIL STACK
VS	VENT STACK
VTR	VENT THRU ROOF
INV	INVERT
TMV	THERMOSTATIC MIXING VALVE
TW	TEMPERED WATER (70°F)
TYP	TYPICAL
NTS	NOT TO SCALE
AFF	ABOVE FINISHED FLOOR
LPC	LIMIT OF PLUMBING CONTRACT
GC	GENERAL CONTRACTOR
FPC	FIRE PROTECTION CONTRACTOR
PC	PLUMBING CONTRACTOR
EC	ELECTRICAL CONTRACTOR
HVAC	HVAC CONTRACTOR
LPC	LIMIT OF PLUMBING CONTRACT
WC	WATER CLOSET
UR	URINAL
LAV	LAVATORY
MR	MOP RECEPTOR
SHR	SHOWER
DF	DRINKING FOUNTAIN
SK	SINK
F & I	FURNISH & INSTALL
S=.01	SLOPE = 1/8" PER FOOT
S=.02	SLOPE = 1/4" PER FOOT
NO	NORMALLY OPEN
NC	NORMALLY CLOSED
F.F.E.	FINISHED FLOOR ELEVATION

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Plumbing Legend and Notes

NO.	REVISIONS	DATE

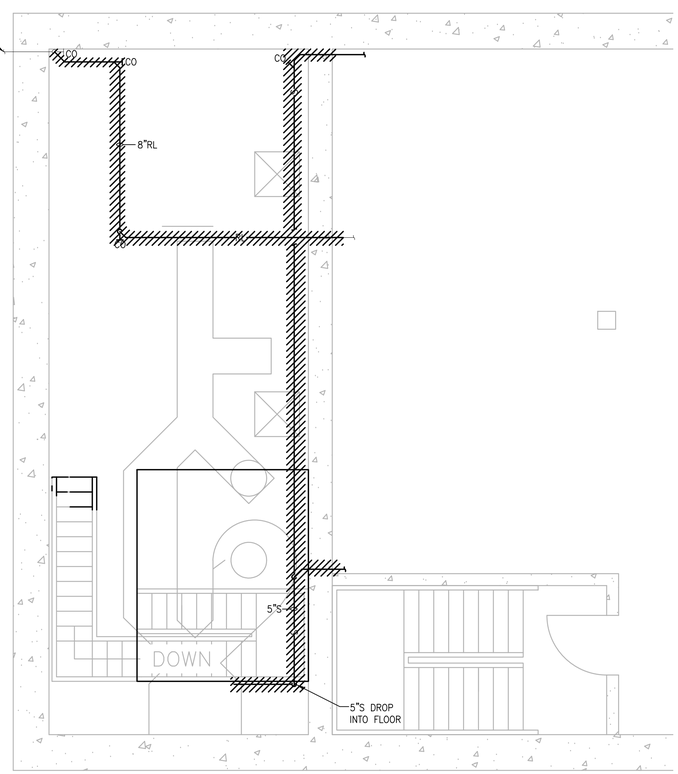
DRAWN BY: RLB
DESIGNED BY: RLB
CHECKED BY: RHB
ISSUE DATE: MAY 2023
BETA JOB NO.: 6861-105

SCALE

NONE

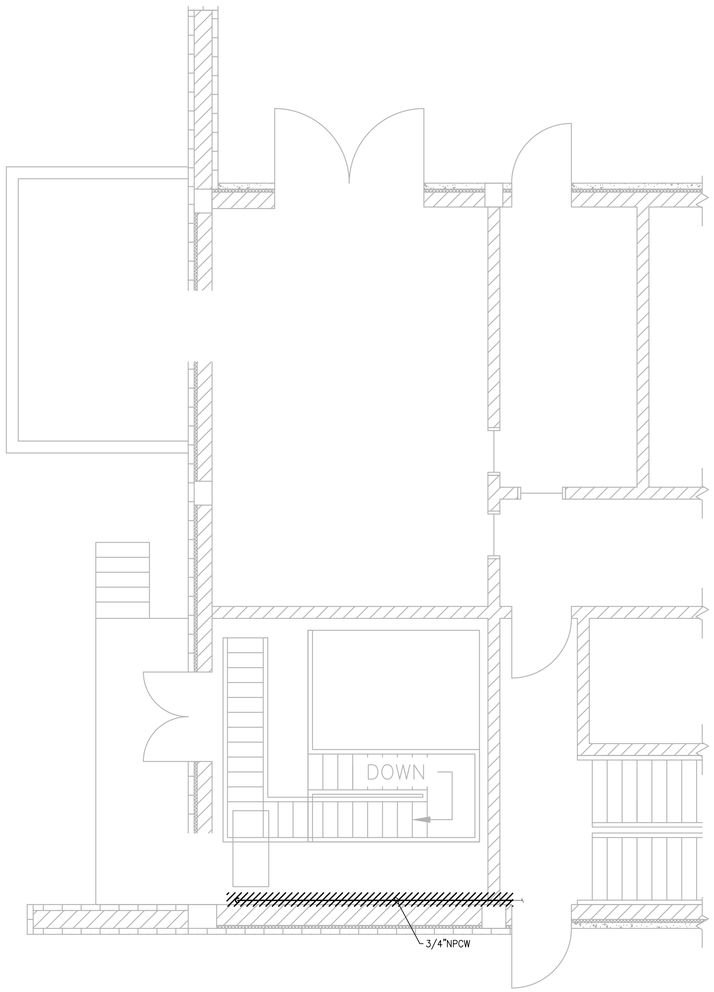
SHEET NO.

P-0.1



LOWER LEVEL DEMOLITION PLAN

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



UPPER LEVEL DEMOLITION PLAN

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

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Headworks

Plumbing
Demolition
Plans

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	RHB
ISSUE DATE:	MAY 2023
BETA JOB NO.:	6861-105

SCALE

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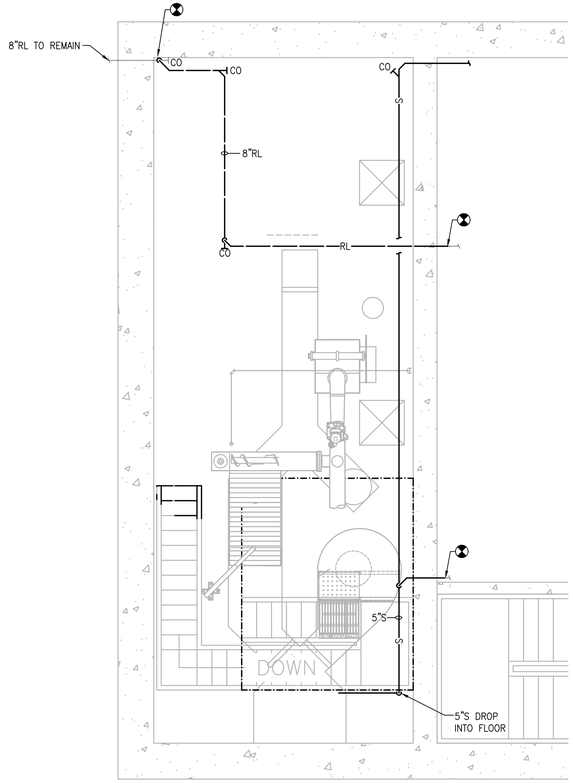
SCALE IN FEET: 1"=4'

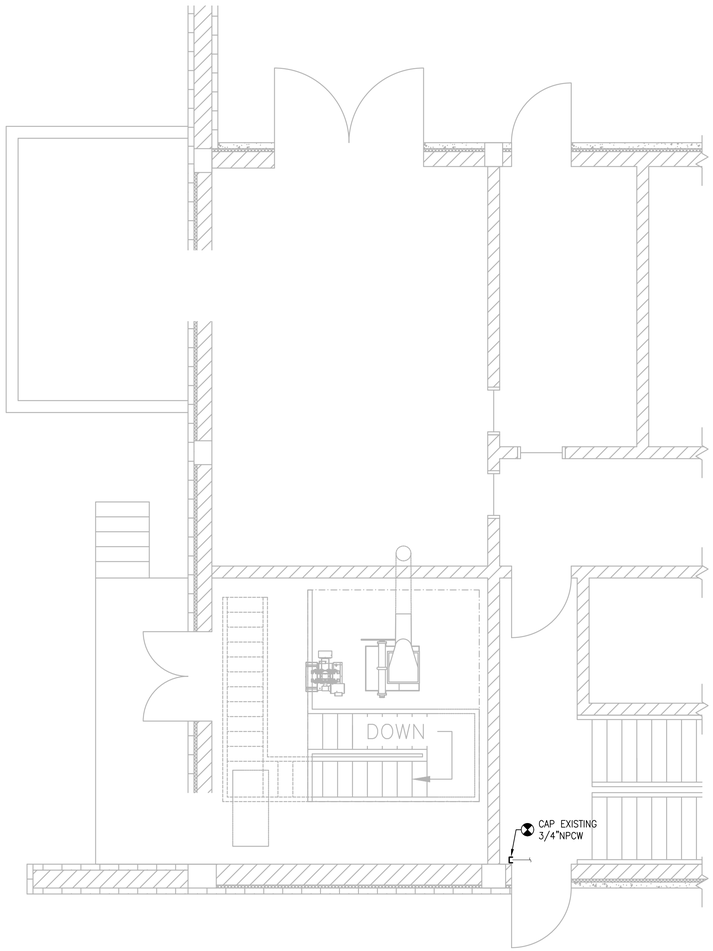
SHEET NO.

P-1.1



LOWER LEVEL NEW WORK PLAN

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



UPPER LEVEL NEW WORK PLAN

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

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Headworks

Plumbing New Work Plans

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	RHB
ISSUE DATE:	MAY 2023
BETA JOB NO.:	6861-105

SCALE

4 0 4 8

SCALE IN FEET: 1"=4'

SHEET NO.

P-1.2

ELECTRICAL SYMBOLS

F1 / 1 a	LINEAR LIGHTING FIXTURES "F1" INDICATES FIXTURE TYPE – TYPICAL FOR ALL FIXTURES "1" INDICATES CIRCUIT NUMBER – TYPICAL FOR ALL FIXTURE "a" INDICATES THE SWITCH CONTROL – TYPICAL FOR ALL FIXTURES
	WALL MOUNTED LIGHTING FIXTURE.
	POLE MOUNTED SITE LIGHT FIXTURE
	SURFACE OR PENDANT MOUNTED FIXTURE.
	EMERGENCY EXIT SIGN
	EMERGENCY LIGHTING BATTERY UNIT WITH TWO LIGHT HEADS
	REMOTE EMERGENCY LIGHTING UNIT WITH TWO LIGHTING HEADS PROVIDE 3/4", 2#10, 1#10GND TO NEAREST THE EMEGENCY LIGHTING BATTERY UNIT
S_a	SINGLE POLE SWITCH 120V, 20A "a" INDICATES THE SWITCH CONTROL
S_2	2–POLE SWITCH 120V, 20A 1 POLE FOR ROOM LIGHT FIXTURES, 1–POLE FOR EXHAUST FAN CONTROL
S_{3a}	3–WAY SWITCH 120V, 20A "a" INDICATES THE SWITCH CONTROL
S_{4a}	4–WAY SWITCH 120V, 20A "a" INDICATES THE SWITCH CONTROL
TC	DIGITAL TIME CLOCK SWITCH
TM	MECHANICAL TIMER SWITCH
OC	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR/SWITCH
S	LOW VOLTAGE SWITCH
OC	CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR
GFI 1	DUPLEX RECEPTACLE, WEATHER–RESISTANT 120V, 20A WITH WEATHERPROOF COVER, "GFI" INDICATES GROUND FAULT TYPE "1" INDICATES CIRCUIT NUMBER – TYPICAL FOR ALL RECEPTACLES
	DUPLEX RECEPTACLE 120V, 20A
WP	(2) DUPLEX (QUAD) RECEPTACLES, 120V, 20A "WP" INDICATES WITH WEATHERPROOF COVER
WP	SIMPLEX RECEPTACLE, WP INDICATES WEATHER RESISTANT 120V, 20A "WP" INDICATES WITH WEATHERPROOF COVER
30	UNFUSED DISCONNECT SWITCH, "30" INDICATES 30 AMP RATING, PROVIDE 3–POLE UNLESS OTHERWISE INDICATED.
F 20	FUSED DISCONNECT SWITCH, "20" INDICATES 20 AMP FUSE RATING, PROVIDE 3–POLE UNLESS OTHERWISE INDICATED.
	3–PHASE RECEPTACLE
MCP FVNR SX	WALL MOUNTED COMBINATION MOTOR STARTER WITH MOTOR CIRCUIT PROTECTOR, "FVNR" INDICATES TYPE OF MOTOR STARTER, "SX INDICATES THE MOTOR STARTER NEMA SIZE"
MCP FVNR SX	MOTOR STARTER WITH MOTOR CIRCUIT PROTECTOR, "FVNR" INDICATES TYPE OF MOTOR STARTER, "SX INDICATES THE MOTOR STARER NEMA SIZE"
VFD	ENCLOSED VARIABLE FREQUENCY DRIVE
Sm	MANUAL MOTOR STARTER 120V, 20A
J	JUNCTION BOX OR PULL BOX
HH	HAND HOLE
AR1	ALARM RELAY, "AR1" REFERS TO RELAY NAME DESIGNATION
CR1	CONTROL RELAY, "CR1" REFERS TO RELAY NAME DESIGNATION
M	MOTOR START RELAY
TR1	TIMING RELAY, "TR1" REFERS TO RELAY NAME DESIGNATION
	NORMALY OPEN RELAY CONTACT
	NORMALLY CLOSED RELAY CONTACT
	OPERATOR PUSH BUTTON NORMALLY OPEN CONTACT
	OPERATOR PUSH BUTTON NORMALLY CLOSED CONTACT
	PRESSURE SWITCH – CLOSES ON HIGH PRESSURE
	PRESSURE SWITCH – CLOSES ON LOW PRESSURE

