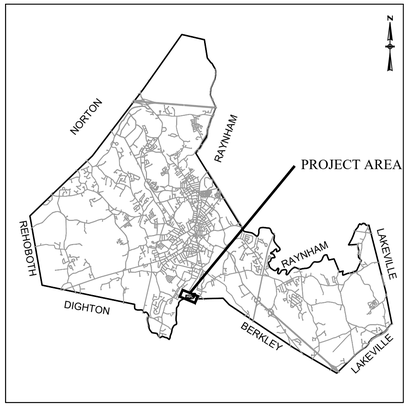
City of Taunton, Massachusetts

Wastewater Treatment Facility Improvements
Solids Handling



LOCATION MAP
NOT TO SCALE

LOCUS MAP
NOT TO SCALE

Mayor
Shaunna O'Connell

Department of Public Works
Frederic J. Cornaglia - Commissioner
Anthony Abreau - Assistant Commissioner

City Engineer
Michael Patneaude, P.E.

City Council
Deborah Carr
Donald L. Cleary
Chris Coute
Gerald Croteau
Phillip Duarte
John M. McCaul
Jeff Postell
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Contract S-2020-3
CWSRF No. 6690

Issue Date:
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COMMONWEALTH OF MASSACHUSETTS
JOSEPH FEDERICO, JR.
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INDEX OF DRAWINGS

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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Sheet Index

NO.	REVISIONS	DATE

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SCALE

NONE

SHEET NO.

G-1.1

LEGEND

GENERAL SYMBOLS

EXISTING	PROPOSED	
		CURB OR BERM (TYPE AS NOTED)
EOP	EOP	EDGE OF PAVEMENT
CB	CB	CATCH BASIN (OR GUTTER INLET, LEACHING BASIN, DROP INLET, CATCH BASIN CURB INLET)
EHH	EHH	ELECTRIC HANDHOLE (NUMBER AS NOTED)
E	EMH	ELECTRIC MANHOLE
T	TMH	TELEPHONE MANHOLE
W	WMH	WATER MANHOLE
S	SMH	SEWER MANHOLE
D	DMH	DRAINAGE MANHOLE
GG	GG	GAS GATE
WG	WG	WATER GATE
CS	CS	CURB STOP
HYD.	HYD	HYDRANT
FA	FAB	FIRE ALARM BOX
LP		STREET LIGHT POLE
UP	UP	UTILITY POLE
UPL	UPL	UTILITY POLE w/ LIGHT
		SIGN
GUY	GUY	GUY POLE
12" RCP D	12" RCP	DRAIN PIPE (SIZE AS NOTED)
8" VC S	8" PVC	SEWER MAIN (SIZE AS NOTED)
E	8" PVC	ELECTRIC DUCT
4" HP G	4" HP	GAS MAIN (SIZE AS NOTED)
8" CI W	8" DI	WATER MAIN (SIZE AS NOTED)
T	8" PVC	TELEPHONE DUCT (SIZE AS NOTED)
EOH	OHW	OVERHEAD WIRE
		WOOD GUARD RAIL STEEL BEAM GUARD, WOOD OR STEEL POSTS (TYPE AS NOTED)
		STEEL GUARD RAIL, STEEL POSTS (TYPE NOTED)
		STONE WALL
		RETAINING WALL (TYPE NOTED)
		PROPERTY LINE
	2+00	EASEMENT LINE (TYPE NOTED)
		CONSTRUCTION BASELINE
N00°00'00"E 000.00'		SURVEY LINE
		WHEELCHAIR RAMP
		HEDGE/SHRUBS
x x x	x x x	FENCE (SIZE AND TYPE AS NOTED)
WF-1		EDGE OF WETLAND W/ FLAGGED NUMBER
		EDGE OF RIVER/STREAM LINE
		100-FT. WETLAND BUFFER LIMIT
		100-FT. RIVER FRONT LIMIT
		200-FT. RIVER FRONT LIMIT
		WOODED AREA / LIMIT OF CLEARING
x 00.0	x 00.00	SPOT GRADE
		SAW CUT LINE
	TP-1	TEST PIT
	B-1	BORING
	ECB	EROSION CONTROL BARRIER/COMPOST FILTER TUBES
5	5	CONTOUR - MAJOR
4	4	CONTOUR - MINOR

ABBREVIATIONS

GENERAL

ABAN.	ABANDON
ADJ.	ADJUST
ALT.	ALTERATION
APPROX.	APPROXIMATE
B	BASELINE
B.B.	BITUMINOUS BERM
B.C.	BITUMINOUS CURB
BD OR BND	BOUND
BLDG	BUILDING
B.O.	BY OTHERS
CC	CONCRETE CURB
CEM	CEMENT
CLF	CHAIN LINK FENCE
CONC	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
DWY	DRIVEWAY
EOP	EDGE OF PAVEMENT
EL.	ELEVATION
ESMT.	EASEMENT
EXIST.	EXISTING
FDN.	FOUNDATION
GRAN.	GRANITE
GC	GRANITE CURB
HOR.	HORIZONTAL
IP	IRON PIPE
JCT	JUNCTION
LP	LOW POINT
O.C.	ON CENTER
PERM.	PERMANENT
PROP.	PROPOSED
PVMT.	PAVEMENT
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
R&S	REMOVE AND STOCKPILE
REM.	REMOVE
REMOD.	REMODEL
RET.	RETAIN
RT.	RIGHT
SDWK	SIDEWALK
SHT.	SHEET
STA.	STATION
TEMP.	TEMPORARY
TOW	TOP OF WALL
TYP.	TYPICAL
VAR.	VARIABLE
VERT.	VERTICAL
VGC	VERTICAL GRANITE CURB
WCR	WHEELCHAIR RAMP

UTILITIES

ACCMP	ASPHALT COATED CORRUGATED METAL PIPE
CAP	CORRUGATED ALUMINUM PIPE
CB	CATCH BASIN
CI	CAST IRON PIPE
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED PLASTIC PIPE
CS	CORRUGATED STEEL PIPE
DI	DUCTILE IRON PIPE
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FM	FORCE MAIN
GIP	GALVANIZED IRON PIPE
GG	GAS GATE
HDW	HEADWALL
HYD.	HYDRANT
INV.	INVERT ELEVATION
LP	LIGHT POLE
MH	MANHOLE
PVC	POLY-VINYL-CHLORIDE
PWW	PAVED WATER WAY
RCP	REINFORCED CONCRETE PIPE (CLASS III UNLESS NOTED)
SD	SUBDRAIN
SMH	SEWER MANHOLE
TSV&B	TAPPING SLEEVE, VALVE AND BOX
UP	UTILITY POLE
UPL	UTILITY POLE w/ LIGHT
UPT	UTILITY POLE w/ TRANSFORMER
VC	VITRIFIED CLAY
WI	WROUGHT IRON
WG	WATER GATE
WM	WATER METER/WATER MAIN

FLOW STREAM IDENTIFICATION

A	AIR
ALM	ALUM SOLUTION
BFA	BIOFILTER AIR
BTE	BIOLOGICAL TREATMENT TANK EFFLUENT
CLS	CHLORINE SOLUTION
CW	CITY WATER
D	DRAIN
DEW	DEWATERING
DG	DIGESTER GAS
DRP	DRAIN, PROCESS
DRS	DRAIN, STORM
DS	DIGESTER SUPERNATANT
DSG	DIGESTED SLUDGE
FC	FERRIC CHLORIDE
FCE	FINAL CLARIFIER EFFLUENT
FL	FILTRATE
FS	FOAM SPRAY
G	NATURAL GAS
GR	GRIT SLURRY
GTS	GRAVITY THICKENED SLUDGE
IR	INTERNAL RECYCLE (BIOLOGICAL TREATMENT)
ML	MIXED LIQUOR
OF	OVERFLOW
PA	PROCESS AIR
PE	PRIMARY EFFLUENT
PI	PRIMARY INFLUENT
PMR	POLYMER
PP	POTASSIUM PERMANGANATE
PS	PRIMARY SLUDGE
PW	PLANT WATER
RAS	RETURN ACTIVATED SLUDGE
RPS	RAW PRIMARY SLUDGE
RS	RETURN SLUDGE
SAN	SANITARY
SB	SODIUM BISULFITE
SC	SCUM
SCR	SCREENINGS
SEW	RAW SEWAGE
SH	SODIUM HYPOCHLORITE
SHX	SODIUM HYDROXIDE
TSC	THICKENED SCUM
UF	UNDERFLOW
WAS	WASTE ACTIVATED SLUDGE

MECHANICAL EQUIPMENT

BL	BLOWER
BS	BAR SCREEN
CP	CONTROL PANEL
GC	GRIT CLASSIFIER
GP	GRIT PUMP
GSC	GRIT SCREW CONVEYOR
IP	IN-PLANT PUMP
LE	LEVEL ELEMENT
MIX	MIXER
P	PUMP
RSP	RETURN SLUDGE PUMP
SC	SCREENINGS CONVEYOR
SG	SLUICE GATE
SIL	SILENCER
SP	SEPTAGE PUMP
ST	STORAGE TANK
WSP	WASTE SLUDGE PUMP

SYMBOLS

VALVES, GATES & ACTUATORS*

BALL CHECK VALVE
BALL VALVE
BUTTERFLY VALVE
CHECK VALVE
DIAPHRAGM VALVE
END CAP
GATE VALVE
GLOBE VALVE
KNIFE GATE VALVE
MANUAL OPERATOR
MOTOR ACTUATOR
PINCH VALVE
PLUG VALVE
SLIDE GATE
SLUICE GATE
SOLENOID ACTUATOR
V-PORT BALL VALVE
BACK PRESSURE VALVE
PRESSURE RELIEF VALVE
PRESSURE VALVE
REDUCING REGULATOR W/ EXTERNAL PRESSURE TAP
VACUUM RELIEF VALVE
HYDRANT

MECHANICAL EQUIPMENT*

CENTRIFUGAL PUMP
SUBMERSIBLE PUMP
METERING PUMP
PROGRESSIVE CAVITY PUMP
SUBMERSIBLE AXIAL FLOW PUMP
ROTARY LOBE PUMP
IN-LINE GRINDER
CENTRIFUGAL BLOWER
POSITIVE DISPLACEMENT BLOWER
MEMBRANE PUMP
SURFACE AERATOR
PERISTALTIC PUMP

MISCELLANEOUS*

SAMPLE PORT
WEIR FLOW
MIXER
CALIBRATION CHAMBER
PULSATION DAMPENER
SUBMERSIBLE MIXER
ANALOG ELEMENT WITH DESCRIPTION
STATIC MIXER
PRESSURE SWITCH
HOSE CONNECTION
DRAIN
TANK VENT
FLOW SIGHT TUBE
STRAINER
DIFFUSED AERATION
PRESSURE INDICATOR WITH DIAPHRAGM
REDUCING COUPLING
PRESSURE GAUGE
FLOAT TYPE LEVEL SENSOR
ELECTRONIC STROKE COUNTER
LIMIT SWITCH
LEVEL ELEMENT
ROTOMETER
PROCESS FLOW
FLOWMETER
FOAM SPRAY NOZZLE

*NOTE:
ALL EXISTING FLOW STREAMS, VALVES, GATES, ACTUATORS, AND EQUIPMENT SHOWN LIGHT ON DRAWINGS, ALL NEW FLOW STREAMS, VALVES, GATES, ACTUATORS, AND EQUIPMENT SHOWN DARK ON DRAWINGS.

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BETA JOB NO.:	6050

SCALE

NONE

SHEET NO.

G-1.2

GENERAL CIVIL NOTES

1. SURVEY INFORMATION:

   –TOPOGRAPHIC SURVEY COMPLETED BY LIGHTHOUSE LAND SURVEYING LLC IN NOVEMBER, 2018. PROPERTY LINES AND ABUTTING OWNER INFORMATION OBTAINED FROM THE "OFFICE OF GEOGRAPHIC INFORMATION (MASSGIS), COMMONWEALTH OF MASSACHUSETTS, MASSIT". IT IS NOT INTENDED TO REFLECT THAT A TITLE SEARCH WAS PERFORMED.

   – VERTICAL DATUM: TAUNTON CITY BASE
   – HORIZONTAL DATUM: MASSACHUSETTS STATE PLANE – MAINLAND ZONE NAD83

2. 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 LOCATION TO BE DETERMINED BY CONTRACTOR IN FIELD.

3. EXISTING UTILITIES DEPICTED ARE APPROXIMATE ONLY. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL EXISTING UTILITIES AND NOTIFY ALL UTILITY COMPANIES (PUBLIC AND PRIVATE). IN ADDITION, "DIG SAFE" MUST BE CONTACTED AT 1(800)–322–4844.

4. EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION SHALL BE PROTECTED AND SUPPORTED AT ALL TIMES BY THE CONTRACTOR. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS TO INTERFERE AS LITTLE AS POSSIBLE WITH EXISTING UTILITIES. PAYMENT FOR PROVIDING SAID PROTECTION AND SUPPORTS SHALL BE CONSIDERED A PART OF AND PAID FOR UNDER THE APPROPRIATE ITEMS UNLESS OTHERWISE INDICATED AND/OR DIRECTED BY THE OWNER. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION BY REASON OF DELAY AND/OR INCONVENIENCE IN ADAPTING HIS OPERATIONS ACCORDINGLY.

5. ALL DIMENSIONS AND JOB RELATED CONDITIONS ARE TO BE VERIFIED BY THE CONTRACTOR. ANY DISCREPANCIES FOUND ARE TO BE BROUGHT TO THE ATTENTION OF THE OWNER/ENGINEER AND PROPERLY RESOLVED BEFORE PROCEEDING WITH THAT PORTION OF THE WORK. CONTINUATION WITH OTHER ASPECTS OF THE WORK SHALL PROCEED WITHOUT DELAY OR CAUSE FOR CLAIM.

6. IF TRENCH DEWATERING IS REQUIRED, DISCHARGE OF FINES OR SEDIMENTS TO CATCH BASINS, WETLANDS, PONDS OR THE OCEAN IS NOT PERMITTED. CONTRACTOR IS RESPONSIBLE FOR DESIGNING, OPERATING AND MAINTAINING DEWATERING SYSTEMS AND SEDIMENT REMOVAL SYSTEMS. DESIGN SHALL BE COMPLETED UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL CIVIL ENGINEER REGISTERED IN MASSACHUSETTS. TREATMENT SYSTEM SHALL INCLUDE FILTRATION, SETTLING BASINS, SEDIMENTATION TANKS OR OTHER APPROVED METHOD. DISCHARGE LOCATION TO BE PROTECTED AGAINST EROSION AND SCOURING.

7. WHERE EXISTING MATERIALS ARE ENCOUNTERED WHICH, IN THE OPINION OF THE OWNER/ENGINEER ARE UNSUITABLE FOR BEDDING, BACKFILLING OR OTHER INTENDED USE, SUCH MATERIALS SHALL BE REMOVED AS DIRECTED AND REPLACED WITH SUITABLE BANK–RUN GRAVEL, CRUSHED STONE AND/OR SELECTED BORROW, AS DIRECTED BY THE OWNER/ENGINEER AND PAID FOR UNDER THE APPROPRIATE BID ITEMS.

8. ALL GRASSED AREAS DISTURBED BY THE CONSTRUCTION OPERATIONS SHALL BE LOAMED AND SEEDED IN ACCORDANCE WITH THE SPECIFICATIONS. FINAL RESTORATION SHALL BE EQUAL TO OR BETTER THAN THAT WHICH EXISTED PRIOR TO CONSTRUCTION AS DETERMINED SOLELY BY THE OWNER/ENGINEER.

9. WORK PERFORMED BY THE CONTRACTOR SHALL NOT INTERFERE WITH WASTEWATER FLOWS THROUGH THE WASTEWATER TREAT,EMT FACILITY. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY EQUIPMENT, PIPING, FITTINGS AND APPURTENANCES NECESSARY TO COMPLETE THIS CONTRACT. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL TEMPORARY UNIT BYPASS–LINES UNTIL THE MODIFICATIONS AND CONSTRUCTION ARE COMPLETE.

10. THE CONTRACTOR SHALL CONFINE ALL ACTIVITIES FOR CONSTRUCTION PURPOSES WITHIN THE INDICATED LIMITS OF WORK AS SHOWN IN THE CONTRACT DRAWINGS. ALL SURFACES DAMAGED OUTSIDE THE INDICATED LIMITS SHALL BE REPLACED IN KIND AT CONTRACTOR'S EXPENSE.

11. CONTRACTOR IS RESPONSIBLE FOR THE LEGAL AND PROPER DISPOSAL OF ALL DEMOLITION MATERIAL ACCORDING TO THE LAWS OF THE MUNICIPALITY IN WHICH THE WORK IS BEING DONE AND THE COMMONWEALTH OF MASSACHUSETTS. ALL DEMOLITION MATERIAL INCLUDING PUMPS, PIPE, AND BRICK THAT WAS IN CONTACT WITH SEWAGE SHALL BE CLEANED IN ACCORDANCE WITH MADEP REQUIREMENTS AND DISPOSED OF ACCORDINGLY. ONCE CLEANED, DEMOLITION MATERIALS SHALL NOT BE CONSIDERED SPECIAL WASTE.

12. GENERAL CONTRACTOR SHALL COORDINATE WITH THEIR ELECTRICAL SUBCONTRACTOR AND DEFINE THE SCOPE OF WORK IDENTIFIED IN DIVISION 16, TO BE COMPLETED BY THE GC.

YARD PIPING NOTES

1. CONTRACTOR SHALL CONDUCT TEST PITS AS SHOWN AND AT ALL LOCATIONS WHERE NEW PIPING IS TO BE CONNECTED TO EXISTING PIPING AND STRUCTURES TO FIELD VERIFY THE EXACT SIZE, MATERIAL, LOCATION, INVERT ELEVATION AND ALIGNMENT (VERTICAL AND HORIZONTAL) OF EXISTING UNDERGROUND PIPES AND STRUCTURES.

2. THE CONTRACTOR SHALL CONDUCT TEST PITS, AS REQUIRED, IN ORDER TO ASCERTAIN THE EXACT LOCATION OF EXISTING UNDERGROUND UTILITIES.

3. WHERE PIPING IS TO BE CONNECTED TO EXISTING PIPING OR STRUCTURES, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ADAPTERS, FITTINGS AND ADDITIONAL PIPE (REQUIRED AS A RESULT OF CUTTING THE EXISTING PIPE BACK) TO COMPLETE THE CONNECTION AS REQUIRED.

4. PIPE REPAIR CLAMPS SHALL BE MADE OF STAINLESS STEEL AND PROVIDED WITH TYPE 304 STAINLESS STEEL BOLTS AND NUTS.

5. ALL PIPING SHALL BE PROVIDED WITH FLEXIBLE CONNECTIONS WHERE EXITING OR ENTERING STRUCTURES AND BUILDINGS. FLEXIBLE CONNECTIONS SHALL BE COORDINATED WITH PIPE MANUFACTURER AND APPROVED BY THE ENGINEER.

TREE PRESERVATION NOTES

1. PRIOR TO CONSTRUCTION, DETERMINE REQUIRED CLEARANCES FOR CONSTRUCTION OPERATIONS AND PRUNE TREES ACCORDINGLY.

2. BRANCHES OR LIMBS DAMAGED DURING CONSTRUCTION SHALL BE CUT BACK TO THE TRUNK OR A LATERAL BRANCH.

3. ROOTS LARGER THAN 1.5" IN DIAMETER ENCOUNTERED IN EXCAVATIONS SHALL BE CUT OFF SQUARELY USING A SHARP ARBORIST SAW.

4. STRIP, SCREEN AND SEPARATELY STOCKPILE TOPSOIL PRIOR TO EXCAVATING IN UNPAVED AREAS. FOLLOWING CONSTRUCTION AND BACKFILL OPERATIONS IN UNPAVED AREAS, PLACE TOPSOIL BACK IN THE APPROPRIATE LOCATIONS WITHOUT COMPACTION AND VERTICALLY MULCH ROOT SYSTEM. NO AMENDMENTS SHALL BE ADDED.

5. IMMEDIATELY FOLLOWING BACKFILL OPERATIONS, PROVIDE DEEP WATERING OF THE ROOT SYSTEM, APPLICATION OF FERTILIZER, AND VERTICAL MULCHING.

6. MAINTAIN STORAGE OF EQUIPMENT AND MATERIALS AWAY FROM TREES A DISTANCE AT LEAST TWO (2) TIMES THE DISTANCE OF THE RADIUS OF THE TREE CANOPY.

FRESHWATER WETLANDS NOTES

1. WORK IN THE RESOURCE AREAS SHALL BE IN STRICT ACCORDANCE WITH THE ORDER OF CONDITIONS BY THE CITY OF TAUNTON CONSERVATION COMMISSION AND OTHER APPLICABLE PERMIT CONDITIONS INCLUDING THE 401 WATER QUALITY CERTIFICATION. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SCHEDULE AND ATTEND A PRE–CONSTRUCTION MEETING WITH ALL SUB–CONTRACTORS AND A REPRESENTATIVE OF THE CONSERVATION COMMISSION. THE PURPOSE OF THE MEETING SHALL BE TO REVIEW THE SEQUENCE OF EVENTS AND WETLAND PROTECTION AND RESTORATION MEASURES MADE PART OF ANY ORDER OF CONDITIONS. DEWATERING PLANS INCLUDING DETAILED SEQUENCE OF EVENTS ARE TO BE SUBMITTED TO THE CONSERVATION COMMISSION, IN WRITING, FOR PRIOR APPROVAL.

2. PRIOR TO THE COMMENCEMENT OF ANY ACTIVITY, THE CONTRACTOR SHALL INSTALL A SILTATION BARRIER AT THE LIMIT OF WORK. THE BARRIER SHALL CONSIST OF STRAW WATTLES STAKED END TO END AND/OR SILT FENCE THAT HAS BEEN FIRMLY TRENCHED.

3. THE CONSERVATION COMMISSION SHALL BE NOTIFIED ONCE THE EROSION CONTROL BARRIER IS INSTALLED TO APPROVE THE LOCATION AND INSTALLATION OF THE BARRIER.

4. WITHIN THE LIMIT OF WORK, TREES, SHRUBS AND BRUSH ARE TO BE REMOVED. ALL SLASH AND BRUSH REMOVED SHALL BE DISPOSED OF OFF SITE, AT AN APPROVED LANDFILL. EXCESS SOIL, STUMPS, TREES, ROCKS, BOULDERS AND OTHER REFUSE SHALL BE DISCARDED OFF–SITE IN AN APPROVED LANDFILL.

5. WHEN WORKING WITHIN RESOURCE AREAS, STOCKPILE EXISTING HYDRIC SOILS IN A SEPARATE STOCK PILE AND REPLACE AFTER THE SEWER LINE AND STRUCTURES ARE INSTALLED. SOILS TO BE REMOVED SHALL BE STOCKPILED IN A NEAR–BY LOCATION AND KEPT MOIST. TEMPORARY STOCK PILES OF SOIL SHALL BE STORED ON GEO–TEXTILE FABRIC WHICH WILL ALLOW WATER TO PERCOLATE INTO THE GROUND. THE GEO–TEXTILE FABRIC WILL ALSO SERVE AS A BARRIER TO FURTHER DISTURBANCE TO THE WETLAND WHEN THE CONTRACTOR RE–USES AND REPLACES THE SOIL. STOCKPILED SOILS SHALL BE KEPT MOIST OR COVERED WITH ADDITIONAL GEO–TEXTILE FABRIC UNTIL IT IS BACKFILLED OR REMOVED.

6. EXCESS SOIL SHALL BE STOCKPILED OUTSIDE OF ALL BUFFER AND RESOURCE AREAS.

7. THE STRAW WATTLE/SILTFENCE LINE ILLUSTRATED ON THESE PLANS, TO BE STAKED IN THE FIELD PRIOR TO CONSTRUCTION, SHALL SERVE AS THE STRICT LIMITS OF DISTURBANCE FOR WETLAND AREA. NO ALTERATIONS, INCLUDING VEGETATIVE CLEARING OR SURFACE DISTURBANCE, SHALL OCCUR BEYOND THIS STRAW WATTLE/SILT FENCE LINE.

8. THE LIMITS OF CLEARING, GRADING AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. AREAS OUTSIDE OF THESE LIMITS SHALL REMAIN UNDISTURBED IN A NATURAL CONDITION.

9. SOIL EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED PRIOR TO THE INITIATION OF PROJECT CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND INSPECTION OF THE CONTROLS DURING CONSTRUCTION. SEE SOIL EROSION AND SEDIMENT CONTROL NOTES.

10. DISTURBED AREAS SHALL BE RETURNED TO PRE–CONSTRUCTION GRADES, CONSISTENT WITH THAT OF THE ADJACENT WETLANDS. ANY DISTURBED WETLAND AREAS SHALL BE RE–SEEDED WITH NEW ENGLAND WETLAND MIX. ANY DISTURBED WETLAND BUFFER ZONES SHALL BE RE–SEEDED WITH NEW ENGLAND CONSERVATION MIX UNLESS OTHERWISE NOTED. THE SEEDS SHALL BE HAND–SOWN AND GENTLY WORKED INTO THE BARE SOILS. SEE CONSTRUCTION DETAIL SHEETS FOR STREAM CROSSING RESTORATION.

11. ALL DEBRIS, EXCESS STOCKPILED SOILS, BRUSH, ETC. SHALL BE REMOVED FROM THE WETLAND AREAS AND BUFFER ZONES FOLLOWING CONSTRUCTION ACTIVITIES.

12. THE CONTRACTOR SHALL PROVIDE A REPORT TO THE CONSERVATION COMMISSION ONCE ALL RESTORATION ACTIVITIES HAVE BEEN COMPLETED. THE REPORT SHALL INCLUDE A DESCRIPTION OF THE RESTORATION EFFORTS TO DATE AND RECOMMENDATIONS TO IMPROVE DISTURBED WETLAND AREAS AS NEEDED.

13. THE CONTRACTOR SHALL REVIEW THE RESTORED WETLAND AREAS AT THE END OF THE FIRST GROWING SEASON FOLLOWING CONSTRUCTION. IF THE SEED MIX HAS NOT GERMINATED, OR VEGETATION HAS NOT BEGUN TO RE–ESTABLISH THE CONTRACTOR SHALL PROVIDE THE COMMISSION WITH A WRITTEN PLAN TO RE–ESTABLISH THE VEGETATIVE COVER WITHIN THE DISTURBED WETLAND AREAS. THE CONTRACTOR SHALL INSPECT THE WETLAND RESTORATION AREA AT LEAST ONCE A YEAR UNTIL THE COMMISSION AGREES THAT ALL RESTORATION ACTIVITIES HAVE BEEN SUCCESSFULLY COMPLETED OR ISSUES A CERTIFICATE OF COMPLIANCE.

SOIL EROSION AND SEDIMENTATION CONTROL NOTES

1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL, MAINTAIN AND REPAIR ALL SOIL EROSION AND SEDIMENT CONTROLS ON THE PROJECT SITE FOR THE ENTIRE DURATION OF THE CONSTRUCTION PERIOD. TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROLS (STRAW WATTLES, SILT FENCE, ETC.) SHALL BE MAINTAINED UNTIL ALL EXPOSED SOILS ARE SATISFACTORILY STABILIZED OR SUSPENDED SOLIDS HAVE SETTLED.

2. MAINTENANCE AND CONTROL OF SEDIMENTATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

3. ALL REFERENCED SOIL EROSION AND SEDIMENTATION CONTROLS INCLUDING MATERIALS USED, APPLICATION RATES AND THE INSTALLATION PROCEDURES SHALL BE PERFORMED PER THE "MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS", WITH ALL SOIL CONSERVATION SERVICE, AND/OR THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

4. WASTE PRODUCTS, INCLUDING STUMPS AND CLEARED VEGETATION SHALL BE DISPOSED AT AN APPROVED LANDFILL.

5. SEDIMENTATION BARRIERS SHALL BE MAINTAINED IN GOOD REPAIR UNTIL ALL DISTURBED AREAS HAVE BEEN FULLY STABILIZED WITH VEGETATION.

6. AT NO TIME SHALL SEDIMENTS BE DEPOSITED IN A WETLAND OR WATER BODY.

7. SEDIMENT CONTROLS SHALL BE INSPECTED AFTER EVERY RAIN EVENT AND ACCUMULATED SEDIMENT SHALL BE REMOVED AS NEEDED.

8. PROVIDE EROSION CONTROL BLANKET OVER ENTIRE DISTURBED AREA.

9. VEGETATIVE PRACTICES ON DISTURBED SOILS SHALL BE COMPLETED AS SOON AS POSSIBLE BUT NO LATER THAN 14 DAYS AFTER THE LAST ACTIVITY.

10. ALL PROJECT AREA CATCH BASINS IN PAVED OR OTHERWISE IMPERVIOUS AREAS SHALL BE PROTECTED WITH FILTER FABRIC INSERTS (SEE CATCH BASIN EROSION CONTROL PROTECTION DETAIL) FOR THE DURATION OF THE PROJECT.

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SCALE

NONE

SHEET NO.

G-1.3

LEGEND

- EXISTING BUILDING
- PROPOSED STRUCTURE
- FUTURE STRUCTURE
- EXISTING PAVEMENT

WEST WATER STREET

CANOPY

#821

CATV

GRS

DENSE TREES

BOULDER

5'H CLF

5'H CLEAR CLF

BLOWER & ELEC. BLDG. (FUTURE)

BIOLOGICAL TREATMENT REACTOR (FUTURE)

LIME SILO (FUTURE)

GRIT CHAMBERS

HEADWORKS BLDG. (FUTURE)

PRIMARY DISTRIBUTION BOX

PRIMARY CLARIFIER NO.4 (FUTURE)

PRIMARY CLARIFIER NO.3

PRIMARY CLARIFIER NO.2

PRIMARY CLARIFIER NO.1

PRIMARY SLUDGE PUMP STATION

SECONDARY ANOXIC TANK NO.1 (FUTURE)

AERATION TANK NO.3

AERATION TANK NO.2

AERATION TANK NO.1

FINAL CLARIFIER NO.3

FINAL CLARIFIER NO.4

SECONDARY SLUDGE PUMP STATION NO.2

FINAL CLARIFIER NO.1

FINAL CLARIFIER NO.2

SECONDARY SLUDGE PUMP STATION NO.1

SODIUM HYPOCHLORITE TANK (FUTURE)

CHEMICAL HANDLING BUILDING

FUTURE TANK

CHLORINE CONTACT TANK

FUTURE TANK

OLD BLOWER BUILDING

AERATION TANK NO.4

AERATION TANK NO.5

AERATION TANK NO.6

SOLIDS HANDLING BUILDING

SLUDGE THICKENER NO.2

SLUDGE THICKENER NO.1

OPERATIONS/ ADMIN. BUILDING

NEW BIOFILTER

SHED

CONC

TAUNTON RIVER

PROCESS AREAS	
0	GENERAL / SITE WORK
1	HEADWORKS - (FUTURE CONTRACT)
2	PRIMARY CLARIFICATION / SLUDGE PUMPING - (FUTURE CONTRACT)
3	BIOLOGICAL TREATMENT TANKS - (FUTURE CONTRACT)
4	FINAL CLARIFIERS / SECONDARY SLUDGE PUMPING - (FUTURE CONTRACT)
5	DISINFECTION / DECHLORINATION - (FUTURE CONTRACT)
6	BLOWERS - (FUTURE CONTRACT)
7	SOLIDS HANDLING
8	ODOR CONTROL
9	NON-PROCESS BUILDINGS - (FUTURE CONTRACT)

PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
JOSEPH FEDERICO, JR.
No. 39663
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

WWTF Process Areas Key Plan

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	MA
CHECKED BY:	RM
ISSUE DATE:	3/24/2021
BETA JOB NO.:	6050

SCALE

40 0 40 80

SCALE IN FEET: 1"=40'

SHEET NO.

G-1.4

3/24/2021 3:37 PM J:\TAUNTON\WWTF DESIGN\AUTOCAD\PLAN SETS\SOLIDS HANDLING\WWTF PROCESS AREAS.DWG (BETA STD BW.CTB)

BIOFILTER
6" DRAIN
SUMP PUMP NO. 1 (SP-7401)
SUMP PUMP NO. 2 (SP-7402)
SOLIDS HANDLING BUILDING 1ST FLOOR SUMP
SCREENED PLANT INFLUENT
36"
PRIMARY DISTRIBUTION BOX
18" D
SUMP PUMP NO. 3 (SP-7403)
THICKENED SLUDGE PUMP STATION SUMP
12" D
10" CENTRATE
18" BFA
SLUDGE THICKENER NO.2
SLUDGE THICKENER DRIVE NO. 2 (GST-7102)
ODOR CONTROL BLOWER NO.2 (SLUDGE THICKENERS) (OCB-8102)
PRESSURE GAUGE
BIOFILTER
ATMOSPHERE
12" OF
8" CENTRATE
PRIMARY SLUDGE
8"PS
14" WAS
PLANT WATER
FLOW
14" PW
FUTURE CONTRACT
6" TS
THICKENED SLUDGE GRINDER NO.2 (TSG-7206)
FROM POLYMER FEED PUMP
THICKENED SLUDGE PUMP NO.2 (TSP-7202)
4" TS
CENTRIFUGE NO.2 (SSP-7302)
WASTE ACTIVATED SLUDGE (I)
8"WAS
WASTE ACTIVATED SLUDGE (II)
6"PW
4"PW
SLUDGE THICKENER NO.1
SLUDGE THICKENER DRIVE NO. 1 (GST-7101)
THICKENED SLUDGE GRINDER NO.1 (TSG-7205)
THICKENED SLUDGE PUMP NO.1 (TSP-7201)
CENTRIFUGE NO.1 (SSP-7301)
LIQUID SLUDGE STORAGE TRAILER
DEWATERED SLUDGE SCREW CONVEYOR (SBC-7303)
DEWATERED SLUDGE SCREW CONVEYOR (SBC-7304)
LOAD LEVELER
DEWATERED SLUDGE STORAGE TRAILER
RAW POLYMER FILL
POLYMER MIXER NO.1
RAW POLYMER FEED TANK
POLYMER MAKEUP SYSTEM
POLYMER MIXER NO.2
BATCH POLYMER FEED TANK
FEED PUMP NO.1
FEED PUMP NO.2
FROM ALL SCUM PUMPS AND SELECTED SUMP PUMPS
SCUM MACERATOR
SCUM CONCENTRATOR
STORAGE TANK
SCUM UNDERFLOW TO SANITARY IN-PLANT PUMP STATION

NOTES:

1. NEW AND MODIFIED STRUCTURES AND EQUIPMENT SHOWN BOLD. EXISTING SHOWN LIGHT.

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COMMONWEALTH OF MASSACHUSETTS
JOSEPH FEDERICO, JR.
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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Process Flow Diagram Solids Handling

NO.	REVISIONS	DATE

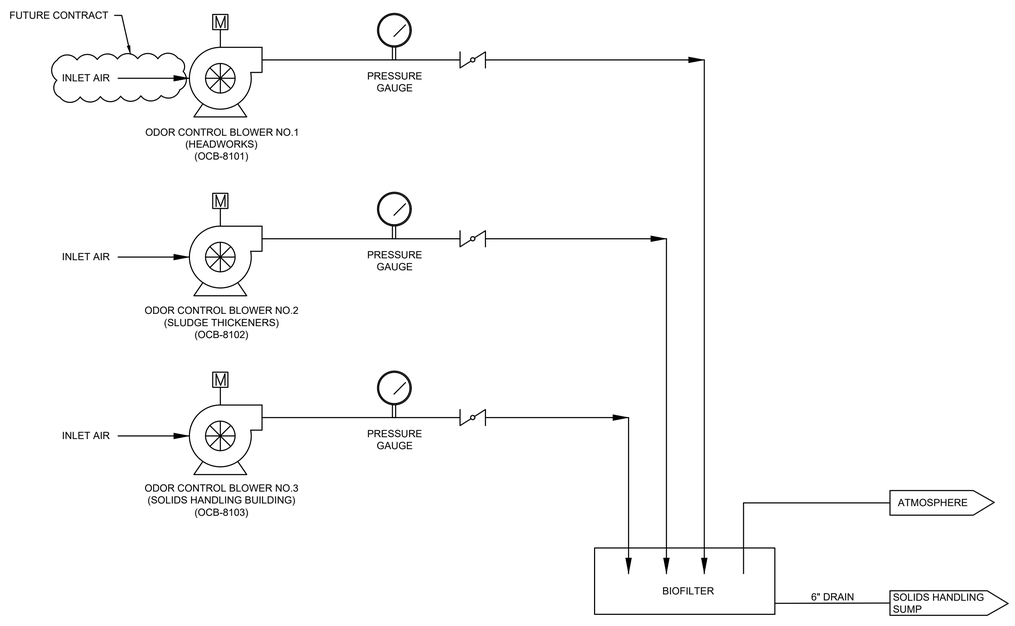
DRAWN BY:	BM
DESIGNED BY:	JD
CHECKED BY:	RM
ISSUE DATE:	3/24/2021
BETA JOB NO.:	6050

SCALE

NONE

SHEET NO.

G-2.1



NOTES:

1. NEW AND MODIFIED STRUCTURES AND EQUIPMENT SHOWN BOLD. EXISTING SHOWN LIGHT.

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Process Flow Diagram
Odor Control

NO.	REVISIONS	DATE

DRAWN BY:	BM
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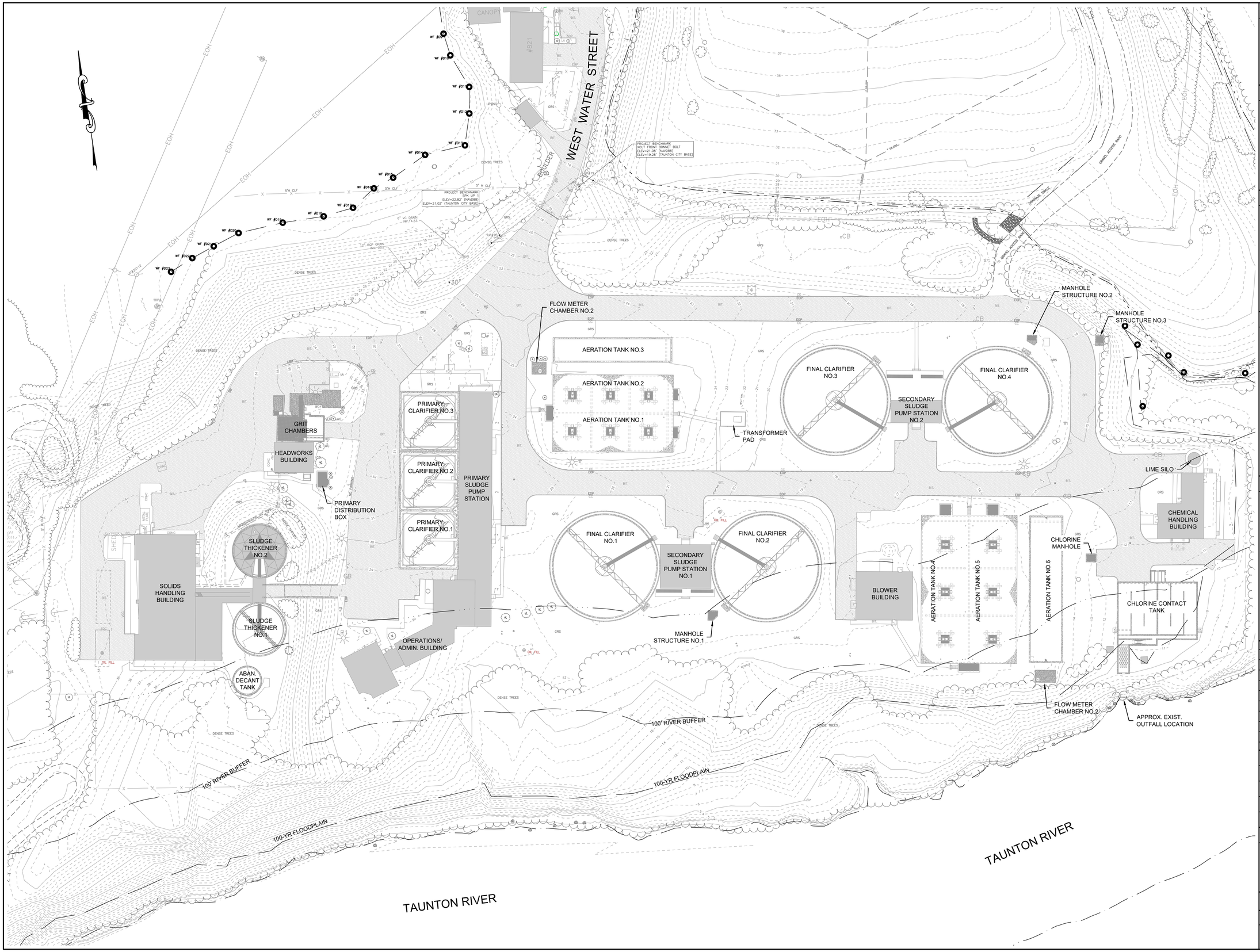
SCALE

NONE

SHEET NO.