ELECTRICAL SYMBOLS

	UNDERGROUND CONDUIT DUCT BANK
PP1(1)	HOMERUN DESIGNATION TO PANEL PP1 CIRCUIT #1, WITH THE FOLOWING CONDUIT/WIRES UNLESS OTHERWISE NOTED: • 3/4"C WITH 2#12, 1#12GND FOR 20AMP SINGLE PHASE CIRCUITS. • 3/4"C WITH 3#12, 1#12GND FOR 20AMP THREE PHASE CIRCUITS. • 3/4"C WITH 2#10, 1#10GND FOR 30AMP SINGLE PHASE CIRCUITS. • 3/4"C WITH 3#10, 1#10GND FOR 30AMP THREE PHASE CIRCUITS. • 3/4"C WITH 2#8, 1#10GND FOR 40AMP & 50AMP SINGLE PHASE CIRCUITS. • 3/4"C WITH 3#8, 1#10GND FOR 40AMP & 50AMP THREE PHASE CIRCUITS.
EX	EYS TYPE CONDUIT SEAL, "EX" REPRESENTS PROVIDING UL LISTED EXPLOSION PROOF SEALANT IN CONDUIT SEAL, "NEX" REPRENTS PROVIDE ELECTRICAL SEALANT PUTTY IN CONDUIT SEAL.
SPD	SURGE PROTECTION DEVICE
GFM	GROUND FAULT MONITOR AND INDICATION LIGHT
	UTILITY POLE
20 100 LSIG	MOLDED CASE CIRCUIT BREAKER, 3–POLE UNLESS OTHERWISE INDICATED, "20" INDICATES TRIP AMPERE RATING, "100" INDICATES FRAME SIZE, "LSIG" LONG, SHORT, INSTANTANEOUS AND GROUND FAULT PROTECTION RESPECTIVELY
	DRY TYPE TRANSFORMER
EH	ELECTRIC HAND HOLE (REFER TO SITE DETAILS)
	3/4"ø X 10'–0" COPPER CLAD GROUND ROD
	BUILDING GROUNDING SYSTEM
10	MOTOR, "10" INDICATES HORSEPOWER RATING
XX T	CABLE/CONDUIT DESIGNATION, "XX" REFERS CABLE CONDUIT REFERENCE, REFER TO CABLE/CONDUIT SCHEDULES. "T" REFERS TO TEMPORARY WIRING
XX–XXXX	UNLESS OTHERWISE NOTED INSTRUMENATION OR PROCESS EQUIPMENT (SUPPLIED BY OTHER DIVISIONS) "XX–XXXX" REFERS TO TAGNAME ID
ISBP	INTRINSICALLY SAFE BARRIER PANEL (SUPPLIED BY DIV. 13)
E	GENERATOR EMERGENCY STOP
A	GAS DETECTION SYSTEM – AMBER ALARM BEACON (SUPPLIED BY DIV. 17)
H	GAS DETECTION SYSTEM – ALARM HORN (SUPPLIED BY DIV.17)
O	OCCUPIED/UNOCCUPIED SELECTOR SWITCH. (SUPPLIED BY DIV. 16)
T	THERMOSTAT (SUPPLIED BY DIV. 15)
M	MOTOR OPERATED DAMPER (SUPPLIED BY DIV. 15)
F XKW	ELECTRIC UNIT HEATER, "X" INDICATES UNIT ELECTRIC COIL RATING (SUPPLIED BY DIV. 15)
CUH 1 P11–LP (21)	EQUIPMENT CIRCUIT NUMBER DESIGNATION TO PANEL PP1–LP CIRCUIT #21,

SECURITY SYMBOLS

DS	MAGNETIC DOOR SWITCH

FIRE ALARM SYSTEM SYMBOLS

F	MANUAL FIRE ALARM STATION
F	FIRE ALARM AUDIO/VISUAL DEVICE
F V	FIRE ALARM VISUAL ONLY DEVICE
F	FIRE ALARM BEACON
S	SMOKE DETECTOR
S D	DUCT SMOKE DETECTOR
RTS	REMOTE TEST STATION AND ALARM FOR DUCT SMOKE DETECTOR
H	HEAT DETECTOR, COMBINATION RATE–OF–RISE AND FIXED TEMPERATURE
C	CARBON MONOXIDE DETECTOR
M	INPUT MONITORING MODULE
C	RELAY CONTROL MODULE
FACP	FIRE ALARM CONTROL PANEL
FAA	FIRE ALARM ANNUNCIATOR PANEL
F	REMOTE ALARM INDICATING LIGHT
F	MASTER BOX
K	KEY DEPOSITORY – KNOX BOX

GENERAL NOTES

1. PROVIDE CONCRETE HOUSEKEEPING PADS ON ALL FLOOR OR GRADE MOUNTED ELECTRICAL EQUIPMENT, THE FOLLOWING EQUIPMENT IS THE MINIMUM REQUIREMENT FOR HOUSEKEEPING PADS. ADDITIONAL PADS MAYBE REQUIRED BASED ON THE MOUNTING METHODS.
   1.1. GENERATOR
2. ALL CONDUIT AND EQUIPMENT SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND APPLICABLE LOCAL CODES.
3. BONDING JUMPERS, CONDUIT CLAMPS AND POINTS OF ATTACHMENT ARE NOT SHOWN ON DRAWINGS. SIZE BONDING JUMPERS IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. THE POINTS OF ATTACHMENT OF THE GROUND CLAMPS SHALL BE ACCESSIBLE LOCATIONS.
4. EQUIPMENT & CONDUIT INSTALLATIONS ARE SHOWN DIAGRAMMATICALLY ONLY AND SHALL BE INSTALLED IN A MANNER TO PREVENT CONFLICTS WITH EQUIPMENT AND STRUCTURAL CONDITIONS. EXPOSED CONDUITS SHALL BE INSTALLED PARALLEL TO BEAMS AND WALLS.
5. CONDUITS SHALL BE TERMINATED SO AS TO PERMIT NEAT CONNECTIONS TO MOTORS AND OTHER EQUIPMENT.
6. NO CONDUIT SMALLER THAN 3/4" PIPE SIZE NOR WIRE SMALLER THAN NO. 12 A.W.G. SHALL BE USED UNLESS OTHERWISE NOTED.
7. RECEPTACLES AND SWITCHES SHALL BE MOUNTED 45" ABOVE FINISHED FLOOR.
8. THE WIRING AND BLOCK DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUIT REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL AND PROCESS EQUIPMENT. MODIFICATIONS ACCEPTABLE TO THE ENGINEER 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/OR SPECIFICATIONS.

DEMOLITION NOTES

1. UNLESS OTHERWISE NOTED AS SALVAGE, ALL EXISTING ELECTRICAL SYSTEMS WITHIN HATCH MARKS (POWER, LIGHTING, LOW VOLTAGE, CONTROLS, ETC) AND ASSOCIATED EQUIPMENT IS TO BE DEMOLISHED. DISCONNECT AND DE–ENERGIZE THE EQUIPMENT. REMOVE THE EQUIPMENT TO BE DEMOLISHED OR SALVAGED PER SECTION 02050. ALL CONTROL DEVICES, CONDUIT, CABLING, BOXES, SUPPORTS, ETC, ASSOCIATED WITH THE DEMOLISHED EQUIPMENT SHALL BE REMOVED. THE CONDUIT AND CABLING SHALL BE REMOVED BACK TO SOURCE.
2. NO DEVICE OR EQUIPMENT INDICATED FOR DEMOLITION WILL BE REUSED OR SALVAGED UNLESS SPECIFICALLY NOTED AS SUCH. ALL EQUIPMENT REMOVED SHALL BE REMOVED FROM SITE AND PROPERLY DISPOSED OF, PRIOR TO REMOVAL OF EQUIPMENT COORDINATE WITH OWNER FOR ANY EQUIPMENT THE OWNER WILL KEEP.
3. EXISTING EQUIPMENT INDICATED ON THE DEMOLITION PLANS ARE BASED ON SITE OBSERVATIONS AND IT IS NOT THE INTENTION OF THESE DRAWINGS TO SHOW ALL EQUIPMENT AND MATERIALS TO BE DISCONNECTED AND/OR REMOVED.
4. THE EXISTING CONVENTIONAL FIRE ALARM SYSTEM INDICATED TO BE DEMOLISHED SHALL REMAIN COMPLETE AND IN FUNCTION UNTIL THE NEW FIRE ALARM SYSTEM IS INSTALLED, TESTED, AND ACCEPTED BY THE FIRE DEPARTMENT.

ABBREVIATIONS

(2)1"C, 3#8, #10GND	2, 1–INCH CONDUITS EACH CONDUIT CONTAINING 3–#8 AWG WIRES AND 1–#10 GROUND CONDUCTOR
3/4" CE	EMPTY CONDUIT. NUMERAL DENOTES SIZE
ABL	ALARM BEACON LIGHT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AR	ALARM RELAY
ATS	AUTOMATIC TRANSFER SWITCH
CR	CONTROL RELAY
CP	CONTROL PANEL
DRG. DWG.	DRAWING
EAN	EXCEPT AS NOTED
EC	ELECTRICAL CONTRACTOR
ETM	ELAPSED TIME METER
FE	FLOW ELEMENT
FIT	FLOW INDICATOR TRANSMITTER
FS	FLOW SWITCH
FT	FLOW TRANSMITTER
FVNR	FULL VOLTAGE NON–REVERSING
GND, GRD	GROUNDING CONDUCTOR (EQUIPMENT)
HO	HAND–OFF SELECTOR SWITCH
HOA	HAND–OFF–AUTOMATIC SELECTOR SWITCH
HH	HANDHOLE
ISBP	INTRINSICALLY SAFE BARRIER PANEL
J OR JB	JUNCTION BOX
JPB	JOG PUSHBUTTON
LE	LEVEL ELEMENT
LIT	LEVEL INDICATOR TRANSMITTER
LL	LOW LEVEL
LSX	LEVEL SWITCH, X = "H" FOR HIGH, "L" FOR LOW
LT	LEVEL TRANSMITTER
MC	MOTOR CONTROLLER (STARTER)
MCC	MOTOR CONTROL CENTER
MH	MANHOLE
MFR	MANUFACTURER
MS	MOTION SENSOR
NTS	NOT TO SCALE
OEM	ORIGINAL EQUIOPMENT MANUFACTURE SUPPLIED
OH	OVERHEAD
OL	MOTOR OVERLOAD HEATER
OS	OPERATOR STATION
PB	PUSHBUTTON CONTROL STATION MOMENTARY CONTACT TYPE, STOP–START
PBE	PUSHBUTTON CONTROL STATION MAINTAINED EMERGENCY STOP TYPE, TWIST TO RELEASE
PBL	PUSHBUTTON CONTROL STATION MOMENTARY TYPE WITH LOCK–OUT DEVICE, STOP–START
PBM	SELECTOR SWITCH CONTROL STATION, CONTACT TYPE, HAND–OFF
PIT	PRESSURE INDICATOR TRANSMITTER
PL	PUSHBUTTON CONTROL STATION MOMENTARY TYPE WITH LOCK–OUT DEVICE, STOP
PSH	PRESSURE SWITCH HIGH
PSL	PRESSURE SWITCH LOW
PT	PRESSURE TRANSMITTER
RGS	RIGID GALVANIZED STEEL
RVNR	REDUCED VOLTAGE NON–REVERSING
SPD	SURGE SUPPRESSOR DEVICE
SOV	SOLENOID VALVE
S/S	SOFT STARTER
TB	TERMINAL BOX
TD	MOTOR TEMPERATURE DETECTOR
TR	TIMING RELAY
TS	TEMPERATURE SWITCH
TSP	TWISTED SHEILDED PAIR
TSTW	TWO SPEED TWO WINDING
TYP	TYPICAL
UG	UNDERGROUND
UNO	UNLESS OTHERWISE NOTED
VFD	VARIABLE FREQUENCY DRIVE
WP	WATER PROOF
WSH	TORQUE SWITCH HIGH
XFMR	TRANSFORMER
XS	LIMIT SWITCH

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Electrical Legend and Notes

NO.	REVISIONS	DATE

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CHECKED BY: MC
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SCALE

NONE

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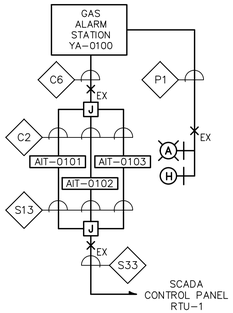
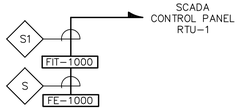


CONTROL BLOCK WIRING DIAGRAM
GAS DETECTION SYSTEM
NOT TO SCALE



CONTROL BLOCK WIRING DIAGRAM
INFLUENT FLOW METER
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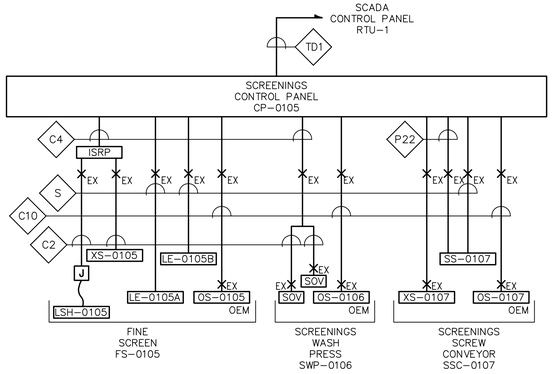
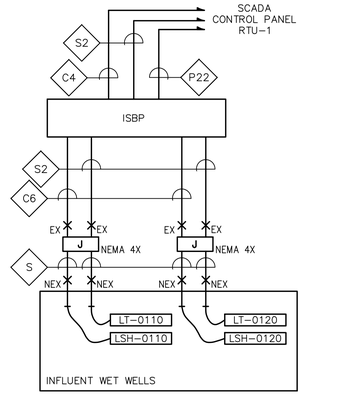
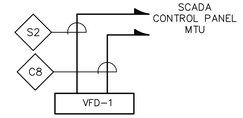


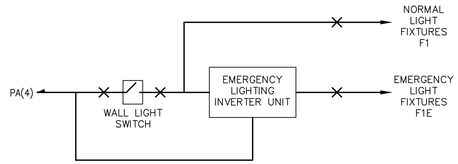
CONTROL BLOCK WIRING DIAGRAM
HEAD WORKS SCREENINGS
NOT TO SCALE



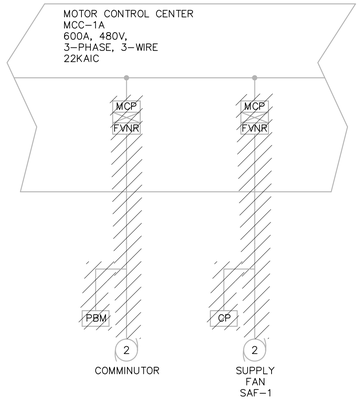
CONTROL BLOCK WIRING DIAGRAM
INFLUENT WETWELL LEVEL MONITORING
NOT TO SCALE



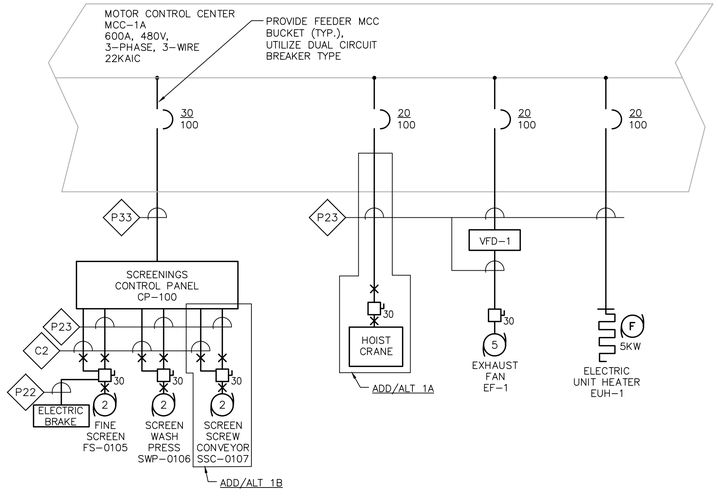
CONTROL BLOCK WIRING DIAGRAM
EXHAUST FAN EF-1
NOT TO SCALE