G-2.2



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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

WWTF Existing Site Plan

NO.	REVISIONS	DATE

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SCALE

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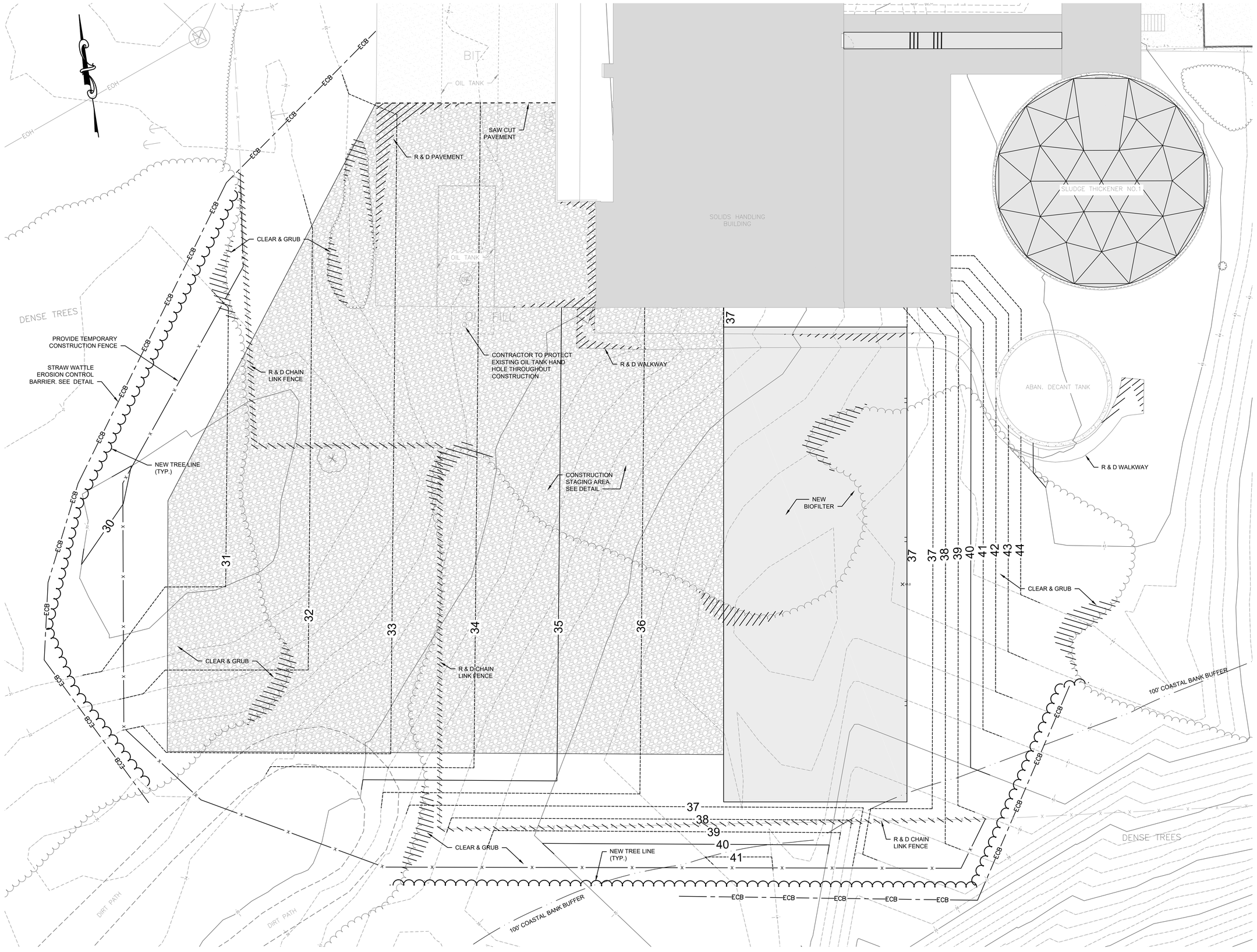
SCALE IN FEET: 1"=40'

SHEET NO.

C-1.1



3/24/2021 3:38 PM J:\TAUNTON\WWTF DESIGN\AUTOCAD\PLAN SET\SOLIDS HANDLING\BIOFILTER SITE GRADING PLAN.DWG (BETA STD BW.CTB)

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Biofilter Site Grading Plan

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SCALE

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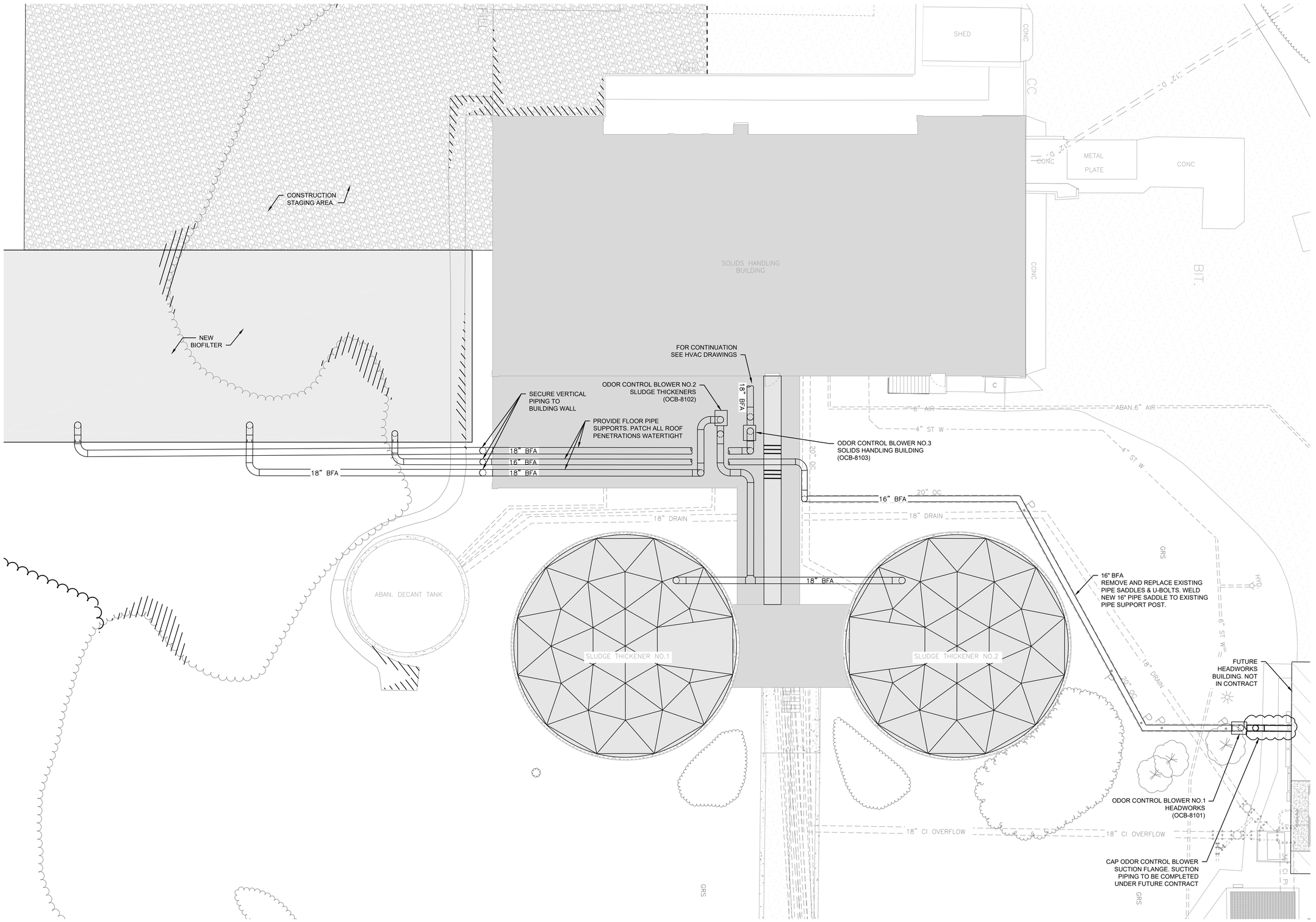
SCALE IN FEET: 1"=10'

SHEET NO.

C-1.2



3/24/2021 3:38 PM J:\TAUNTON\WWTF DESIGN\AUTOCAD\PLAN SET\SOLIDS HANDLING\WWTF YARD PIPING - PROP.DWG (BETA STD BW.CTB)

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Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Yard Piping Plan

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DRAWN BY:	BM
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SCALE

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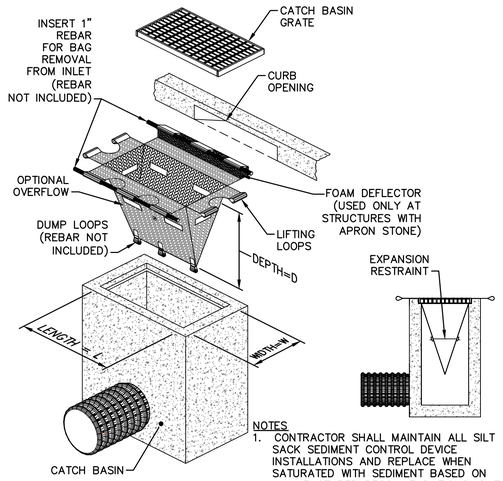
SCALE IN FEET: 1"=10'

SHEET NO.

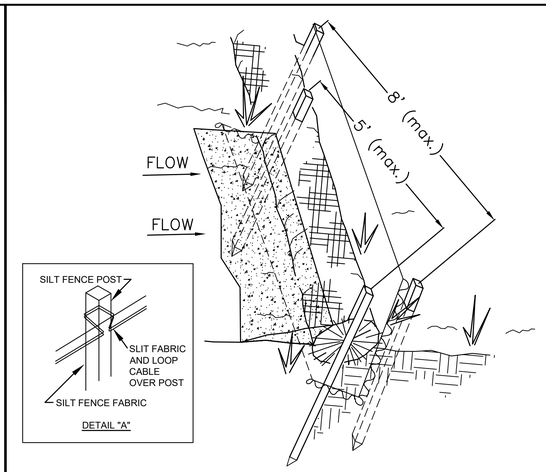
C-1.3



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.

TYPICAL CATCH BASIN EROSION CONTROL PROTECTION

SCALE: NOT TO SCALE



NOTES

1. STRAW WATTLES SHALL BE INSTALLED IN SHALLOW TRENCHES, DUG 3 TO 4–INCHES DEEP, PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT WATTLES.

2. STRAW WATTLES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR REBARS DRIVEN THOUGH THE WATTLES. THE FIRST STAKE IN EACH WATTLE SHALL BE ANGLED TOWARDS PREVIOUSLY LAID WATTLE TO FORCE WATTLES TOGETHER. ANCHOR STRAW WATTLES WITH A MINIMUM OF 5 STAKES PER WATTLE, INSTALLED "TIGHT" AGAINST SILT FENCE.

3. SILT FENCE TO BE INSTALLED A MIN. OF 6–INCHES DEEP, WITH A 6–INCH LIP TOED INTO SEDIMENT TO PREVENT MIGRATION BENEATH SILT FENCE.

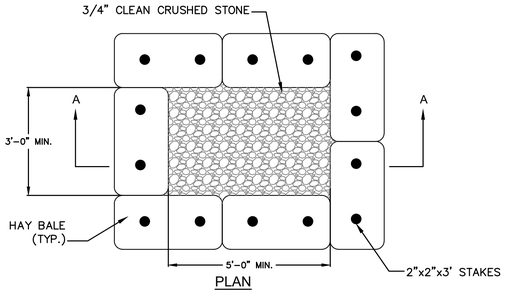
4. EXCAVATED SOILS SHALL BE THOROUGHLY COMPACTED ONCE COMPLETE WITH THE INSTALLATION OF EROSION CONTROL DEVICES.

5. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED WITHOUT FURTHER COMPENSATION TO CONTRACTOR.

6. STRAW WATTLES AND SILT FENCE SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL–NESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

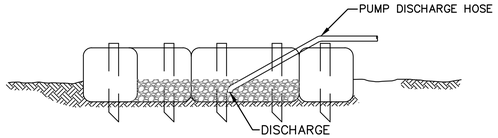
TYPICAL STRAW WATTLE FOR EROSION CONTROL

SCALE: NOT TO SCALE



PLAN

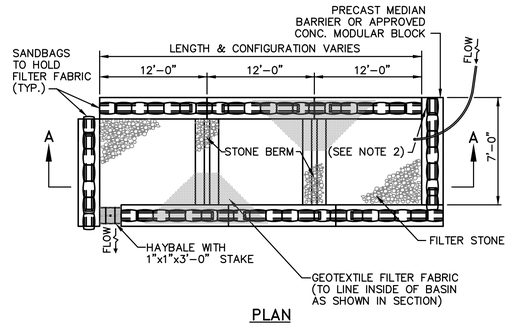
NOTE: ALL DEWATERING DISCHARGES SHALL BE THROUGH SEDIMENT CONTROL TRAPS, CONTRACTOR SHALL MAINTAIN AND CLEAN TRAP AS REQUIRED.



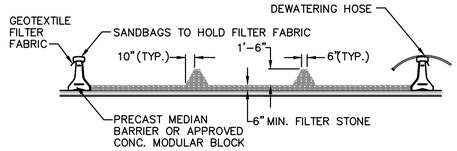
SECTION A-A

SEDIMENT CONTROL TRAP OPTION

SCALE: NOT TO SCALE



PLAN

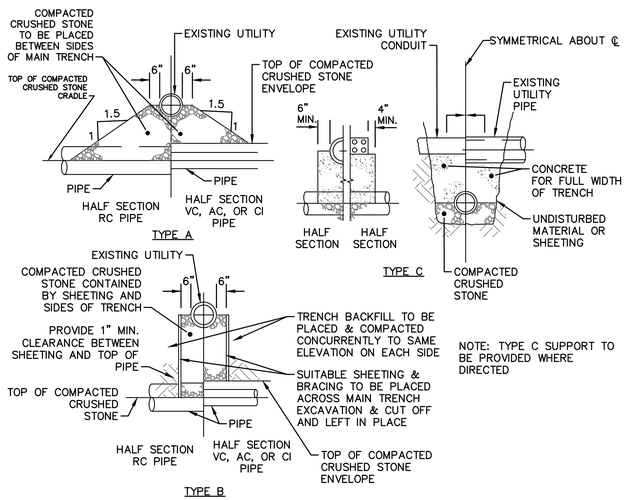


SECTION

NOTS:
1. PROVIDE ADDITIONAL SAND BAGS AS REQUIRED TO FILL SPACE BETWEEN ADJACENT BARRIERS AND/OR BLOCKS

TYPICAL DEWATERING STILLING BASIN OPTION

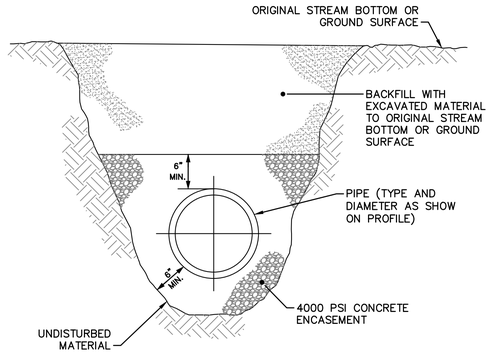
SCALE: NOT TO SCALE



NOTE: TYPE C SUPPORT TO BE PROVIDED WHERE DIRECTED

TYPICAL SUPPORTS FOR UTILITIES

SCALE: NOT TO SCALE

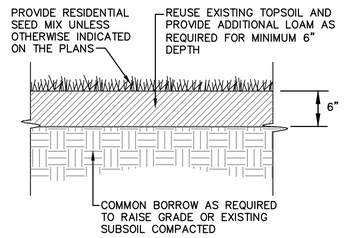


NOTES
1. THE PIPE SHALL BE PROPERLY SECURED TO PREVENT DISPLACEMENT DURING THE POURING OF CONCRETE ENCASEMENT.

2. LIMIT OF CONCRETE ENCASEMENT SHALL BE SHOWN ON THE PROFILE OR AS DIRECTED.

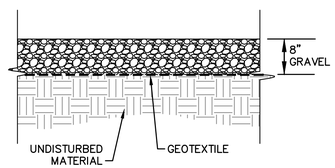
CONCRETE ENCASEMENT DETAIL

SCALE: NOT TO SCALE



LOAM AND SEED DETAIL

NOT TO SCALE



CONSTRUCTION EQUIPMENT STAGING AREA

NOT TO SCALE

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
JOSEPH FEDERICO, JR.
No. 39663
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Civil Details

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	BM
CHECKED BY:	RM
ISSUE DATE:	3/24/2021
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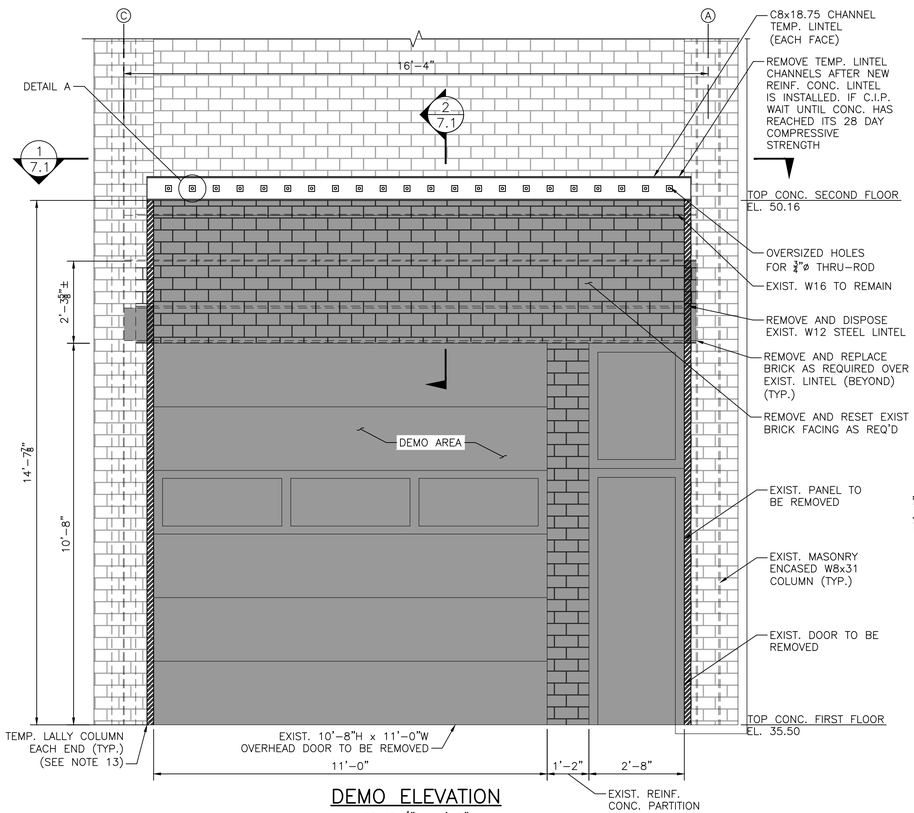
SCALE

AS SHOWN

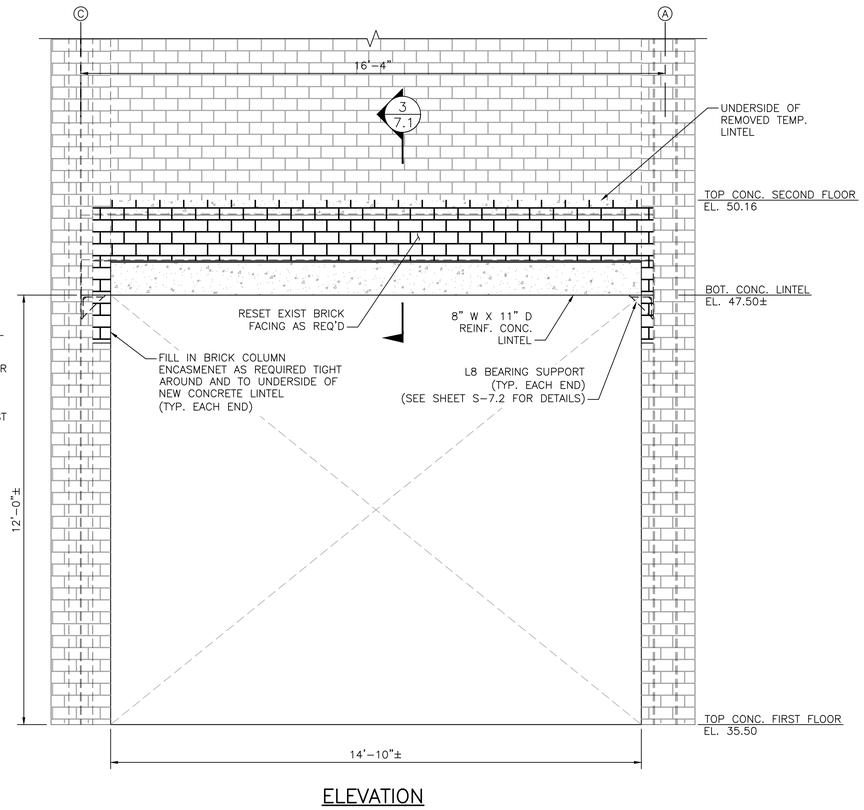
SHEET NO.

CD-1



DEMO ELEVATION

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



ELEVATION

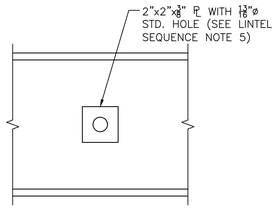
SCALE: 1/2" = 1'-0"

NOTES:

1. REINFORCED CONCRETE LINTEL TO BE CAST-IN-PLACE. CONTRACTOR MAY PROPOSE AN ALTERNATE PLAN FOR THE LINTEL TO BE PRECAST, SUBJECT TO THE APPROVAL OF THE ENGINEER.
2. CONCRETE MASONRY UNIT (CMU) CONSTRUCTION SHALL CONFORM TO BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530).
3. ANY NEW CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C-90.
4. MORTAR SHALL CONFORM TO ASTM C-270, TYPE M.
5. GROUT SHALL CONFORM TO ASTM C-476 2,000 PSI.
6. ALL CONCRETE TO HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI.
7. STEEL REINFORCING SHALL BE IN ACCORDANCE WITH ASTM A615 GRADE 60.
8. NEW OPENING FOR 14'-10"± WIDE x 11'-11 1/2"± HIGH DOOR. INSTALLATION OF DOOR TO BE PER MANUFACTURERS RECOMMENDATIONS.
9. 3/8" BENT PL TO BE GALVANIZED IN ACCORDANCE WITH ASTM A153.
10. STEEL HARDWARE SHALL BE IN ACCORDANCE WITH ASTM A307 (GALVANIZED).
11. ALL STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH ASTM A36.
12. REMOVE EXISTING MASONRY PIER ENCASEMENT AS REQUIRED TO INSTALL L8 BEARING SUPPORT AND REINFORCED CONCRETE LINTEL BEAM. ALL VOIDED AREAS SHALL BE FIT TIGHT WITH MATCHING BRICK ON ALL SIDES, AS REQUIRED.
13. TEMPORARY LALLY COLUMN TO HAVE A MINIMUM CAPACITY OF 7.87 KIPS.

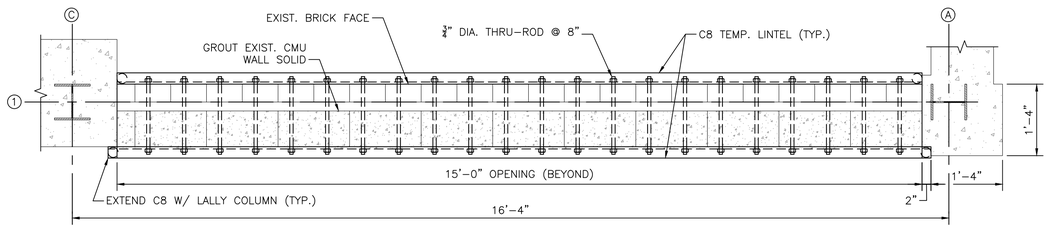
SUGGESTED TEMPORARY LINTEL SEQUENCE:

1. IF REQUIRED, FULLY GROUT EXISTING WALL AT TEMP. LINTEL BEARING ZONES. EXTENT OF GROUT SHALL BE FROM THE TOP OF THE TEMP. STEEL LINTEL TO THE BOTTOM OF THE WALL.
2. LAY OUT THE THRU-ROD HOLES AT GROUTED CELLS IN ACCORDANCE WITH THE PATTERN SHOWN. DRILL HOLES THROUGH THE WALL AT THESE LOCATIONS. VERIFY THAT ALL HOLES ARE THROUGH GROUTED CELLS.
3. INSTALL THRU-RODS. INJECT EPOXY FILL TO FILL ANNULAR SPACE AROUND THE ROD HOLES TO PRODUCE A SOLID BEARING.
4. INSTALL C8 ON BOTH SIDES OF WALL.
5. COVER LINTEL OVERSIZED HOLES WITH 2"x2"x3/8" PL WITH STD. HOLES. WELD IN PLACE. INSTALL NUTS. TIGHTEN BOLTS GRADUALLY AND ENSURE EXTERIOR BRICK FACE IS NOT DAMAGED OR DEFLECTING LATERALLY.
6. CAREFULLY REMOVE BLOCK FROM OPENING, TAKING CARE TO NOT DAMAGE SURROUNDING WALLS AND COLUMNS.



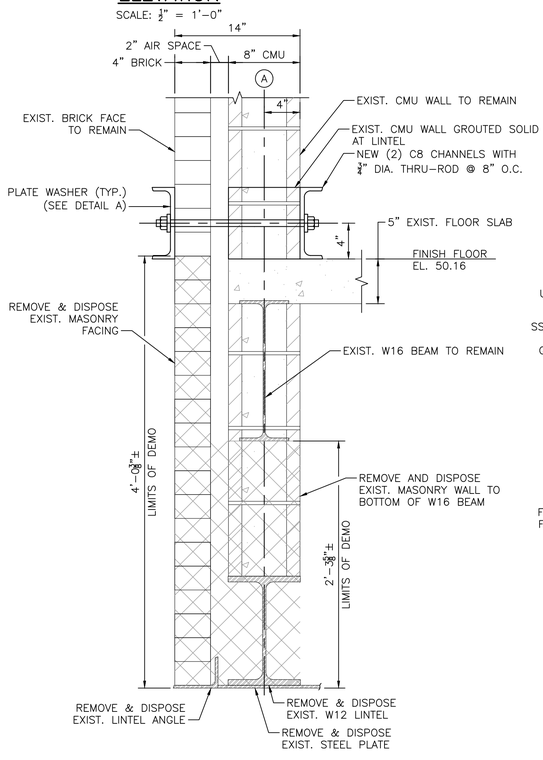
DETAIL A

SCALE: 3" = 1'-0"



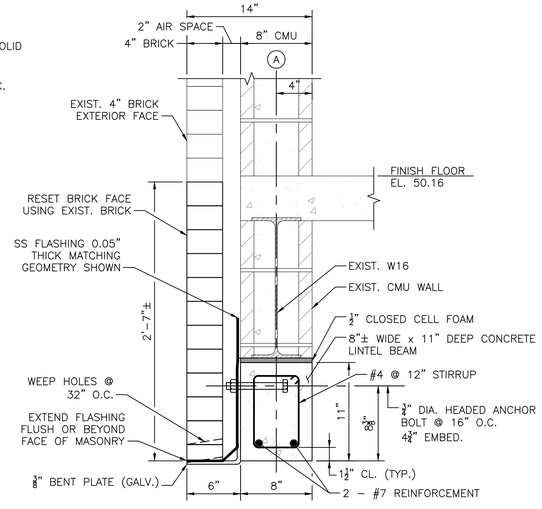
SECTION 1

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



SECTION 2

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



SECTION 3

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

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COMMONWEALTH OF MASSACHUSETTS
TODD M. WARZECKI
CIVIL ENGINEER
No. 47367
REGISTERED PROFESSIONAL ENGINEER
10/1/21

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Solids Handling Details Garage Door Widening

NO.	REVISIONS	DATE

DRAWN BY:	BN
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ISSUE DATE:	3/24/2021
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SCALE

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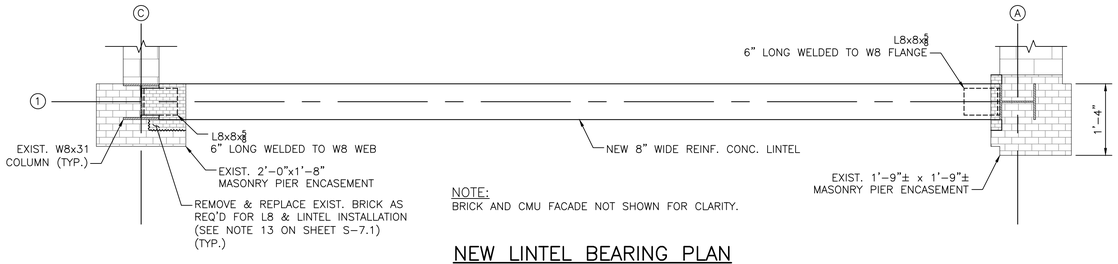
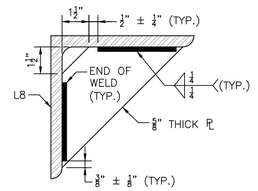
S-7.1



NOTE:
BRICK AND CMU FACADE NOT SHOWN FOR CLARITY.

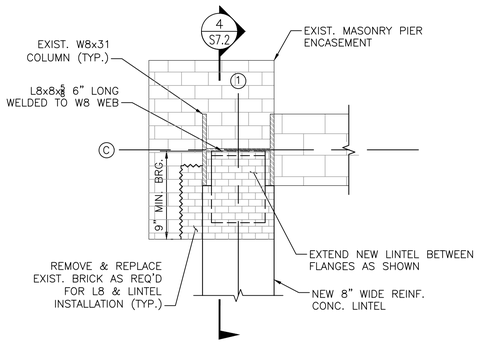
NEW LINTEL BEARING PLAN

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



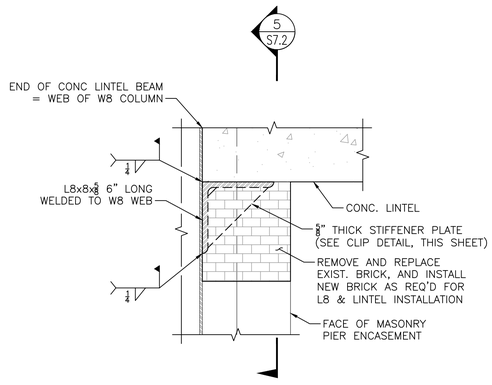
CLIP DETAIL

SCALE: 3"=1'-0"



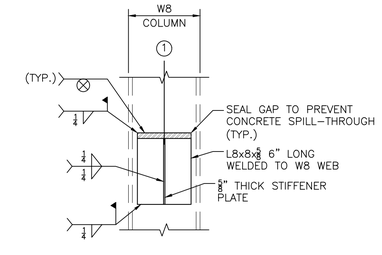
BEARING PLAN AT COLUMN C1

SCALE: 1½"=1'-0"



SECTION 4

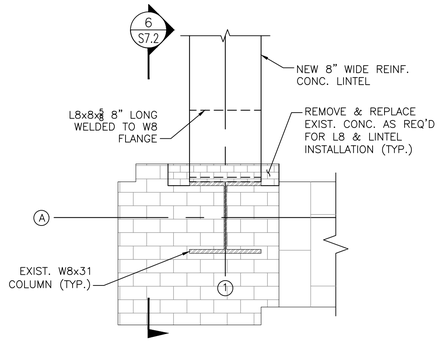
SCALE: 1½"=1'-0"



NOTE:
CONC. LINTEL BEAM AND PIER ENCASEMENT NOT SHOWN FOR CLARITY.

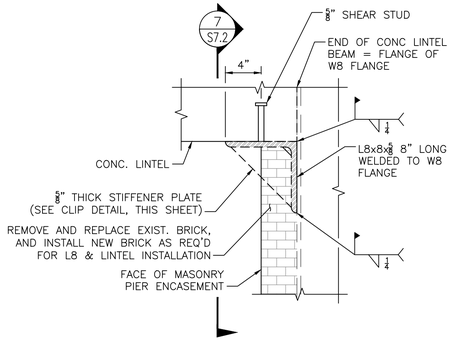
SECTION 5

SCALE: 1½"=1'-0"



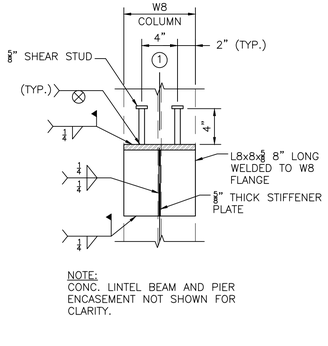
BEARING PLAN AT COLUMN A1

SCALE: 1½"=1'-0"



SECTION 6

SCALE: 1½"=1'-0"



NOTE:
CONC. LINTEL BEAM AND PIER ENCASEMENT NOT SHOWN FOR CLARITY.

SECTION 7

SCALE: 1½"=1'-0"

3/24/2021 3:38 PM N:\6000S\6050 - TAUNTON WWTF\DRAWING FILES\PLANSET\PHASE 1\6050_SR7.2 - P1.DWG (BETA STD BW.CTB)

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COMMONWEALTH OF MASSACHUSETTS
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REGISTERED PROFESSIONAL ENGINEER
10/1/21

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Solids Handling Lintel Bearing Details

NO.	REVISIONS	DATE

DRAWN BY:	BN
DESIGNED BY:	BN
CHECKED BY:	TMW
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SCALE

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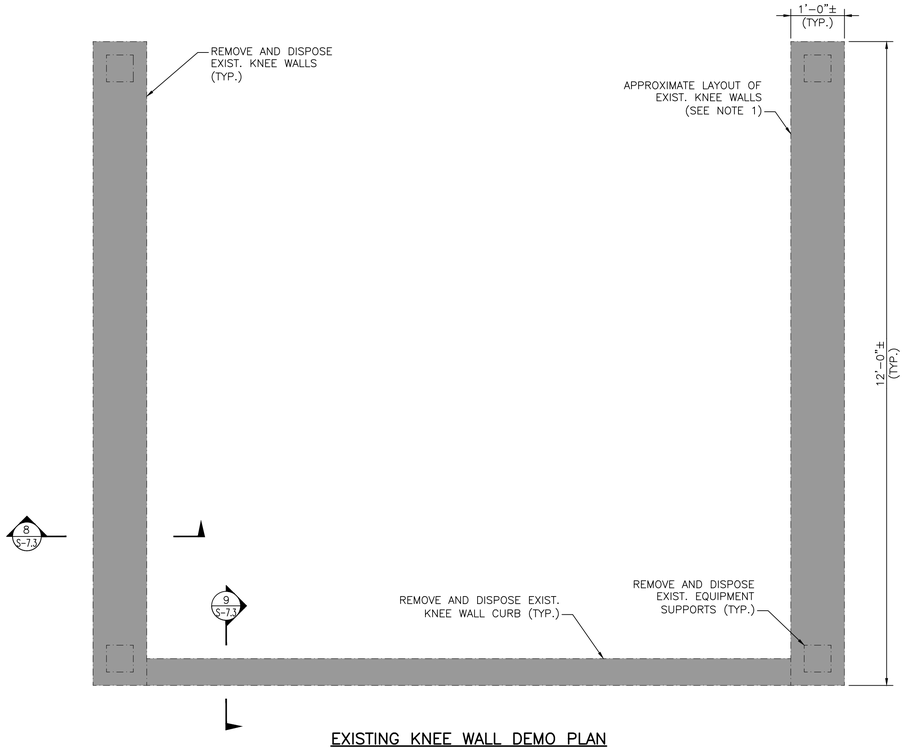
SHEET NO.

S-7.2

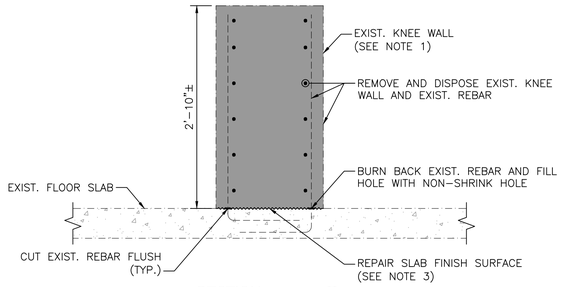


EXISTING KNEE WALL DEMO PLAN

SCALE: $\frac{3}{4}$" = 1'-0"

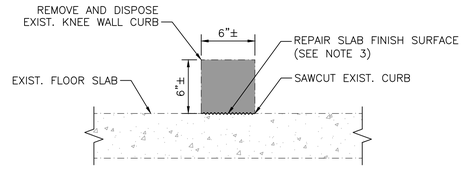
NOTES:

1. EXISTING KNEE WALL LAYOUT IS APPROXIMATE. ACTUAL DISPOSITION OF KNEE WALL REINFORCING IS UNKNOWN.
2. EXISTING FOUNDATION DEMOLITION SHOWN, SEE MECHANICAL SHEETS FOR EXISTING EQUIPMENT DEMOLITION.
3. REPAIR SLAB FINISH SURFACE WITH A CEMENTITIOUS PATCHING MORTAR SO THAT FLOOR IS FLAT AND EVEN.
4. CONTRACTOR TO COORDINATE ACTUAL BASE PLATE LAYOUT AND DIMENSIONS WITH NEW CENTRIFUGE MANUFACTURER.
5. ANCHORAGE OF CENTRIFUGE SHALL BE COORDINATED WITH MANUFACTURER. SIZE AND EMBEDMENT OF CENTRIFUGE ANCHORAGE SHALL BE PER MANUFACTURERS RECOMMENDATIONS.
6. KNEE WALL CONCRETE SHALL HAVE A 28-DAY MIN. COMPRESSIVE STRENGTH OF 5000 PSI.