HEADWORKS LIGHT SWITCHING
WIRING DIAGRAM
NOT TO SCALE



OPERATIONS BUILDING DEMOLITION ONE LINE DIAGRAM
NOT TO SCALE



OPERATIONS BUILDING ONE LINE DIAGRAM
NOT TO SCALE

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

WWTF HEADWORKS

Electrical One Line and Wiring Diagrams

NO.	REVISIONS	DATE

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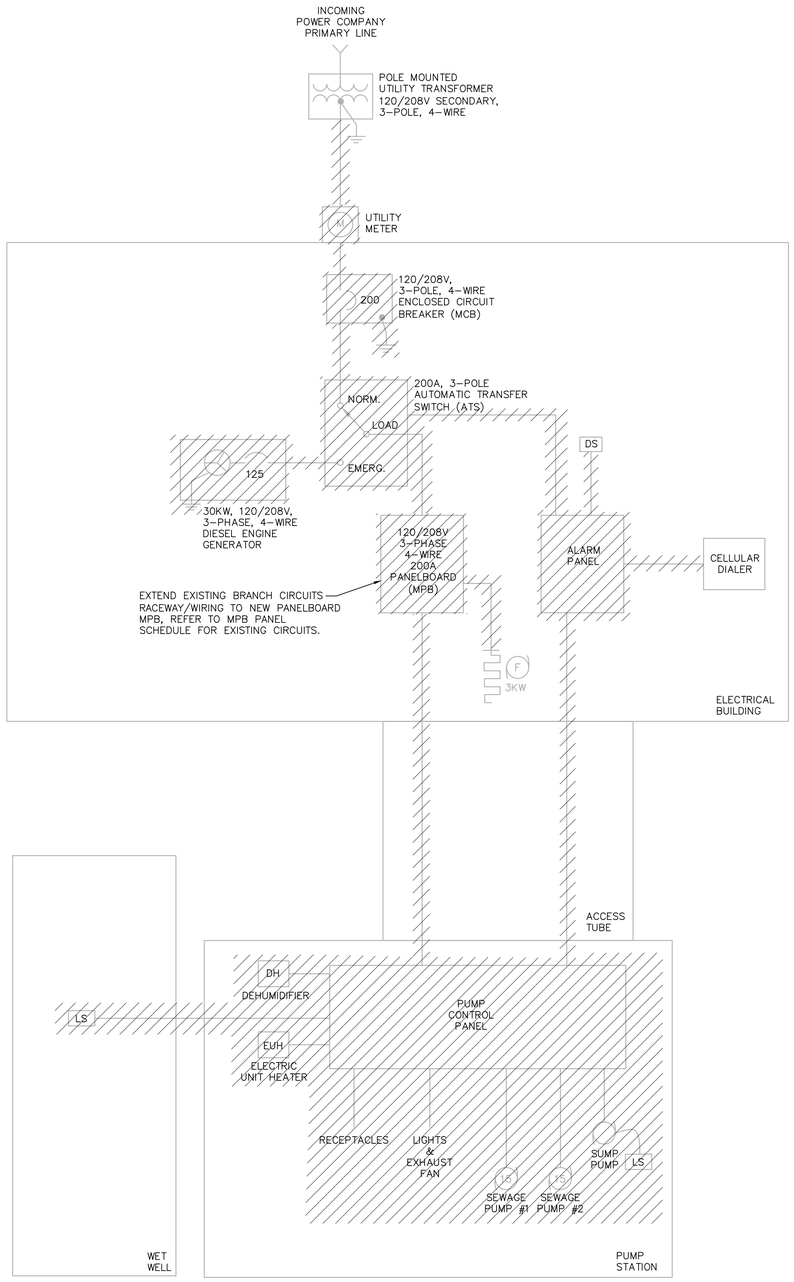
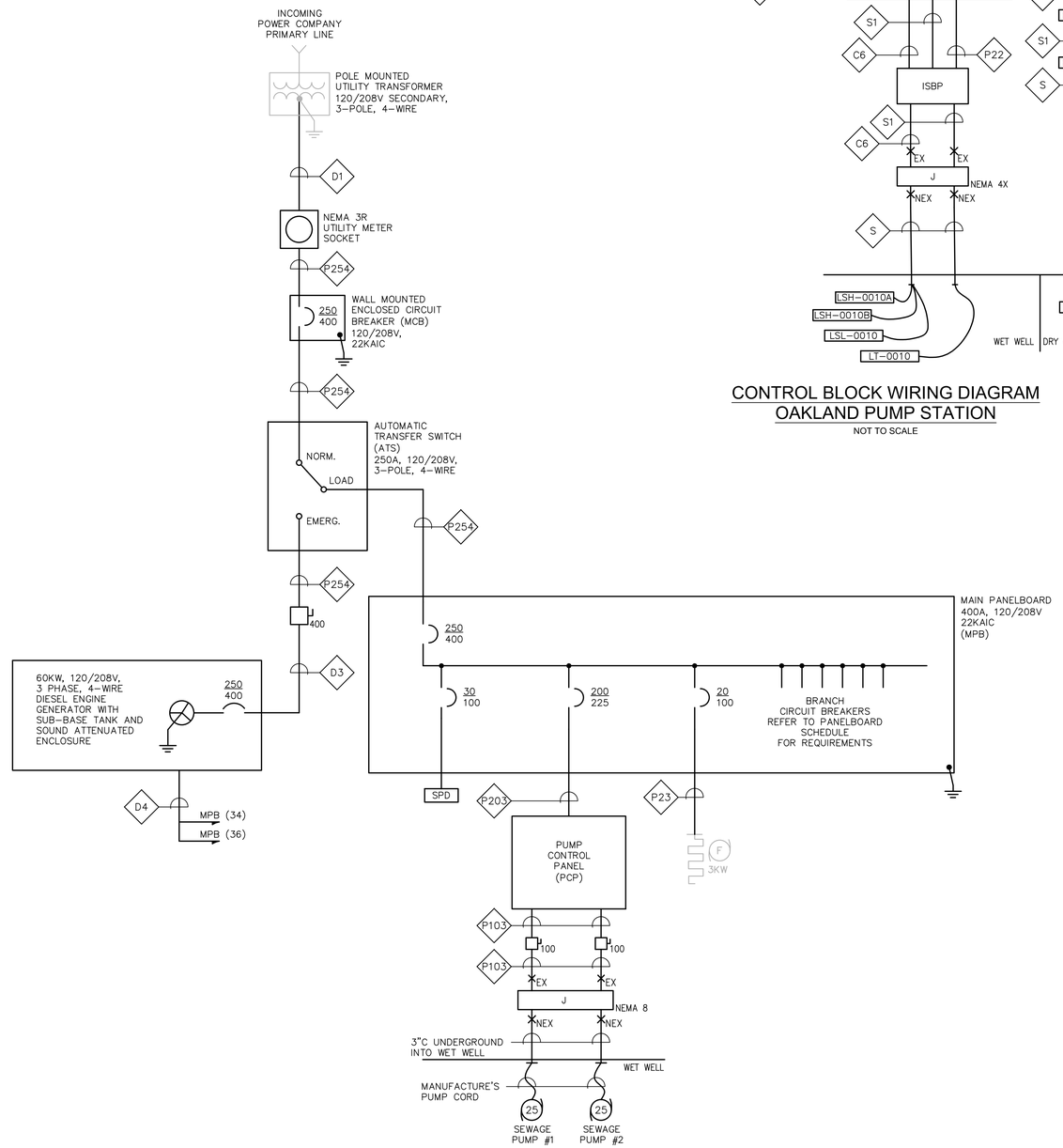


OAKLAND PUMP STATION DEMOLITION ONE LINE DIAGRAM

NOT TO SCALE



OAKLAND PUMP STATION ONE LINE DIAGRAM

NOT TO SCALE

CONTROL BLOCK WIRING DIAGRAM
OAKLAND PUMP STATION

NOT TO SCALE

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Oakland Pump Station

Electrical One Line and Wiring Diagrams

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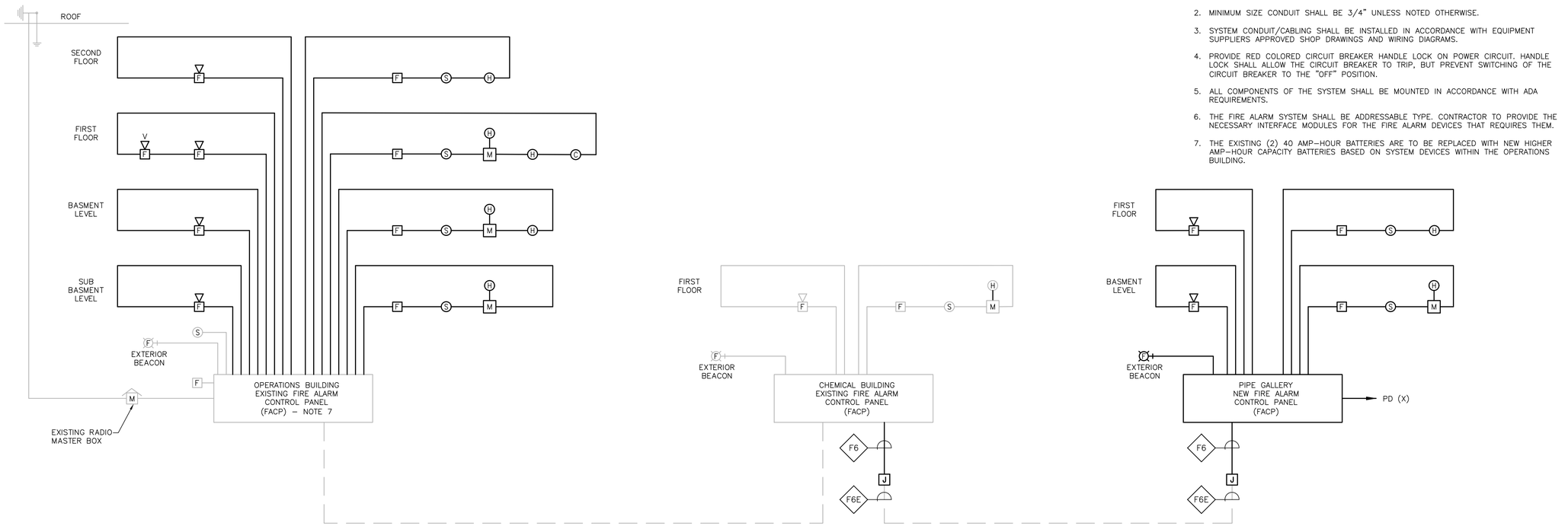
E-0.3

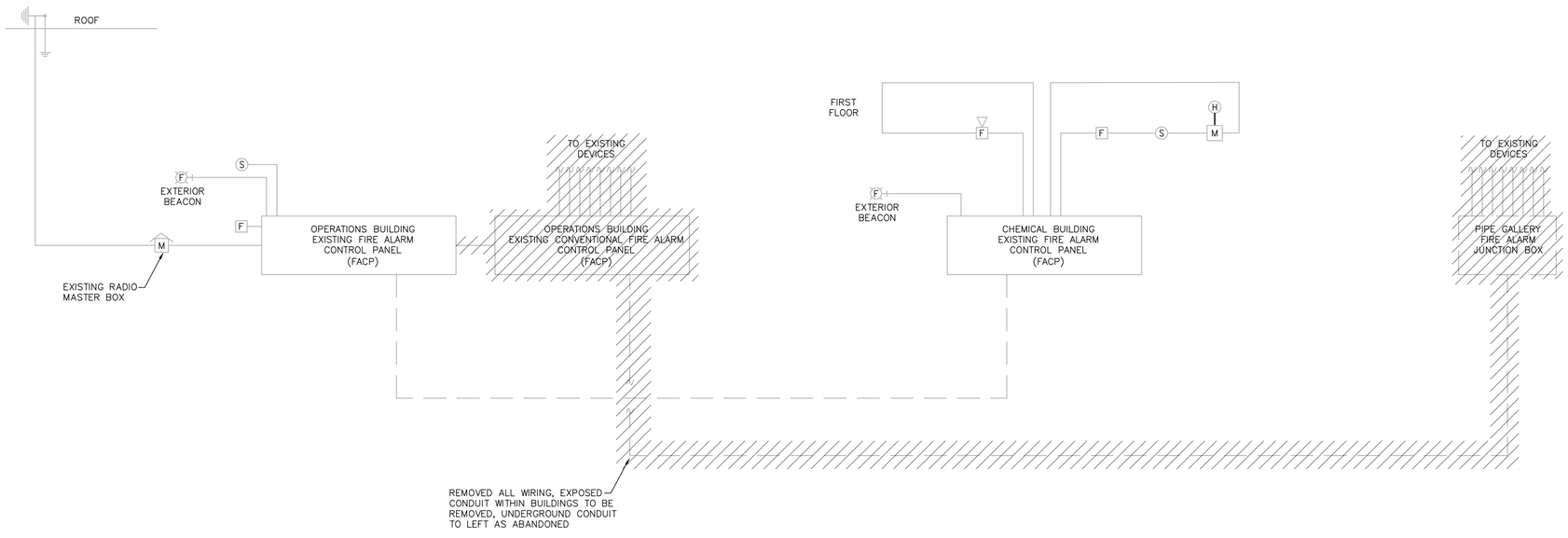
FIRE ALARM NOTES:

1. RISER DIAGRAMS ONLY REPRESENTS TYPE OF DEVICES WITHIN AN AREA AND DOES NOT REPRESENT ACTUAL QUANTITIES. REFER TO PLAN DRAWINGS FOR EXACT QUANTITIES AND LOCATIONS OF DEVICES.
2. MINIMUM SIZE CONDUIT SHALL BE 3/4" UNLESS NOTED OTHERWISE.
3. SYSTEM CONDUIT/CABLING SHALL BE INSTALLED IN ACCORDANCE WITH EQUIPMENT SUPPLIERS APPROVED SHOP DRAWINGS AND WIRING DIAGRAMS.
4. PROVIDE RED COLORED CIRCUIT BREAKER HANDLE LOCK ON POWER CIRCUIT. HANDLE LOCK SHALL ALLOW THE CIRCUIT BREAKER TO TRIP, BUT PREVENT SWITCHING OF THE CIRCUIT BREAKER TO THE "OFF" POSITION.
5. ALL COMPONENTS OF THE SYSTEM SHALL BE MOUNTED IN ACCORDANCE WITH ADA REQUIREMENTS.
6. THE FIRE ALARM SYSTEM SHALL BE ADDRESSABLE TYPE. CONTRACTOR TO PROVIDE THE NECESSARY INTERFACE MODULES FOR THE FIRE ALARM DEVICES THAT REQUIRES THEM.
7. THE EXISTING (2) 40 AMP-HOUR BATTERIES ARE TO BE REPLACED WITH NEW HIGHER AMP-HOUR CAPACITY BATTERIES BASED ON SYSTEM DEVICES WITHIN THE OPERATIONS BUILDING.