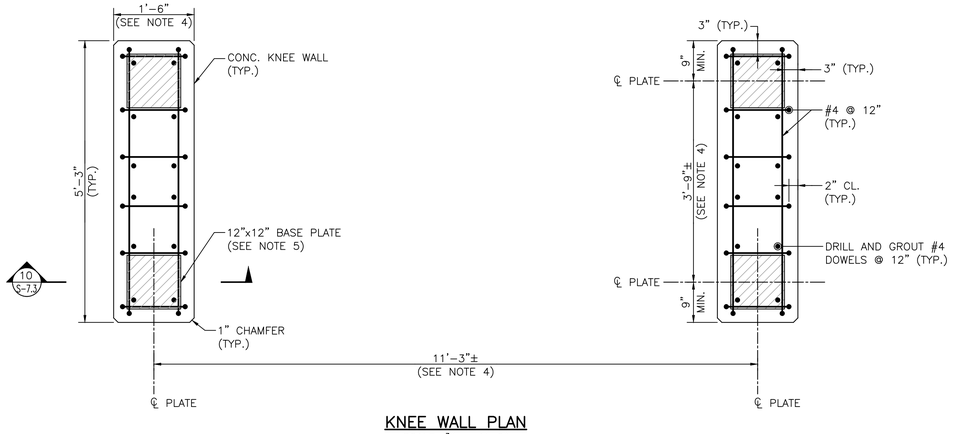
SECTION (8 / S-7.3)

SCALE: 1" = 1'-0"



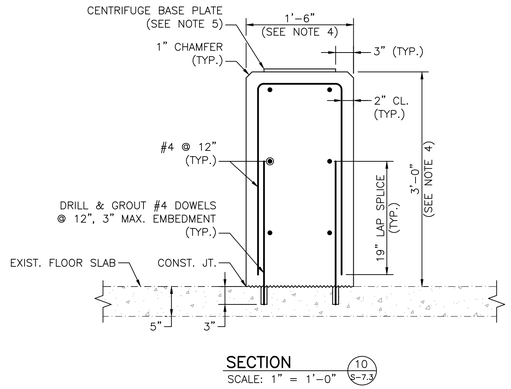
SECTION (9 / S-7.3)

SCALE: $1\frac{1}{2}$" = 1'-0"



KNEE WALL PLAN

SCALE: $\frac{3}{4}$" = 1'-0"



SECTION (10 / S-7.3)

SCALE: 1" = 1'-0"

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10/10/20

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Solids Handling
Knee Wall

NO.	REVISIONS	DATE

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S-7.3

PIPE SCHEDULE

FLOW STREAM	ABBREVIATION	LOCATION	SIZE	MATERIAL	SCHEDULE/CLASS	LINING	JOINT TYPE	INSULATION	SPEC SECTION
BIOFILTER AIR	BFA	ABOVE GRADE	ALL	FRP	N/A	NONE	FLANGED	NONE	11961
		ALL	ALL	HDPE	DR17	NONE	BUTT FUSED	NONE	2620
CITY WATER	CW	BELOW GRADE	≤ 3"	COPPER	TYPE K	NONE	SOLDERED	NONE	11961
			> 3"	DUCTILE IRON	CLASS 52	CEMENT	MECHANICAL JOINT	NONE	11961
DRAIN	D	BELOW GRADE	ALL	PVC	SDR 35	NONE	PUSH ON	NONE	2625
INTERNAL RECYCLE	IR	ALL	ALL	DUCTILE IRON	CLASS 52	CEMENT	MECHANICAL JOINT	NONE	11961
LIME SLURRY	LS	ALL	ALL	PVC	SCH 80	NONE	SOLVENT WELD	NONE	11961
				HDPE	SDR 11	NONE	BUTT FUSED	NONE	2620
PLANT WATER	PW	INDOOR	≤ 3"	COPPER	TYPE K	NONE	SOLDERED	NONE	11961
		ALL	> 3"	DUCTILE IRON	CLASS 52	CEMENT	MECHANICAL JOINT	NONE	2618
POLYMER	PO	INDOOR	ALL	PVC	SCH 40	NONE	SOLVENT WELD	NONE	11961
PRIMARY EFFLUENT	PE	BELOW GRADE	ALL	DUCTILE IRON	CLASS 52	CEMENT	MECHANICAL JOINT	NONE	2618
PRIMARY INFLUENT	PI	BELOW GRADE	ALL	DUCTILE IRON	CLASS 52	CEMENT	MECHANICAL JOINT	NONE	2618
PRIMARY SLUDGE	PS	ABOVE GRADE	ALL	DUCTILE IRON	CLASS 52	GLASS	FLANGED	NONE	11961
		BELOW GRADE	ALL	DUCTILE IRON	CLASS 52	GLASS	MECHANICAL JOINT	NONE	11961
PROCESS AIR	PA	ALL	ALL	STAINLESS STEEL	SCH 10S	NONE	WELDED	NONE	15066
RETURN ACTIVATED SLUDGE	RAS	ABOVE GRADE	ALL	DUCTILE IRON	CLASS 52	GLASS	FLANGED	NONE	11961
		BELOW GRADE	ALL	DUCTILE IRON	CLASS 52	GLASS	MECHANICAL JOINT	NONE	2618
SANITARY FORCE MAIN	SFM	BELOW GRADE	ALL	PVC	SDR 21	NONE	PUSH ON	NONE	2625
SANITARY SEWER	SS	BELOW GRADE	ALL	PVC	SDR 35	NONE	PUSH ON	NONE	2622
SCUM	SC	ALL	ALL	DUCTILE IRON	CLASS 52	CEMENT	MECHANICAL JOINT	NONE	11961
SECONDARY EFFLUENT	SE	ALL	ALL	DUCTILE IRON	CLASS 52	CEMENT	MECHANICAL JOINT	NONE	11961
SODIUM BISULFITE	SB	ALL	ALL	PVC	SCH 80	NONE	SOLVENT WELD	INSUL. & HEAT TRACE	11961
SODIUM HYPOCHLORITE	SH	ALL	ALL	PVC	SCH 80	NONE	SOLVENT WELD	NONE	11961
				HDPE	SDR 11	NONE	BUTT FUSED	NONE	2620
THICKENED SLUDGE	TS	ABOVE GRADE	ALL	DUCTILE IRON	CLASS 52	GLASS	FLANGED	NONE	11961
		BELOW GRADE	ALL	DUCTILE IRON	CLASS 52	GLASS	MECHANICAL JOINT	NONE	11961
WASTE ACTIVATED SLUDGE	WAS	ABOVE GRADE	ALL	DUCTILE IRON	CLASS 52	GLASS	FLANGED	NONE	11961
		BELOW GRADE	ALL	DUCTILE IRON	CLASS 52	GLASS	MECHANICAL JOINT	NONE	2618

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PROJECT

Taunton Wastewater Treatment Facility Improvements
Solids Handling

Taunton, MA

TITLE

Pipe Schedule

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	MA
CHECKED BY:	RM
ISSUE DATE:	3/24/2021
BETA JOB NO.:	6050

SCALE

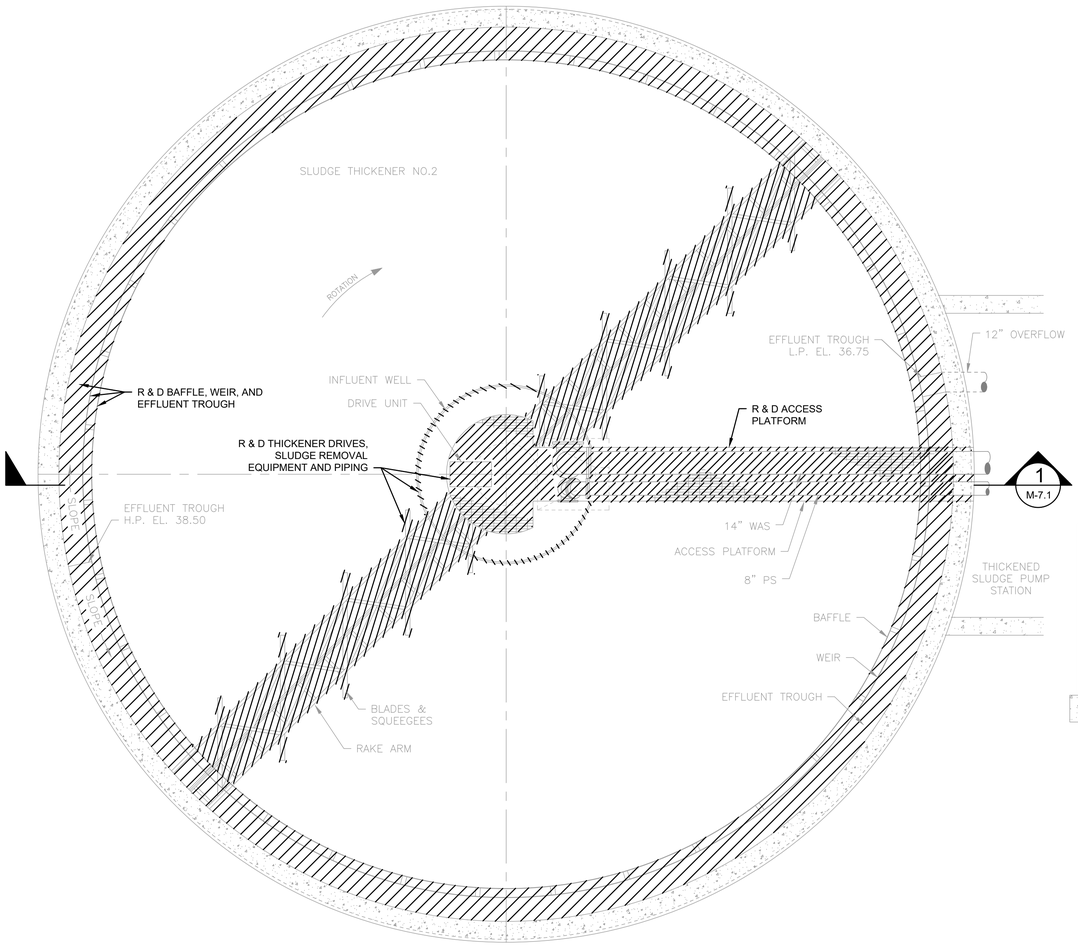
AS SHOWN

SHEET NO.

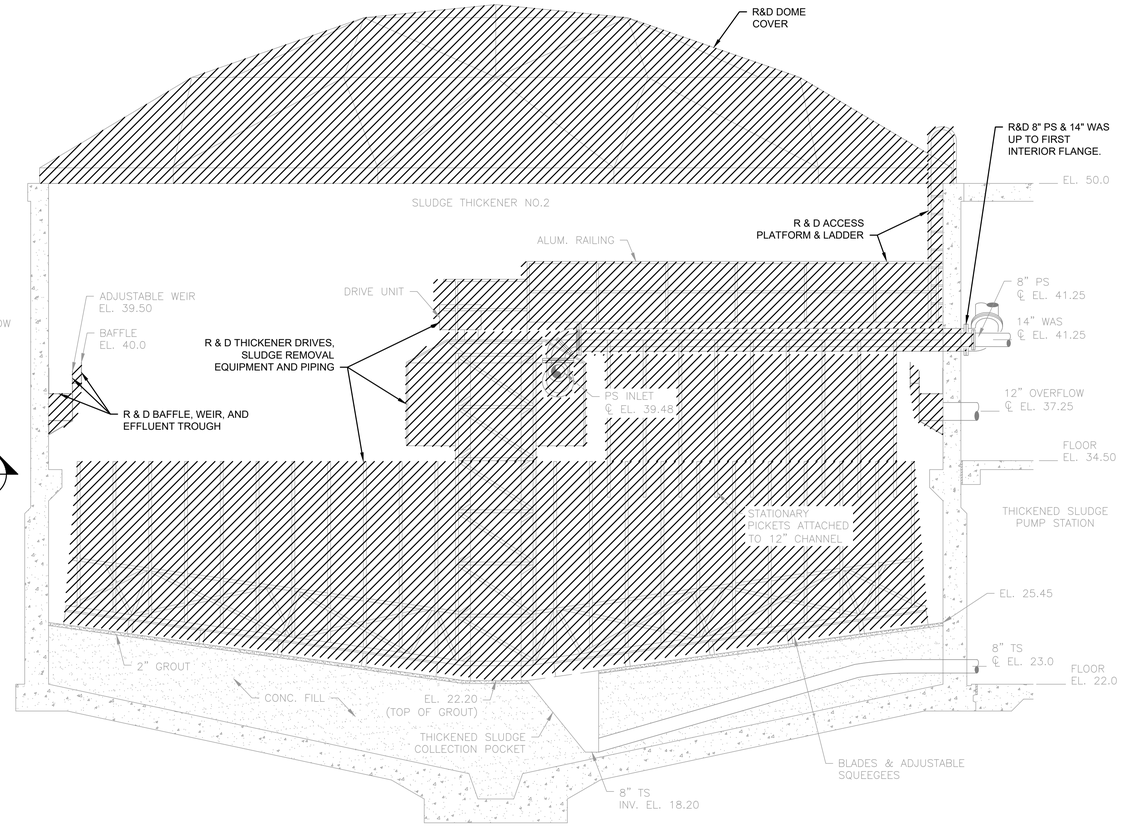
M-0.1

NOTES:

1. THE DEMOLITION LIMITS SHOWN APPLY TO SLUDGE THICKENER NO.1 & SLUDGE THICKENER NO.2.
2. ONLY SLUDGE THICKENER NO.2 HAS AN EXISTING DOME COVER. SLUDGE THICKENER NO.1 IS UNCOVERED
3. SLUDGE THICKENERS ARE DEWATERED USING THE EXISTING THICKENED SLUDGE PUMPS



PLAN (EL. 50.0)
SCALE: 1/4"= 1'-0"



SECTION 1 / M-7.1
SCALE: 1/4"= 1'-0"

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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Sludge Thickener Tanks Demolition Plan & Section

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	BM
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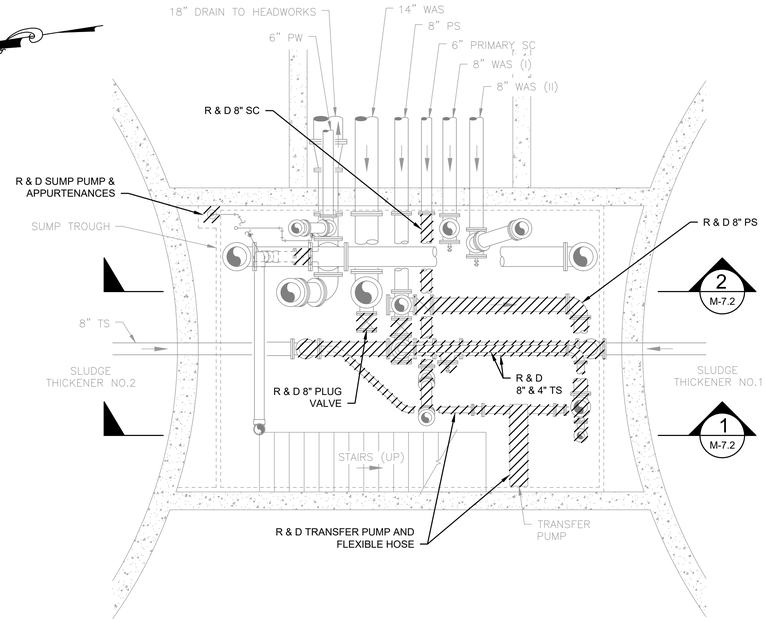
SCALE

AS SHOWN

SHEET NO.

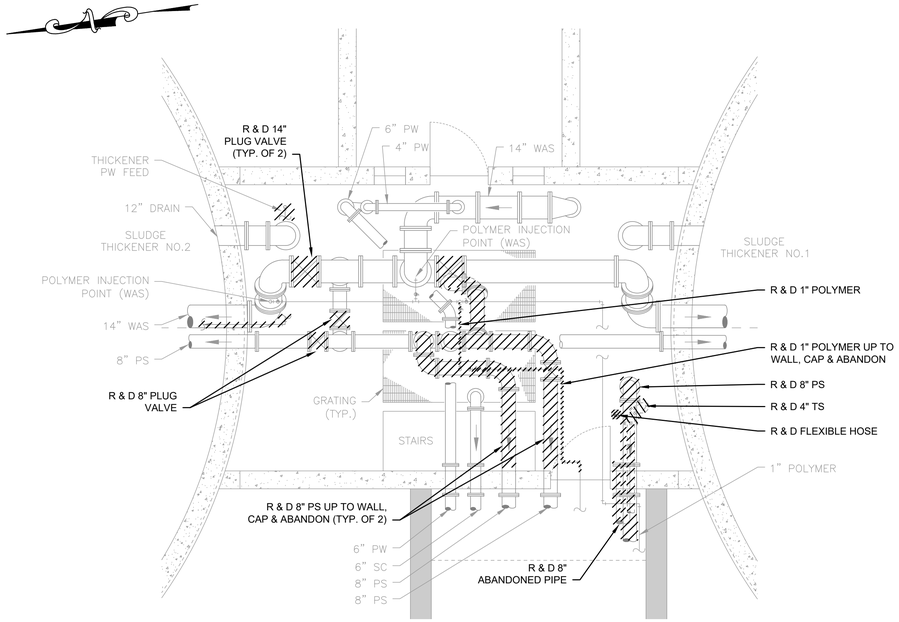
M-7.1

3/24/2021 3:39 PM J:\TAUNTON\WWTF DESIGN\AUTOCAD\PLAN SET\SOLIDS HANDLING\SOLIDS HANDLING BUILDING & TANKS - EXIST. PLANS & SECTIONS.DWG (BETA STD BW.CTB)



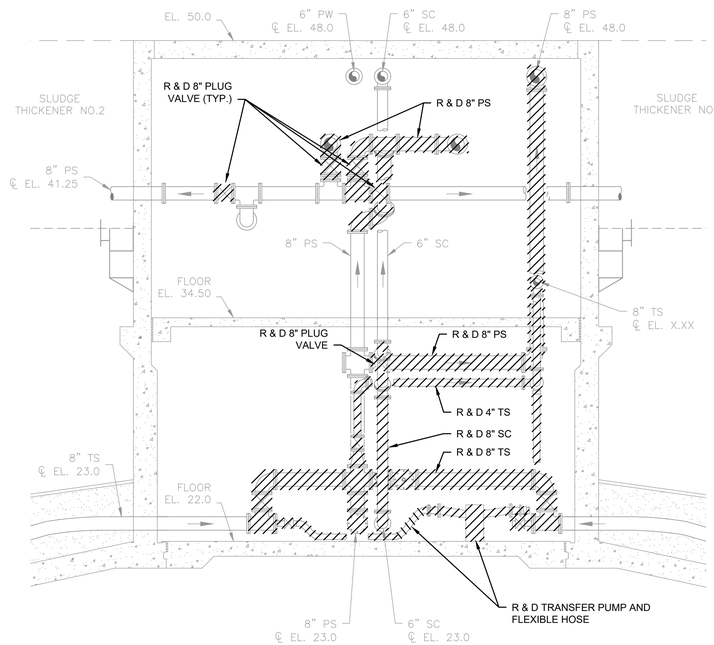
LOWER LEVEL - PLAN (EL. 34.0)

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



UPPER LEVEL - PLAN (EL. 49.0)

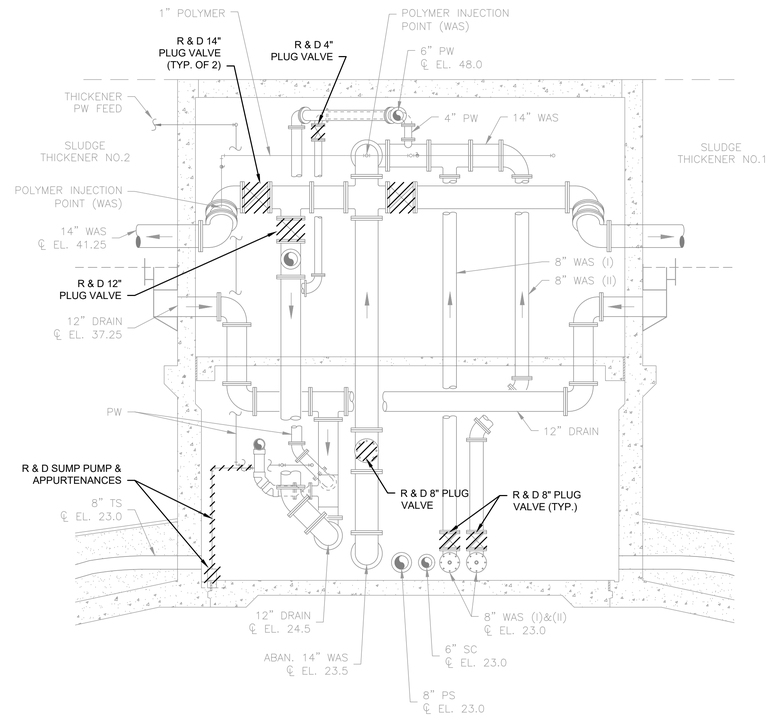
SCALE: 1/4"= 1'-0"



SECTION 1

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

M-7.2



SECTION 2

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

M-7.2

3/24/2021 3:39 PM J:\TAUNTON\WWTF DESIGN\AUTOCAD\PLAN SET\SOLIDS HANDLING\SOLIDS HANDLING BUILDING & TANKS - EXIST. PLANS & SECTIONS.DWG (BETA STD BW.CTB)

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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Thickened Sludge Pump Station Demolition Plans & Sections

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	BM
CHECKED BY:	RM
ISSUE DATE:	3/24/2021
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SCALE

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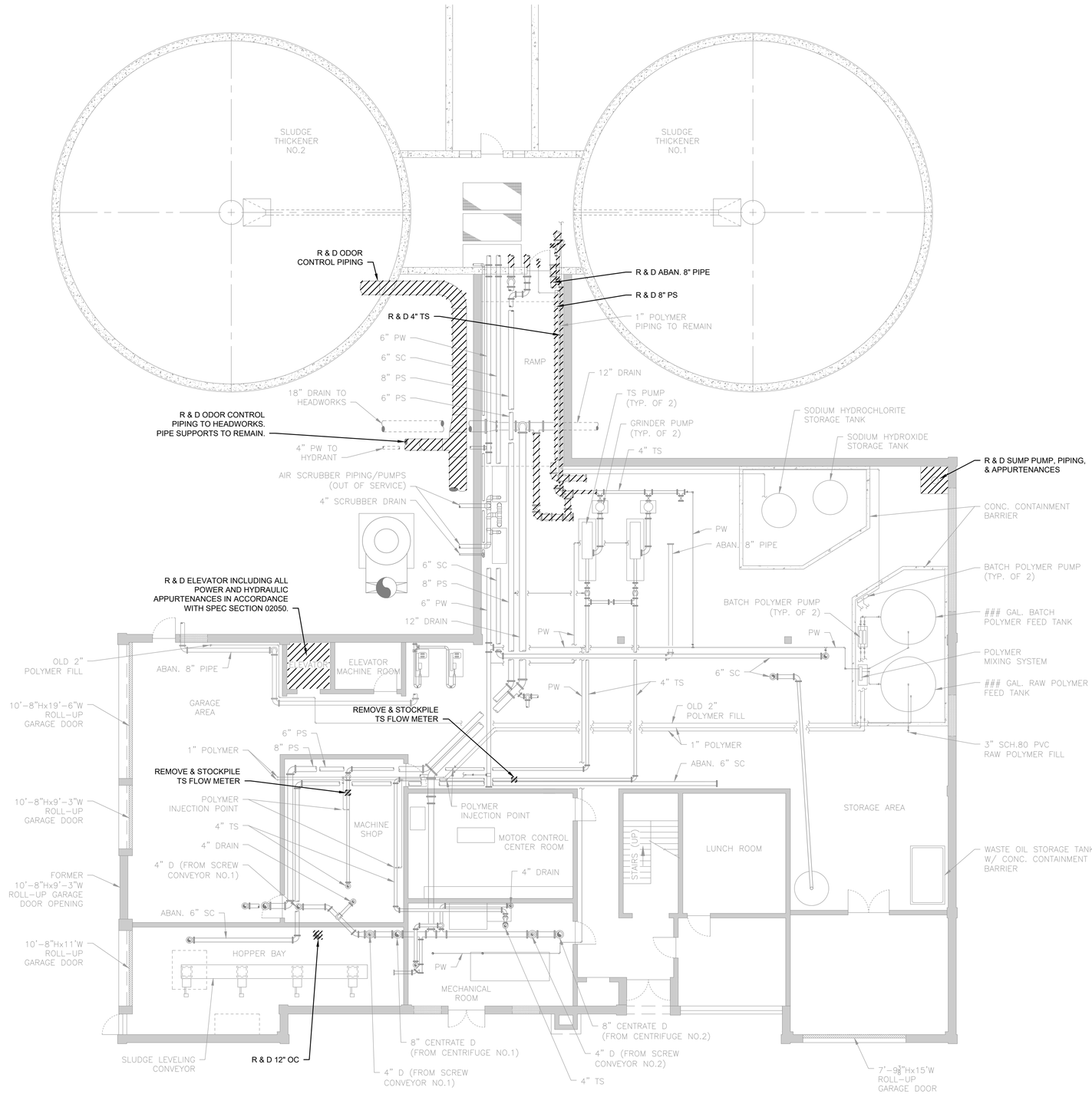
SHEET NO.

M-7.2



FIRST FLOOR - PLAN (EL. 49.0)

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

3/24/2021 3:39 PM J:\TAUNTON\WWTF DESIGN\AUTOCAD\PLAN SETS\SOLIDS HANDLING\SOLIDS HANDLING BUILDING & TANKS - EXIST. PLANS & SECTIONS.DWG (BETA STD BW.CTB)

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Solids Handling Building First Floor Demolition Plan

NO.	REVISIONS	DATE

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ISSUE DATE:	3/24/2021
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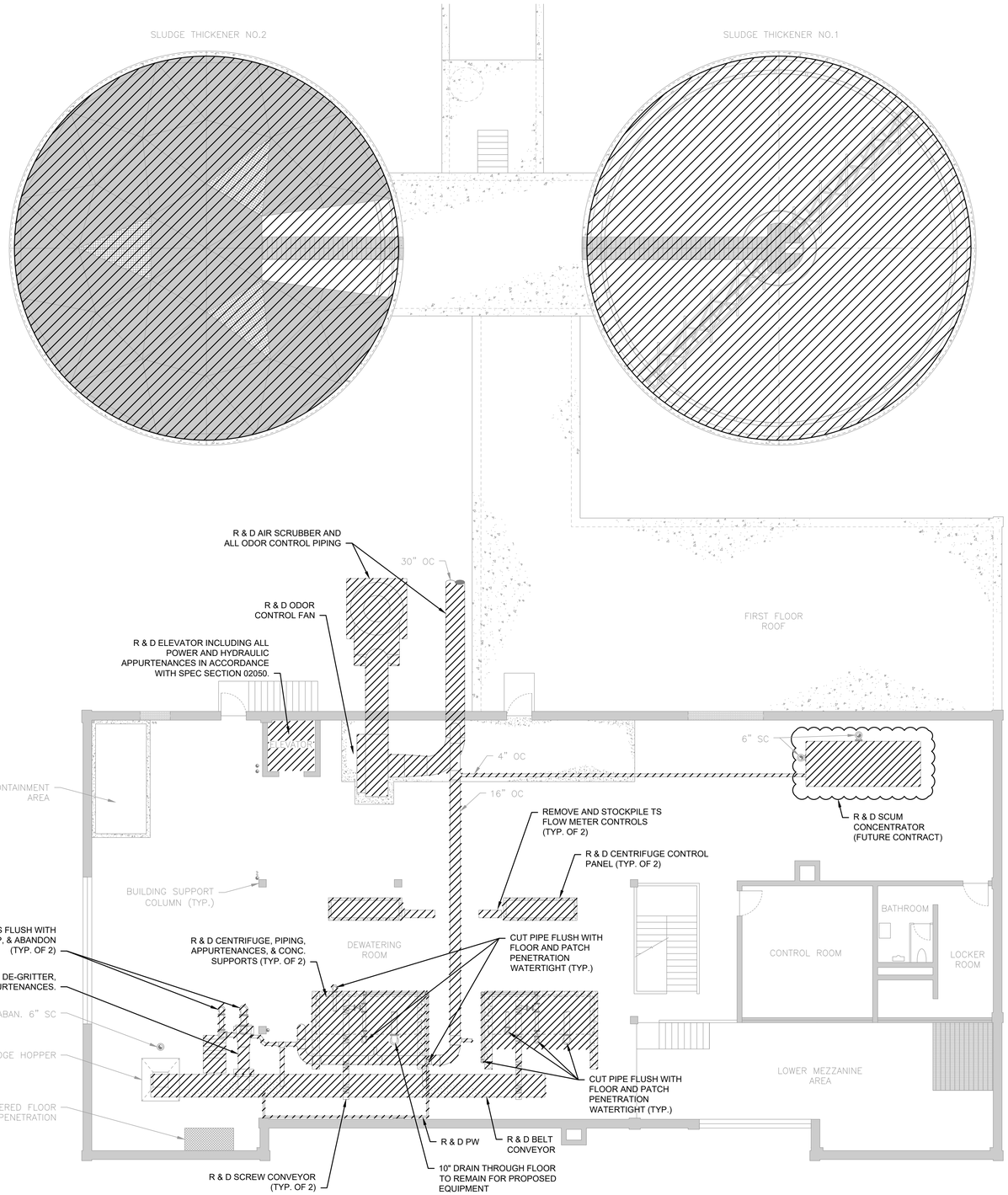
SCALE

AS SHOWN

SHEET NO.

M-7.3



SECOND FLOOR - PLAN (EL. 65.0)

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

3/24/2021 3:39 PM J:\TAUNTON\WWTF DESIGN\AUTOCAD\PLAN SET\SOLIDS HANDLING\SOLIDS HANDLING BUILDING & TANKS - EXIST. PLANS & SECTIONS.DWG (BETA STD BW.CTB)

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PROJECT

Taunton Wastewater Treatment Facility Improvements
Solids Handling

Taunton, MA

TITLE

Solids Handling
Building Second Floor
Demolition Plan

NO.	REVISIONS	DATE

DRAWN BY:	BM
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ISSUE DATE:	3/24/2021
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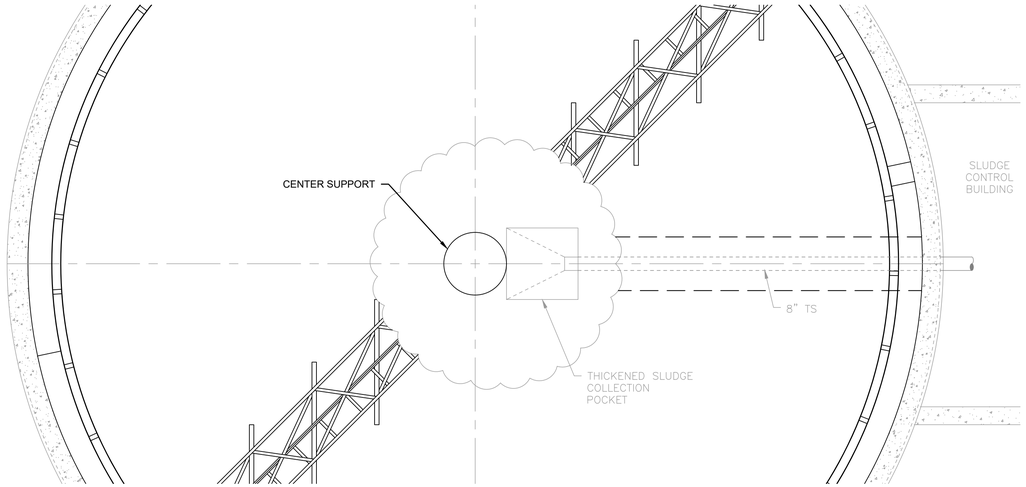
SCALE

AS SHOWN

SHEET NO.

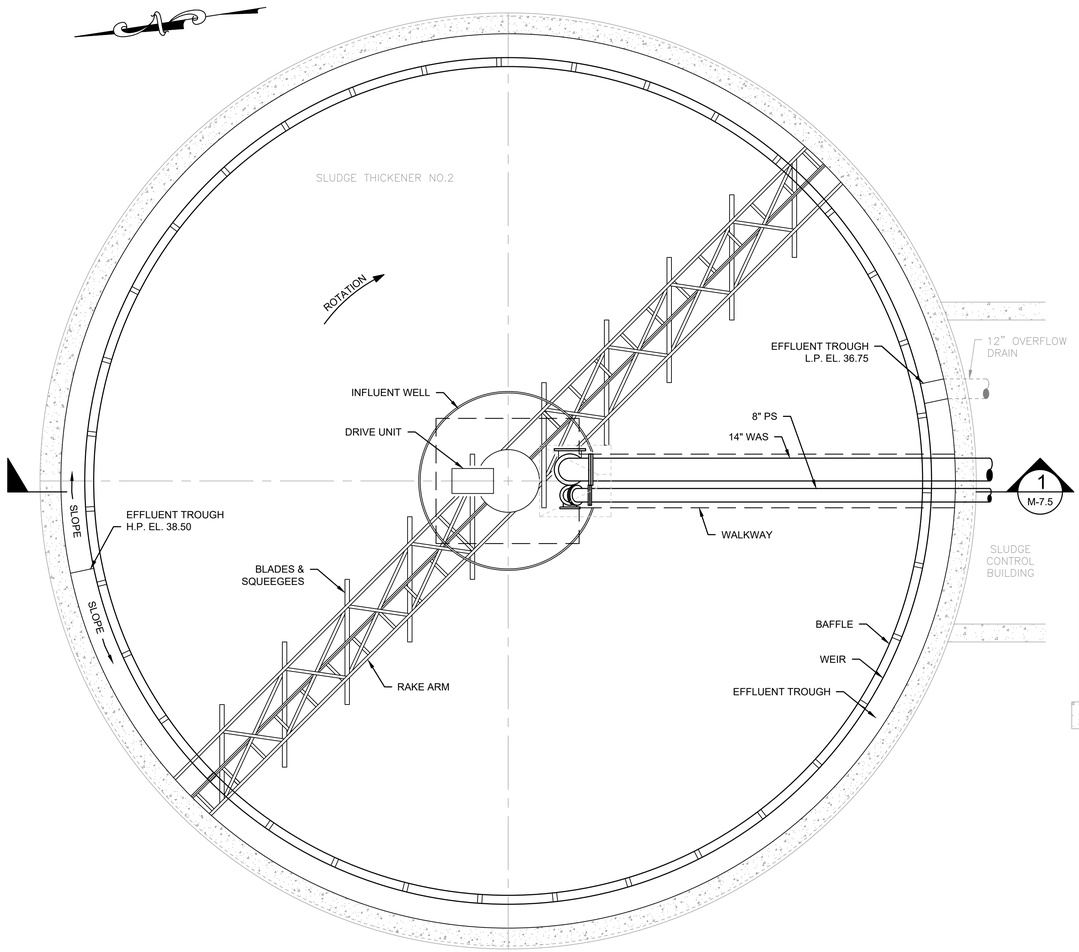
M-7.4



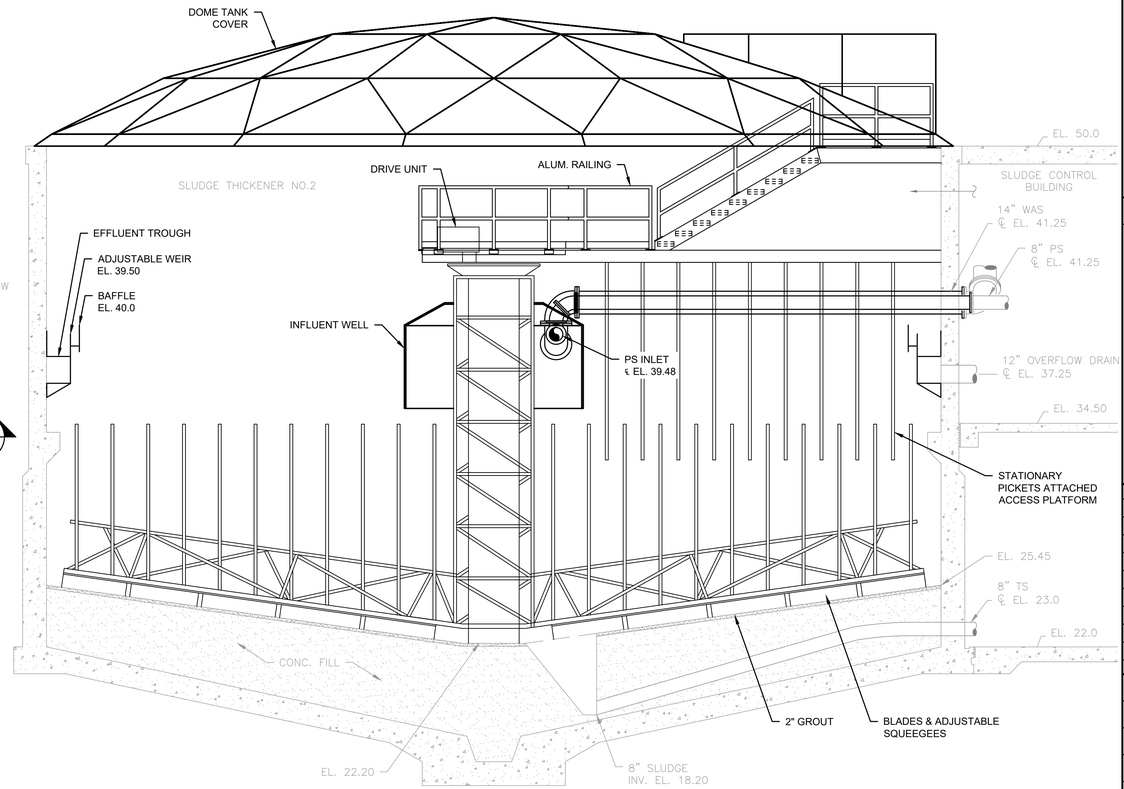
PLAN
SCALE: 1/4"= 1'-0"

NOTES:

1. THE PROPOSED WORK SHOWN APPLY TO SLUDGE THICKENER NO.1 & SLUDGE THICKENER NO.2.



PLAN (EL. 50.0)
SCALE: 1/4"= 1'-0"



SECTION 1 (M-7.5)
SCALE: 1/4"= 1'-0"

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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Gravity Thickening Tanks Plans & Sections

NO.	REVISIONS	DATE

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ISSUE DATE:	3/24/2021
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SCALE

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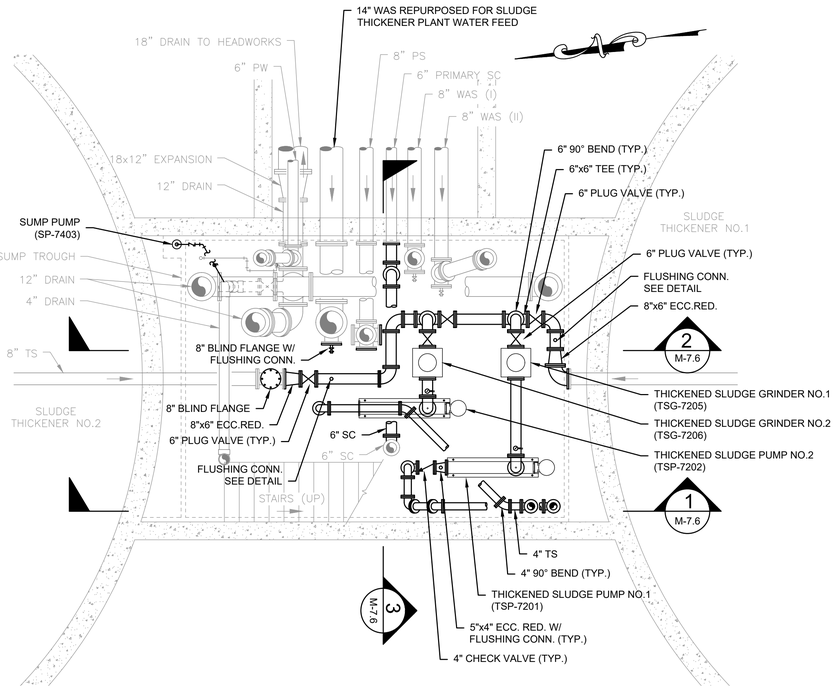
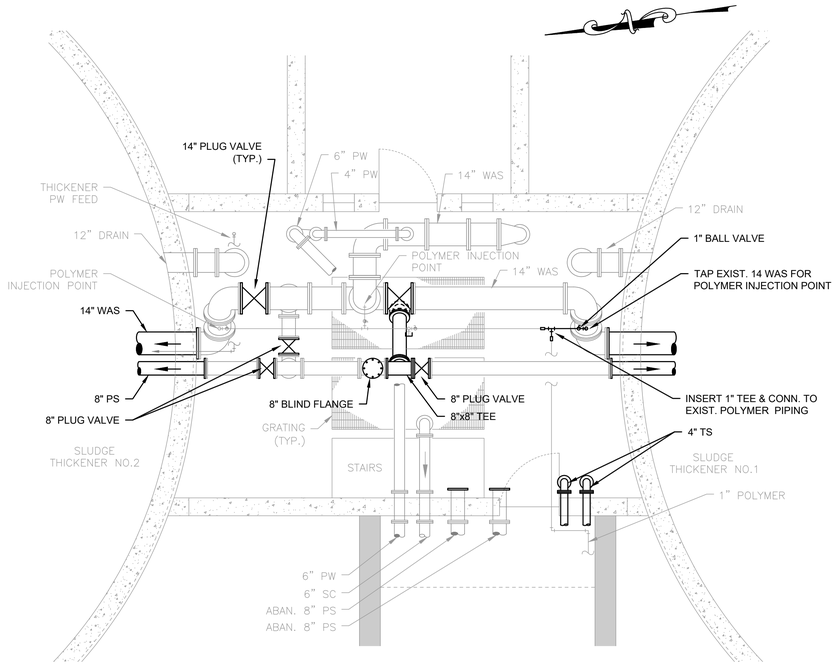
SHEET NO.