FIRE ALARM RISER DIAGRAM

NOT TO SCALE



FIRE ALARM DEMOLITION RISER DIAGRAM

NOT TO SCALE

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

WWTF

Fire Alarm
Riser Diagrams

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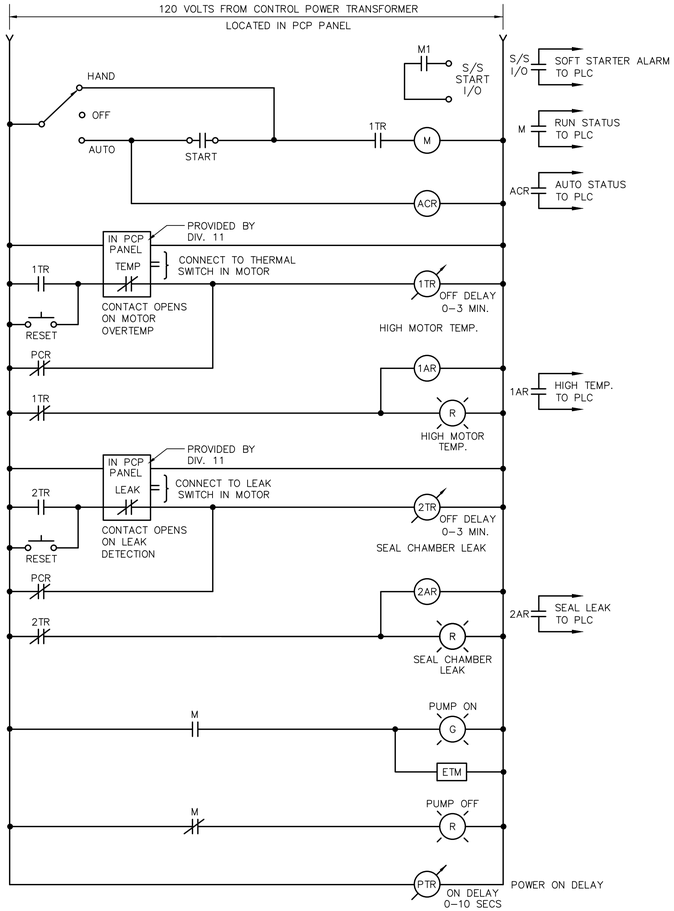
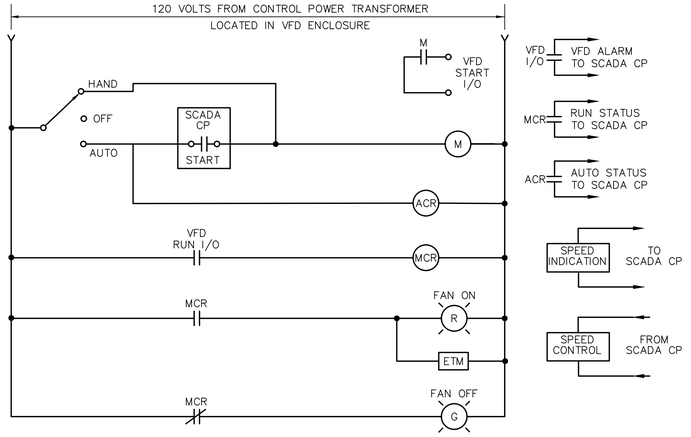


CONTROL WIRING DIAGRAM
SEWAGE PUMPS
NOT TO SCALE



MOTOR CONTROL WIRING DIAGRAM
EXHAUST FAN EF-1
NOT TO SCALE

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Electrical
Motor Control
Wiring Diagrams

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SCALE

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E-0.5

POWER CABLE/CONDUIT SCHEDULE

SYMBOL	CONDUIT SIZE*	CONDUCTORS*	GND*
P22	3/4"	(2)#12	(1)#12
P23	3/4"	(3)#12	(1)#12
P26	3/4"	(6)#12	(1)#12
P32	3/4"	(2)#10	(1)#10
P33	3/4"	(3)#10	(1)#10
P53	3/4"	(3)#8	(1)#10
P54	3/4"	(4)#8	(1)#10
P63	1"	(3)#6	(1)#8
P64	1"	(4)#6	(1)#8
P83	1 1/4"	(3)#4	(1)#8
P84	1 1/4"	(4)#4	(1)#8
P103	1 1/2"	(3)#3	(1)#6
P104	1 1/2"	(4)#3	(1)#6
P113	1 1/2"	(3)#2	(1)#6
P114	1 1/2"	(4)#2	(1)#6
P133	2"	(3)#1	(1)#6
P134	2"	(4)#1	(1)#6
P153	2"	(3)#1/0	(1)#6
P154	2"	(4)#1/0	(1)#6
P173	2 1/2"	(3)#2/0	(1)#6
P174	2 1/2"	(4)#2/0	(1)#6
P203	2 1/2"	(3)#3/0	(1)#4
P204	2 1/2"	(4)#3/0	(1)#4
P254	3"	(4)250KCMIL	(1)#4

SIGNAL CABLE/CONDUIT SCHEDULE

SYMBOL	CONDUIT SIZE	CONDUCTORS
S	1"	VENDER PROVIDED
S1	3/4"	1-2/C#16 TSP
S13	3/4"	1-3/C#16 TSP
S2	3/4"	2-2/C#16 TSP
S23	3/4"	2-3/C#16 TSP
S3	1"	3-2/C#16 TSP
S33	1"	3-3/C#16 TSP
S4	1"	4-2/C#16 TSP
S5	1"	5-2/C#16 TSP
S6	1 1/2"	6-2/C#16 TSP
S7	1 1/2"	7-2/C#16 TSP
S8	1 1/2"	8-2/C#16 TSP
S9	1 1/2"	9-2/C#16 TSP
S10	2"	10-2/C#16 TSP
TC1	3/4"	8/C#18

TELE/DATA CABLE/CONDUIT SCHEDULE

SYMBOL	CONDUIT SIZE	CABLES
TD1	1"	1-CAT6
TD2	1"	2-CAT6
F6	2"	6 STRAND FIBER OPTIC
F6E	EXISTING 2"	6 STRAND FIBER OPTIC

CONTROL CABLE/CONDUIT SCHEDULE

SYMBOL	CONDUIT SIZE	CONDUCTORS
C2	3/4"	2#14
C4	3/4"	4#14
C5	3/4"	5#14
C6	3/4"	6#14
C7	3/4"	7#14
C8	3/4"	8#14
C9	3/4"	9#14
C10	3/4"	10#14
C12	3/4"	12#14
C16	1"	16#14
C20	1"	20#14
C30	1"	30#14
C50	1 1/2"	50#14
C100	2"	100#14
C200	3"	200#14

NOTE: CONDUIT AND CONDUCTOR SIZES ARE TO BE PER THE ABOVE SCHEDULES UNLESS OTHERWISE NOTED.

PANELBOARD SCHEDULE

NO. MPB — LOCATION: ELECTRIC ROOM

208/120 V, 3 PH, 4 W, 400 A MAINS — 400 A SOLID NEUTRAL — 250 A MCB

22,000 AIC AT 120 V — 400 A GROUND BUS — – A MLO — SURFACE MOUNTING

CIRCUIT	DESCRIPTION OF LOAD	LOAD (KVA) AØ	LOAD (KVA) BØ	LOAD (KVA) CØ	BREAKER TRIP	BREAKER POLE	BREAKER POLE	BREAKER TRIP	LOAD (KVA) AØ	LOAD (KVA) BØ	LOAD (KVA) CØ	DESCRIPTION OF LOAD	CIRCUIT	
1	ELECTRIC ROOM RECEPTACLES – EXISTING CIRCUIT	1.0			20	1	1	20	0.4			DRY WELL RECETPACLE	2	*
3	ELECTRIC ROOM LIGHTS – EXISTING CIRCUIT		0.5		20	1	1	20		0.4		DRY WELL LIGHTS	4	*
5	CELLULAR DIALER – EXISTING CIRCUIT			0.2	20	1	1	20			1.0	DRY WELL SUMP PUMP	6	*
7	EXISTING CIRCUIT	0.5			20	1	1	20	1.0			DRY WELL EXHAUST FAN	8	*
9	EXISTING CIRCUIT		0.5		20	1	1	20		0.4		EXTERIOR RECETPACLES	10	*
11	EXISTING CIRCUIT			0.5	20	1	1	20			0.60	FLOW METER AND CHART RECORDER	12	
13	SPARE	–			20	1	1	30	–			SPARE	14	
15	SPARE		–		20	1	1	20		–		SPARE	16	
17	SPARE			–	20	1	1	20			–	SPARE	18	
19	SPARE	–			20	1	1	20	–			SPARE	20	
21	SPARE		–		20	1	1	20		–		SPARE	22	
23	SPARE			–	20	1	1	20			–	SPARE	24	
25	SPARE	–			20	1	1	20	–			SPARE	26	
27	SPARE		–		20	1	1	20		–		SPARE	28	
29	SPARE			–	20	1	1	20			–	SPARE	30	
31	ELECTRIC UNIT HEATER 3KW	1.0			20	3	1	20	–			SPARE	32	
33			1.0				1	20		0.6		GENERATOR BATTERY CHARGER & ALTERNATOR HEATER	34	
35				1.0			1	20			1.0	GENERATOR JACKET HEATER	36	
	PUMP CONTROL PANEL	18.5			200	3	3	30	–			SPD		
			18.5							–				
				18.5							–			
SUB-TOTAL CONNECTED		21.0	20.5	20.2					1.4	1.4	2.6	SUB-TOTAL CONNECTED		

*PROVIDE GFCI BREAKER

SUB-TOTAL CONNECTED — KVA AØ = 22.4

SUB-TOTAL CONNECTED — KVA BØ = 22.9

SUB-TOTAL CONNECTED — KVA CØ = 22.8

TOTAL CONNECTED — KVA = 68.1

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER & CATALOG SERIES	LAMPS TYPE	LAMPS LUMENS	VOLTS	WATTS	MOUNTING TYPE	MOUNTING HEIGHT	REMARKS
F1	CLASS I DIV.1 EXPLOSION PROOF LED LIGHT FIXTURE	LIGHTLOGIX LLEX-20W-4000K-120-A1-N	LED 4000K	2800lm	120	20	CEILING	–	–
F2	UTILITY CLEAR GLOBE LED LIGHT FIXTURE WITH GUARD	HUBBELL VSL-16-30-V2-P-N	LED 5000K	1328lm	120	16	WALL	6' AFF	–

LIGHTING FIXTURE SCHEDULES NOTES:

1. THE CATALOG NUMBERS LISTED ARE GIVEN AS A GUIDE TO THE DESIGN AND QUALITY OF FIXTURE DESIRED. EQUIVALENT DESIGNS, MATERIALS, DIMENSIONS, COEFFICIENT OF UTILIZATIONS AND EQUAL QUALITY FIXTURES OF OTHER MANUFACTURERS WILL BE ACCEPTABLE.

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Electrical Schedules

NO.	REVISIONS	DATE

DRAWN BY: RLB

DESIGNED BY: RLB

CHECKED BY: MC

ISSUE DATE: MAY 2023

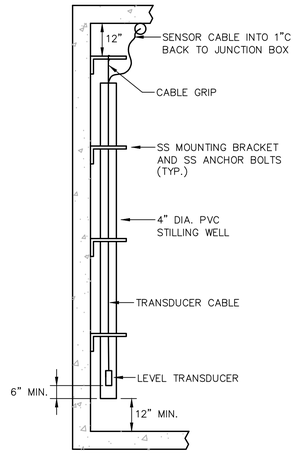
BETA JOB NO.: 6861-105

SCALE

NONE

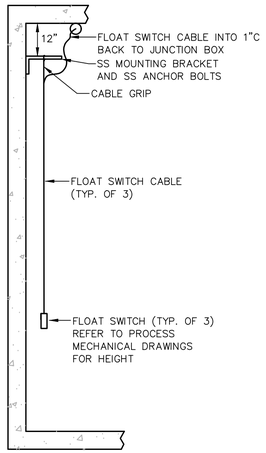
SHEET NO.

E-0.6



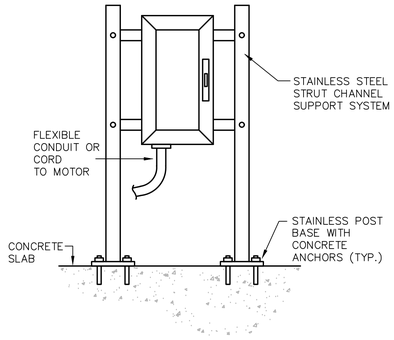
SUBMERSIBLE LEVEL TRANSDUCER IN WET WELL

NOT TO SCALE



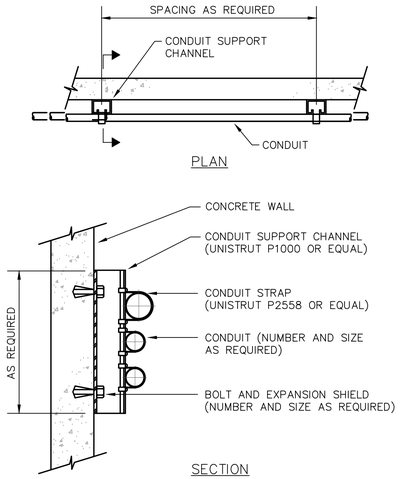
FLOAT LEVEL SWITCH IN WET WELL

NOT TO SCALE



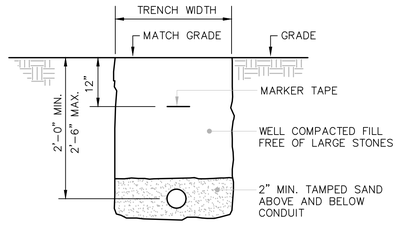
ELECTRICAL EQUIPMENT STANCHION MOUNTING DETAIL

NOT TO SCALE



TYPICAL CONDUIT WALL SUPPORT

NOT TO SCALE



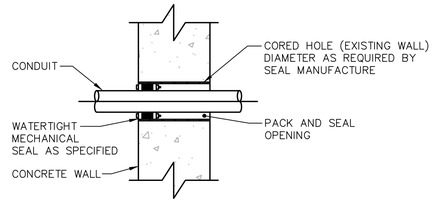
NOTES:

1. BACKFILL IN LAYERS AND MANUALLY TAMP. PROVIDE RED DUCT BANK MARKER TAPE, READING "CAUTION – ELECTRICAL LINES BELOW", OVER ENTIRE LENGTH OF DUCTLINE. LOCATE TAPE 12 INCHES BELOW GRADE. PROVIDE A TAPE FOR EVERY 12 INCHES OF WIDTH OF DUCTLINE.

2. TRENCHING AND BACKFILLING SHALL BE PERFORMED UNDER DIVISION 2 OF THIS CONTRACT.

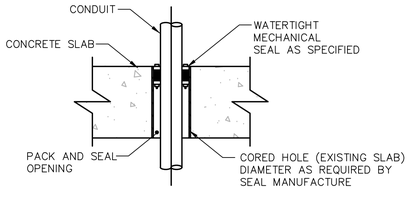
TYPICAL UNDERGROUND CONDUIT SECTION

NOT TO SCALE



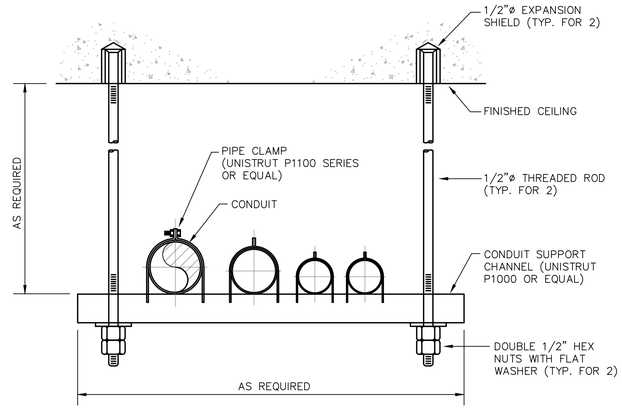
CONDUIT PENETRATION THROUGH EXISTING CONCRETE WALL

NOT TO SCALE



CONDUIT PENETRATION PASSING THROUGH EXISTING CONCRETE SLAB

NOT TO SCALE



TYPICAL CONDUIT CEILING SUPPORT

NOT TO SCALE

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Electrical Details

NO.	REVISIONS	DATE

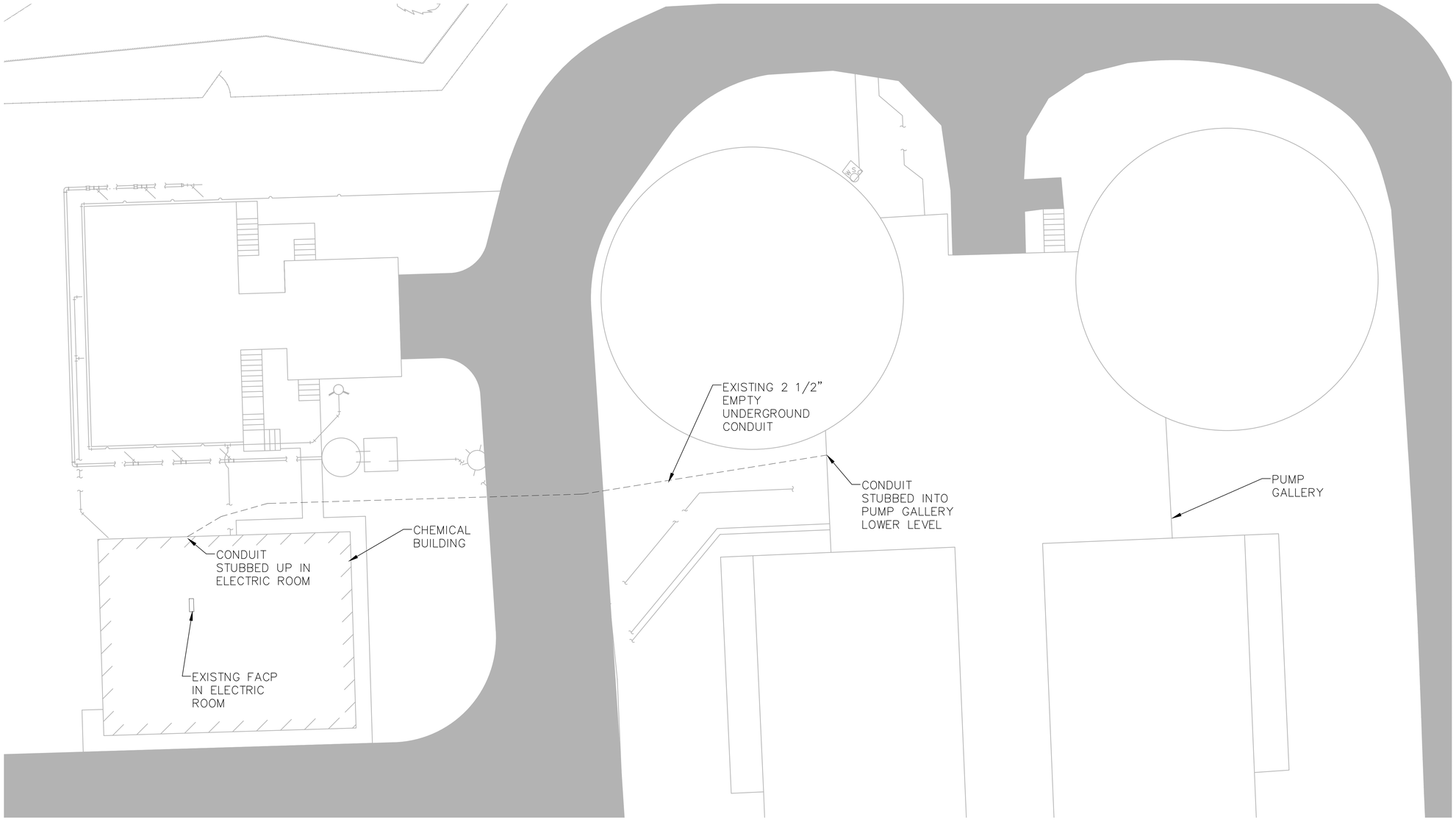
DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	MC
ISSUE DATE:	MAY 2023
BETA JOB NO.:	6861-105

SCALE

NONE

SHEET NO.

E-0.7



ELECTRICAL SITE PLAN
SCALE: 1" = 10' - 0"

PREPARED BY

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

WWTF

Electrical Site Plan

NO.	REVISIONS	DATE

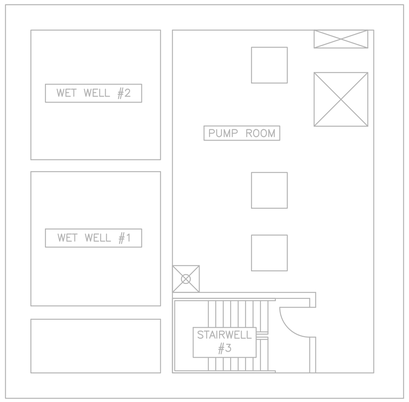
DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	MC
ISSUE DATE:	MAY 2023
BETA JOB NO.:	6861-105

SCALE

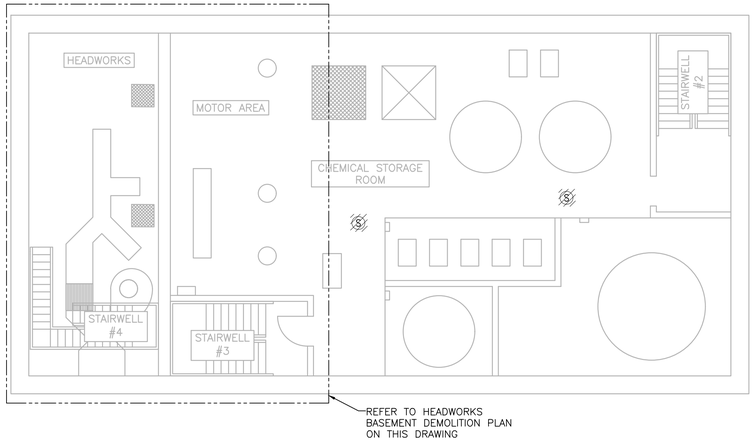
AS SHOWN

SHEET NO.

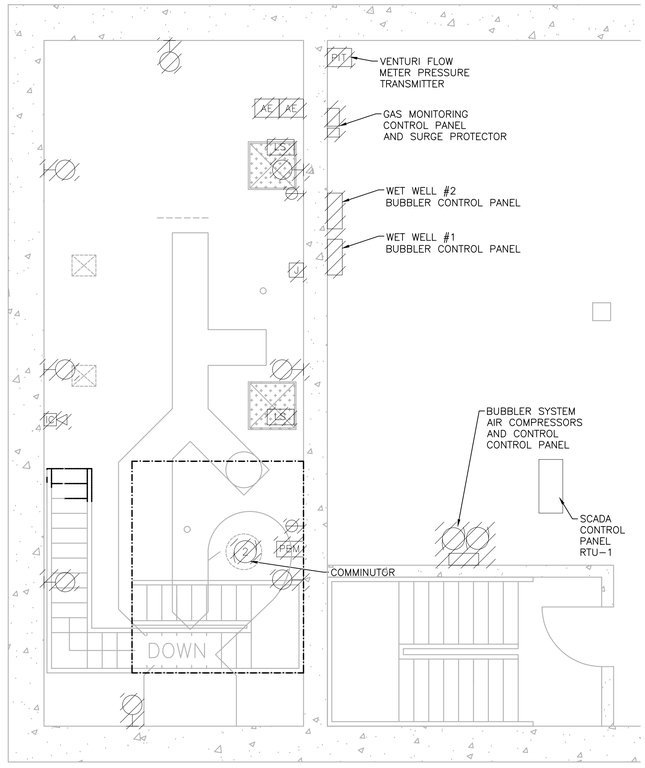
E-1.0



SUB BASEMENT - DEMOLITION PLAN
SCALE: 1/8" = 1'



BASEMENT - DEMOLITION PLAN
SCALE: 1/8" = 1'



HEADWORKS BASEMENT - DEMOLITION PLAN
SCALE: 1/8" = 1'

PREPARED BY

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Operations Building
Electrical
Sub Basement and Basement
Demolition Plans

NO.	REVISIONS	DATE

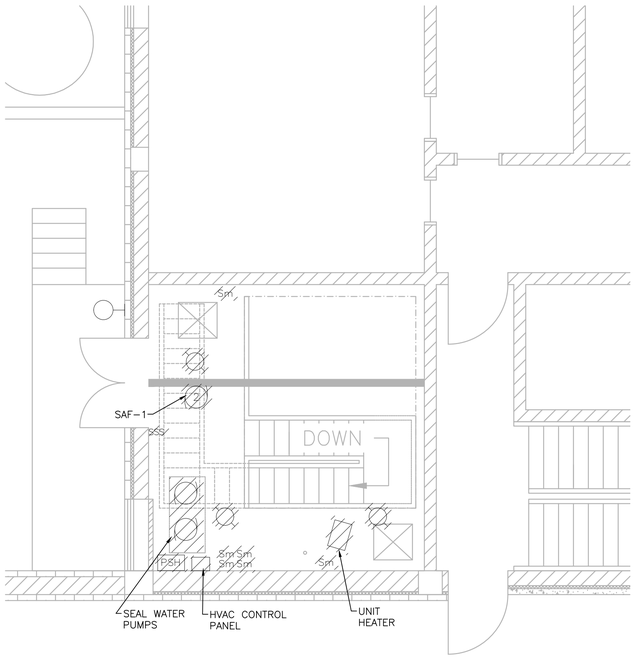
DRAWN BY: RLB
DESIGNED BY: RLB
CHECKED BY: MC
ISSUE DATE: MAY 2023
BETA JOB NO.: 6861-105

SCALE

AS SHOWN

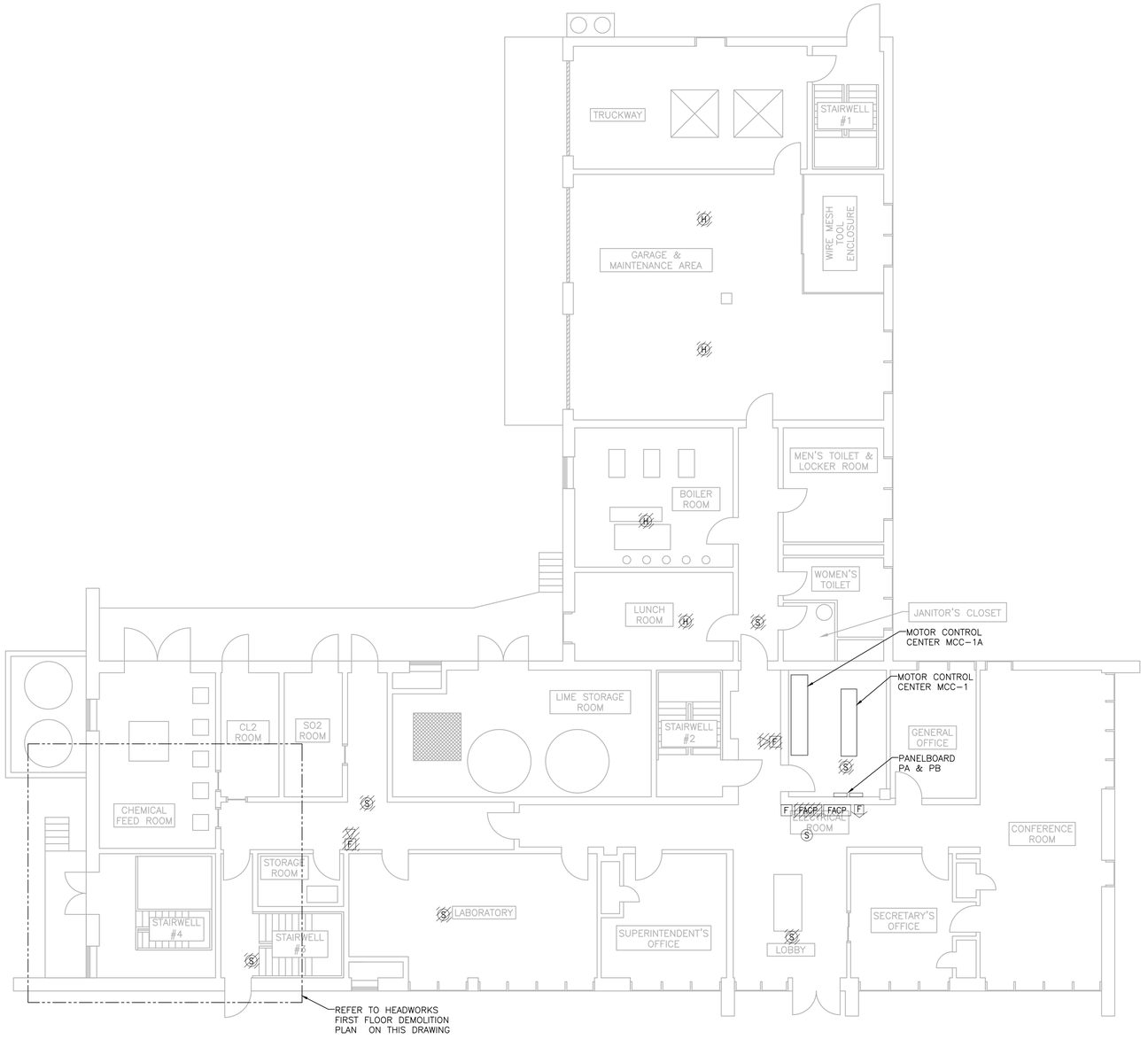
SHEET NO.