M-7.5



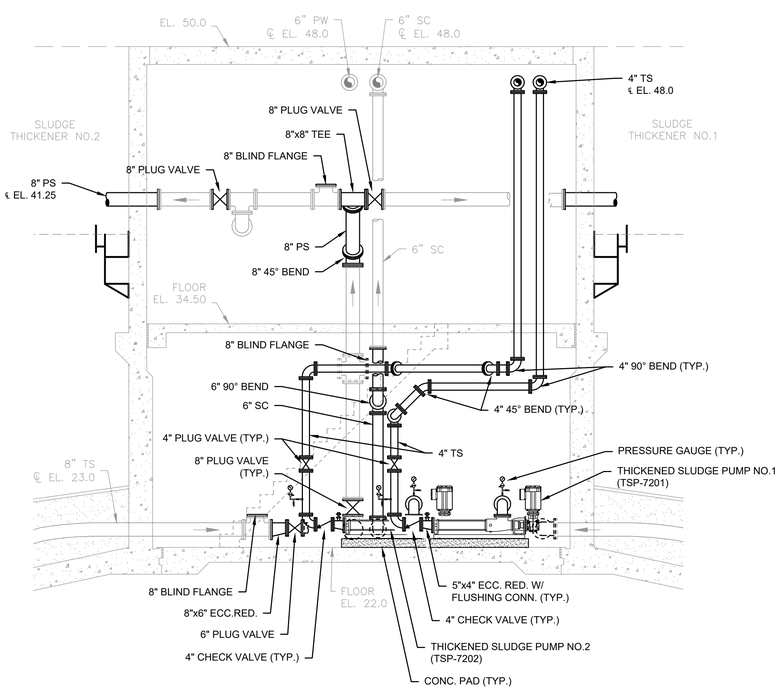
LOWER LEVEL - PLAN (EL. 34.0)

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



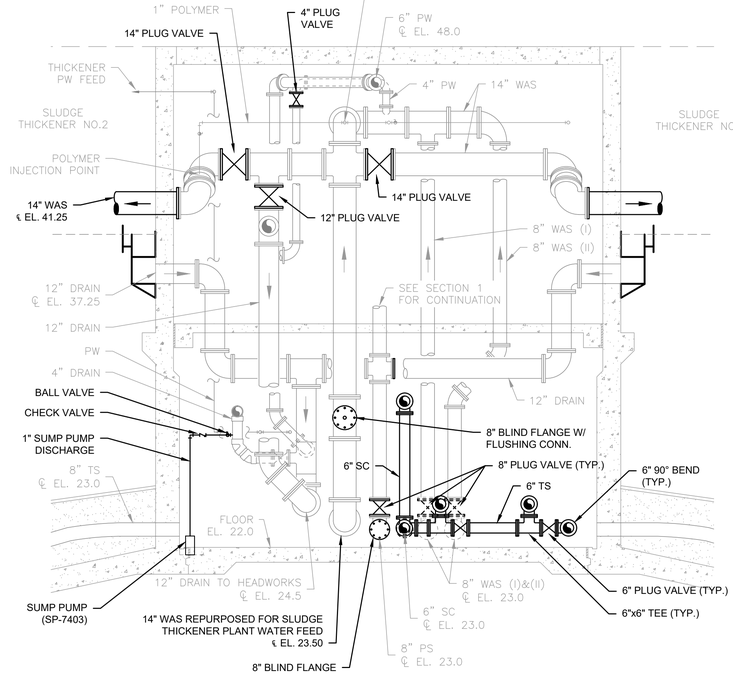
UPPER LEVEL - PLAN (EL. 49.0)

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



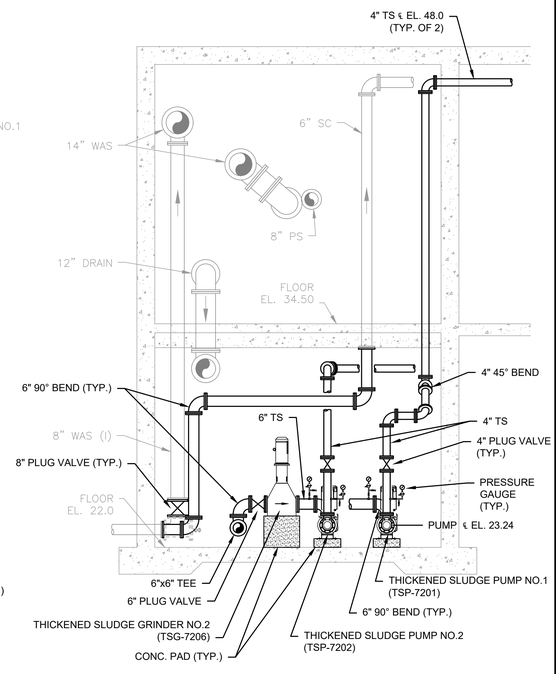
SECTION 1

SCALE: 1/4"= 1'-0" — M-7.6



SECTION 2

SCALE: 1/4"= 1'-0" — M-7.6



SECTION 3

SCALE: 1/4"= 1'-0" — M-7.6

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JOSEPH FEDERICO, JR.
No. 30663
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements
Solids Handling

Taunton, MA

TITLE

Thickened Sludge Pump Station Plans & Sections

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	BM
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ISSUE DATE:	3/24/2021
BETA JOB NO.:	6050

SCALE

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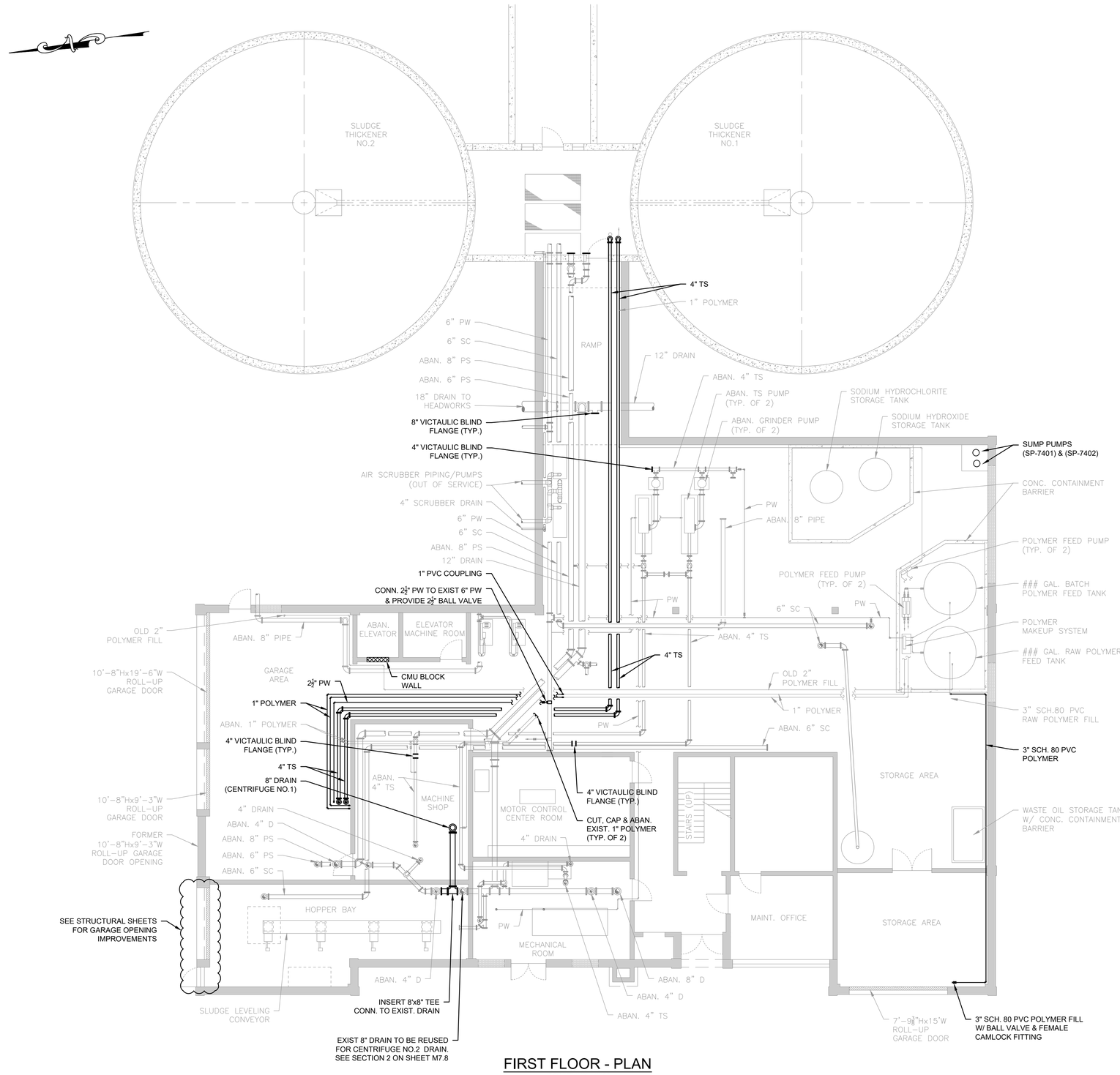
FOR REVIEW ONLY

SHEET NO.

M-7.6



FIRST FLOOR - PLAN

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

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JOSEPH FEDERICO, JR.
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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Solids Handling Building First Floor Plan

NO.	REVISIONS	DATE

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SCALE

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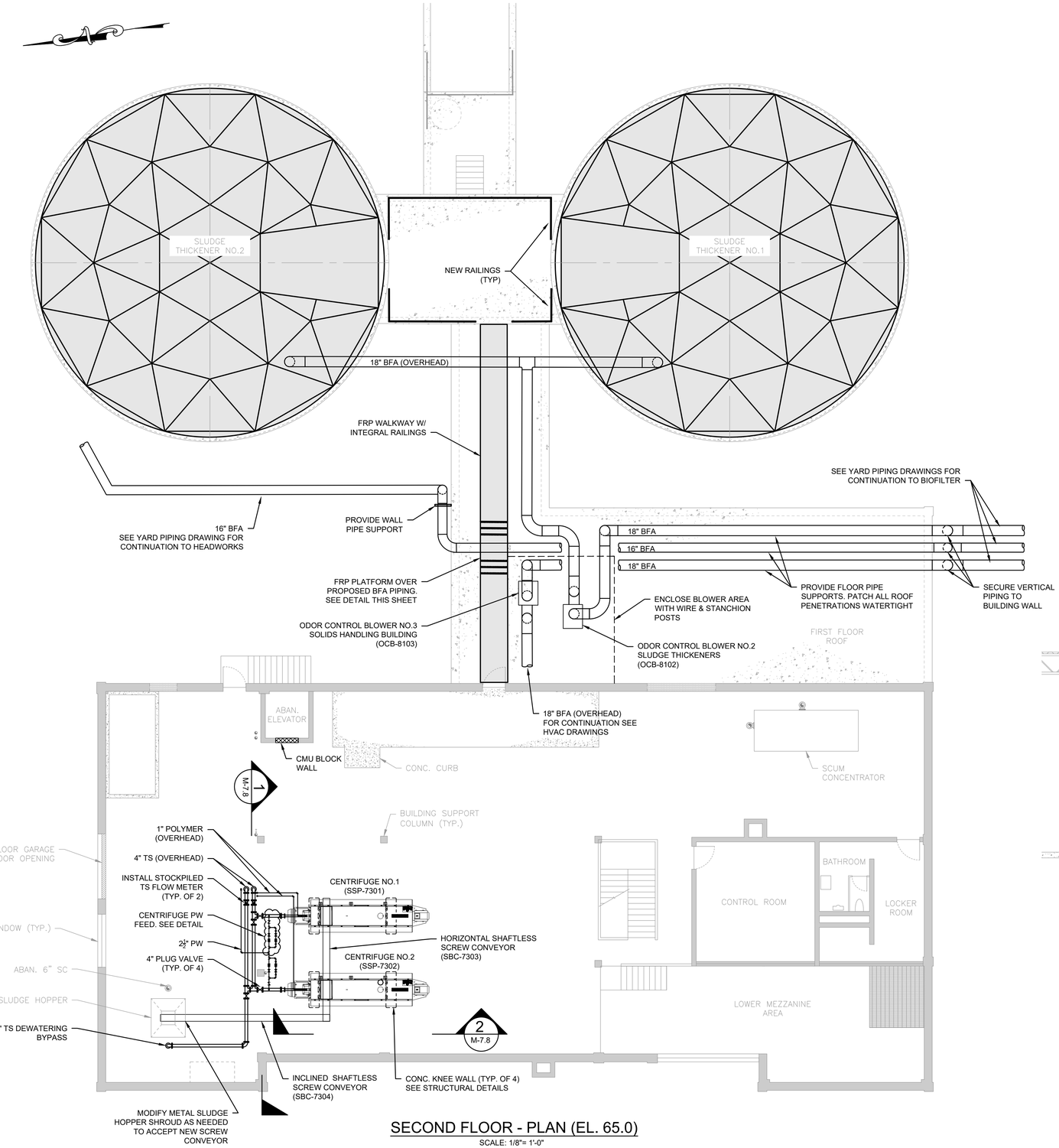
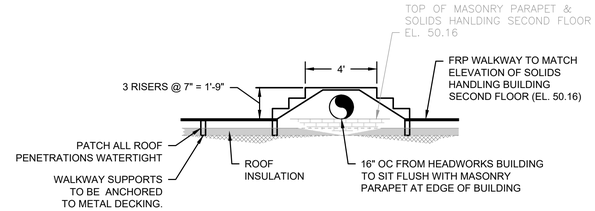
SHEET NO.

M-7.7



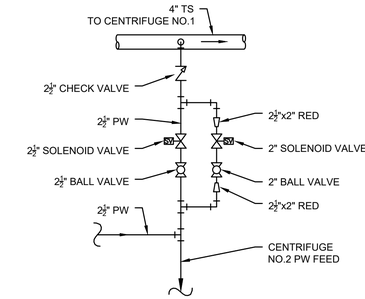
SECOND FLOOR - PLAN (EL. 65.0)

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



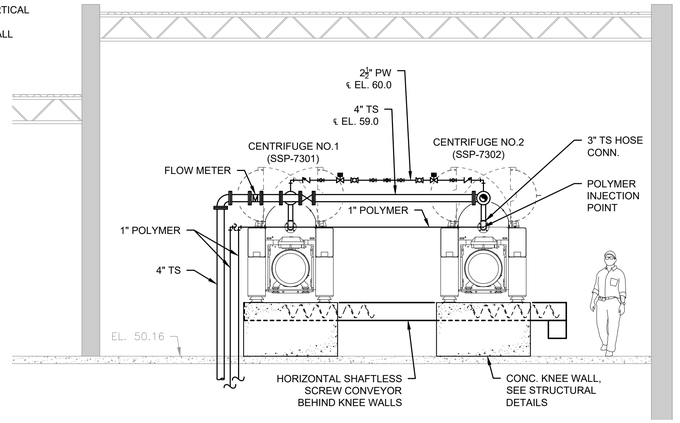
FRP PLATFORM DETAIL

SCALE: NOT TO SCALE



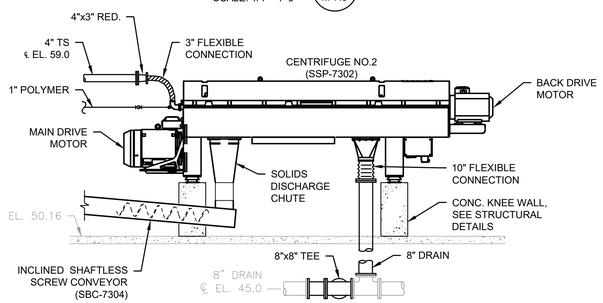
CENTRIFUGE PLANT WATER FEED DETAIL

SCALE: NOT TO SCALE



SECTION 1 M-7.8

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



SECTION 2 M-7.8

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

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COMMONWEALTH OF MASSACHUSETTS
JOSEPH FEDERICO, JR.
No. 39663
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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Solids Handling Building Second Floor Plan

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	BM
CHECKED BY:	RM
ISSUE DATE:	3/24/2021
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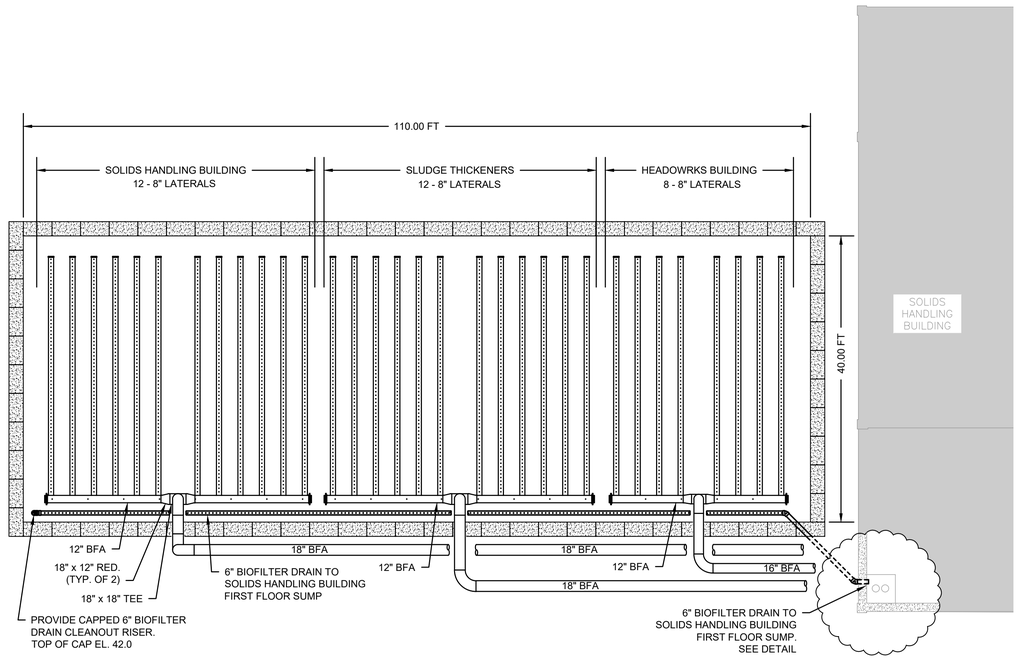
SCALE

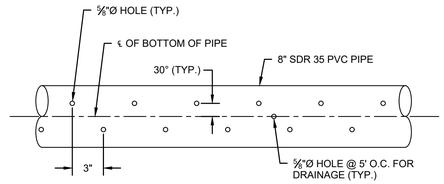
AS SHOWN

SHEET NO.

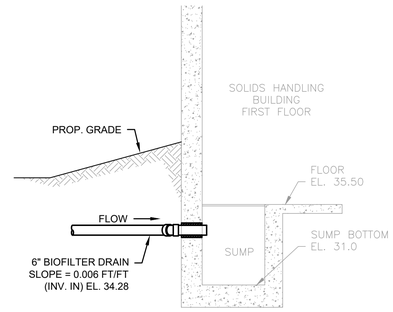
M-7.8



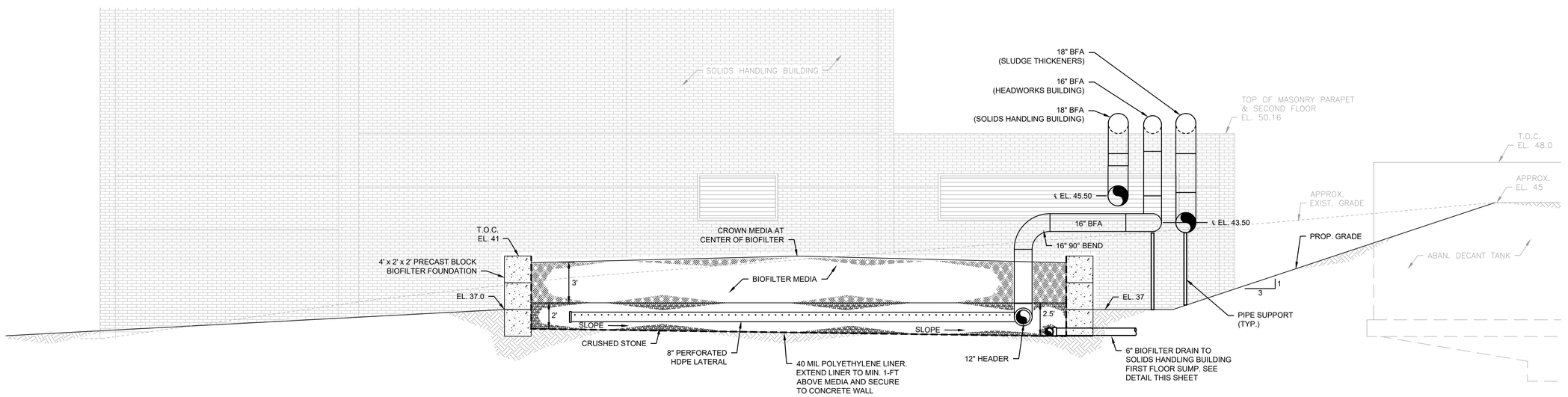
PLAN
SCALE: 1"= 10'-0"



BIOFILTER PIPE PERFORATION DETAIL
SCALE: NOT TO SCALE



BIOFILTER DRAIN DISHARGE DETAIL
SCALE: 1/4" = 1'-0"



SECTION 1/M-8.1
SCALE: 1/4"= 1'-0"

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Proposed Biofilter Plan & Section

NO.	REVISIONS	DATE

DRAWN BY:	BM
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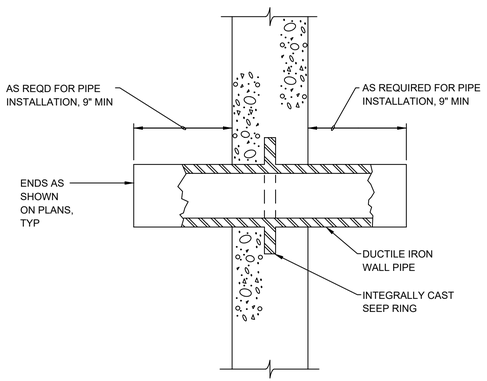
SCALE

AS SHOWN

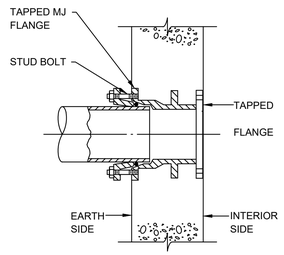
SHEET NO.

M-8.1



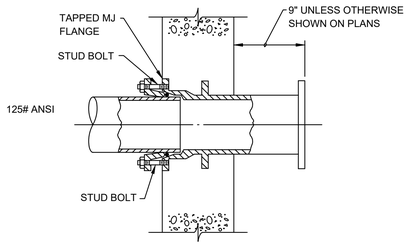
PExPE DUCTILE IRON WALL PIPE 401

SCALE: NOT TO SCALE



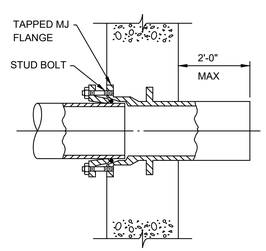
MJxFLUSH FLG D.I. WALL PIPE 402

SCALE: NOT TO SCALE



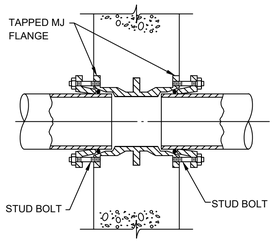
MJxFLG D.I. WALL PIPE 403

SCALE: NOT TO SCALE



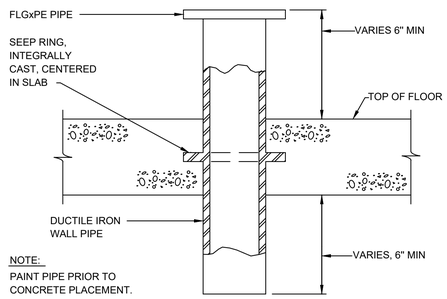
MJxPE D.I. WALL PIPE 404

SCALE: NOT TO SCALE



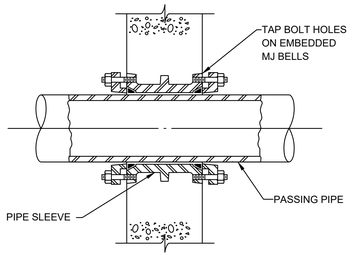
MJxMJ D.I. WALL PIPE 405

SCALE: NOT TO SCALE



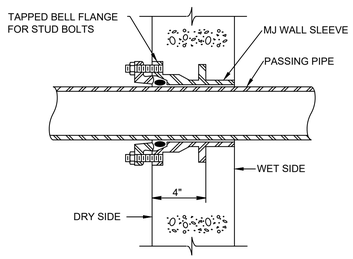
FLGxPE FLOOR PIPE 406

SCALE: NOT TO SCALE



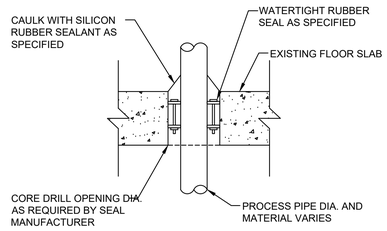
MJxMJ PIPE SLEEVE 407

SCALE: NOT TO SCALE



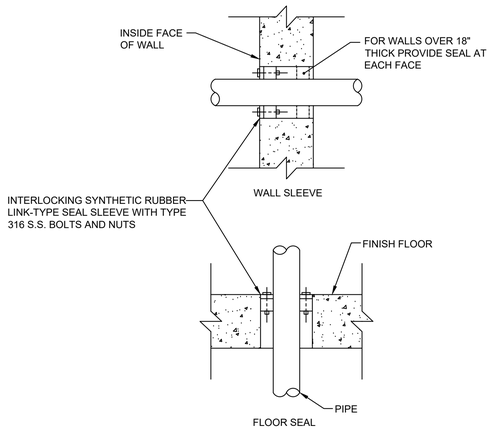
MJxPE WALL SLEEVE 408

SCALE: NOT TO SCALE



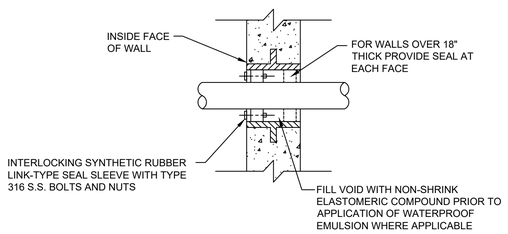
FLOOR PENETRATION FOR CORED HOLES IN WET AREAS 409

SCALE: NOT TO SCALE



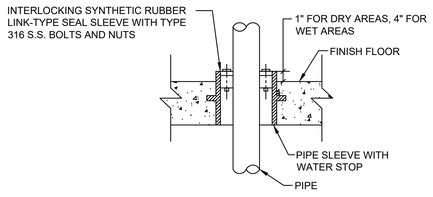
PENETRATION FOR CORED HOLES IN EXISTING WALLS AND DRY AREAS 410

SCALE: NOT TO SCALE



WALL SLEEVE/NEW CONCRETE 411

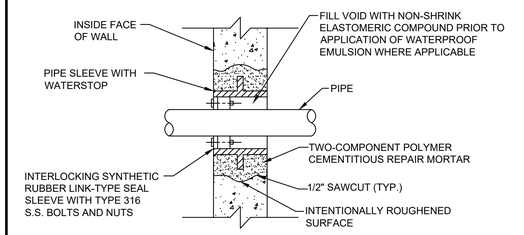
SCALE: NOT TO SCALE



NOTE: FOR FLOOR SLEEVES, WHERE GASTIGHT OR WATERTIGHT SEALS ARE NOT REQUIRED, THE SEAL MAY BE OMITTED

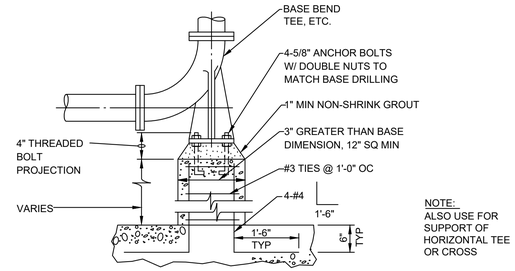
FLOOR SLEEVE/NEW CONCRETE 412

SCALE: NOT TO SCALE



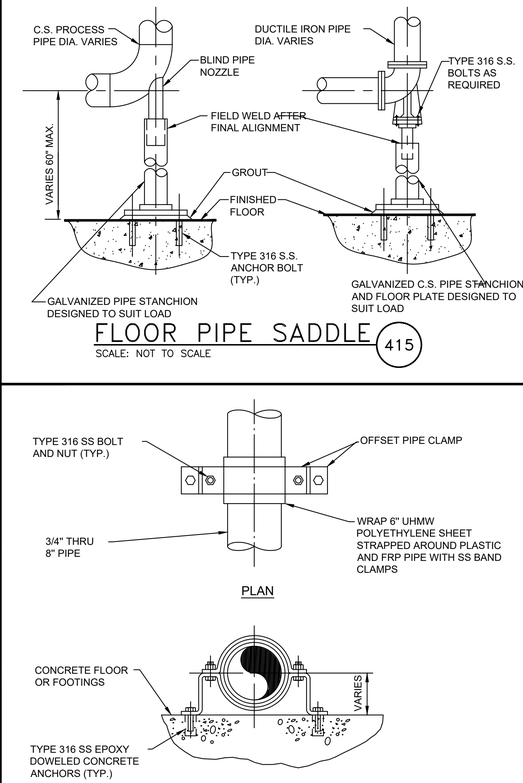
WALL SLEEVE/EXISTING WALL 413

SCALE: NOT TO SCALE



BASE BEND 414

SCALE: NOT TO SCALE



FLOOR PIPE SADDLE 415

SCALE: NOT TO SCALE

PLAN

SECTION

GRINNELL FIGURE 103 OR EQUAL

PIPE SUPPORT 416

SCALE: NOT TO SCALE

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COMMONWEALTH OF MASSACHUSETTS
JOSEPH FEDERICO, JR.
No. 30663
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SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Mechanical Details I

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SCALE

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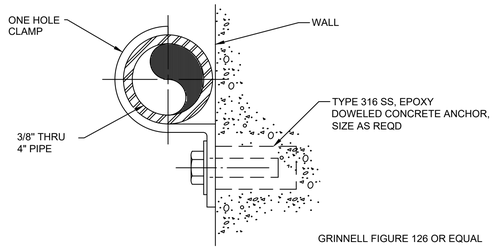
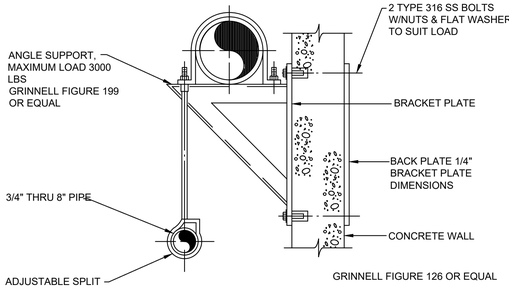
SHEET NO.

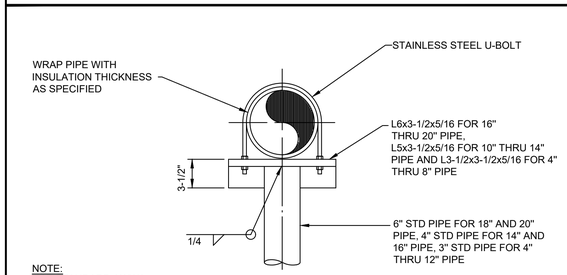
MD-1



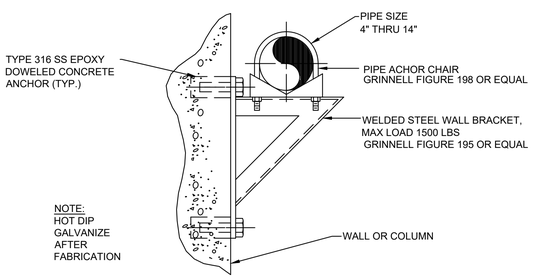
PIPE SUPPORT 417
SCALE: NOT TO SCALE



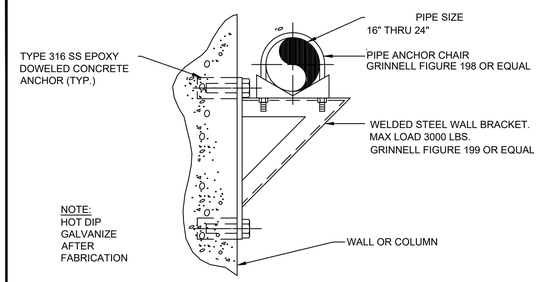
PIPE SUPPORT 418
SCALE: NOT TO SCALE



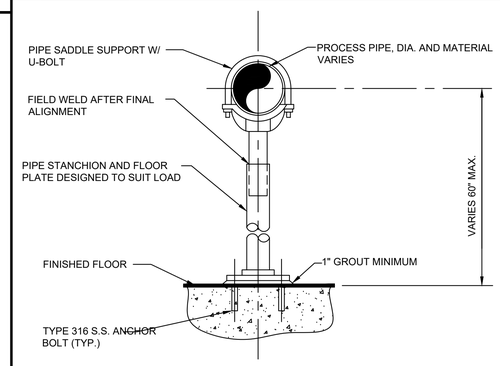
PIPE SUPPORT 419
SCALE: NOT TO SCALE



PIPE SUPPORT–MEDIUM 420
SCALE: NOT TO SCALE



PIPE SUPPORT–HEAVY 421
SCALE: NOT TO SCALE

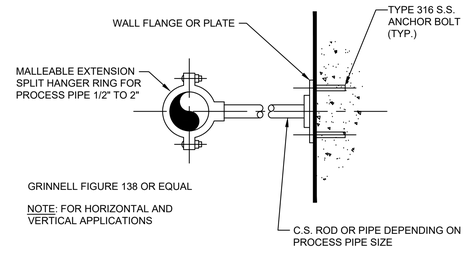


NOTES: 1. PROVIDE HALF-ROUND RIGID INSULATION WAND INSULATION SHIELD FOR INSULATED PIPING.

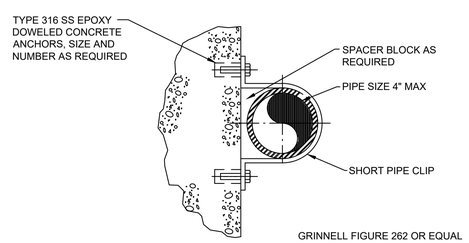
2. PROVIDE NEOPRENE ISOLATION PAD UNDER SUPPORT FOOT FOR ISOLATED PIPING OR WHEN SUPPORT IS ADJACENT TO MECHANICAL EQUIPMENT.

GRINNELL FIGURE 259 OR EQUAL

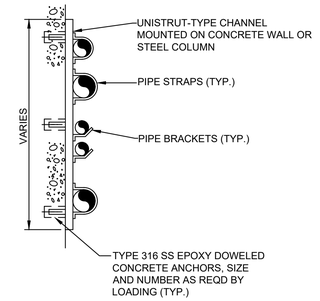
FLOOR PIPE SUPPORT 422
SCALE: NOT TO SCALE



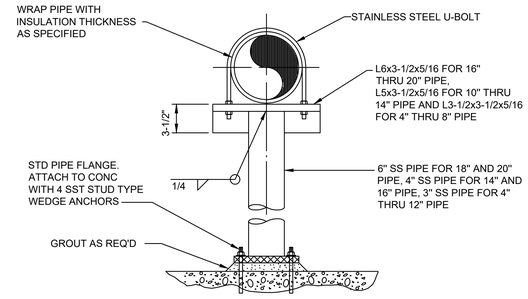
WALL PIPE SUPPORT 423
SCALE: NOT TO SCALE



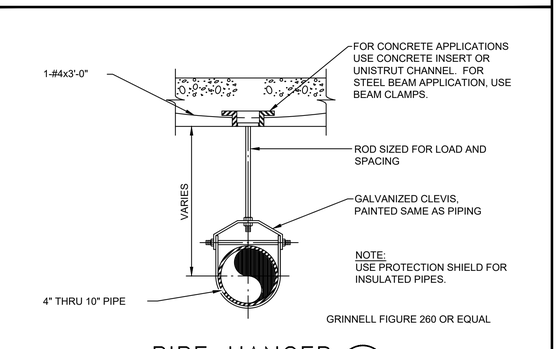
VERTICAL PIPE SUPPORT 424
SCALE: NOT TO SCALE



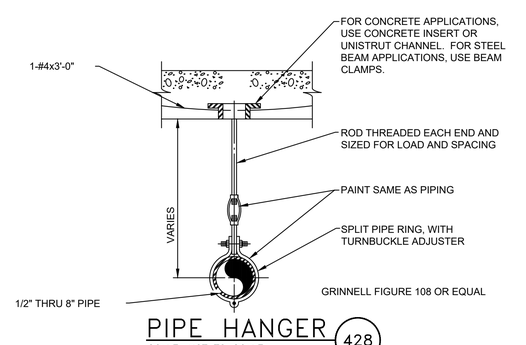
STACKED PIPE WALL SYSTEM 425
SCALE: NOT TO SCALE



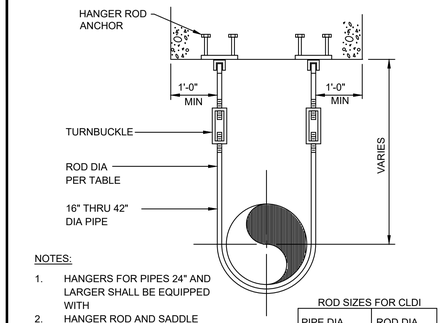
S.S. PIPE SUPPORT (SUBMERGED) 426
SCALE: NOT TO SCALE



PIPE HANGER 427
SCALE: NOT TO SCALE



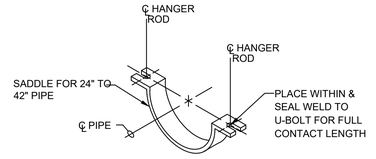
PIPE HANGER 428
SCALE: NOT TO SCALE



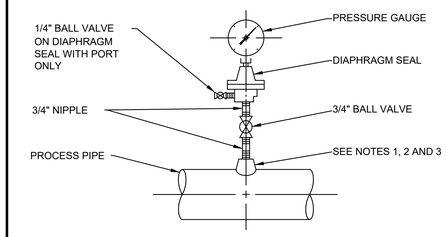
NOTES:
1. HANGERS FOR PIPES 24" AND LARGER SHALL BE EQUIPPED WITH
2. HANGER ROD AND SADDLE MATERIAL TO BE STAINLESS STEEL FOR STAINLESS STEAL PIPE
3. SPACE HANGERS 12'-0" ON CENTER MAXIMUM.

ROD SIZES FOR CLDI

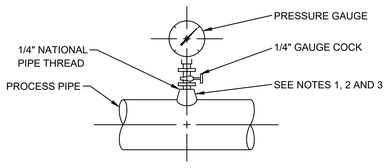
PIPE DIA	ROD DIA
12" THRU 16"	
18" AND 20"	
24"	



PIPE HANGER 429
SCALE: NOT TO SCALE



DIAPHRAGM PRESSURE GAUGE



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 430
SCALE: NOT TO SCALE

PREPARED BY

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COMMONWEALTH OF MASSACHUSETTS
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No. 30663
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Mechanical Details II

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SCALE

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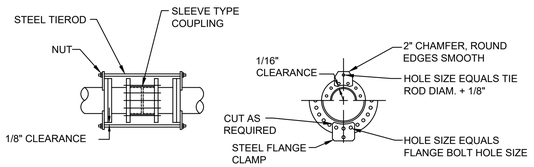
SHEET NO.

MD-2

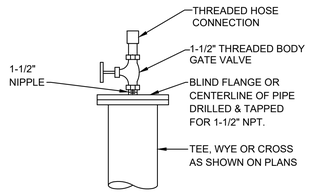


NOTE: TIERODS SHALL BE EQUALLY SPACED AROUND PIPE.

	TIERODS		FLANGE CLAMP			
PIPE SIZE	NO.	DIA.	THICKNESS	NO. OF FLANGE BOLTS PER CLAMP	"A"	"B"
6"	2	1/2"	1/2"	2	2"	7-3/4"
8"	2	5/8"	1/2"	2	2"	8-5/8"
10"	2	3/4"	1/2"	2	2"	7-3/4"
12"	2	1"	1/2"	2	2"	8-1/2"
14"	2	1-1/8"	3/4"	2	2"	9"
16"	2	1-1/4"	7/8"	2	2"	12-1/4"
18"	2	1-3/8"	7/8"	3	2-1/2"	13"
20"	2	1-3/8"	1"	3	2-1/2"	8"
24"	3	1-3/8"	1"	2	2-1/2"	8-3/4"
30"	4	1-3/4"	1"	2	2-1/2"	12-1/4"
36"	4	1-3/4"	1-1/4"	3	2-1/2"	8-1/2"
42"	6	1-3/4"	1-1/4"	2	2-1/2"	12-3/4"
48"	6	1-3/4"	1-1/4"	3	2-1/2"	12-1/2"
	8			3		

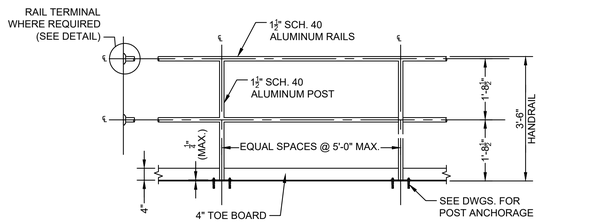
SLEEVE COUPLING RESTRAINT (150 PSI FLANGE CLAMP ASSEMBLY) 432

SCALE: NOT TO SCALE



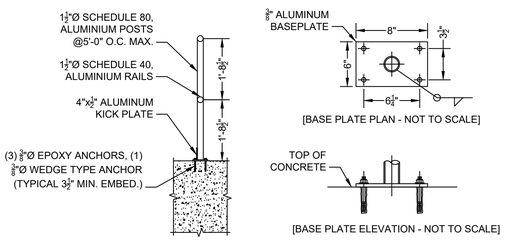
FLUSHING CONNECTION 435

SCALE: NOT TO SCALE



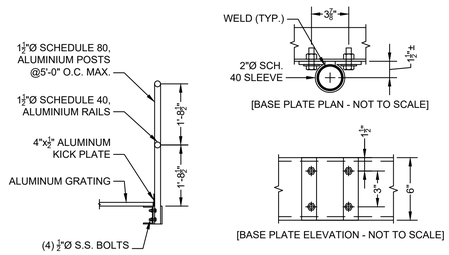
TWO-BAR HANDRAIL DETAIL

SCALE: NOT TO SCALE



TOP MOUNTED HANDRAIL DETAIL

SCALE: NOT TO SCALE



FACE MOUNTED HANDRAIL DETAIL

SCALE: NOT TO SCALE

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REGISTERED PROFESSIONAL

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No. 39663
REGISTERED PROFESSIONAL ENGINEER

SUBCONSULTANT

PROJECT

Taunton Wastewater Treatment Facility Improvements
Solids Handling

Taunton, MA

TITLE

Mechanical Details III

NO.	REVISIONS	DATE

DRAWN BY:	BM
DESIGNED BY:	BM
CHECKED BY:	RM
ISSUE DATE:	3/24/2021
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

MD-3

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 TRANSFER DUCTS SHALL BE INTERNALLY LINED.
13. ALL MISCELLANEOUS STRUCTURAL SUPPORTS REQUIRED FOR HVAC EQUIPMENT INSTALLATION SHALL BE PROVIDED BY HVAC SUBCONTRACTOR.
14. EXACT LOCATION OF CEILING DIFFUSERS, GRILLES AND REGISTERS TO BE DETERMINED BY ARCHITECTURAL REFLECTED CEILING PLAN.
15. INSTALL ALL PIPING BELOW DUCTWORK UNLESS CLEARANCE CONDITION REQUIRES PIPING TO BE ABOVE.
16. EXACT ELEVATION FOR SIDE WALL DIFFUSERS, REGISTERS AND GRILLES SHALL BE APPROVED BY THE ARCHITECT BEFORE INSTALLATION.
17. UNLESS OTHERWISE NOTED, ALL PIPING RUNOUTS SHALL BE 3/4"
18. ALL EXPOSED EQUIPMENT (REGISTERS, UNIT HEATERS, ETC..) SHALL HAVE COLORS SELECTED BY THE ARCHITECT, UNLESS NOTED OTHERWISE.
19. HVAC SUBCONTRACTOR SHALL BLANK OFF AND INSULATE ALL UNUSED LOUVER AREA.
20. PITCH AIR INTAKE PLENUMS AND PROVIDE DRAIN TO NEAREST FLOOR DRAIN.
21. 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.
22. EXACT LOCATION OF THERMOSTAT TO BE COORDINATED WITH FINAL LOCATION OF WALL MOUNTED ARCHITECTURAL AND ELECTRICAL EQUIPMENT.
23. ALL MAIN BRANCH PIPES FROM RISERS SHALL HAVE ISOLATION VALVES NEAR SHAFTS. PROVIDE SHUT-OFF VALVES AT EACH SUPPLY BRANCH AND COMBINATION BALANCING SHUT-OFF VALVE AT EACH RETURN BRANCH.
24. PROVIDE FLEXIBLE CONNECTOR ON INTAKES AND DISCHARGES OF ALL AIR HANDLING UNITS.
25. REFRIGERATION PIPING SIZED BY UNIT MANUFACTURER. SUBMIT CALCULATIONS TO ENGINEER FOR APPROVAL.
26. DUCT MOUNTED SMOKE DETECTOR - FURNISHED AND WIRED BY THE ELECTRICAL CONTRACTOR, INSTALLED BY THE HVAC CONTRACTOR.
27. ROOF OPENINGS SHALL BE SIZED FROM APPROVED SHOP DRAWINGS.
28. ALL FLOOR MOUNTED MECHANICAL EQUIPMENT, BOILERS, PUMPS, AIR HANDLERS, ETC. SHALL HAVE A CONCRETE PAD 4" HIGH AND 6" BEYOND EQUIPMENT FOOT PRINT ON ALL FOUR SIDES. CONCRETE PADS SHALL BE SIZE FROM APPROVED SHOP DRAWINGS.
29. ALL DAMPER MOTORS SHALL BE 24 VOLT.
30. PROVIDE DUCT MOUNTED SMOKE DAMPERS AT ALL SMOKE BARRIERS, REFER TO ARCH. DRAWINGS FOR LOCATION. SMOKE DAMPERS SHALL BE CLOSED AND ASSOCIATED EXH. FAN OR AHU SHALL BE SHUT-DOWN UPON DETECTION OF SMOKE AS SENSED BY AREA SMOKE DETECTORS. DAMPERS SHALL BE RUSKIN TYPE SD 60 OR EQUAL.