E-1.1



HEADWORKS FIRST FLOOR - DEMOLITION PLAN

SCALE: 1/4" = 1'



FIRST FLOOR - DEMOLITION PLAN

SCALE: 1/8" = 1'

PREPARED BY

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Operations Building

Electrical
First Floor
Demolition Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	MC
ISSUE DATE:	MAY 2023
BETA JOB NO.:	6861-105

SCALE

AS SHOWN

SHEET NO.

E-1.2

2ND FLOOR - DEMOLITION PLAN
SCALE: 1/8" = 1'

PREPARED BY

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Operations Building

Electrical
2nd Floor
Demolition Plan

NO.	REVISIONS	DATE

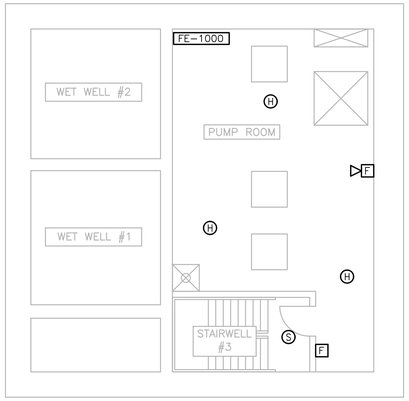
DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	MC
ISSUE DATE:	MAY 2023
BETA JOB NO.:	6861-105

SCALE

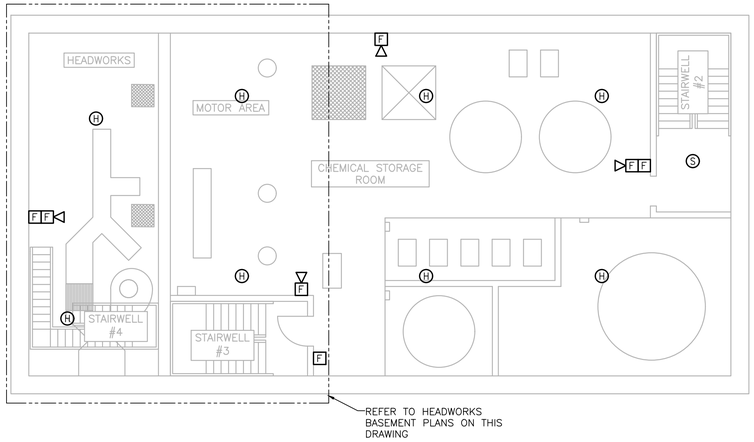
AS SHOWN

SHEET NO.

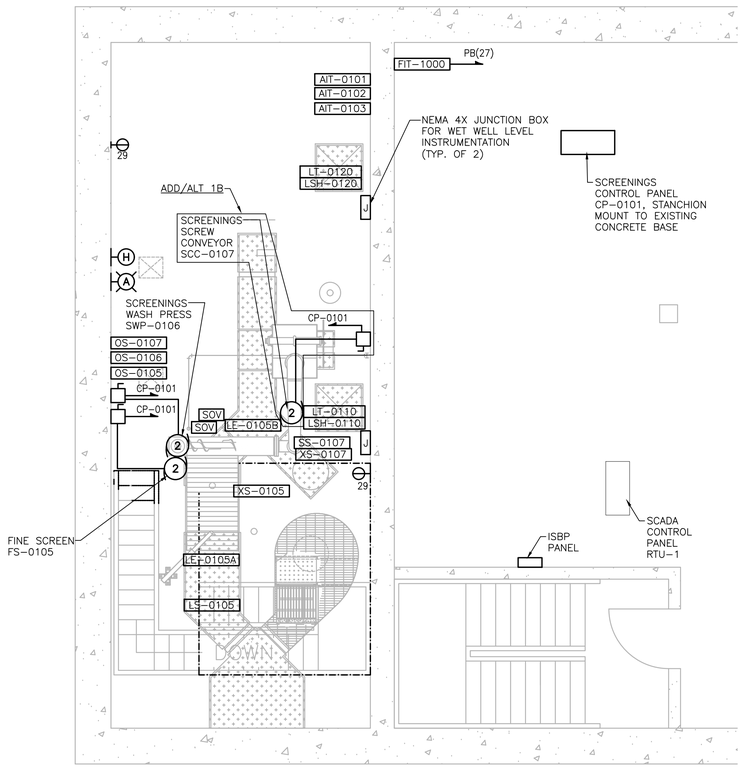
E-1.3



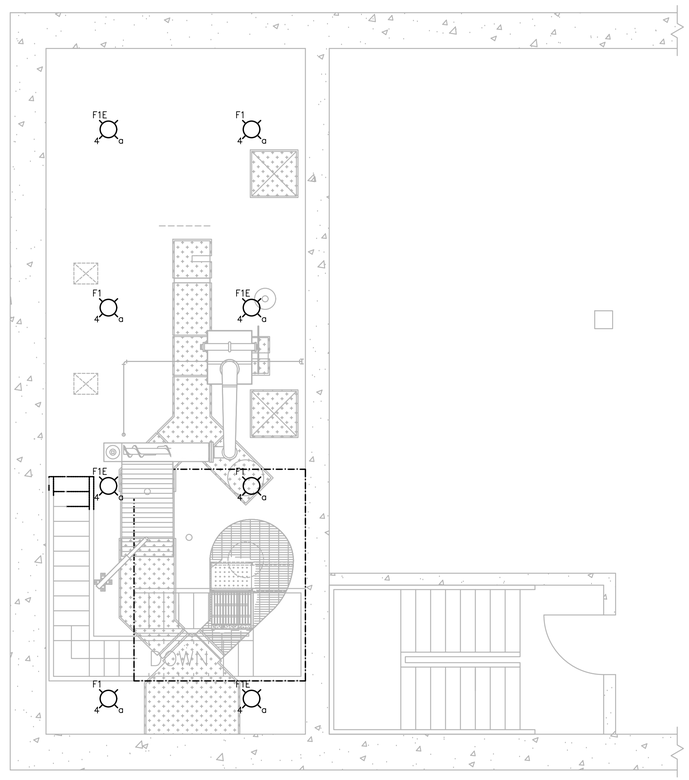
SUB BASEMENT - PLAN
SCALE: 1/8" = 1'



BASEMENT - PLAN
SCALE: 1/8" = 1'



HEADWORKS BASEMENT - POWER PLAN
SCALE: 1/8" = 1'



HEADWORKS BASEMENT - LIGHTING PLAN
SCALE: 1/8" = 1'

PREPARED BY

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Operations Building
Electrical
Sub Basement and Basement Plans

NO.	REVISIONS	DATE

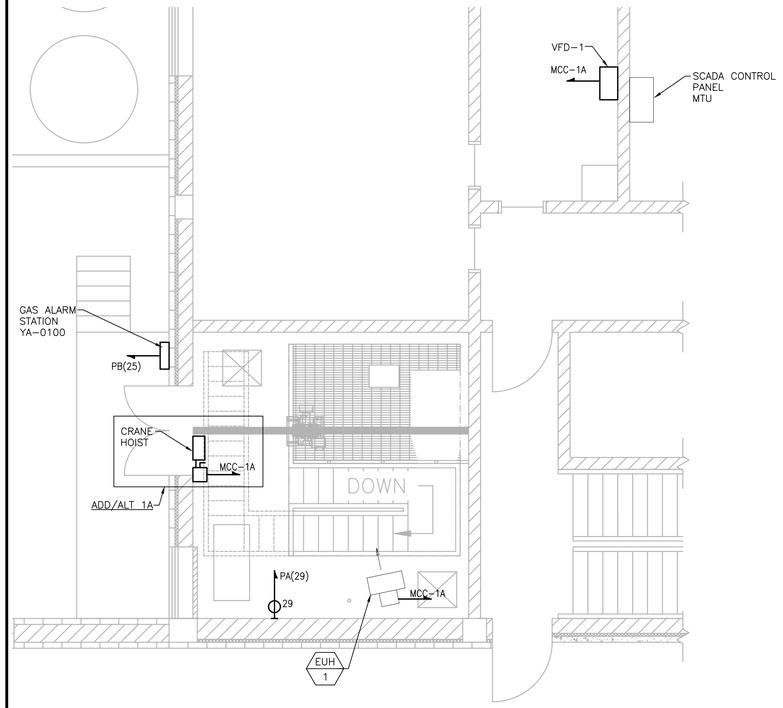
DRAWN BY: RLB
DESIGNED BY: RLB
CHECKED BY: MC
ISSUE DATE: MAY 2023
BETA JOB NO.: 6861-105

SCALE

AS SHOWN

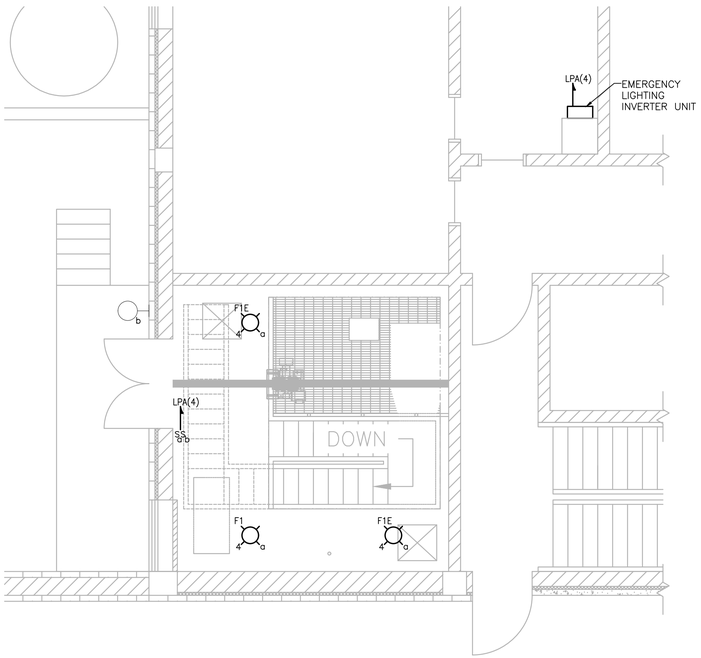
SHEET NO.

E-1.4



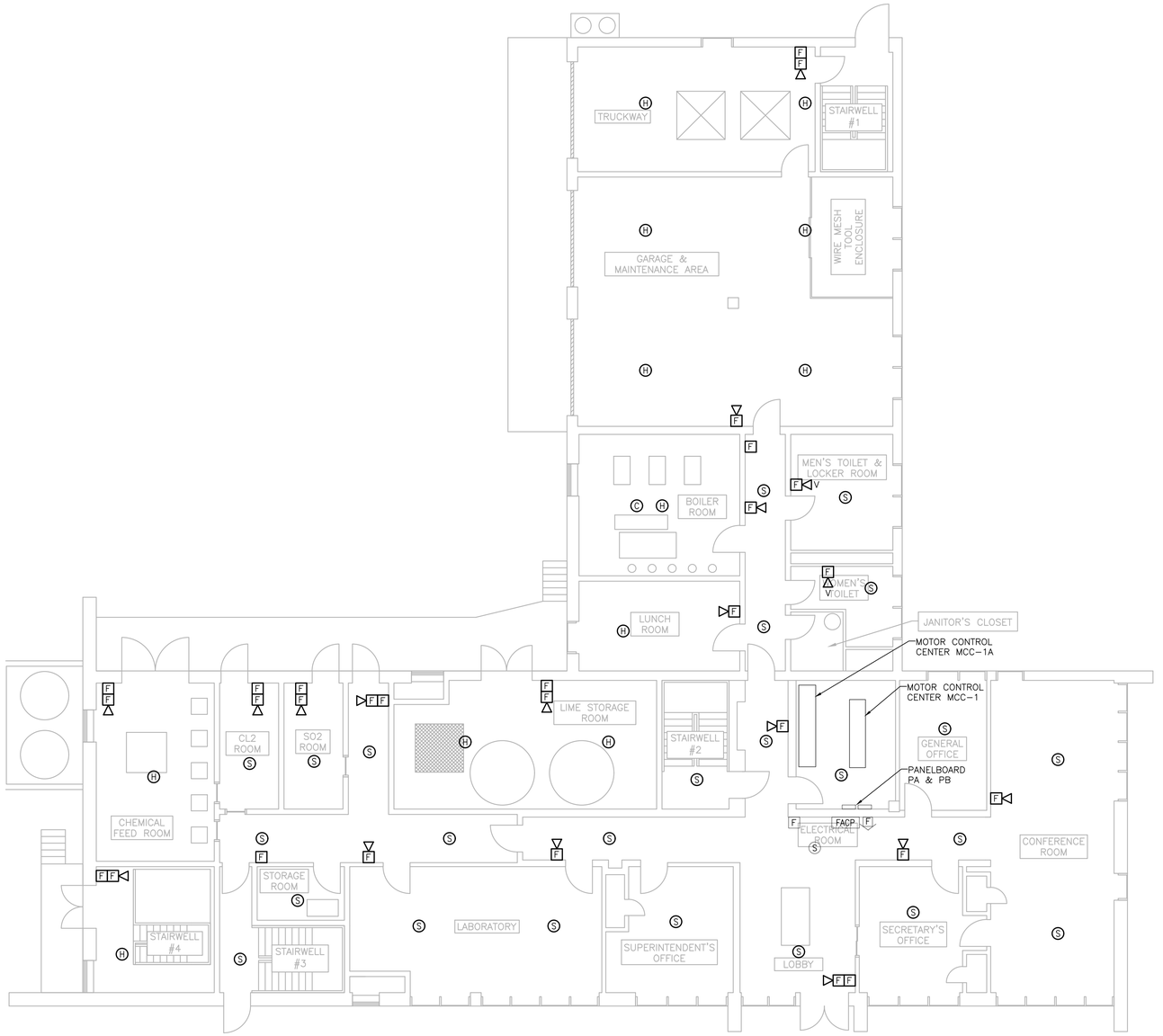
HEADWORKS FIRST FLOOR - POWER PLAN

SCALE: 1/4" = 1'



HEADWORKS FIRST FLOOR - LIGHTING PLAN

SCALE: 1/4" = 1'



FIRST FLOOR - PLAN

SCALE: 1/8" = 1'

PREPARED BY

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Operations Building

Electrical
First Floor
Plans

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	MC
ISSUE DATE:	MAY 2023
BETA JOB NO.:	6861-105

SCALE

AS SHOWN

SHEET NO.

E-1.5

2ND FLOOR - PLAN

SCALE: 1/8" = 1'

PREPARED BY

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Operations Building

Electrical
2nd Floor
Demolition Plan

NO.	REVISIONS	DATE

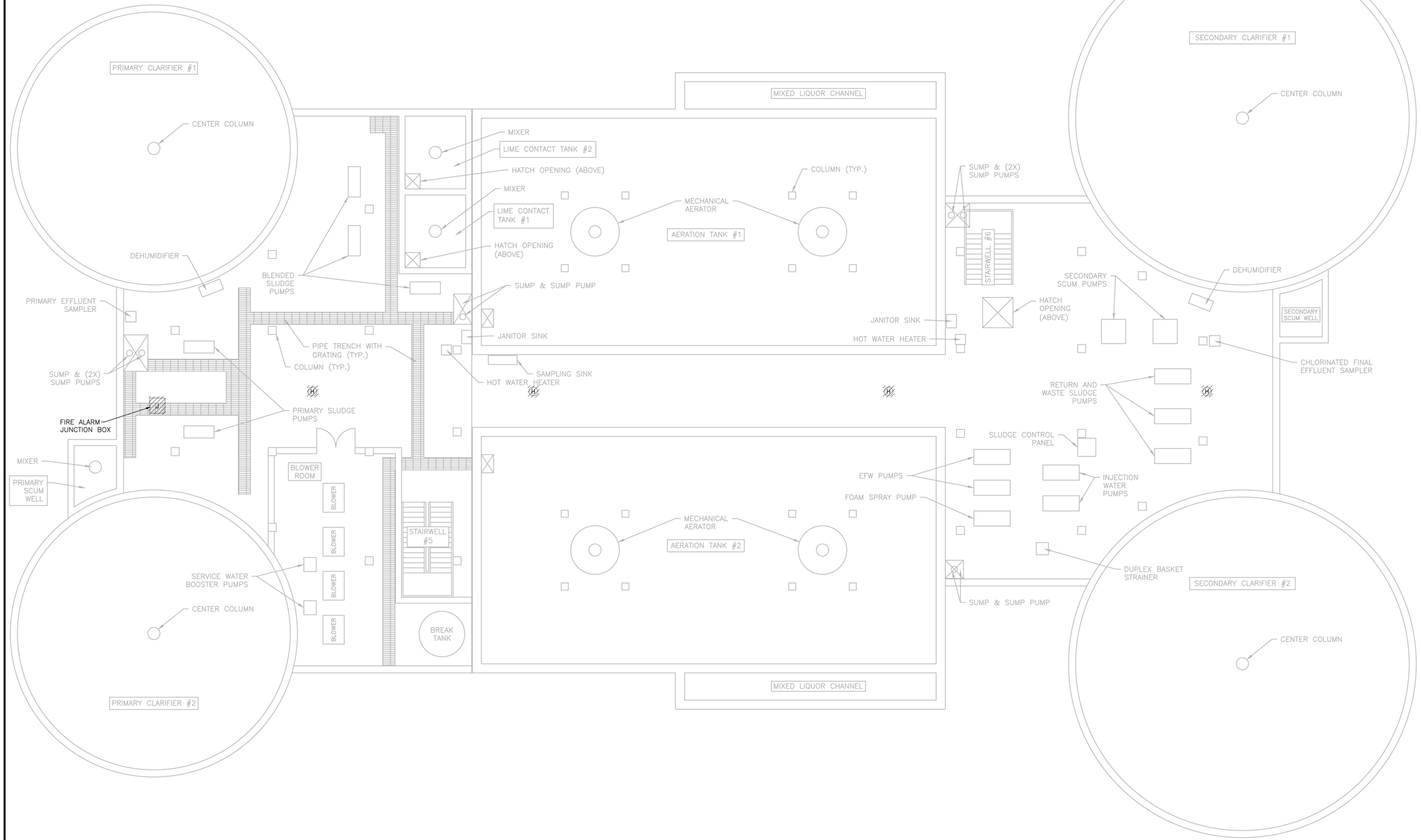
DRAWN BY: RLB
DESIGNED BY: RLB
CHECKED BY: MC
ISSUE DATE: MAY 2023
BETA JOB NO.: 6861-105

SCALE

AS SHOWN

SHEET NO.

E-1.6



LOWER LEVEL - DEMOLITION PLAN

SCALE: 1/8" = 1'

PREPARED BY

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Pump Gallerly

Electrical
Lower Level
Demolition Plan

NO.	REVISIONS	DATE

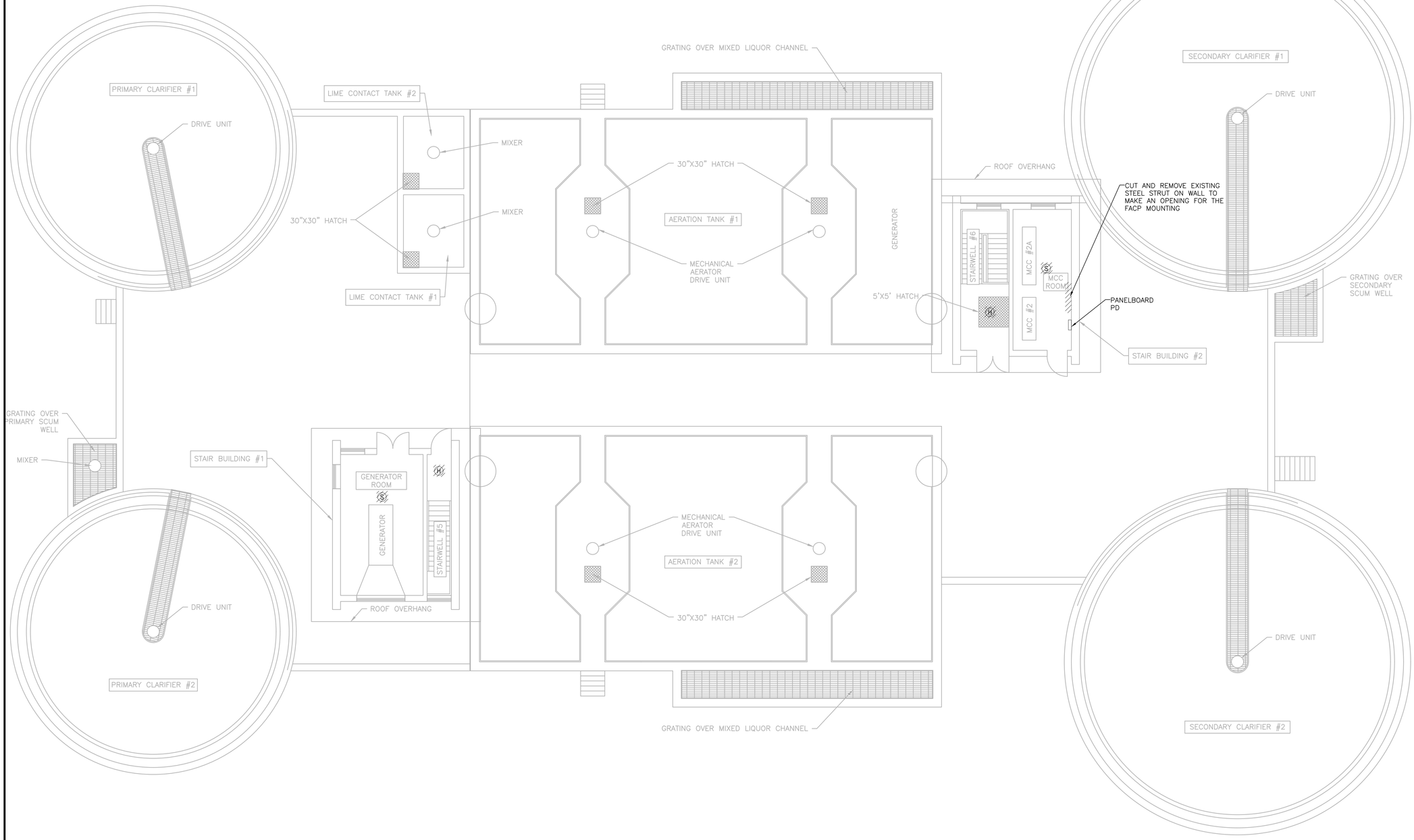
DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	MC
ISSUE DATE:	MAY 2023
BETA JOB NO.:	6861-105

SCALE

AS SHOWN

SHEET NO.

E-2.1



UPPER LEVEL - DEMOLITION PLAN

SCALE: 1/8" = 1'

PREPARED BY

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Pump Gallerly

Electrical
Upper Level
Demolition Plan

NO.	REVISIONS	DATE

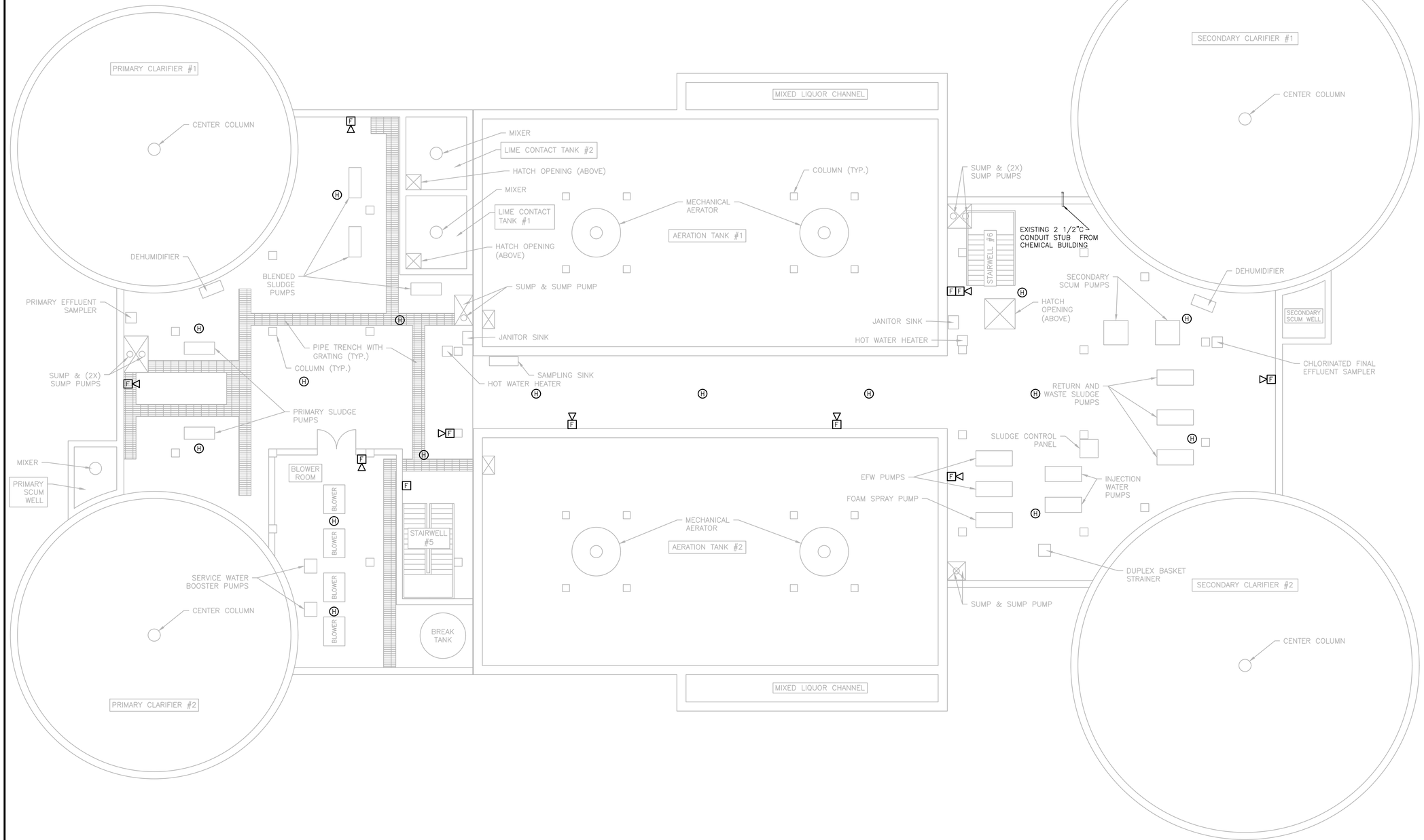
DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	MC
ISSUE DATE:	MAY 2023
BETA JOB NO.:	6861-105

SCALE

AS SHOWN

SHEET NO.