DEMOLITION NOTES

1. EXISTING WORK INDICATED TO BE DEMOLISHED SHALL BE REMOVED AND DISPOSED OF.
2. DEMOLITION

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
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION

EQUIPMENT TAG SYMBOLS & ABBREVIATIONS

EQUIPMENT NOT REQUIRING ELECTRIC SERVICE — TAG / NO — SEE SCHEDULE FOR PERFORMANCE REQUIREMENTS — TAG / NO — EQUIPMENT REQUIRING ELECTRIC SERVICE

FTR-1 / MBH / LENGTH	FINNED TUBE RADIATION
ACCU	AIR COOLED CONDENSING UNIT
AHU	AIR HANDLING UNIT
AF	AIR FILTER
AS	AIR SEPARATOR
B	BOILER
CC	COOLING COIL
CH	CHILLER
CUH	CABINET UNIT HEATER
C	CONVECTOR
EF	EXHAUST FAN
ERV	ENERGY RECOVERY VENTILATOR
ET	EXPANSION TANK
EUH	ELECTRIC UNIT HEATER
FCU	FAN COIL UNIT
FMS	FLOW MEASURING STATION
FTR	FIN-TUBE RADIATION
HC	HEATING COIL
HP	HEAT PUMP
HRU	HEAT RECOVERY UNIT
HV	HEATING AND VENTILATING UNIT
IRV	INTAKE ROOF VENT
MAU	MAKEUP AIR UNIT
P	PUMP
REF	RETURN/EXHAUST FAN
RF	RETURN FAN
RTU	ROOFTOP UNIT
SA	SOUND ATTENUATOR
SF	SUPPLY FAN
TU	TERMINAL UNIT
UH	UNIT HEATER
UV	UNIT VENTILATOR
VAV	VARIABLE AIR VOLUME UNIT
RB / 2000	REBALANCE EXISTING CFM TO INDICATED AMOUNTED

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
CX	CARBON MONOXIDE DETECTOR
OS	OCCUPANCY SENSOR
PS	PRESSURE SENSOR SWITCH

VALVES AND ACCESSORIES

	GATE VALVE
	BALL VALVE
	BALL VALVE WITH HOSE BIBB, CAP & CHAIN
	BUTTERFLY VALVE
	GLOBE VALVE
	PRESSURE REDUCING VALVE (SELF-CONTAINED)
	BACKPRESSURE REGULATOR (SELF-CONTAINED)
	CHECK VALVE (SWING TYPE)
	CHECK VALVE (SILENT TYPE)
	STRAINER W/BALL VALVE, HOSE BIBB & CAP (GATE VALVE FOR STEAM)
	ANGLE VALVE
	BUTTERFLY VALVE, TWO POSITION ACTUATOR
	BALL VALVE, TWO POSITION ACTUATOR
	SOLENOID VALVE
	TWO-WAY AUTOMATIC CONTROL VALVE, MODULATING ACTUATOR
	TWO-WAY AUTOMATIC CONTROL VALVE, TWO POSITION ACTUATOR
	THREE-WAY AUTOMATIC CONTROL VALVE, MODULATING ACTUATOR
	THREE-WAY AUTOMATIC CONTROL VALVE, TWO POSITION ACTUATOR
	AUTOMATIC FLOW CONTROL VALVE (PRESSURE INDEPENDENT)
	COMBINATION FLOWMETER/SHUT OFF/BALANCING VALVE
	FLOW SWITCH
	FLOW METER
	SAFTEY RELIEF VALVE
	UNION OR FLANGE (SEE SPEC)
	BLIND FLANGE
	END CAP
VB	VACUUM BREAKER
PT	PRESSURE/TEMPERATURE WELL
AAV	AUTOMATIC AIR VENT WITH ISOLATION VALVE
MAV	MANUAL AIR VENT
	REDUCER (ECCENTRIC-FLAT ON BOTTOM OR FLAT ON TOP)
	REDUCER (CONCENTRIC)
	FLEXIBLE CONNECTION
	EXPANSION JOINT
	PIPE GUIDE
	ANCHOR
	RISE (SINGLE LINE - PLAN VIEW)
	DROP (SINGLE LINE - PLAN VIEW)
	TOP TAKEOFF / BOTTOM TAKEOFF
	PIPE BREAK (SINGLE LINE)
	DIRT LEG
	CLEAN-OUT FOR CONDENSATE DRAIN
	RISE (DOUBLE LINE - PLAN VIEW)
	DROP (DOUBLE LINE - PLAN VIEW)
	PIPE BREAK (DOUBLE LINE)
	DIRECTION OF FLOW IN PIPE
UP	PITCH PIPE UP IN DIRECTION OF FLOW
DN	PITCH PIPE DOWN IN DIRECTION OF FLOW
	FINNED TUBE WITH NO ENCLOSURE
	FINNED TUBE WITH WITH ENCLOSURE

FLOW DIAGRAM EQUIPMENT SYMBOLS

	CENTRIFUGAL PUMP
	POSITIVE DISPLACEMENT PUMP
	FILTER (WATER SERVICE)
	SUCTION DIFFUSER W/STRAINER
C	* H = HEATING COIL; C = COOLING COIL; RH = REHEAT COIL; PH = PREHEAT COIL; DX = DIRECT EXPANSION COIL
ET / 1	EXPANSION TANK
AAV / AS / 1	AIR SEPARATOR

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)
	SUPPLY AIR DIFFUSER (LINEAR)
	RETURN AIR GRILLE OR REGISTER
VD	MANUAL VOLUME DAMPER
FD	SELF-CLOSING FIRE DAMPER W/ACCESS DOOR
SD	SMOKE DAMPER W/ACCESS DOOR
ACD	AUTOMATIC CONTROL DAMPER
SFD	COMBINATION SMOKE/FIRE DAMPER W/ACCESS DOOR
	SUPPLY AIR BLOW DIRECTION
	EXHAUST / RETURN / OR INTAKE

DIFFUSER/REGESTER TAG

TT-X	TYPE-BLOW (CD-1 = CEILING DIFFUSER)
0000	CFM
0"x0"	SIZE

	INLINE CENTRIFUGAL FAN
	ROOF FAN OR VENT
	TERMINAL UNIT (COOLING ONLY)
	TERMINAL UNIT (HEATING/COOLING)
	EXHAUST FAN (SHOWN ON ROOF PLAN)
	EXHAUST FAN (SHOWN ON FLOOR PLAN)

SINGLE LINE DUCTWORK

	DUCTWORK
	SUPPLY/OUTSIDE AIR DUCTWORK UP
	SUPPLY/OUTSIDE AIR DUCTWORK DOWN
	RETURN/EXHAUST AIR DUCTWORK UP
	RETURN/EXHAUST AIR DUCTWORK DOWN
	RECTANGULAR DUCTWORK W/ ACOUSTICAL LINING
	FLEXIBLE CONNECTION
	DUCT TRANSITION
	90° TAKE OFF
	90° ELBOW
	BULLHEAD SPLIT SUPPLY/RETURN

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Hvac Legend and General Notes

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

NONE

SHEET NO.

H-0.1

11/2/2020 1:25 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADES\HVAC DEPARTMENT\PHASE 1A\18009.00 HVAC LEGEND SCHEDULE AND DETAILS-PHASE 1A.DWG (BETA STB BW.STB)

ENERGY RECOVERY UNIT SCHEDULE (PART 1)

ERV –

TAG NO.	BUILDING	SUPPLY AIR PERFORMANCE							EXHAUST AIR NORMAL PERFORMANCE						DX COOLING COIL								HEATING COIL								ELECTRICAL DATA					WEIGHT LBS	SUPPLY FILTER	OUTDOOR FILTER
		SUPPLY IN CFM	MIN. OA IN CFM	ESP (IN WC)	TSP (IN WC)	FAN RPM	OPERATING POWER HP	MOTOR SIZE HP	EXH./RET. OUT CFM	E.S.P. IN (W.C.)	TOTAL SP IN (W.C.)	FAN RPM	OPERATING POWER HP	MOTOR SIZE HP	REFRIG TYPE	TOTAL MBH	SENSIBLE MBH	ROWS	EAT (DB °F)	EAT (WB °F)	LAT (DB °F)	LAT (WB °F)	CAPACITY (MBH)	GPM	EAT (DB °F)	LAT (DB °F)	EWT (DB °F)	LWT (DB °F)	% GLYCOL	WPD (FT)	APD (IN WC)	MCA	MOCP	V	PHASE	HZ			
7ERV–1	SOLID HANDLING BLDG. 1ST FLOOR	13,500	13,500	1.5	3.76	2265	(2) 7.46	(2) 7.5	13,500	1.5	3.282	2465	(2) 9.39	(2) 10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	787.9	84.7	46.7	100.6	180	160	40% P.G.	9.4	0.144	48.2	60	480	3	60	5,307	MERV–6	MERV–8
7ERV–2	SOLID HANDLING BLDG. 1ST FLOOR	11,900	11,900	1.5	3.385	2120	(2) 6.29	(2) 7.5	11,900	1.5	3.006	2252	(2) 7.18	(2) 7.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	717.6	77.2	48.8	104.5	180	160	40% P.G.	7.9	0.12	41.9	50	480	3	60	5,259	MERV–6	MERV–8
7ERV–3	SOLID HANDLING BLDG. 2ND FLOOR	9,100	9,100	0.90	2.7	2197	(2) 3.52	(2) 5	9,100	0.60	2.521	2342	(2) 4.24	(2) 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	343.6	37.0	53.1	87.9	180	160	40% P.G.	6.2	0.037	28.7	35	480	3	60	5,089	MERV–6	MERV–8
7ERV–4	SOLID HANDLING BLDG. 2ND FLOOR	9,100	9,100	0.90	2.7	2197	(2) 3.52	(2) 5	9,100	0.60	2.521	2342	(2) 4.24	(2) 5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	343.6	37.0	53.1	87.9	180	160	40% P.G.	6.2	0.037	28.7	35	480	3	60	5,089	MERV–6	MERV–8

ENERGY RECOVERY UNIT SCHEDULE (PART 2)

ERV –

TAG NO.	ENERGY RECOVERY WHEEL PERFORMANCE								MANUFACTURER MODEL NUMBER	REMARKS
	WINTER CONDITIONS DESIGN				SUMMER CONDITIONS DESIGN					
	OUTDOOR		INDOOR		OUTDOOR		INDOOR			
	DB °F	WB °F	DB °F	RH%	DB °F	WB °F	DB °F	RH%		
7ERV–1	7.4	5.3	46.7	50	90.8	76.2	80.7	50	GREENHECK RVE–120–74–30H	①②③④⑤⑥⑦⑧⑨⑩
7ERV–2	7.4	5.3	48.8	50	90.8	76.2	80.2	50	GREENHECK RVE–120–74–30H	①②③④⑤⑥⑦⑧⑨⑩
7ERV–3	7.4	5.3	53.1	50	90.8	76.2	79.2	50	GREENHECK RVE–120–74–30H	①②③④⑤⑥⑦⑧⑨⑩
7ERV–4	7.4	5.3	53.1	50	90.8	76.2	79.2	50	GREENHECK RVE–120–74–30H	①②③④⑤⑥⑦⑧⑨⑩

① BASE RAILS ② LOW LEAKAGE DAMPERS ③ RECIRC. DAMPER ④ FACTORY SUPPLY & EXHAUST FAN VFD ⑤ ENERGY BYPASS WHEEL DAMPER
⑥ FACTORY MOUNTED DISCONNECT ⑦ SINGLE POINT POWER CONNECTION ⑧ COORDINATE SUPPLY & EXHAUST DISCHARGE WITH FLOOR PLANS
⑨ INSTALLED INDOORS ⑩ AIR FLOW STATIONS

MAKE-UP AIR UNIT SCHEDULE

MUA

TAG NO.	LOCATION	SUPPLY BLOWER					HEATING COIL								ELECTRICAL DATA					WEIGHT LBS	MANUFACTURER MODEL NUMBER	REMARKS
		OA CFM	TSP (IN WC)	ESP (IN WC)	FAN BHP	FAN HP	CAPACITY (MBH)	GPM	EAT (DB °F)	LAT (DB °F)	EWT (DB °F)	LWT (DB °F)	% GLYCOL	WPD (FT)	FLA	MOP	V	PH	HZ			
7MUA–1	SOLID HANDLING BLDG. 1ST FLOOR	4,000	1.71	1.4	3.29	5	372.7	32.6	7	83	180	160	40% P.G.	13	7.6	20	480	3	60	–	GREENHECK LFC–85–FC–50	①②③④⑤⑥

① BASE RAILS ② FACTORY MOUNTED DISCONNECT ③ SINGLE POINT POWER CONNECTION ④ VFD RATED MOTOR ⑤ INSTALLED INDOORS ⑥ AIR FLOW STATION

BOILER SCHEDULE

B

TAG NO.	BUILDING	OUTPUT CAPACITY (NET IBR)	FIRING RATE	EFFICIENCY		OPERATING PRESSURE (PSIG)	WATER					ELECTRICAL DATA				WEIGHT (LBS)	MANUFACTURER MODEL NUMBER	REMARKS
		MBH	OIL (GPH)	COMBUSTION	THERMAL		EWT (°F)	LWT (°F)	GPM	% GLYCOL	WPD (FT)	HP	V	PH	HZ			
7 B–1	SLUDGE HANDLING	2506	20.7	88.4	88.4	–	180	160	300	40% P.G.	–	2	208	1	60	–	BURHAM MPC15	POWER FLAME C3–0

PUMP SCHEDULE

P

TAG NO.	BUILDING	SYSTEM SERVED	TYPE	GPM	HEAD (FT.)	GLYCOL	FLUID TEMP °F	RPM	ELECTRICAL DATA				MANUFACTURER MODEL NUMBER	REMARKS
									MOTOR HP	V	PH	HZ		
7HWP–1	SLUDGE HANDLING	H.W.	END	300	60	40% P.G.	180	1725	7.5	480	3	60	TACO 2510C	①
7HWP–2	SLUDGE HANDLING	H.W.	END	300	60	40% P.G.	180	1725	7.5	480	3	60	TACO 2510C	①

① VFD RATED MOTOR

EXPANSION TANK SCHEDULE

ET

TAG NO.	BUILDING	SERVICE	SYS TEMP (°F)		SYS PRESS (PSIG)		TANK ACCEPTANCE VOLUME (GAL)	TANK AIR CHARGE (PSIG)	MANUFACTURER MODEL NUMBER	REMARKS
			MIN	MAX	MIN	MAX				
7 ET–1	SLUDGE HANDLING	H.W.	50	180	15	150	61	12	TACO CBX–425	–

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150 Grossman Drive, Suite 309
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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Hvac Schedules

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

NONE

SHEET NO.

H-0.2

UH HOT WATER UNIT HEATER HEATER SCHEDULE

TAG NO.	SERVICE	CFM	MBH	WATER SIDE					ELECTRICAL DATA					MANUFACTURER MODEL NUMBER	REMARKS
				GPM	% GLYCOL	WPD (FT)	EWT (°F)	LWT (°F)	HP	FLA	V	PH	HZ		
7UH-1	SOLID HANDLING BLDG. 1ST FLOOR	1,120	32.8	3.3	40 P.G.	0.2	180	160	1/10	0.70	120	1	60	RITTLING MODEL RH-63	-
7UH-2	SOLID HANDLING BLDG. 1ST FLOOR	730	23.9	2.4	40 P.G.	0.1	180	160	1/15	0.72	120	1	60	RITTLING MODEL RH-47	-
7UH-3	SOLID HANDLING BLDG. 1ST FLOOR	630	17.3	1.7	40 P.G.	0.1	180	160	1/15	0.72	120	1	60	RITTLING MODEL RH-33	-
7UH-4	SOLID HANDLING BLDG. 1ST FLOOR	630	17.3	1.7	40 P.G.	0.1	180	160	1/15	0.72	120	1	60	RITTLING MODEL RH-33	-
7UH-5	SOLID HANDLING BLDG. 1ST FLOOR	1,550	57.2	5.7	40 P.G.	0.4	180	160	1/8	1.58	120	1	60	RITTLING MODEL RH-108	-
7UH-6	SOLID HANDLING BLDG. 1ST FLOOR	1,550	57.2	5.7	40 P.G.	0.4	180	160	1/8	1.58	120	1	60	RITTLING MODEL RH-108	-
7UH-7	SOLID HANDLING BLDG. 1ST FLOOR	1,550	57.2	5.7	40 P.G.	0.4	180	160	1/8	1.58	120	1	60	RITTLING MODEL RH-108	-
7UH-8	SOLID HANDLING BLDG. 2ND FLOOR	630	17.3	1.7	40 P.G.	0.1	180	160	1/15	0.72	120	1	60	RITTLING MODEL RH-33	-
7UH-9	SOLID HANDLING BLDG. 2ND FLOOR	1,340	43.7	4.4	40 P.G.	0.4	180	160	1/10	1.30	120	1	60	RITTLING MODEL RH-86	-
7UH-10	SOLID HANDLING BLDG. 2ND FLOOR	1,550	57.2	5.7	40 P.G.	0.4	180	160	1/8	1.58	120	1	60	RITTLING MODEL RH-108	-
7UH-11	SOLID HANDLING BLDG. 2ND FLOOR	1,550	57.2	5.7	40 P.G.	0.4	180	160	1/8	1.58	120	1	60	RITTLING MODEL RH-108	-
7UH-12	SOLID HANDLING BLDG. 2ND FLOOR	1,550	57.2	5.7	40 P.G.	0.4	180	160	1/8	1.58	120	1	60	RITTLING MODEL RH-108	-
7UH-13	SOLID HANDLING BLDG. 2ND FLOOR	1,550	57.2	5.7	40 P.G.	0.4	180	160	1/8	1.58	120	1	60	RITTLING MODEL RH-108	-
7UH-14	SOLID HANDLING BLDG. 2ND FLOOR	1,120	32.8	3.3	40 P.G.	0.2	180	160	1/10	0.70	120	1	60	RITTLING MODEL RH-63	-
7UH-15	SOLID HANDLING BLDG. 2ND FLOOR	450	12.2	1.2	40 P.G.	0.4	180	160	1/30	0.70	120	1	60	RITTLING MODEL RH-24	-
7UH-16	SOLID HANDLING BLDG. 2ND FLOOR	1,120	32.8	3.3	40 P.G.	0.2	180	160	1/10	0.70	120	1	60	RITTLING MODEL RH-63	-
7UH-17	SOLID HANDLING BLDG. 1ST FLOOR	450	12.2	1.2	40 P.G.	0.4	180	160	1/30	0.70	120	1	60	RITTLING MODEL RH-24	-
7UH-18	SOLID HANDLING BLDG. 1ST FLOOR	450	12.2	1.2	40 P.G.	0.4	180	160	1/30	0.70	120	1	60	RITTLING MODEL RH-24	-

CUH HORIZONTAL CABINET UNIT HEATER SCHEDULE

TAG NO.	SERVICE	CFM	MBH	WATER SIDE					ELECTRICAL DATA				MANUFACTURER MODEL NUMBER	REMARKS
				GPM	% GLYCOL	WPD (FT)	EWT (°F)	LWT (°F)	HP	V	PH	HZ		
7CUH-1	SOLID HANDLING BLDG. 1ST FLOOR	300	12.5	1.5	40 P.G.	0.4	130	113.2	1/60	120	1	60	RITTLING MODEL RFRC-420	2 ROW COIL

DIFFUSER, REGISTER & GRILLE SCHEDULE

TAG NO.	MODULE SIZE (IN)	SERVICE	CFM RANGE		MAX. NC LEVEL	MANUFACTURER & MODEL NO.	REMARKS
			MIN	MAX			
SR-1	20x12	SUPPLY	500	1800	40	NAILOR 45DL-0	
SR-2	30x12	SUPPLY	1800	2400	40	NAILOR 45DL-0	
SR-3	50x12	SUPPLY	2500	3810	40	NAILOR 45DL-0	
SR-4	70x12	SUPPLY	3800	5000	40	NAILOR 45DL-0	
ER-1	18x12	RETURN	500	1000	40	NAILOR 6755H-HD	
ER-2	30x12	RETURN	1000	1600	40	NAILOR 6755H-HD	
ER-3	36x18	RETURN	1600	2500	40	NAILOR 6755H-HD	
ER-4	30x24	RETURN	2500	2800	40	NAILOR 6755H-HD	
ER-5	42x30	RETURN	2800	4400	40	NAILOR 6755H-HD	

PREPARED BY

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Taunton, MA

TITLE

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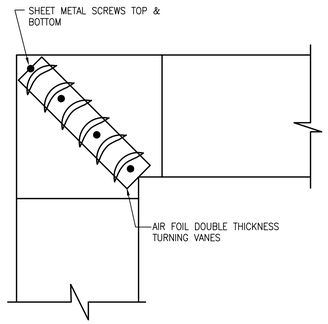
BETA JOB NO.: 6050

SCALE

NONE

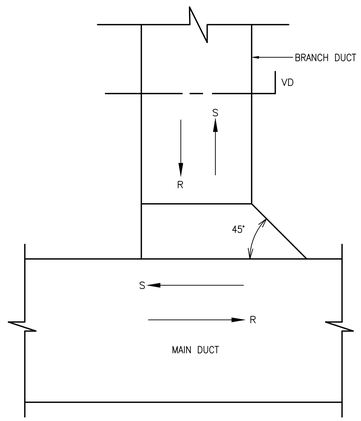
SHEET NO.

H-0.3

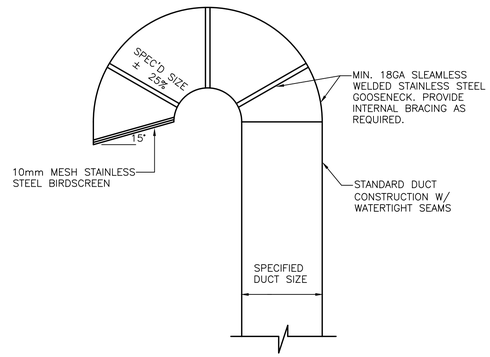


NOTE:
PROVIDE TURNING VANES IN ALL 90° DUCT ELBOWS HAVING A CENTERLINE RADIUS LESS THEN 1/2 TIMES THE DUCT WIDTH.

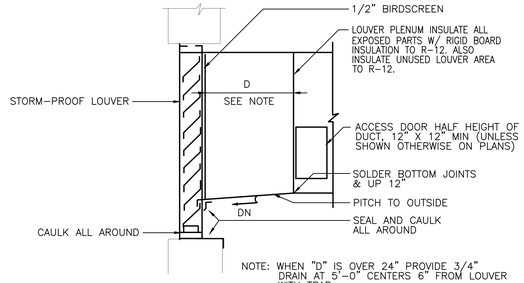
1 TYPICAL 90° DUCT ELBOW DETAIL
NO SCALE



2 BRANCH DUCT CONNECTION DETAIL
NO SCALE



3 GOOSENECK DETAIL
NO SCALE



4 LOUVER CONNECTION
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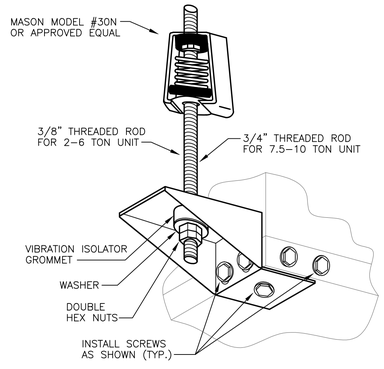
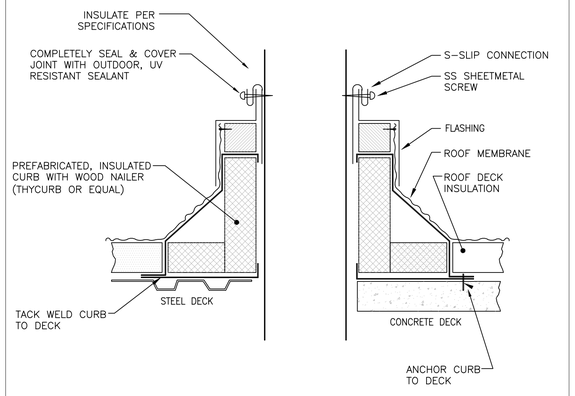
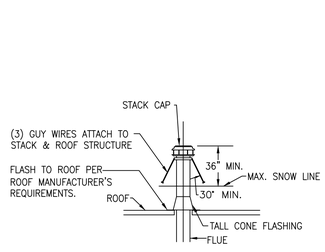


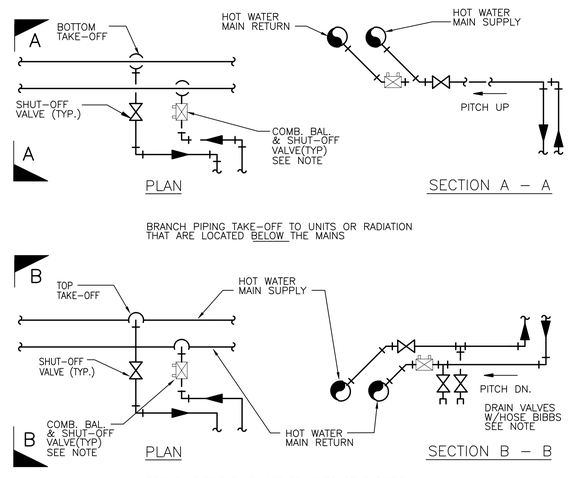
5 HORIZONTAL HEAT PUMP UNIT HANGER KIT ASSEMBLY
NO SCALE



6 DUCT PENETRATION THRU ROOF DETAIL
NO SCALE



7 FLUE & INTAKE THRU ROOF DETAIL
NO SCALE



NOTE: COMBINATION FLOW MEASURING, BALANCING AND SHUT-OFF VALVES REQUIRED ON ALL BRANCHES 1 1/2" AND LARGER. PROVIDE BALL VALVES ONLY FOR ALL BRANCHES 1 1/4" AND SMALLER. PROVIDE 3/4" DRAIN VALVES WITH HOSE BIBBS CONNECTION AS SHOWN ON ALL BRANCHES 1 1/2" AND LARGER. COMBINATION FLOW MEASURING, BALANCING AND SHUT-OFF VALVES, AND DRAIN VALVES WITH HOSE BIBBS ARE ALSO REQUIRED ON ALL BRANCHES, 2 1/2" AND LARGER FROM ALL VERTICAL RISERS. SEE SPECIFICATION SECTION 15500 FOR VALVE REQUIREMENTS.

8 TYPICAL PIPING BRANCH TAKE-OFF DETAIL
NO SCALE

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Hvac Details

NO.	REVISIONS	DATE

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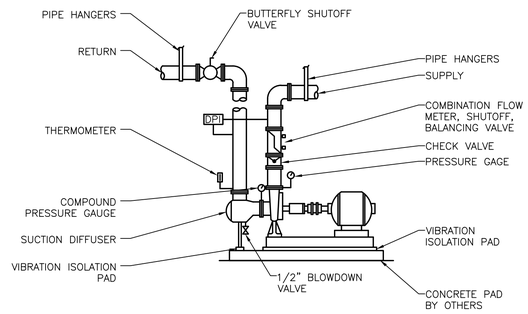
BETA JOB NO.:	6050

SCALE

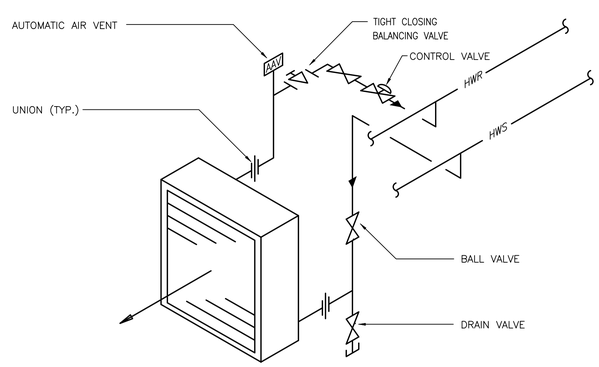
NONE

SHEET NO.

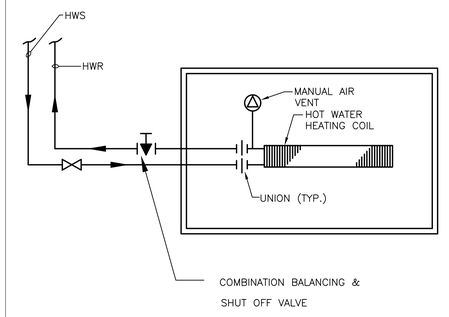
H-0.4



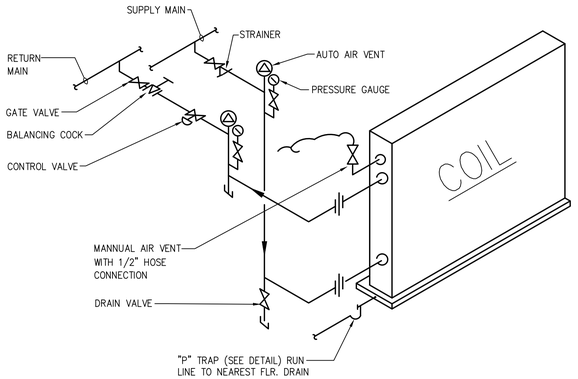
9 BASE MOUNTED PUMP PIPING DETAIL
NO SCALE



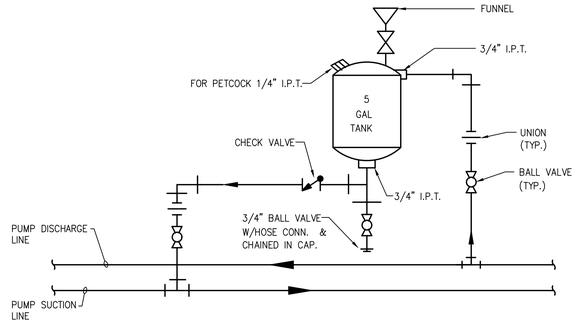
10 UNIT HEATER PIPING DETAIL
NO SCALE



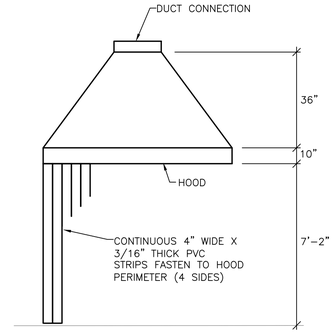
11 HORIZONTAL CABINET HEATER PIPING DETAIL
NO SCALE



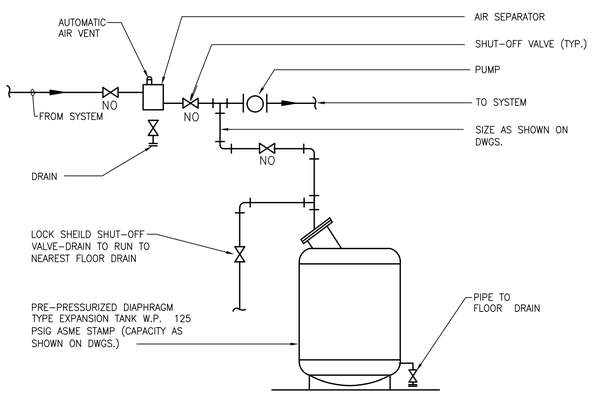
12 SINGLE COIL PIPING DETAIL
NO SCALE



13 CHEMICAL SHOT FEEDER PIPING DETAIL
NO SCALE



14 TYPICAL EXHAUST HOOD
NO SCALE



15 TYPICAL DETAIL PIPING CONNECTIONS TO EXPANSION TANKS
NO SCALE

PREPARED BY
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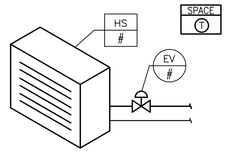
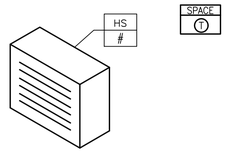
SCALE
NONE

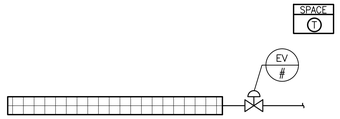
SHEET NO.
H-0.5



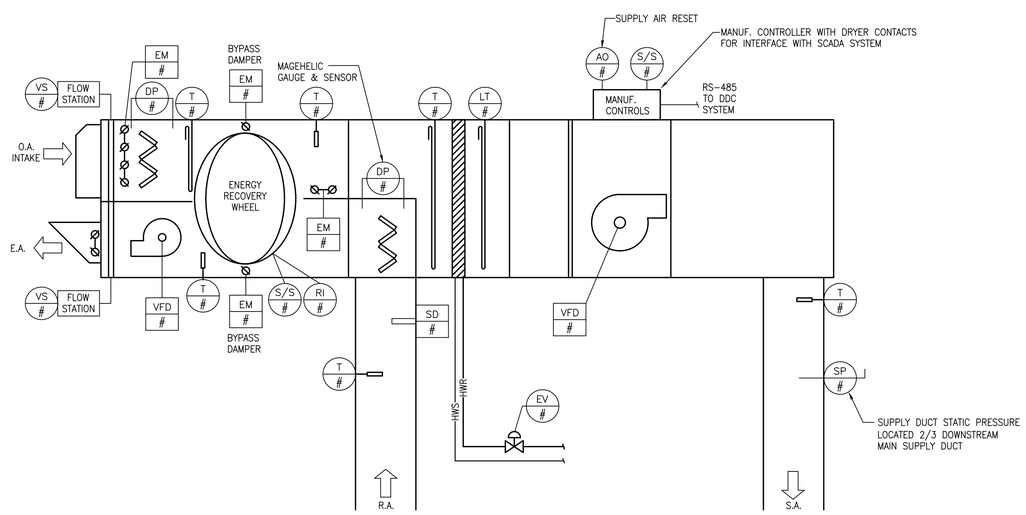
1 TYPICAL UNIT HEATER CONTROL DIAGRAM
NO SCALE



2 TYPICAL ELECTRIC CABINET & UNIT HEATER CONTROL DIAGRAM
NO SCALE



3 TYPICAL BASEBOARD HEAT CONTROL DIAGRAM
NO SCALE



8 TYPICAL ENERGY RECOVERY UNIT CONTROL DIAGRAM
NO SCALE

CONTROLS LEGEND

- SPACE T O # — WALL MOUNTED SPACE TEMPERATURE THERMOSTAT AND/OR OCCUPANCY OVER-RIDE BUTTON
- T # — WATER TEMPERATURE SENSOR/THERMOSTAT
- FS # — DIFFERENTIAL PRESSURE FLOW SENSOR (AIR) PADDLE FLOW SENSOR (WATER)
- DP # — FILTER DIFFERENTIAL SENSOR
- VS # — VELOCITY TRANDUCER
- AO # — ANALOG OUTPUT FROM EMS
- EV # — ELECTRONIC VALVE ACTUATOR
- EM # — ELECTRONIC DAMPER MOTOR ACTUATOR
- T # — DUCT MOUNTED TEMPERATURE SENSOR/THERMOSTAT
- H # — DUCT MOUNTED RELATIVE HUMIDITY SENSOR
- LT # — DUCT MOUNTED LOW TEMP. FREEZE THERMOSTAT
- T # — DUCT MOUNTED AVERAGING THERMOSTAT
- EM # — ELECTRONIC MOTORIZED DAMPER ACTUATOR
- HOA # — HAND-AUTO-OFF STARTER
- SD # — DUCT SMOKE DETECTOR (FURNISHED BY OTHERS)
- OC # — OCCUPANCY SENSOR (COORDINATE W/ ELECTRICAL)
- AL # — ALARM (DIGITAL AND ANALOG)
- SM # — KITCHEN HOOD SMOKE SENSOR
- VS # — VELOCITY SENSOR
- CO_2 # — CO_2 SENSOR
- CO — CO SENSOR
- S/S # — START-STOP
- SC # — SPEED CONTROL
- RI # — RELAY INPUT

ASC	APPLICATION SPECIFIC CONTROLLER
BC	BUILDING CONTROLLER
CAC	CUSTOM APPLICATION CONTROLLER
DDCFP	DDC FIELD PANEL
	CONNECT NEW TO EXISTING

PREPARED BY

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Taunton, MA

TITLE

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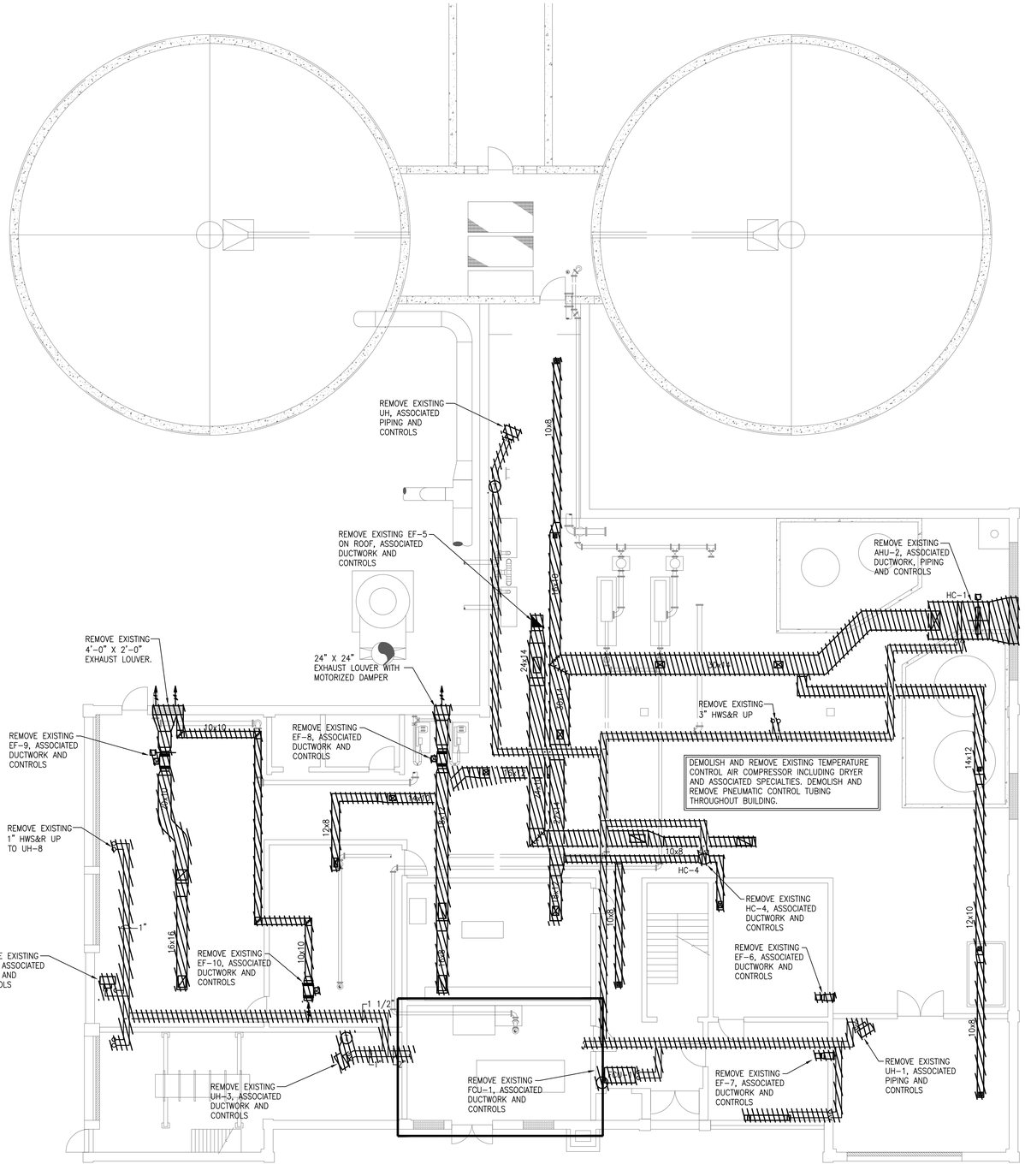
SCALE

NONE

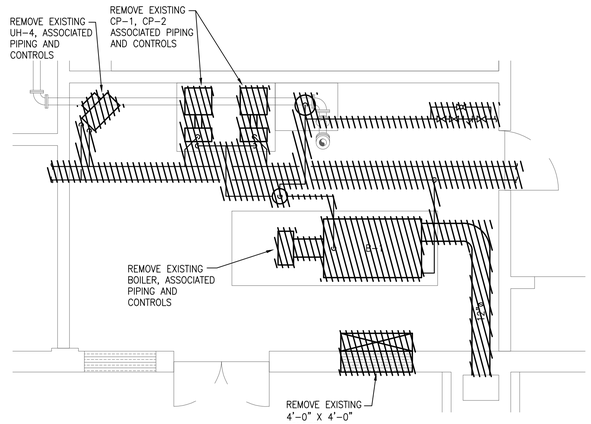
SHEET NO.

H-0.6



FIRST FLOOR - PLAN

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



BOILER ROOM PART PLAN

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

PREPARED BY

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COMMONWEALTH OF MASSACHUSETTS
ROBERT L. BROWN
MECHANICAL
NO. 45535
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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Hvac Demoltion
Solids Handling
Building
First Floor Plan

NO.	REVISIONS	DATE

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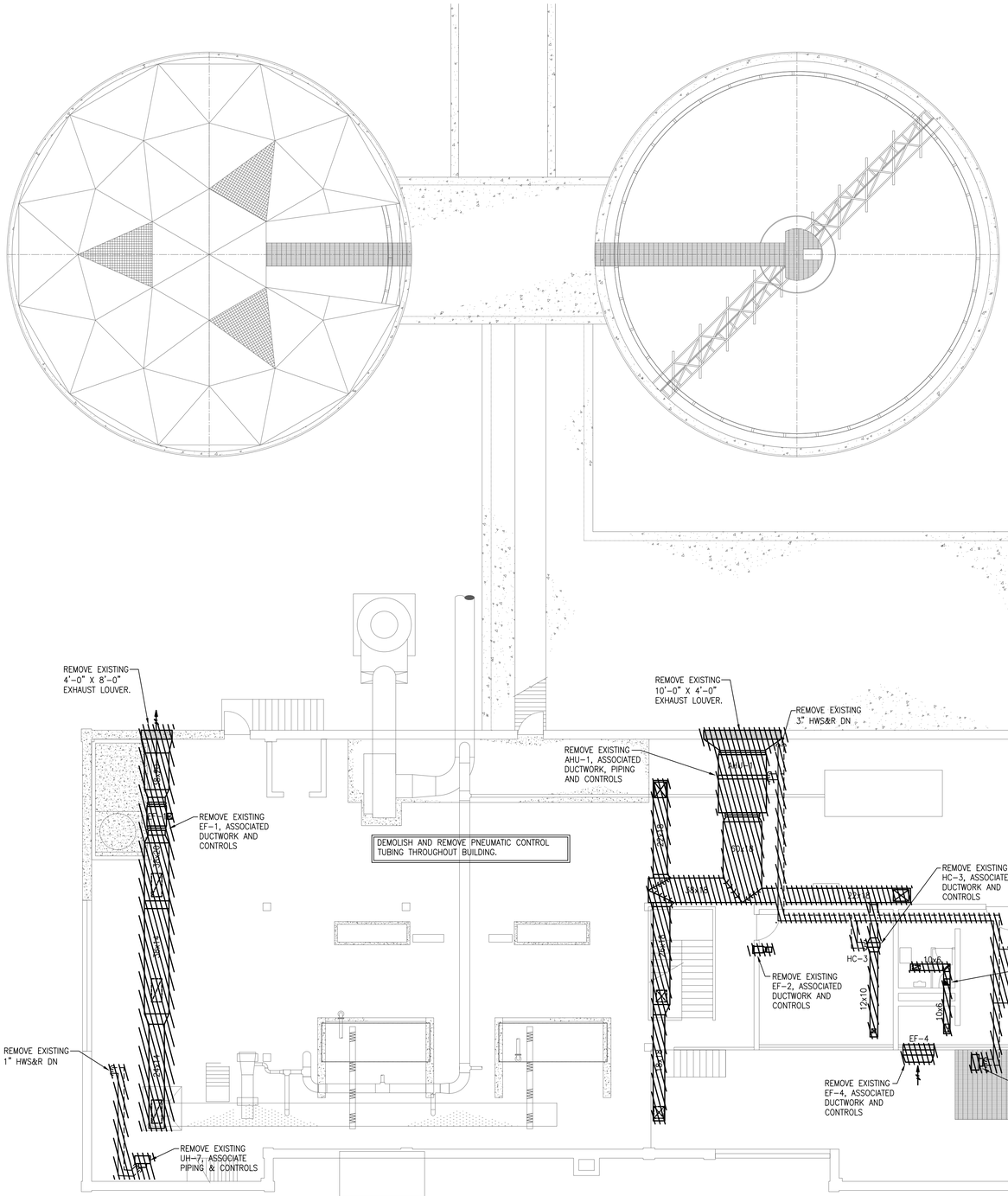
SCALE

AS SHOWN

SHEET NO.

H-7.1



SECOND FLOOR - PLAN

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

11/2/2020 1:28 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADES\HVAC DEPARTMENT\PHASE 1A\18009.00 HVAC SOLIDS HANDLING BUILDING-PHASE 1A.DWG (BETA STB BW.STB)

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Hvac Demolition Solids Handling Building Second Floor Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
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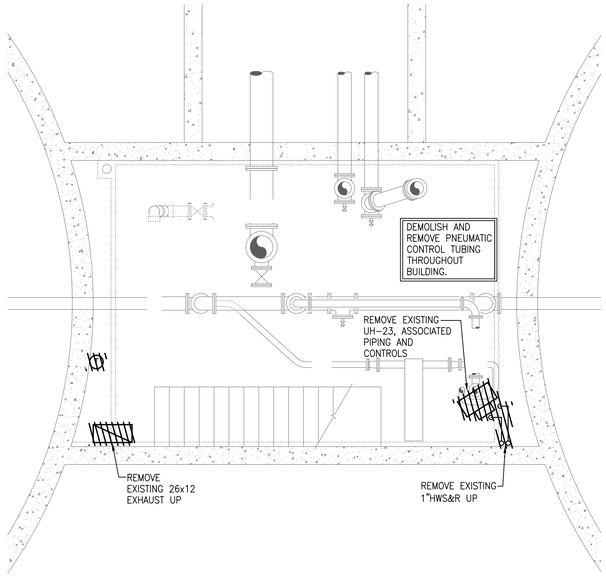
SCALE

AS SHOWN

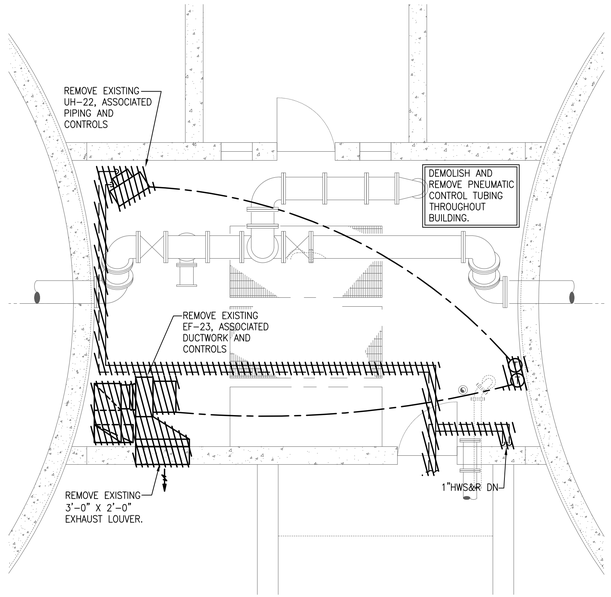
SHEET NO.

H-7.2



LOWER LEVEL - PLAN

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



UPPER LEVEL - PLAN

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

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web: www.sar.com

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Hvac Demolition
Solids Handling
Building
Plans

NO.	REVISIONS	DATE

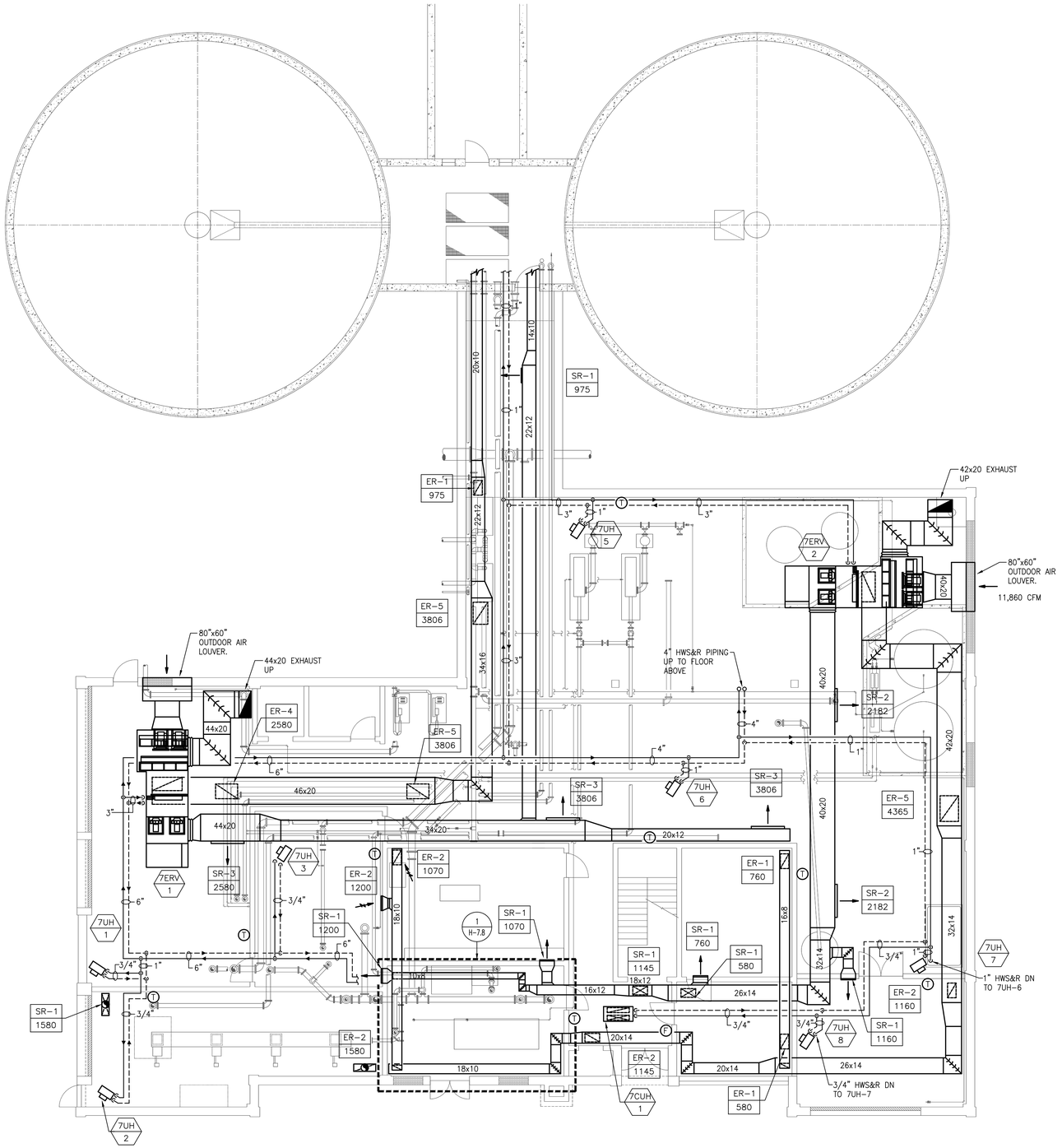
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-7.3



FIRST FLOOR - PLAN

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

PREPARED BY

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ROBERT L. BROWN
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Braintree, Massachusetts 02184
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web: www.sar.com

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Hvac New Work
Solids Handling
Building
First Floor Plan

NO.	REVISIONS	DATE

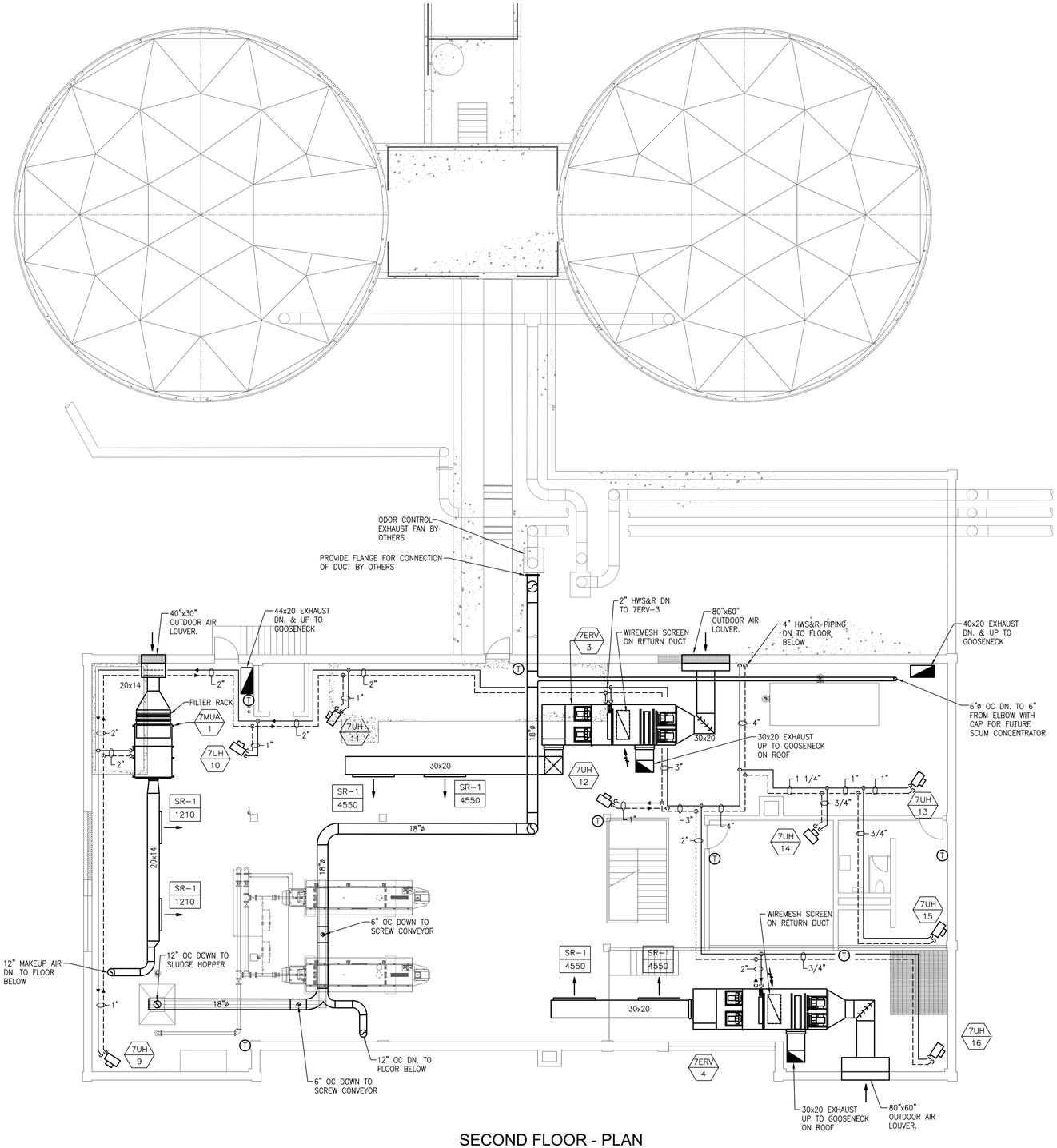
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-7.4



SECOND FLOOR - PLAN

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

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Hvac New Work
Solids Handling
Building
Second Floor
Plan

NO.	REVISIONS	DATE

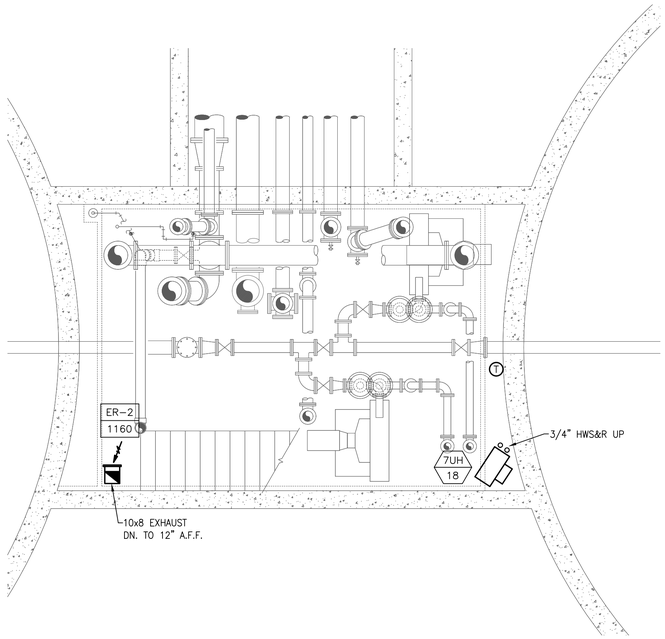
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

AS SHOWN

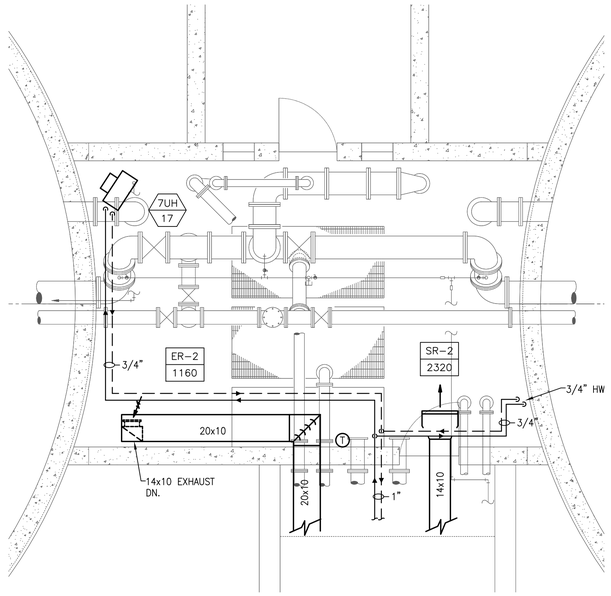
SHEET NO.

H-7.5



LOWER LEVEL - PLAN

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



UPPER LEVEL - PLAN

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

11/2/2020 1:30 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADES\HVAC DEPARTMENT\PHASE 1A\18009.00 HVAC SOLIDS HANDLING BUILDING-PHASE 1A.DWG (BETA STB BW.STB)

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Hvac New Work
Solids Handling
Building
Plans

NO.	REVISIONS	DATE

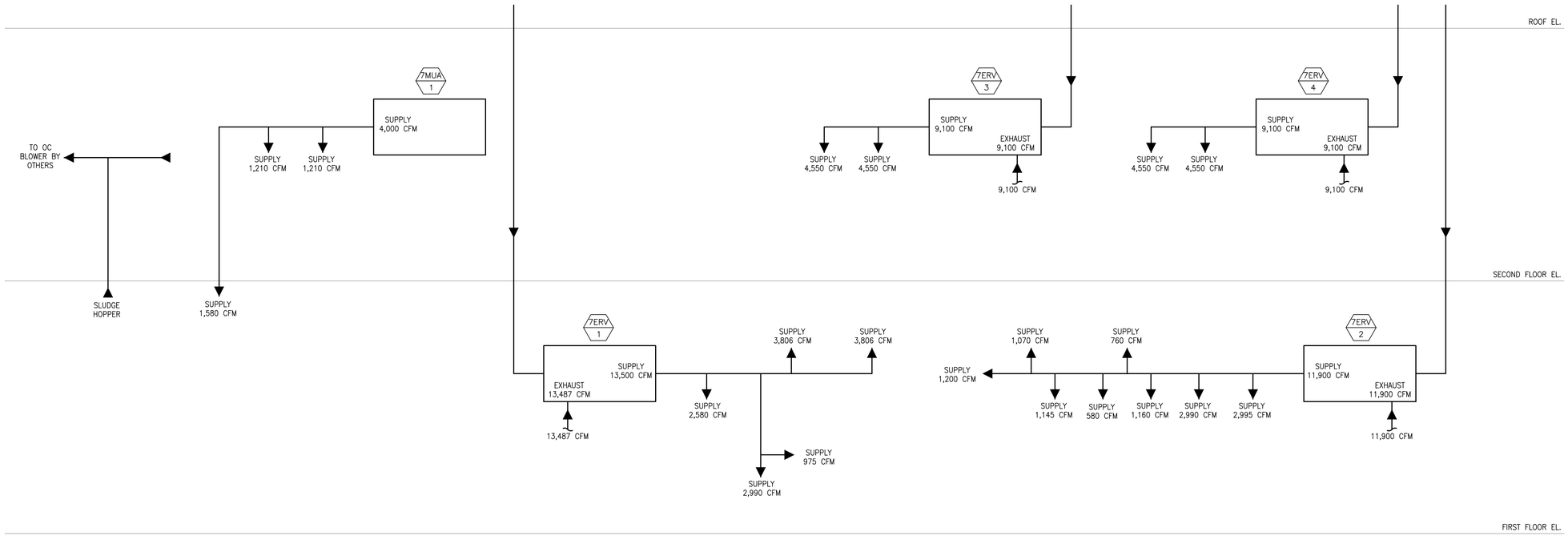
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-7.6



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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Hvac Solids Handling Building Air Flow Diagram

NO.	REVISIONS	DATE

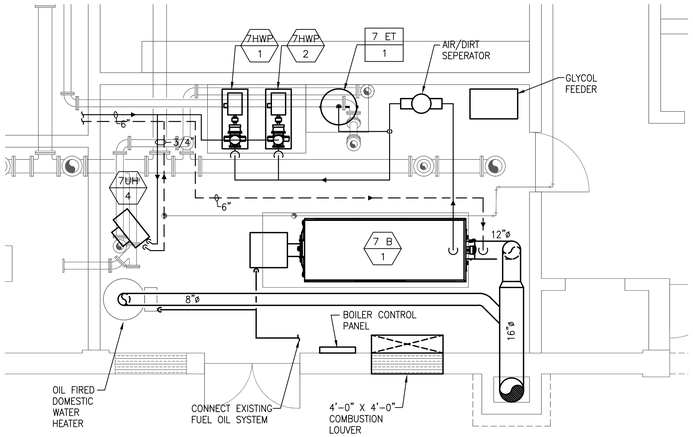
DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

AS SHOWN

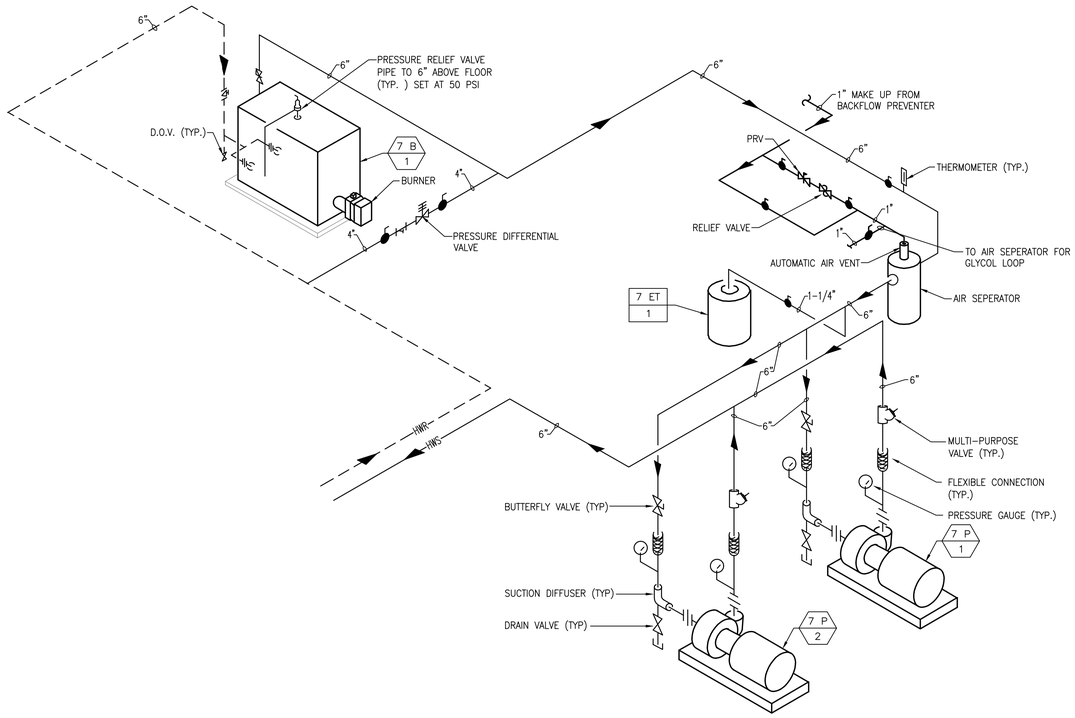
SHEET NO.

H-7.7



BOILER ROOM PART PLAN

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



PIPING SCHEMATIC

NO SCALE

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Hvac New Work
Solids Handling
Building
Boiler Room
Part Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

H-7.8

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 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 P0.2.
5. FOR PLUMBING DETAILS, REFER TO DRAWINGS P0.3 & P.04.
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. PROVIDE ALL FLOOR CLEANOUTS WITH HUB AND SPIGOT; LEAD AND OAKUM JOINTS FROM CLEANOUT TO AND INCLUDING CONNECTION TO SANITARY OR STORM DRAIN.
10. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND HEIGHT OF ALL PLUMBING FIXTURES.
11. MISCELLANEOUS DISCREPANCIES OR OMISSIONS WHICH MIGHT APPEAR ON THE PLANS OR SPECIFICATIONS WILL NOT RELIEVE THE PLUMBING SUB-CONTRACTOR OF CODE COMPLIANCE.
12. ALL NEW FLOOR DRAINS SHALL BE PROVIDED WITH A TRAP PRIMER CONNECTION. CONTRACTOR SHALL PROVIDE ALL ASSOCIATED EQUIPMENT NECESSARY TO PROVIDE A COMPLETE SYSTEM.
13. PROVIDE CLEANOUTS AT ALL CHANGE OF DIRECTIONS FOR STORM AND SANITARY/WASTE PIPING.
14. PROVIDE DANDY CLEANOUTS AT ALL EXPOSED STORM AND SANITARY/WASTE PIPING 18 INCHES (APPROXIMATELY) ABOVE FINISHED FLOOR WHERE PIPING GOES BELOW FINISHED FLOOR/GRADE.
15. PROVIDE WALL CLEANOUTS WITH ACCESS PANELS AT ALL STORM AND SANITARY/WASTE PIPING WITHIN PIPE CHASES OR WALLS.

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
	HW	HOT WATER
	HWR	HOT WATER RECIRCULATION
	S or W	SOIL OR WASTE
	V	VENT
	RW	RAIN WATER CONDUCTOR
OFD	OFD	STORM WATER OVER FLOW DRAINAGE
PD	PD	PUMPED DISCHARGE
	HTI / TMC	HEAT TRACE AND INSULATE
	CONT	CONTINUATION
	UP	PIPE RISE OR UP
	DP OR DN	PIPE DROP OR DOWN
	TEE	PIPE TEE
	SOV	SHUT-OFF VALVE
		SOLENOID VALVE
	VIV	VALVE IN VERTICAL
	CV	CHECK VALVE
	BVA	BALANCING VALVE ASSEMBLY
	W & T	WASTE & TRAP
	OED	OPEN END DRAIN WITH BACKWATER VALVE
	CO	CLEANOUT PLUG
	FCO	FLUSH FLOOR CLEANOUT
	GCO	GRADE CLEANOUT
	DCO	DANDY CLEANOUT
		CAPPED PIPE
		ARROW INDICATES DIRECTION OF FLOW
.01		ARROW INDICATES DIRECTION OF SLOPE
		UNION
	WTS	WATERTIGHT SLEEVE
TP	TP	TRAP PRIMER
	HB	HOSE BIBB
	WH	WALL HYDRANT
1 P-1		DIAGRAM NO. & DWG. NO. REFERENCE
	FD "A"	FLOOR DRAIN & TYPE
	RD "A"	ROOF DRAIN & TYPE
	RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
WM	WM	WATER METER
GM	GM	GAS METER
CO	CO	CARBON MONOXIDE DETECTOR
	T	THERMOMETER
	PG	PRESSURE GAUGE WITH PETCOCK
	T&P	TEMPERATURE AND PRESSURE RELIEF VALVE
	SA	SHOCK ABSORBER WITH SHUT-OFF VALVE
		VACUUM RELIEF VALVE

PLUMBING LEGEND

SYMBOL	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

PREPARED BY
BETA
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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Plumbing Legend and General Notes

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	JL
CHECKED BY:	JL
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

NONE

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.

P-0.1

OIL FIRED WATER HEATER SCHEDULE

DESIGNATION	MANUFACTURER	MODEL	LOCATION	GALS.	RECOVERY		GPH #2 FUEL OIL	OIL CONN. SIZE	FLUE CONN. SIZE	REMARKS
					G.P.H.	△ TEMP °F				
7DWH-1	AO SMITH	COF-199*	SLUDGE BLDG	86	191	100	1.42	1/2"	8"	–

* MANUFACTURERS NAMES AND MODEL NUMBERS ARE SHOWN ONLY TO REPRESENT TYPE, STYLE AND LEVEL OF QUALITY EXPECTED, REFER TO SPECIFICATIONS FOR ACCEPTABLE EQUAL MANUFACTURERS.

CIRCULATING PUMP SCHEDULE

DESIGNATION	LOCATION	WATER HEATER SERVED	MODEL	CAPACITY (GPM)	HEAD (FEET)	TYPE	ELECTRICAL REQUIREMENTS				REMARKS
							RPM	HP	VOLTS	Φ	
7.DWP-1	MECH ROOM	7DWH-1	TACO 006B	2	6	INLINE	3250	1/40	115	1	SERVES 120° HW SYSTEM

* MANUFACTURERS NAMES AND MODEL NUMBERS ARE SHOWN ONLY TO REPRESENT TYPE, STYLE AND LEVEL OF QUALITY EXPECTED, REFER TO SPECIFICATIONS FOR ACCEPTABLE EQUAL MANUFACTURERS.

SHOCK ABSORBER SCHEDULE

PDI RATING SYMBOL	A	B	C	D	E
PRECISION PLUMBING PRODUCTS	SC-500	SC-750	SC-1000	SC-1250	SC-1500
WATTS REGULATOR COMPANY	0750030	0750053	0750060	0750070	0750090
WADE	5-P	10-P	20-P	50-P	75-P

* MANUFACTURERS NAMES AND MODEL NUMBERS ARE SHOWN ONLY TO REPRESENT TYPE, STYLE AND LEVEL OF QUALITY EXPECTED, REFER TO SPECIFICATIONS FOR ACCEPTABLE EQUAL MANUFACTURERS.

** PROVIDE WITH SHUT-OFF VALVE.

PLUMBING FIXTURE SCHEDULE

DESIGNATION	FIXTURE DESCRIPTION	CONNECTION SIZE							REMARKS
		W1	HW1	BLW	SAN	V	NPW1	NPHW1	
EWU-1	EMERGENCY SHOWER/EYEWASH	–	–	1 1/4"	–	–	–	–	INTERIOR MOUNTED, CORROSION RESISTANT, EMERGENCY SHOWER/EYEWASH (COMBINATION UNIT) WITH HORN, STROBE AND FLOW SWITCH

SUMP PUMP SCHEDULE

DESIGNATION	LOCATION	MODEL	CAPACITY (GPM)	HEAD (FEET)	TYPE	ELECTRICAL REQUIREMENTS				REMARKS
						RPM	HP	VOLTS	Φ	
7SP-1	SLUDGE HANDLING	WEIL 2443	20	40	DUPLEX SUBMERSIBLE	1350	2	480	3	AUTOMATIC WITH FLOAT

PREPARED BY

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REGISTERED PROFESSIONAL

SUBCONSULTANT

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Plumbing Schedules

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

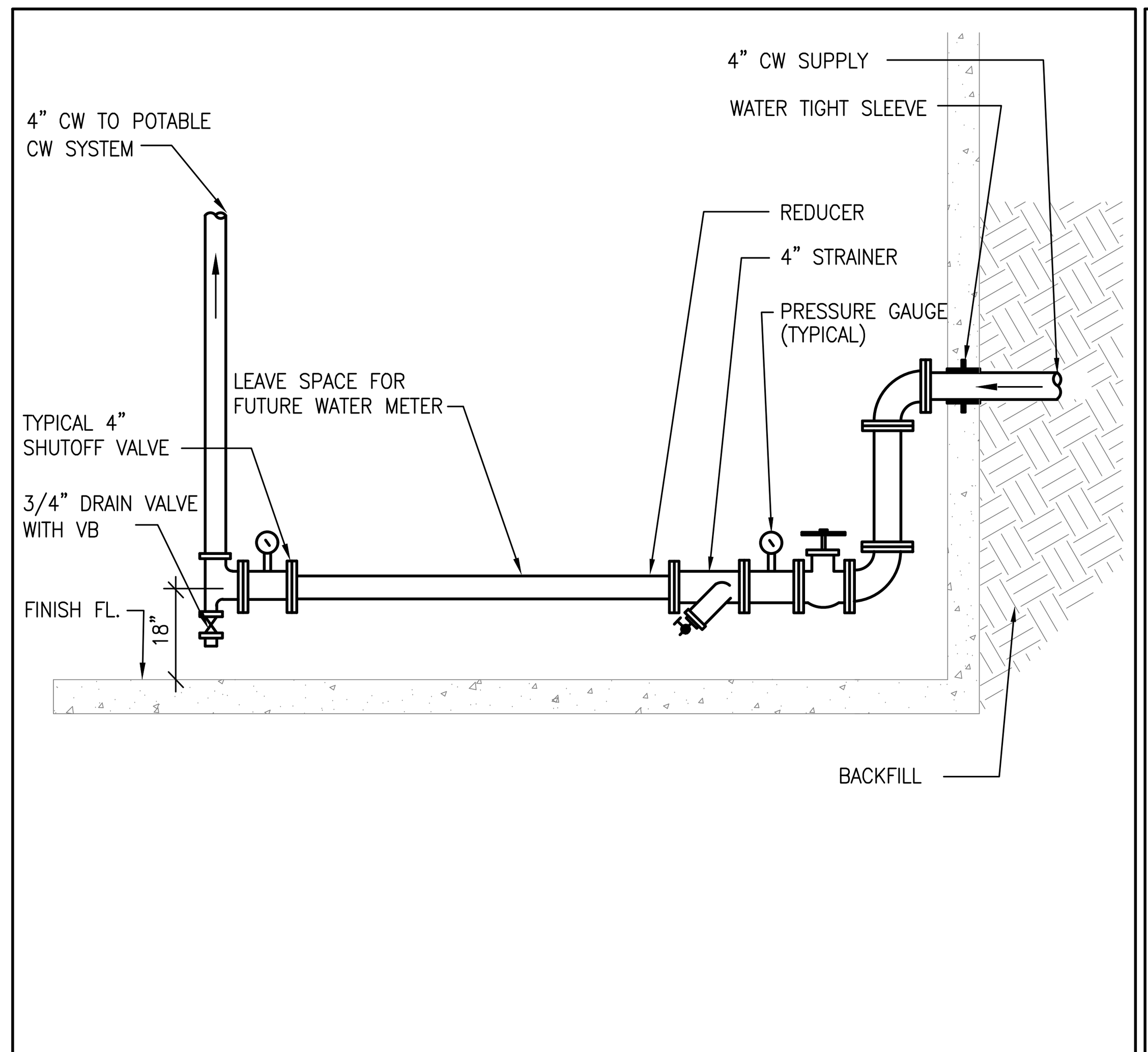
SCALE

NONE

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

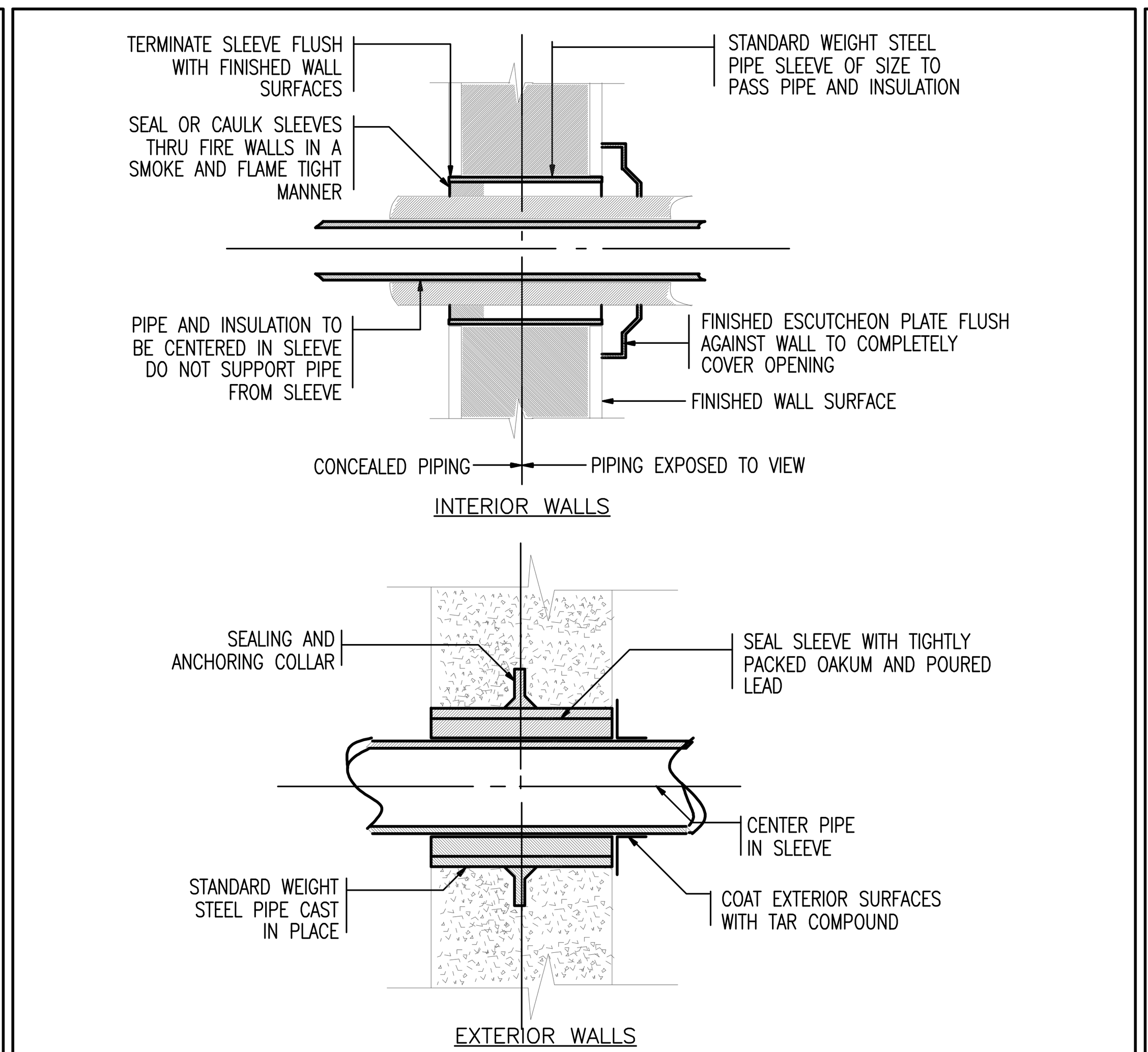
SHEET NO.