E-2.2



LOWER LEVEL - DEMOLITION PLAN

SCALE: 1/8" = 1'

PREPARED BY

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ELECTRICAL

SUBCONSULTANT

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150 Grossman Drive, Suite 309
Braintree, Massachusetts 02184
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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Pump Gallerly

Electrical
Lower Level
Demolition Plan

NO.	REVISIONS	DATE

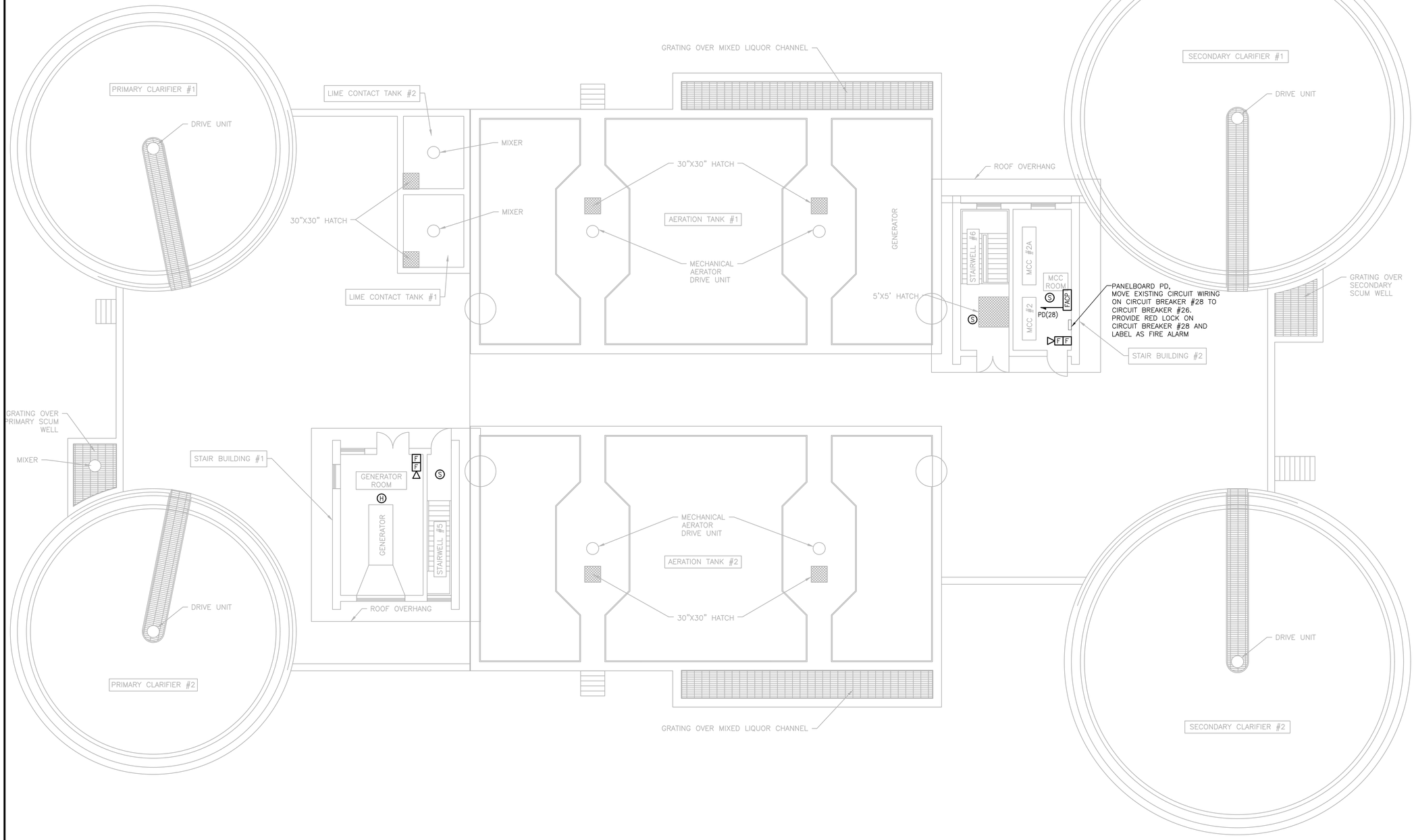
DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	MC
ISSUE DATE:	MAY 2023
BETA JOB NO.:	6861-105

SCALE

AS SHOWN

SHEET NO.

E-2.3



UPPER LEVEL - PLAN

SCALE: 1/8" = 1'

PREPARED BY

BETA
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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Pump Gallerly

Electrical
Upper Level
Plan

NO.	REVISIONS	DATE

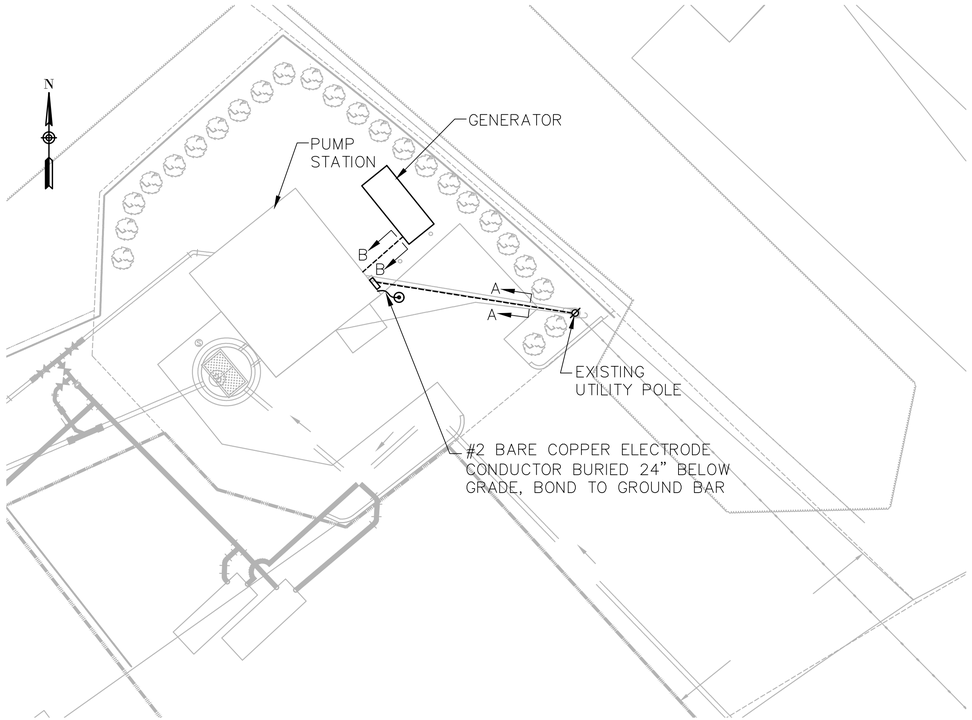
DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	MC
ISSUE DATE:	MAY 2023
BETA JOB NO.:	6861-105

SCALE

AS SHOWN

SHEET NO.

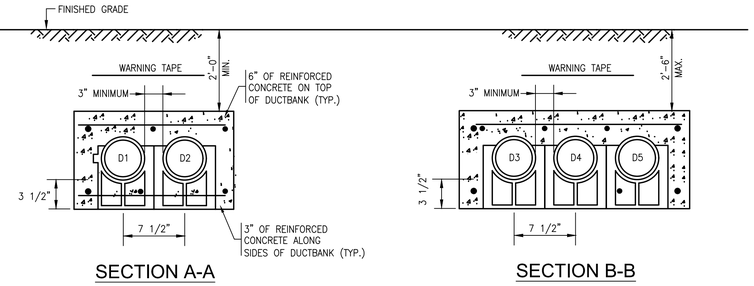
E-2.4



ELECTRICAL SITE PLAN
SCALE: 1" = 10' - 0"

DUCT / CABLE SCHEDULE

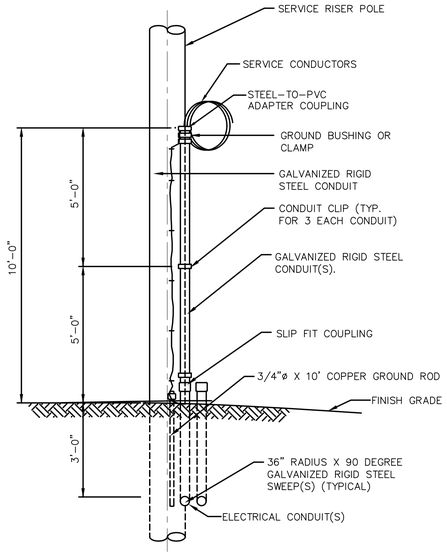
DUCT NO.	SIZE	CONDUCTORS	FROM	TO
D1	3"	(4)#250KCMIL	UTILITY POLE	UTILITY METER
D2	3"	PULL STRING	STUB UP AND CAP AT UTILITY POLE BASE	STUB UP AND CAP BELOW UTILITY METER
D3	3"	(4)#250KCMIL, #4 GND	GENERATOR	GENERATOR DISCONNECT SWITCH
D4	1"	(4) #12, #12GND	MPB	GENERATOR AUXILLARY SYSTEMS
D5	1"	(6) #14	GENERATOR	ATS, EMERGENCY STOP, PUMP CONTROL PANEL



NOTES:

1. BACKFILL DUCT BANK IN LAYERS AND MANUALLY TAMP OR "PUDDLE" CONCRETE FILL. PROVIDE RED DUCT BANK MARKER TAPES, READING "CAUTION – ELECTRICAL LINES BELOW", OVER ENTIRE LENGTH OF DUCTLINE. LOCATE TAPES 12 INCHES BELOW GRADE. PROVIDE A TAPE FOR EVERY 12 INCHES OF WIDTH OF DUCTLINE.

DUCTBANK SECTIONS
NO SCALE



UTILITY POLE SERVICE RISER DETAIL
NOT TO SCALE

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PROJECT

BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Oakland Pump Station

Electrical Site Plan and Details

NO.	REVISIONS	DATE

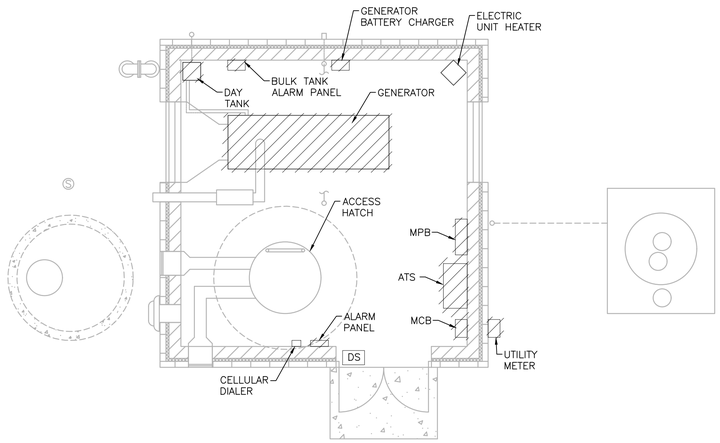
DRAWN BY: RLB
DESIGNED BY: RLB
CHECKED BY: MC
ISSUE DATE: MAY 2023
BETA JOB NO.: 6861-105

SCALE

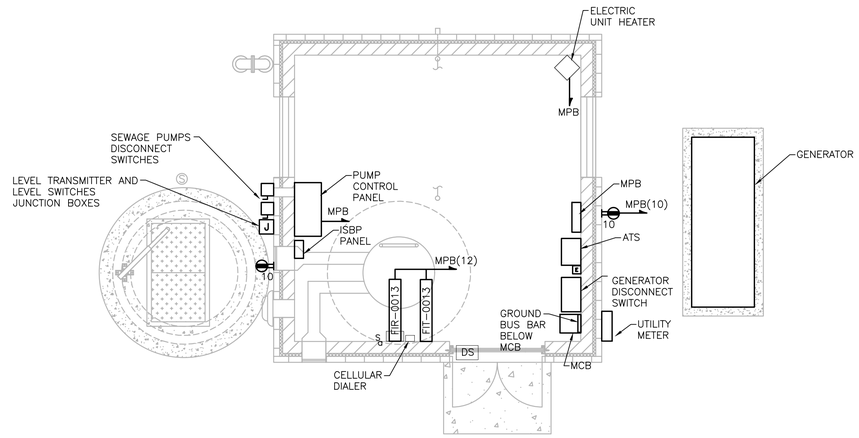
AS SHOWN

SHEET NO.

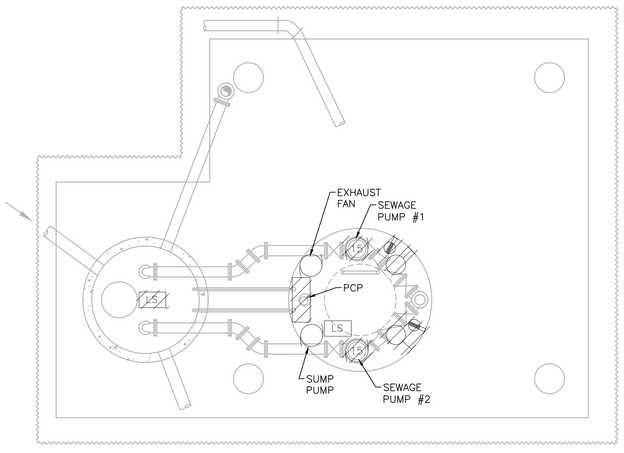
E-3.0



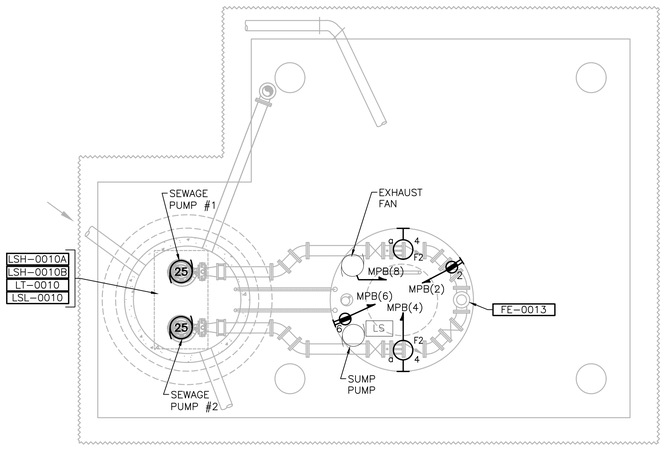
GROUND LEVEL - DEMOLITION PLAN
SCALE: 1/4" = 1'



GROUND LEVEL - PLAN
SCALE: 1/4" = 1'



LOWER LEVEL - DEMOLITION PLAN
SCALE: 1/4" = 1'



LOWER LEVEL - PLAN
SCALE: 1/4" = 1'

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BURRILLVILLE WWTF HEADWORKS & OAKLAND PUMP STATION IMPROVEMENTS

BURRILLVILLE, RI

TITLE

Oakland Pump Station

Electrical Plans

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	MC
ISSUE DATE:	MAY 2023
BETA JOB NO.:	6861-105

SCALE

4 0 4 8
SCALE IN FEET: 1"=4'

SHEET NO.

E-3.1