P-0.2



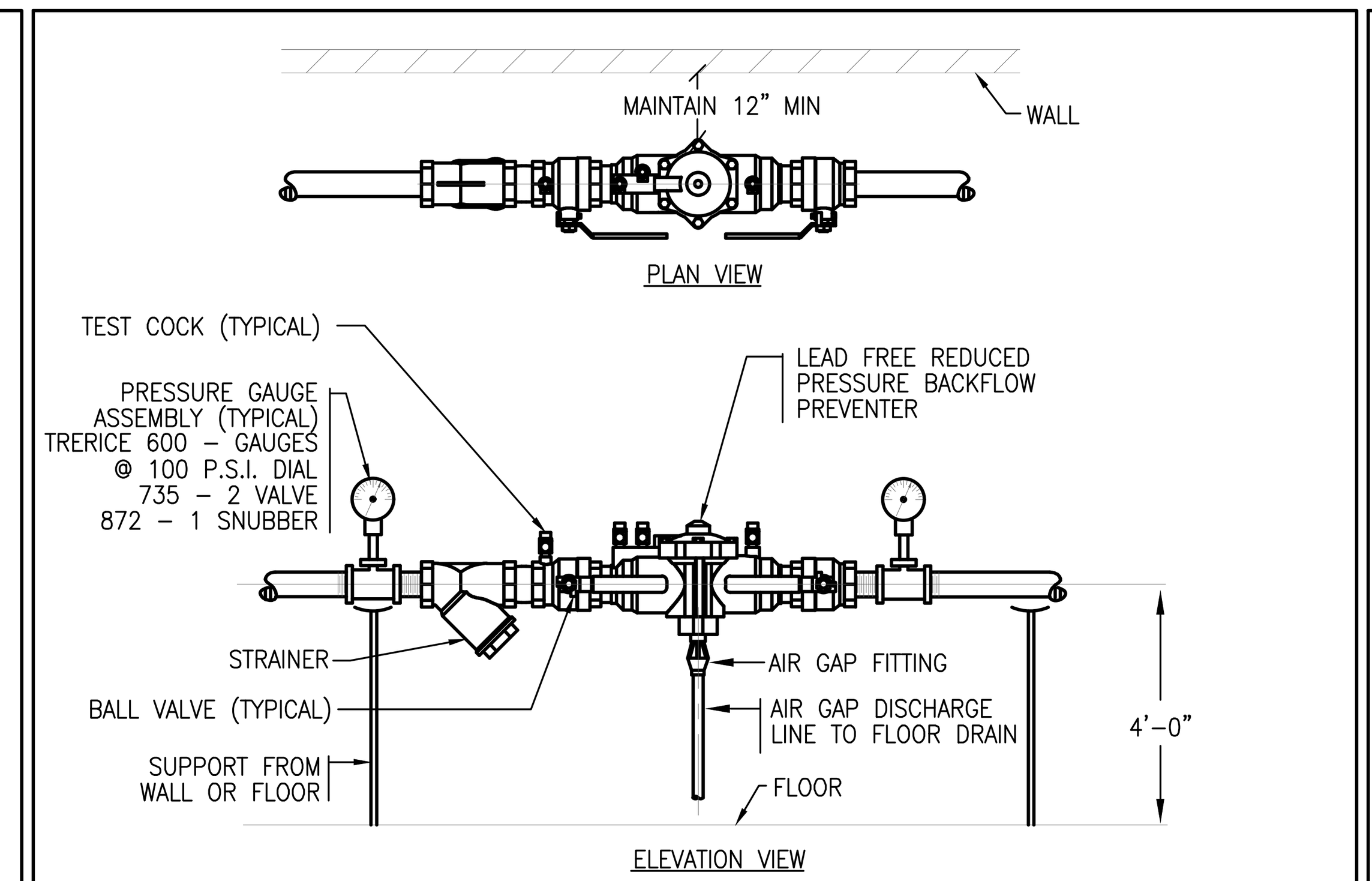
1 DOMESTIC WATER METER DETAIL

NTS



2 PIPING SLEEVE DETAIL

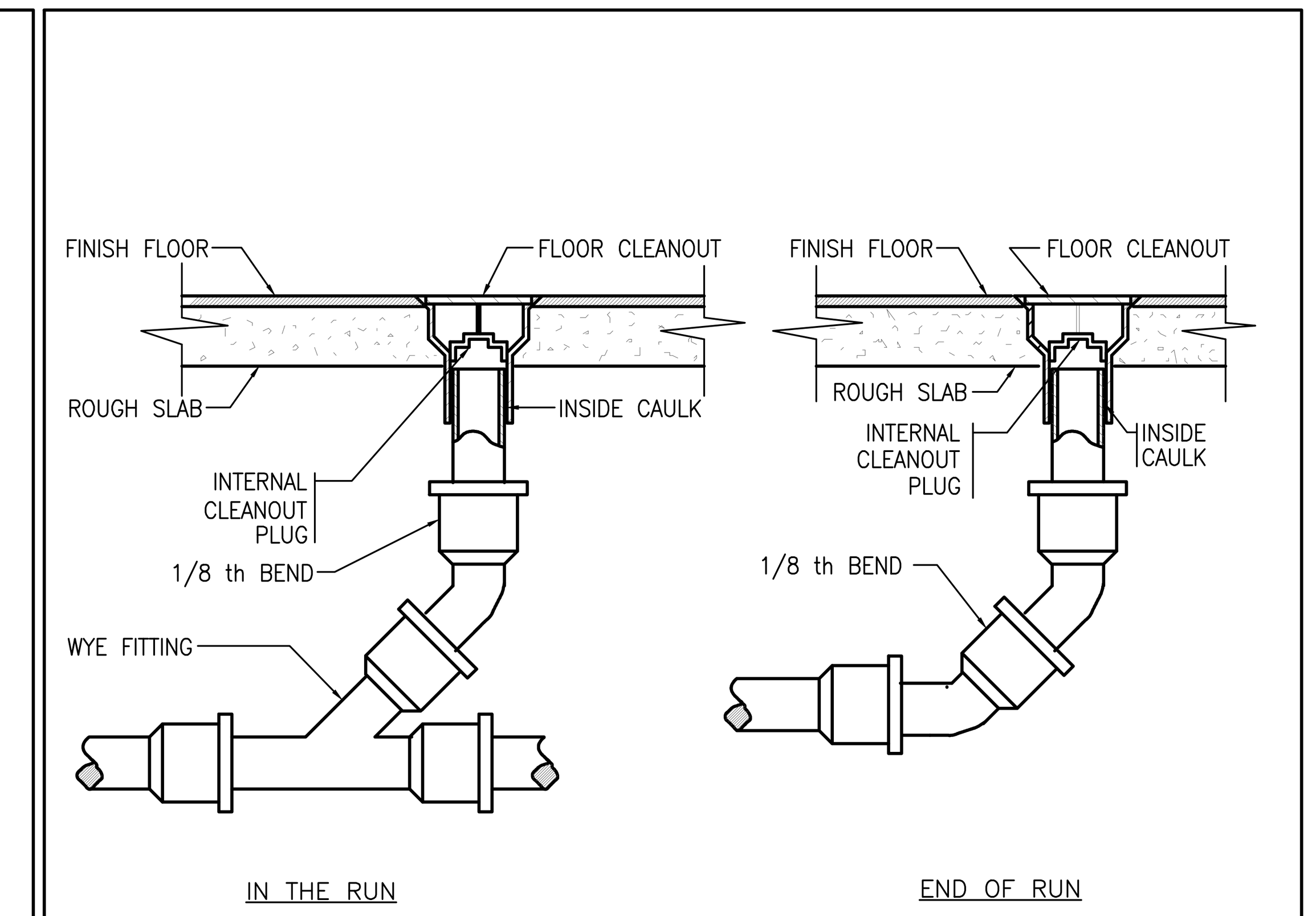
NTS



NOTES:
1. BACKFLOW PREVENTER SHALL BE APPROVED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AGENCY.
2. BACKFLOW PREVENTER SHALL BE IN COMPLETE ACCORDANCE WITH AUTHORITIES HAVING JURISDICTION. THE PLUMBING CONTRACTOR SHALL SUBMIT PLANS AND DEVICE INFORMATION FOR APPROVAL PRIOR TO INSTALLATION.
3. FURNISH TO OWNER ONE TEST KIT AND SPARE PARTS KIT FOR EACH DEVICE.
4. THIS CONTRACTOR SHALL ACT AS THE OWNERS AGENT IN SEEKING APPROVAL FROM ALL LOCAL AND STATE AUTHORITIES. THIS CONTRACTOR SHALL SUBMIT ALL PLANS, SPECS. AND APPLICATIONS REQUIRED FOR APPROVAL AND PAY ALL FEES.
5. SEE FLOOR PLANS FOR SIZES.
6. MAINTAIN 1'-0" CLEARANCE FROM WALL.

3 RPZ BACKFLOW PREVENTER DETAIL

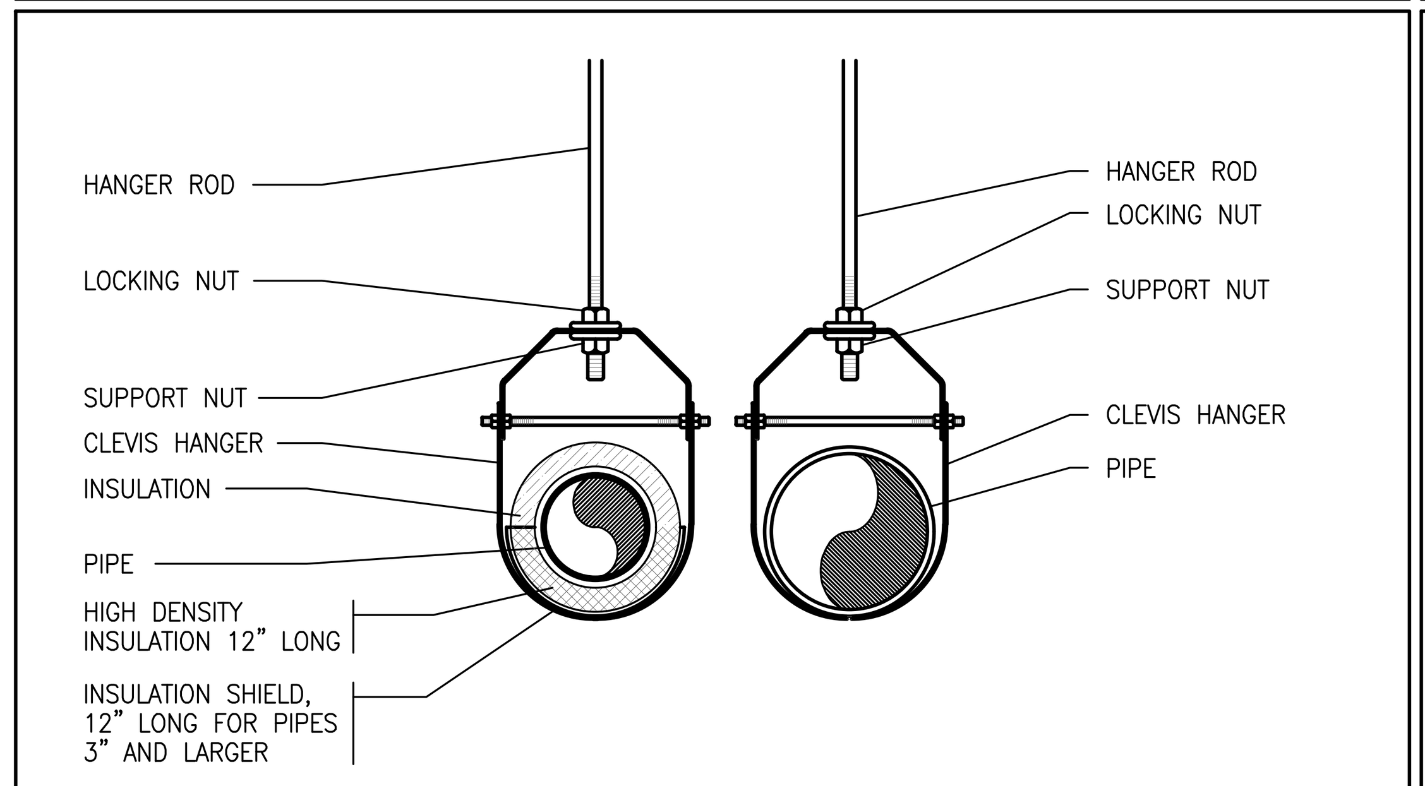
NTS



NOTE:
1. ALL COVERS IN TILE FLOORS SHALL BE RECESSED TYPE TO RECEIVE TILE.

4 FLOOR CLEANOUT DETAIL

NTS



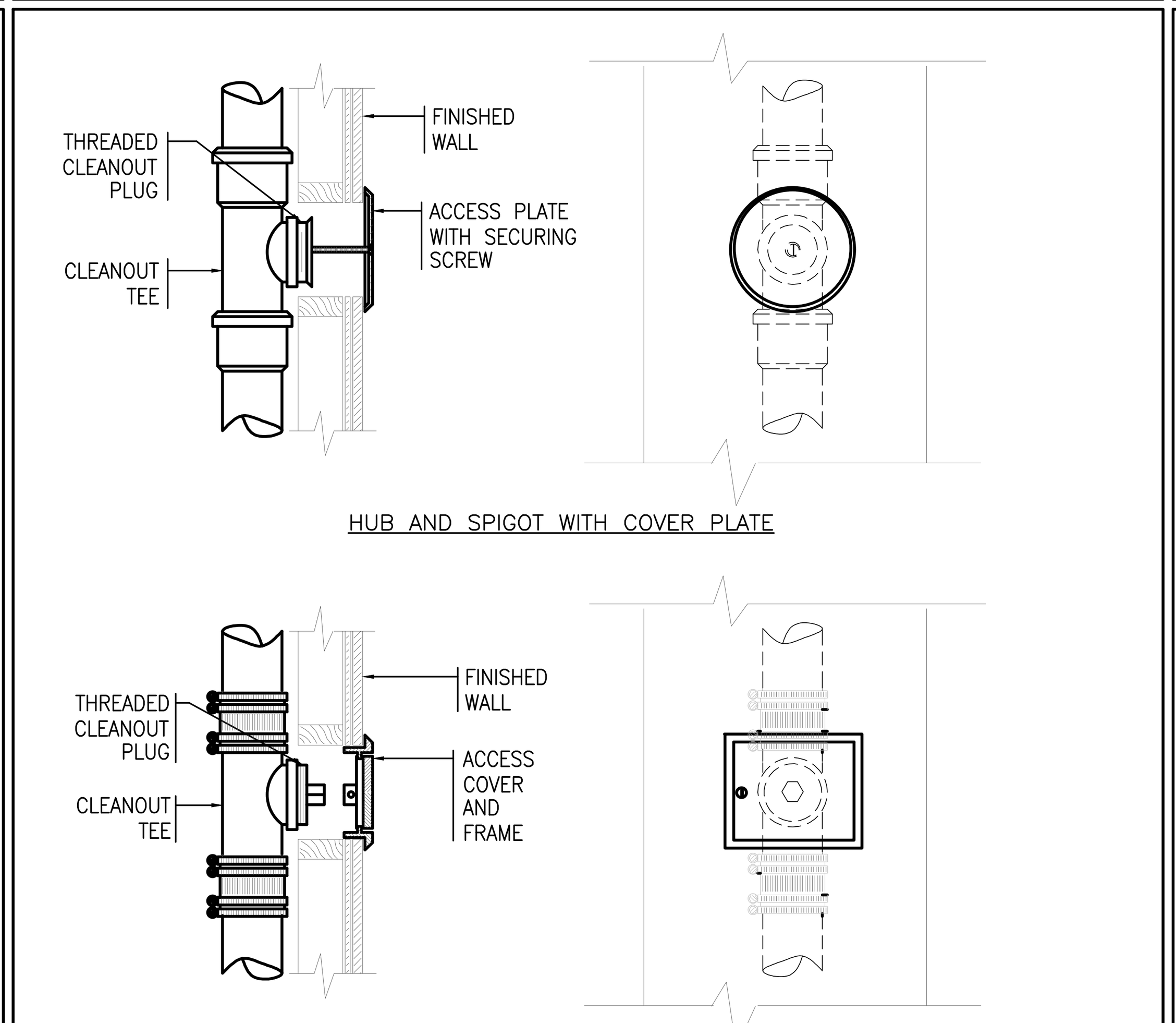
HANGER ROD SCHEDULE	
PIPE SIZE	ROD SIZE
UP TO 2"	3/8" DIA.
2 1/2" THRU 3"	1/2" DIA.
4" AND 5"	5/8"
6" THRU 8"	3/4"
12"	7/8"

HANGER ROD SPACING	
PIPE SIZE	MAX. ALLOWABLE SPACING
1"	7'
1 1/4"	8'
1 1/2"	9'
2"	10'
2 1/2"	11'
3" THRU 8"	12'
10" & 12"	15'

INSULATED AND NON INSULATED PLUMBING SYSTEMS

5 CLEVIS PIPE HANGER DETAIL

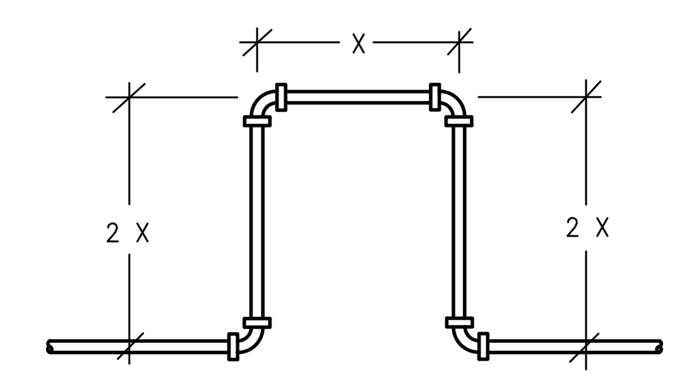
NTS



NO-HUB WITH ACCESS COVER

6 WALL CLEANOUTS DETAIL

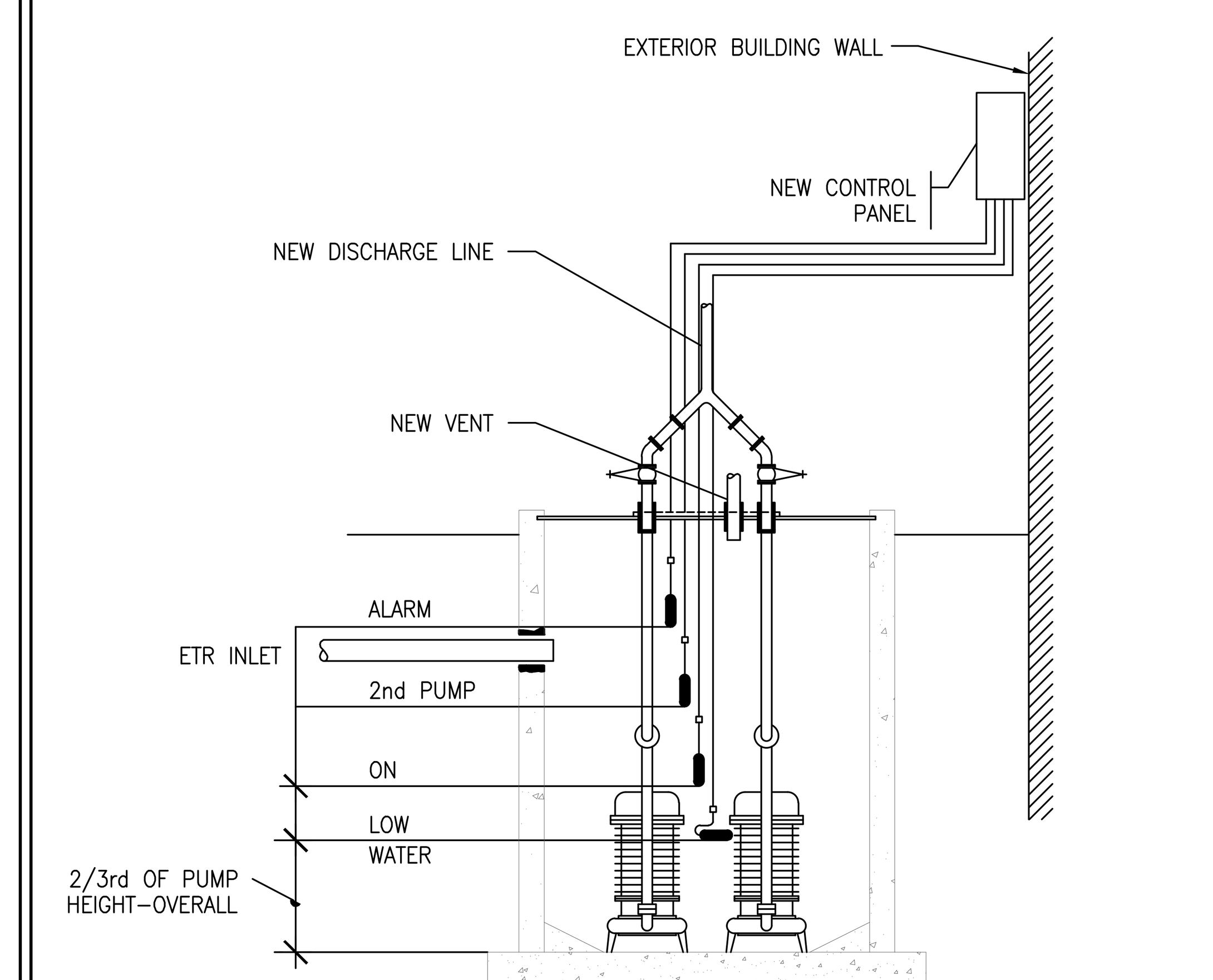
NTS



SIZE OF MAIN	"X"
1/2"	1'-8"
3/4"	1'-10"
1"	2'-1"
1-1/4"	2'-4"
1-1/2"	2'-6"
2"	2'-9"
2-1/2"	3'-0"
3"	3'-3"

7 EXPANSION LOOP DETAIL

NTS



8 NEW EJECTOR PUMPS IN EXISTING PIT DETAIL

NTS

PREPARED BY

BETA

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Plumbing Details

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

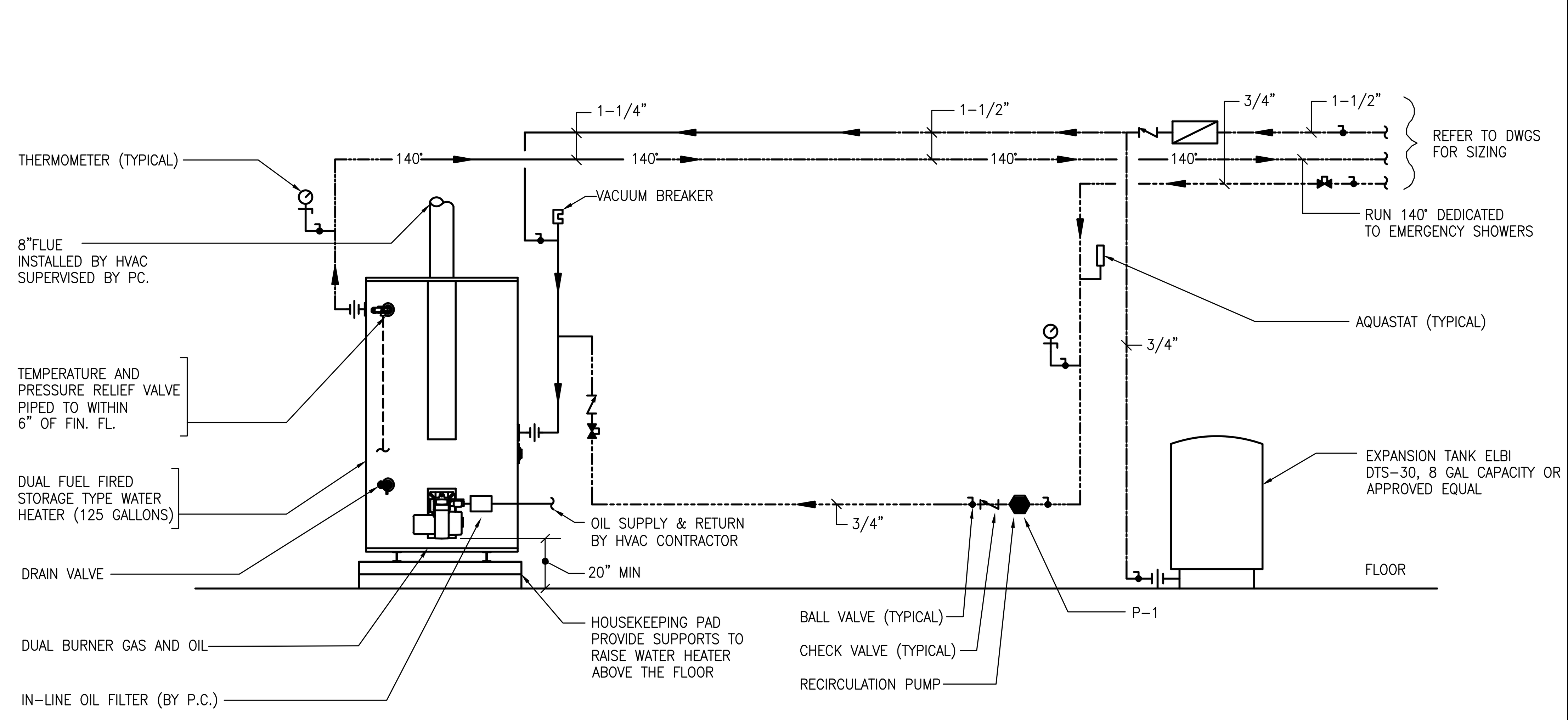
SCALE

NONE

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO.

P-0.3



9 OIL FIRED WATER HEATER DETAIL

NTS

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Plumbing Details

NO.	REVISIONS	DATE

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DESIGNED BY:	RHB
CHECKED BY:	RHB
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

NONE

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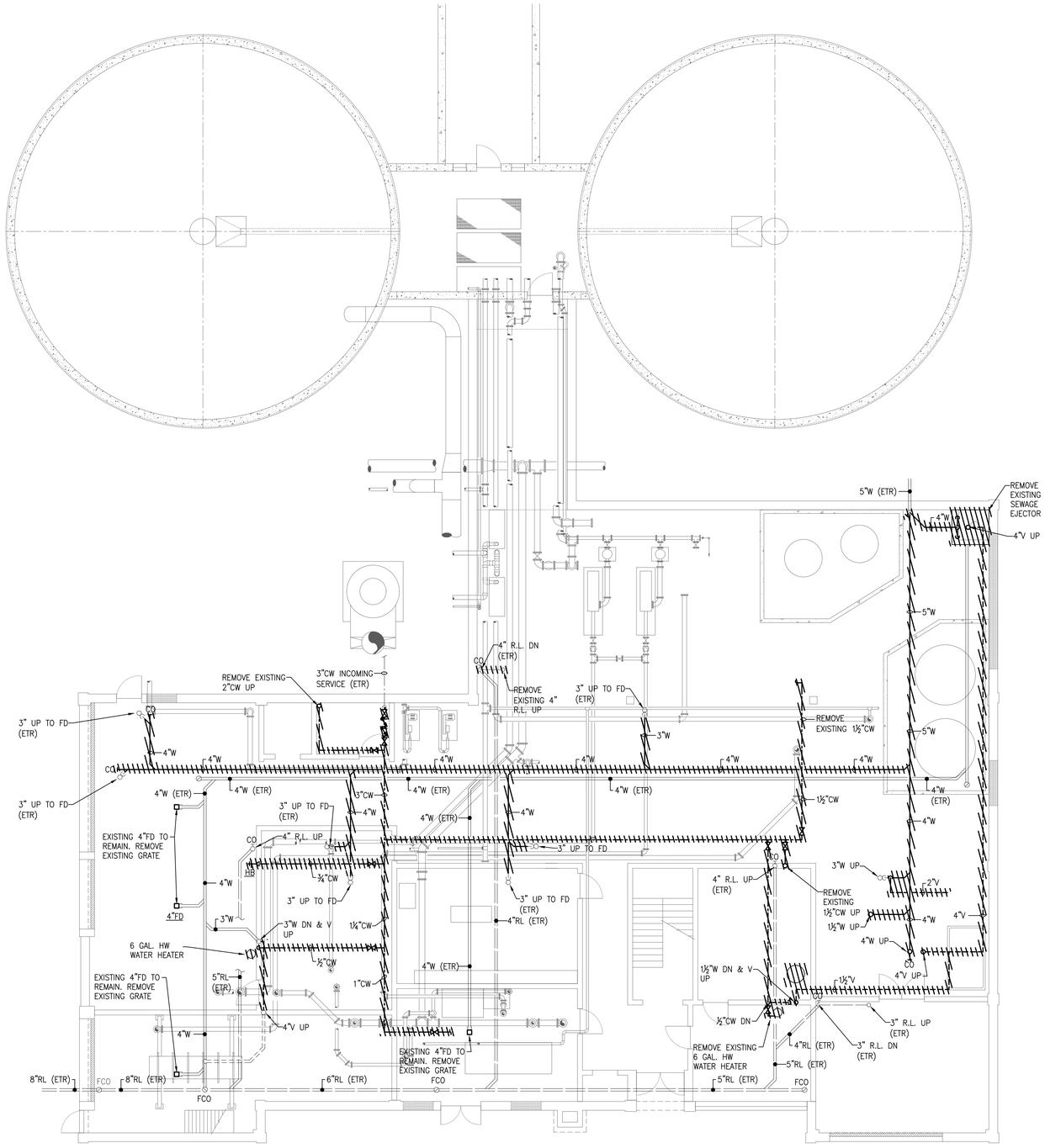
SHEET NO.

P-0.4

11/2/2020 1:21 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADES\PLUMBING DEPARTMENT\PHASE 1A\18009.00 PLUMBING LEGEND SCHEDULES DETAILS-PHASE 1A.DWG (BETA STB BW.STB)



FIRST FLOOR - PLAN

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

PREPARED BY

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150 Grossman Drive, Suite 309
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617 328-9215
web: www.sar.com

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Plumbing Demolition Solids Handling Building First Floor Plan

NO.	REVISIONS	DATE

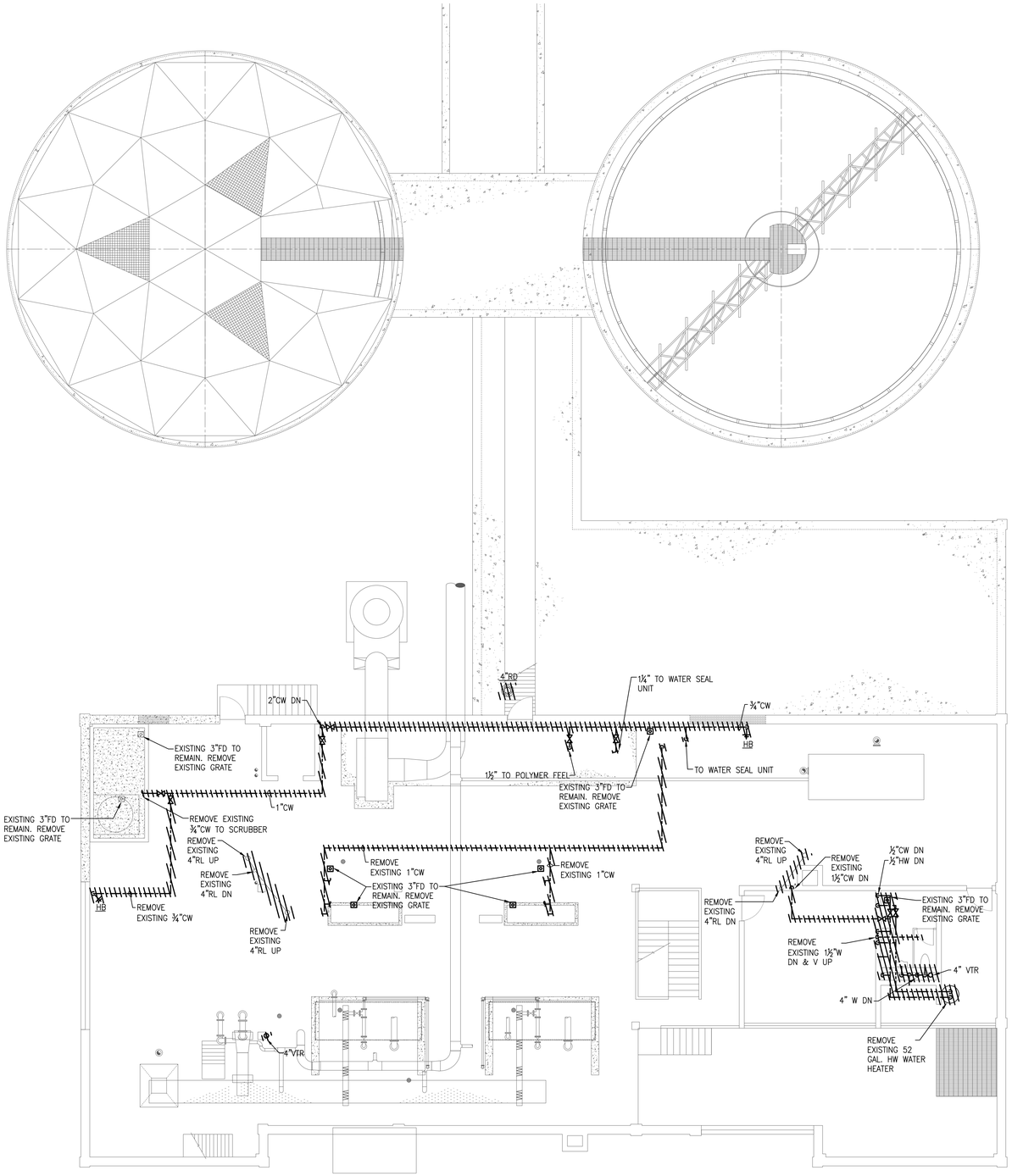
DRAWN BY:	RLB
DESIGNED BY:	RLB
CHECKED BY:	JL
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

P-7.1



SECOND FLOOR - PLAN

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

11/2/2020 1:21 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADES\PLUMBING DEPARTMENT\PHASE 1A\18009.00 PLUMBING SOLIDS HANDLING BUILDING & TANK-PHASE 1A.DWG (BETA STB BW.STB)

PREPARED BY

BETA
www.BETA-Inc.com

REGISTERED PROFESSIONAL

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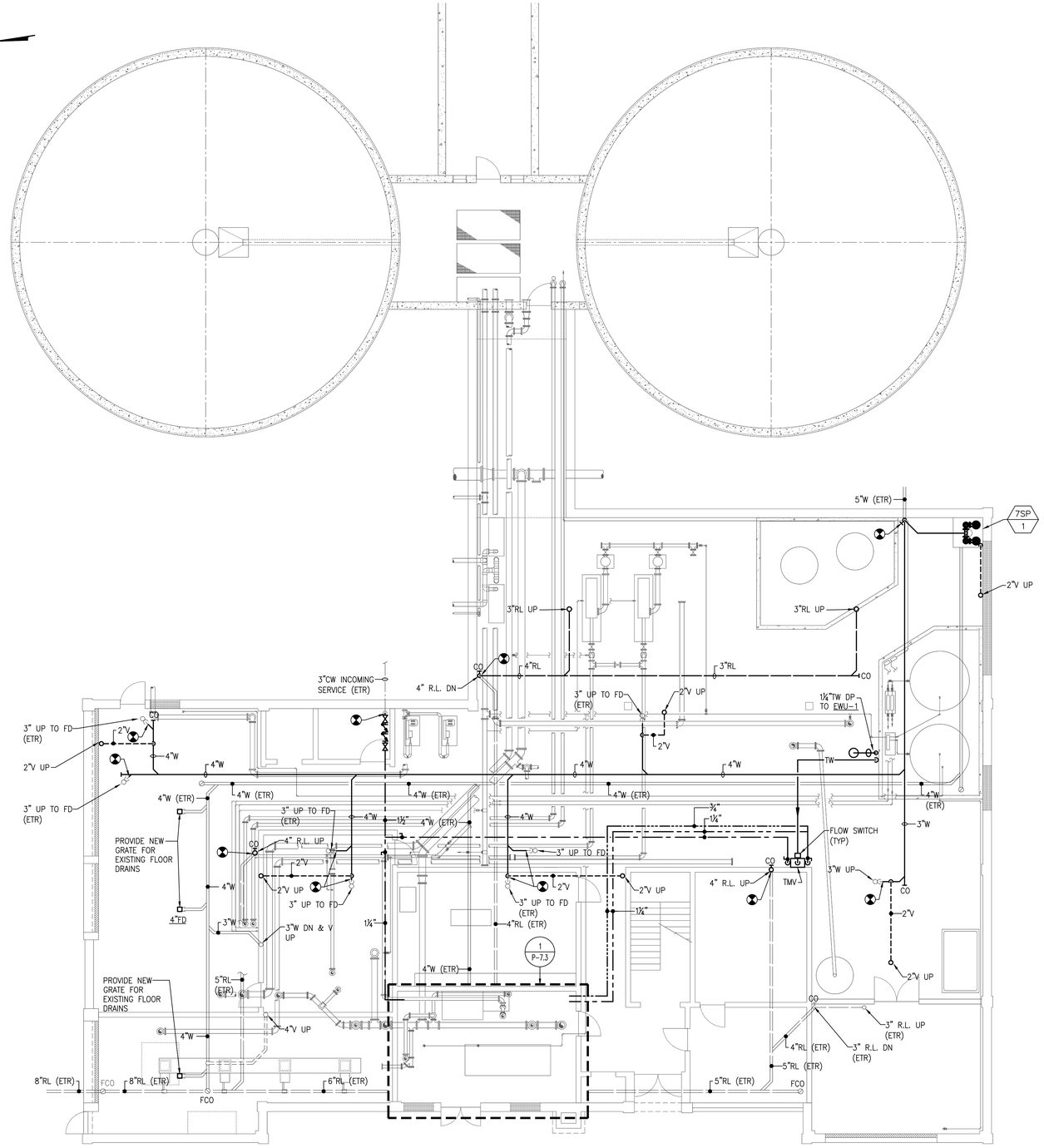
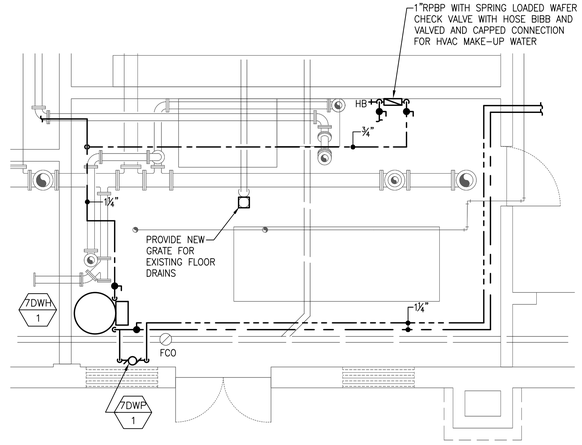


FIRST FLOOR - PLAN

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



BOILER ROOM PART PLAN

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

PREPARED BY

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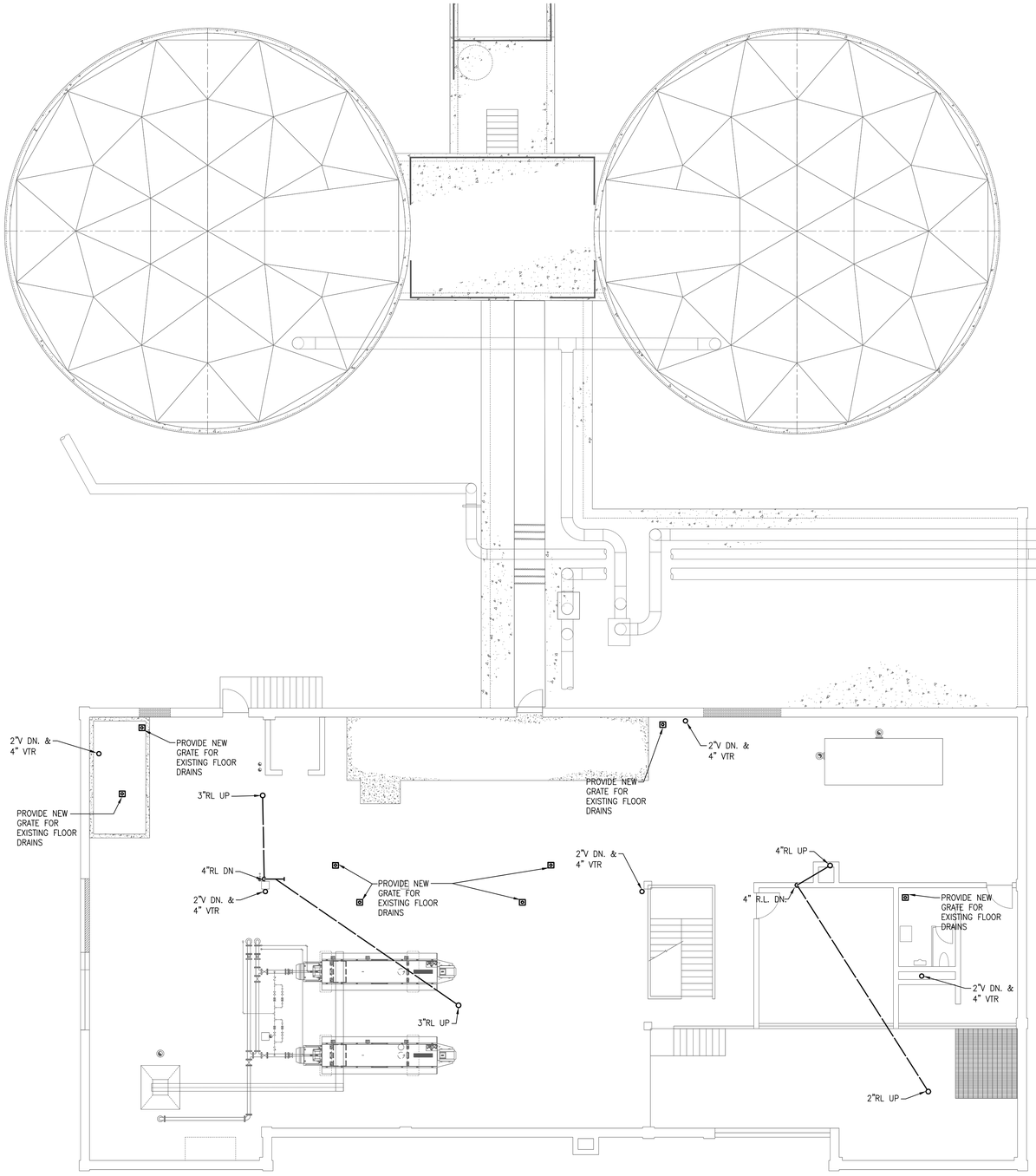

SECOND FLOOR - PLAN

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

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JAMES A. LUCE PLUMBING No. 38996 REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS

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SCALE

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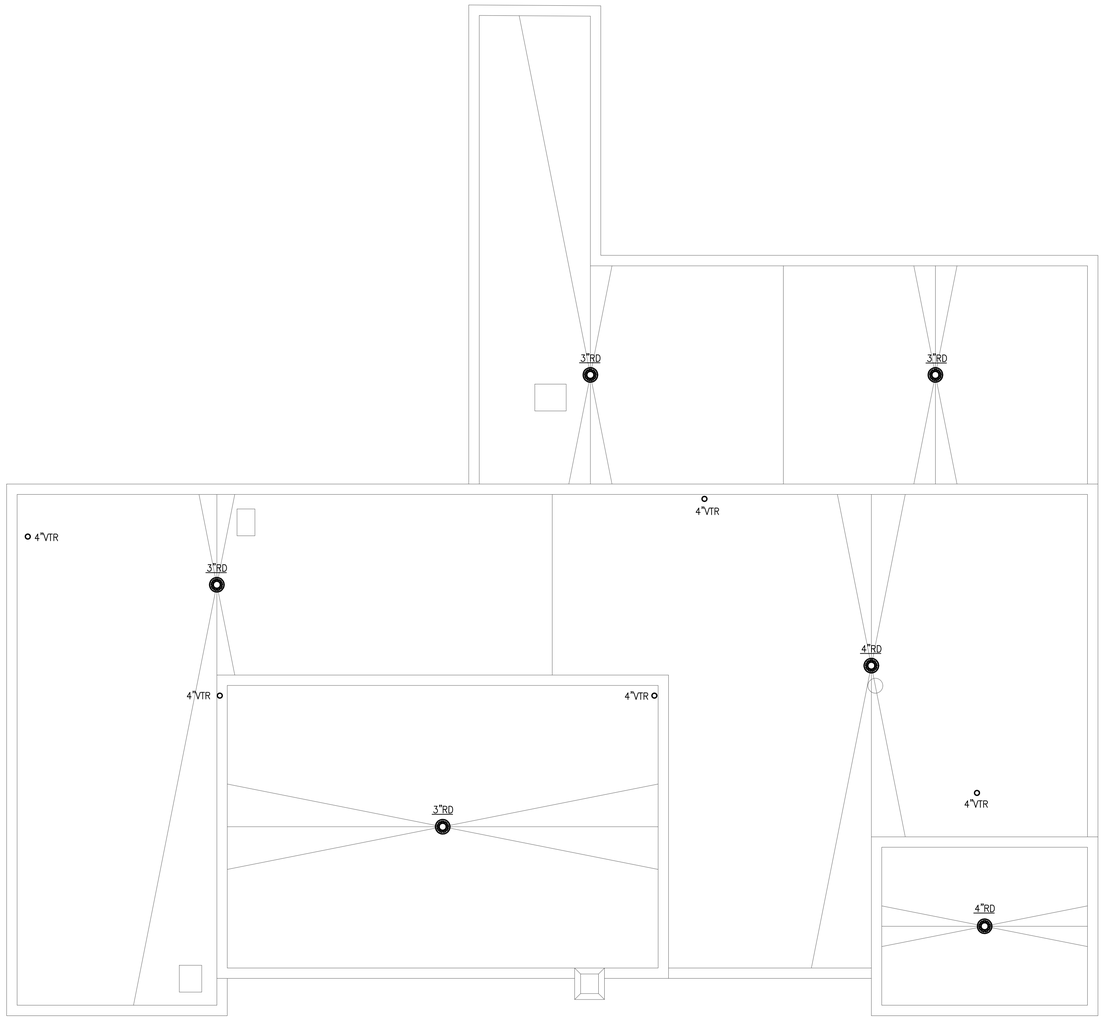

ROOF - PLAN

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

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Plumbing Solids Handling Building Roof Plan

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SCALE

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SHEET NO.

P-7.5

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.
	SURFACE OR PENDANT MOUNTED FIXTURE.
	POLE MOUNTED SITE LIGHT 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
LCP	LIGHTING CONTROL PANEL
Φ_1	DUPLEX RECEPTACLE, WEATHER–RESISTANT 120V, 20A WITH WEATHERPROOF COVER "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 UNLESS OTHERWISE NOTED WITH WEATHERPROOF COVER
$\square_{30}$	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	WALL MOUNTED COMBINATION MOTOR STARTER WITH MOTOR CIRCUIT PROTECTOR, "FVNR" INDICATES TYPE OF MOTOR STARTER
MCP / FVNR	MOTOR STARTER WITH MOTOR CIRCUIT PROTECTOR, "FVNR" INDICATES TYPE OF MOTOR STARTER
VFD	ENCLOSED VARIABLE FREQUENCY DRIVE
Sm	MANUAL MOTOR STARTER 120V, 20A
J J	JUNCTION 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.
	EYS TYPE CONDUIT SEAL
SPD	SURGE PROTECTION DEVICE
	UTILITY POLE
20 / 100 / GFCI	MOLDED CASE CIRCUIT BREAKER, 3–POLE UNLESS OTHERWISE INDICATED, "20" INDICATES TRIP AMPERE RATING, "100" INDCATES FRAME SIZE, "GFCI" INDICATES CIRCUIT BREAKER TO HAVE GROUND FAULT CIRCUIT INTERRUPT
	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	CABLE/CONDUIT DESIGNATION, "XX" REFERS CABLE CONDUIT REFERENCE, REFER TO CABLE/CONDUIT SCHEDULES.
OS–XXXX / YYY	OPERATOR STATION (SUPPLIED BY OTHER DIV. 16 UNO), "XXXX" REFERS TO TAGNAME ID, "YYY" REFERS TO THE TYPE OF OPERATOR STATION
XX–XXXX	UNLESS OTHERWISE NOTED INSTRUMENATION OR PROCESS EQUIPMENT (SUPPLIED BY OTHER DIVISIONS) "XX–XXXX" REFERS TO TAGNAME ID
E	GENERATOR EMERGENCY STOP, PROVIDE WITH 3 SEPARATE NORMALLY CLOSED CONTACTS
0	OCCUPIED/UNOCCUPIED SELECTOR SWITCH. (SUPPLIIED 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,

TELE/DATA LEGEND

1T 2D	WALL MOUNTED DATA OUTLET, 2D INDICATES (2) CAT6 TERMINAL DATA CONNECTORS, 1T INDICATES (1) CAT6 TERMINAL TELEPHONE CONNECTOR
WAP	CEILING MOUNTED WIRELESS ACCESS POINT WITH (1) CAT6 CABLE

DEMOLITION NOTES

1. UNLESS OTHERWISE NOTED, ALL EXISTING ELECTRICAL SYSTEMS WITHIN HATCH MARKS (POWER, LIGHTING, LOW VOLTAGE, CONTROLS, ETC) AND ASSOCIATED EQUIPMENT IS TO BE DEMOLISHED OR SALVAGED. 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. DEMOLITION ONE LINE DIAGRAMS ONLY INDICATE CURRENT ACTIVE EQUIPMENT AND DO NOT INDICATE ABANDONED EQUIPMENT NO LONGER IN SERVICE. DEMOLITION PLAN DRAWINGS INDICATE BOTH ACTIVE AND ABANDONED EQUIPMENT THAT IS REQUIRED TO BE DEMOLISHED.
5. RING OUT CIRCUITS PRIOR TO DEMOLITION TO DETERMINE ACTIVE CIRCUITS AND DEMOLISH ACTIVE CIRCUITS IN ACCORDANCE TO PHASING PLAN.

ELECTRICAL SYMBOLS

GDC	GAS DETECTION SYSTEM – CONTROL PANEL (SUPPLIED BY DIV. 17)
GD	GAS DETECTION SYSTEM – GAS SENSOR DETECTOR (SUPPLIED BY DIV. 17)
A	GAS DETECTION SYSTEM – AMBER ALARM BEACON (SUPPLIED BY DIV. 17)
H	GAS DETECTION SYSTEM – ALARM HORN (SUPPLIED BY DIV.17)

FIRE ALARM SYSTEM SYMBOLS

F	MANUAL FIRE ALARM STATION
F	FIRE ALARM AUDIO/VISUAL DEVICE
F V	FIRE ALARM VISUAL ONLY DEVICE
H	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
H	REMOTE ALARM INDICATING LIGHT
E	MASTER BOX
K	KEY DEPOSITORY – KNOX BOX

GENERAL NOTES

1. GENERAL CONTRACTOR TO PROVIDE CONCRETE HOUSEKEEPING PADS ON ALL FLOOR AND GRADE MOUNTED ELECTRICAL EQUIPMENT, THE FOLLOWING EQUIPMENT IS THE MINIMUM REQUIREMENT FOR HOUSEKEEPING PADS. ADDITIONAL PADS MAYBE REQUIRED BASED ON THE ELECTRICAL CONTRACTORS MOUNTING METHODS, ELECTRICAL CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR FOR ALL HOUSEKEEPING PAD SIZES AND LOCATIONS.
   1.1. DISTRIBUTION PANELBOARDS
   1.2. DRY TYPE TRANSFORMERS
   1.3. FREE STANDING VFDS AND CONTROL PANELS
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.

TEMPORARY WORK NOTES

1. WORK INDICATED AS TEMPORARY SHALL BE DONE ACCORDANCE WITH NEC ARTICLE 590, INSTALLED IN A NEAT MANNER AND WORKMAN LIKE MANNER.
2. THE USE OF PVC CONDUIT, SE CABLE, AND TRAY CABLE WHERE ALLOWED BY NEC SHALL BE ACCEPTABLE FOR TEMPORARY WORK.
3. SE CABLE AND TRAY CABLE FOR INTERIOR TEMPORARY WORK SHALL BE PROPERLY FASTENED TO BUILDING STRUCTURES AND INSTALLED IN SUCH A MANNER NOT TO INHIBIT ACCESS TO AND AROUND EQUIPMENT.
4. SE CABLE FOR EXTERIOR TEMPORARY WORK SHALL BE PROPERLY FASTENED TO BUILDING EXTERIOR SURFACES AND PROPERLY PROTECTED FROM VEHICLE DAMAGE WHERE RUN BETWEEN BUILDINGS.

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
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)
HOA	HAND–OFF–AUTOMATIC
HH	HANDHOLE
J OR JB	JUNCTION BOX
JPB	JOG PUSHBUTTON
LE	LEVEL ELEMENT
LIT	LEVEL INDICATOR TRANSMITTER
LL	LOW LEVEL
LS	LEVEL SWITCH
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	PUSHBUTTON CONTROL STATION MAINTAINED CONTACT TYPE, STOP START
PIT	PRESSURE INDICATOR TRANSMITTER
PL	PUSHBUTTON CONTROL STATION MOMENTARY TYPE WITH LOCK–OUT DEVICE, STOP
PS	PRESSURE SWITCH
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	HIGH TORQUE SWITCH
XFMR	TRANSFORMER

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ELECTRICAL LEGEND AND NOTES

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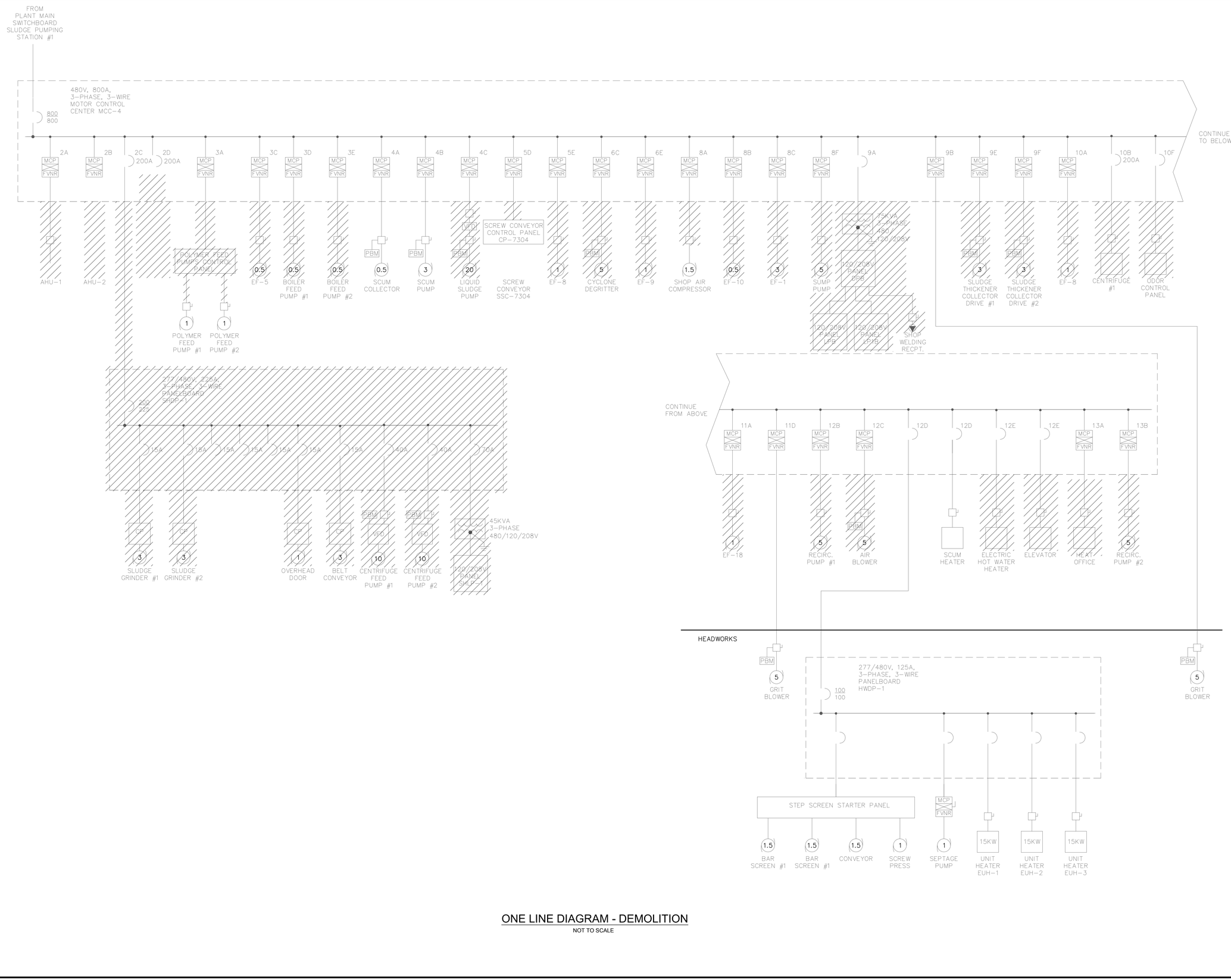

ONE LINE DIAGRAM - DEMOLITION

NOT TO SCALE

11/2/2020 1:34 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADES\ELECTRICAL DEPARTMENT\PHASE IA\18009.00 ELEC ONE LINE - PHASE 1A.DWG (BETA STB BW.STB)

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ELECTRICAL ONE LINE DIAGRAM DEMOLITION

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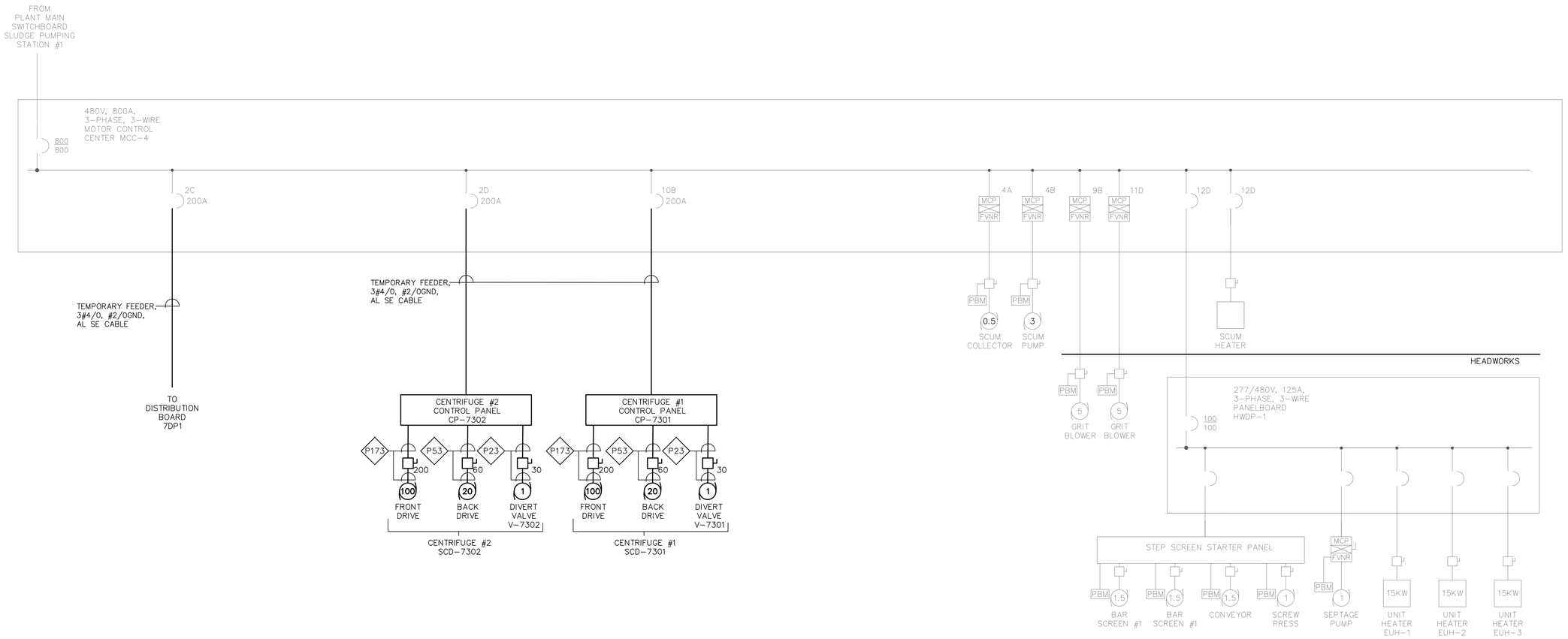

EXISTING MCC-4 ONE LINE DIAGRAM - NEW WORK

NOT TO SCALE

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Taunton, MA

TITLE

ELECTRICAL
EXISTING MCC-4
ONE LINE
DIAGRAM
NEW WORK

NO.	REVISIONS	DATE

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SCALE

NONE

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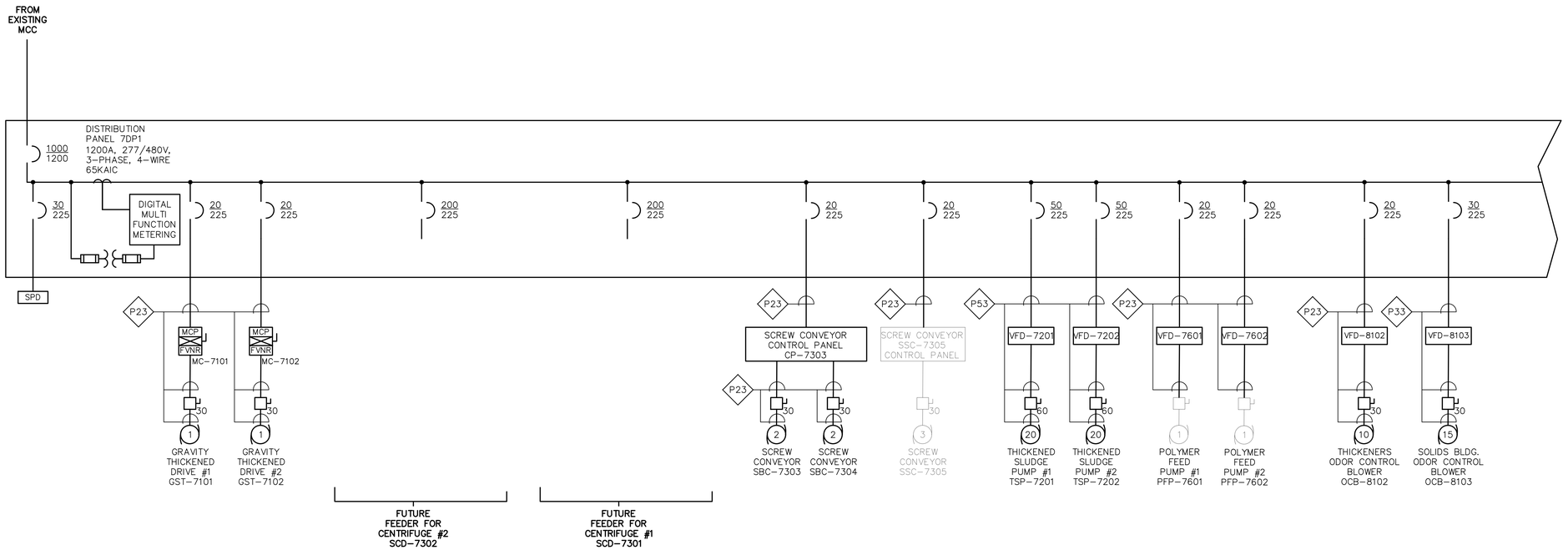

DISTRIBUTION PANEL 7DP1 ONE LINE DIAGRAM - NEW WORK

NOT TO SCALE

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ELECTRICAL DISTRIBUTION PANEL 7DP1 ONE LINE DIAGRAM NEW WORK

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SCALE

NONE

SHEET NO.

E-0.4

PANELBOARD SCHEDULE

NO. 7LP1 LOCATION: ELECTRIC ROOM

120/208 V, 3 PH, 4 W, 200 A MAINS — 200 A SOLID NEUTRAL — 150 A MCB

10,000 AIC AT 120 V — 200 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	FIRST FLOOR LIGHTING	0.79			20	1	1	20	0.50			SLUDGE FLOW METERS	2
3	FIRST FLOOR LIGHTING		1.31		20	1	1	20		0.50		PLANT WATER FLOW METERS	4
5	2ND FLOOR LIGHTING			1.58	20	1	1	20			1.07	FIRST FLOOR UNIT HEATERS	6
7	EXTERIOR LIGHTING	0.30			20	1	1	20	1.25			SECOND FLOOR UNIT HEATERS	8
9	1ST FLR RECEPTACLES		1.0		20	1	1	20		0.10		DOMESTIC WATER HEATER	10
11	1ST FLR RECEPTACLES			1.00	20	1	1	20			0.20	DOMESTIC RECIRC PUMP	12
13	1ST FLR RECEPTACLES	1.20			20	1	1	20	0.50			FIRE ALARM CONTROL PANEL 7FACP	14
15	1ST FLR RECEPTACLES		1.20		20	1	1	20		0.50		POLYMER FLOW METERS	16
17	1ST FLR RECEPTACLES			1.20	20	1	1	20			0.10	EYEWASH/SHOWER ALARM	18
19	2ND FLR RECEPTACLES	1.00			20	1	1	20	0.50			FUTURE CIRCUIT FOR SCADA CONTROL PANEL RTU-7	20
21	2ND FLR RECEPTACLES		1.20		20	1	1	20		1.20		SHED FEEDER	22 *
23	2ND FLR RECEPTACLES			1.0	20	1	1	20			1.0	BOILER CONTROL PANEL	24
25	GRAVITY THICKENERS LIGHTING	0.27			20	1	1	20	0.20			EXISTING POLYMER LEVEL CONTROL PANEL	26
* 27	EXTERIOR RECEPTACLES		0.8		20	1	1	20		1.20		EXISTING POLYMER TRANSFER PUMP & SPEED CONTROLLER	28
29	GRAVITY THICKENING TANKS RECEPTACLES			0.8	20	1	1	20			–	SPARE	30
31	SPARE	–			20	1	1	20	–			SPARE	32
33	SPARE		–		20	1	1	20		–		SPARE	34
35	SPARE			–	20	1	1	20			–	SPARE	36
31	SPARE	–			20	1	1	20	–			SPARE	32
33	SPARE		–		20	1	1	20		–		SPARE	34
35	SPARE			–	20	1	1	20			–	SPARE	36
31	SPARE	–			20	1	1	20	–			SPARE	32
33	SPARE		–		20	1	1	20		–		SPARE	34
35	SPARE			–	20	1	1	20			–	SPARE	36
37	SPACE	–			–	–	–	–	–			SPACE	38
39	SPACE		–		–	–	–	–		–		SPACE	40
41	SPACE			–	–	–	–	–			–	SPACE	42
43	SPACE	–			–	–	–	–	–			SPACE	44
45	SPACE		–		–	–	–	–		–		SPACE	46
47	SPACE			–	–	–	–	–			–	SPACE	48
49	SPACE	–			–	–	–	–	–			SPACE	50
51	SPACE		–		–	–	–	–		–		SPACE	52
53	SPACE			–	–	–	–	–			–	SPACE	54
55	SPACE	–			–	–	–	–	1.15			HEAD WORKS BLDG. LIGHTING PANEL 1LP1 (FUTURE)	56
57	BOILER		1.4		20	2	3	50		0.25			58
59				1.4							1.0		60
	SUB-TOTAL CONNECTED	3.56	6.91	6.98					4.1	3.75	3.37	SUB-TOTAL CONNECTED	

*PROVIDE GFCI BREAKER

SUB-TOTAL CONNECTED	KVA AØ =	7.66
SUB-TOTAL CONNECTED	KVA BØ =	10.66
SUB-TOTAL CONNECTED	KVA CØ =	10.35
TOTAL CONNECTED	KVA =	28.67

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER & CATALOG SERIES	LAMPS TYPE	LAMPS LUMENS	VOLTS	WATTS	MOUNTING TYPE	MOUNTING HEIGHT	REMARKS
F1	96" LED ENCLOSED AND GASKETED INDUSTRIAL LIGHTING FIXTURE.	LITHONIA FEM-L96-9000LM-IMAFL-MVOLT-35K-80CRI	LED 3500K	8124lm	120	54	PENDANT	13'-5"ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED	
F2	48" LED ENCLOSED AND GASKETED INDUSTRIAL LIGHTING FIXTURE.	LITHONIA FEM-L48-4000LM-IMAFL-MVOLT-35K-80CRI	LED 3500K	3615lm	120	24	PENDANT	13'-5"ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED	
F3	48" LED ENCLOSED AND GASKETED INDUSTRIAL LIGHTING FIXTURE.	LITHONIA FEM-L48-4000LM-IMAFL-MVOLT-35K-80CRI	LED 3500K	3615lm	120	24	SURFACE		
F4	CLASS I DIV.1 EXPLOSION PROOF LED GLOBE LIGHT FIXTURE WITH 30 DEGREE REFLECTOR	HUBBEL HLEML-45-30-D4-AN-ERA30	LED 5000K	2880lm	120	45	RAIL MOUNTED		
W1	EXTERIOR BUILDING MOUNTED LED WALL PACK LIGHT FIXTURE	LITHONIA TWP-LED-20C-700-50K-T3M-120-PE-DDXB	LED 5000K	4233lm	120	45	WALL	13'-0"ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED	FIXTURE CIRCUIT TO BE CONNECTED TO AND CONTROLLED BY A TIME CLOCK SWITCH
W2	EXTERIOR BUILDING MOUNTED LED MINI WALL PACK LIGHT FIXTURE	LITHONIA TWS-LED-P1-50K	LED 5000K	1476lm	120	25	WALL	9'-5"ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED	FIXTURE CIRCUIT TO BE CONNECTED TO AND CONTROLLED BY A TIME CLOCK SWITCH
	SELF CONTAINED EMERGENCY LIGHTING BATTERY UNIT NEMA 4 WITH TWO LIGHTING HEADS	REFER TO SPECIFICATIONS	LED	–	120	8W	WALL		INSTALL 3/4"C, 2#12, 1#12GND TO REMOTE HEADS
	SEALED-BEAM WEATHERPROOF REMOTE LIGHTING FIXTURE WITH TWO LIGHTING HEADS	REFER TO SPECIFICATIONS	LED	–	120	8W	WALL		
	EMERGENCY EXIT SIGN LED TYPE WITH BATTERY BACK-UP NEMA 4X	REFER TO SPECIFICATIONS	LED	–	120	3W	WALL		

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.

POWER CABLE/CONDUIT SCHEDULE

SYMBOL	CONDUIT SIZE*	CONDUCTORS*	GND*
P22	3/4"	(2)#12	(1)#12
P23	3/4"	(3)#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
P233	3"	(3)#4/0	(1)#4
P234	3"	(4)#4/0	(1)#4
P404	4"	(4)500KCMIL	(1)#2/0

SIGNAL CABLE/CONDUIT SCHEDULE

SYMBOL	CONDUIT SIZE	CONDUCTORS
S	1"	VENDER SPECIFIED
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
S43	1"	4-3/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
S12	2"	12-2/C#16 TSP

TELE/DATA CABLE/CONDUIT SCHEDULE

SYMBOL	CONDUIT SIZE	CONDUCTORS
TD1	1"	1-CAT6 CABLE
TD2	1"	2-CAT6 CABLE

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

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

PREPARED BY

BETA
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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

ELECTRICAL SCHEDULES

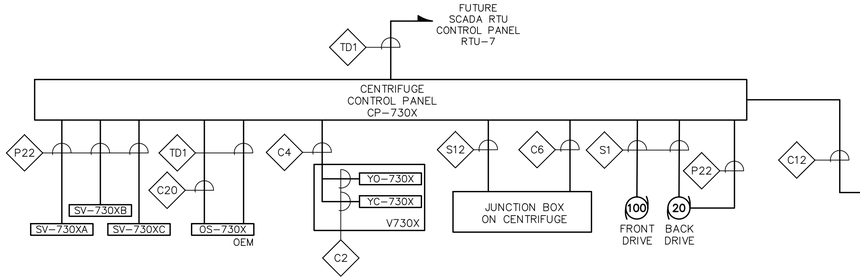
NO.	REVISIONS	DATE

DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

SHEET NO. E-0.5

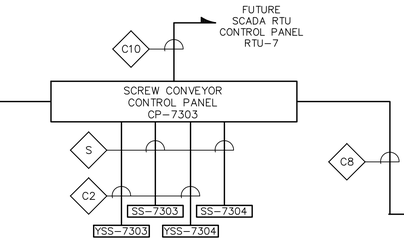


CONTROL BLOCK WIRING DIAGRAM
SOLIDS CENTRIFUGE DECANTERS SCD-7301 & 7302

NOT TO SCALE

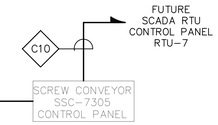
TYPICAL FOR:

- SCD-7301
- SCD-7302



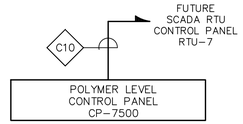
CONTROL BLOCK WIRING DIAGRAM
SOLIDS SCREW CONVEYORS

NOT TO SCALE



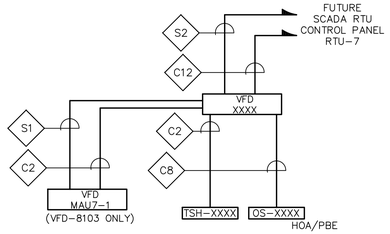
CONTROL BLOCK WIRING DIAGRAM
SOLIDS SCREW CONVEYOR

NOT TO SCALE



CONTROL BLOCK WIRING DIAGRAM
POLYMER LEVEL CONTROL SYSTEM

NOT TO SCALE

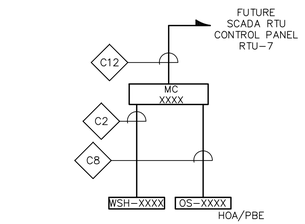


CONTROL BLOCK WIRING DIAGRAM
ODOR CONTROL BLOWERS

NOT TO SCALE

TYPICAL FOR:

- VFD-8102/OS-8102/TSH-8102
- VFD-8103/OS-8103/TSH-8103

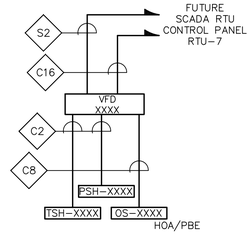


CONTROL BLOCK WIRING DIAGRAM
GRAVITY THICKENER DRIVES

NOT TO SCALE

TYPICAL FOR:

- MC-7101/OS-7101/WSH-7101
- MC-7102/OS-7102/WSH-7102

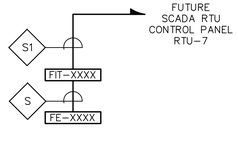


CONTROL BLOCK WIRING DIAGRAM
THICKENED SLUDGE PUMPS

NOT TO SCALE

TYPICAL FOR:

- VFD-7201/OS-7201/PSH-7201/TSH-7201
- VFD-7202/OS-7202/PSH-7202/TSH-7202

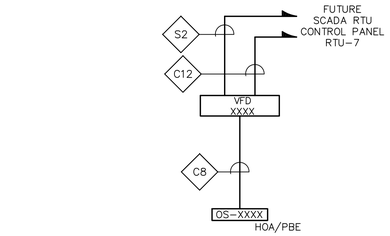


CONTROL BLOCK WIRING DIAGRAM
FLOW METERS

NOT TO SCALE

TYPICAL FOR:

- FE-7203/FIT-7203
- FE-7204/FIT-7204
- FE-7603/FIT-7603
- FE-7604/FIT-7604
- FE-9115/FIT-9115
- FE-9116/FIT-9116

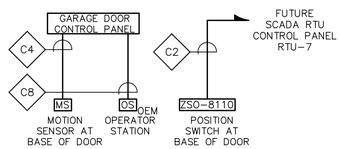


CONTROL BLOCK WIRING DIAGRAM
POLYMER FEED PUMPS

NOT TO SCALE

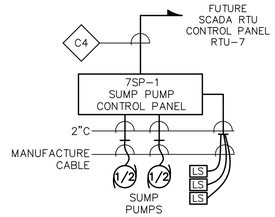
TYPICAL FOR:

- VFD-7601/OS-7601
- VFD-7602/OS-7602



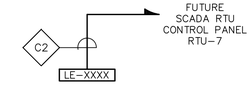
CONTROL BLOCK WIRING DIAGRAM
OVERHEAD GARAGE DOOR

NOT TO SCALE



SUMP PUMP BLOCK WIRING DIAGRAM

NOT TO SCALE



CONTROL BLOCK WIRING DIAGRAM
LEVEL SWITCHES

NOT TO SCALE

TYPICAL FOR:

- LSH-7605

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

ELECTRICAL WIRING DIAGRAMS

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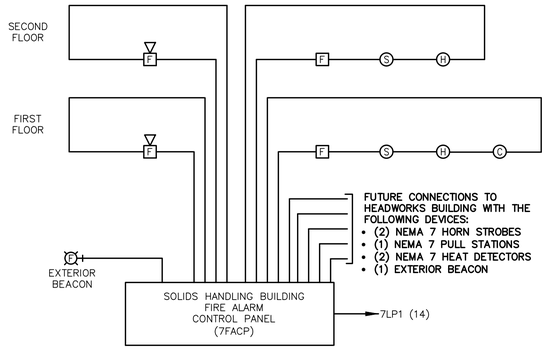
E-0.6

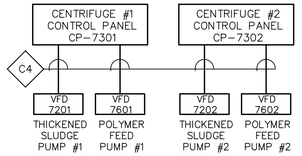


FIRE ALARM RISER DIAGRAM

NOT TO SCALE

FIRE ALARM NOTES:

1. RISER DIAGRAM 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.

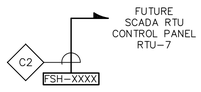


TEMPORARY CONTROL BLOCK WIRING DIAGRAM SOLIDS CENTRIFUGE DECANTERS SCD-7301 & 7302

NOT TO SCALE

CENTRIFUGE DECANTERS TEMPORARY CONTROL NOTES:

1. THE START SIGNALS FROM CENTRIFUGE CONTROL PANEL FOR ITS ASSOCIATED THICKENED SLUDGE AND POLYMER FEED PUMPS SHALL BE CONNECTED TO THE AUTO START CIRCUIT IN EACH VFD.
2. THE PUMP RUNNING SIGNALS FROM THE THICKENED SLUDGE AND POLYMER FEED PUMPS VFDS SHALL BE CONNECTED TO THEIR ASSOCIATED CENTRIFUGE CONTROL PANELS RUN STATUSES FOR THESE PUMPS.

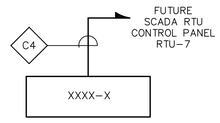


CONTROL BLOCK WIRING DIAGRAM EMERGENCY EYEWASH/SHOWERS

NOT TO SCALE

TYPICAL FOR:

- FSH-9303



CONTROL BLOCK WIRING DIAGRAM HVAC UNIT MONITORING

NOT TO SCALE

TYPICAL FOR:

- 7ERV-1
- 7ERV-2
- 7ERV-3
- 7ERV-4
- 7MAU-1

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Taunton, MA

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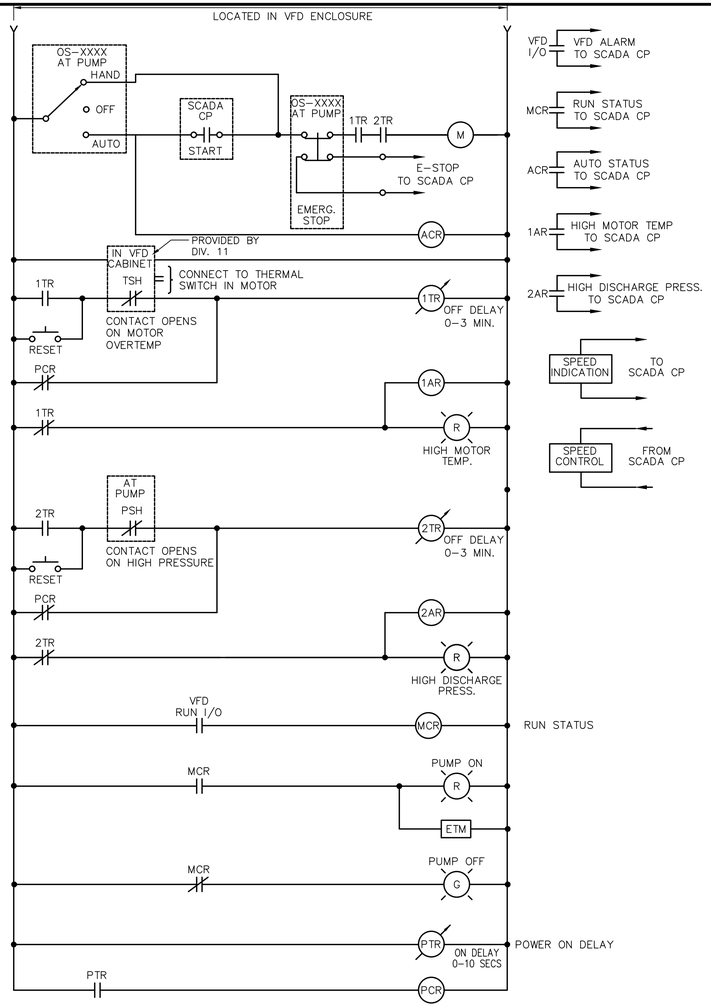
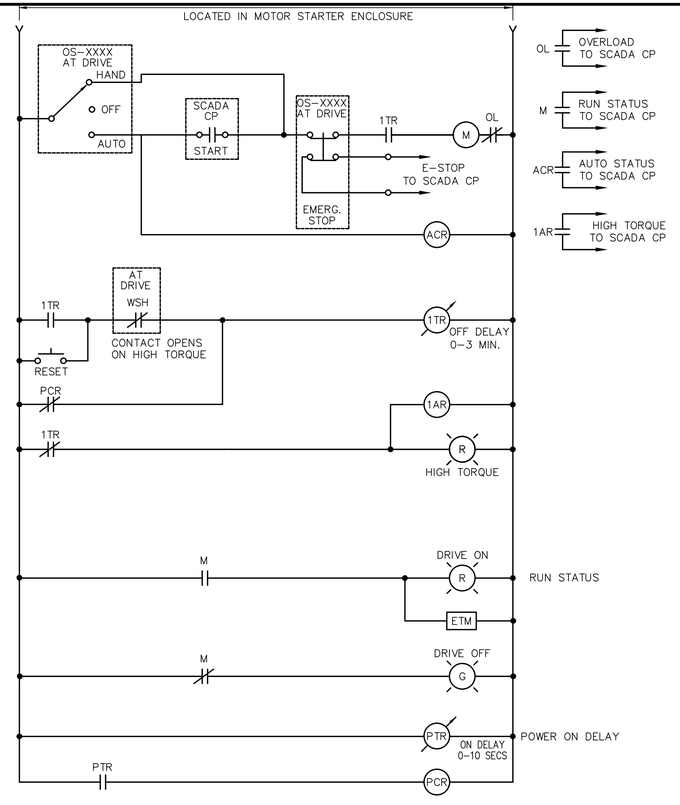
SCALE

SHEET NO.

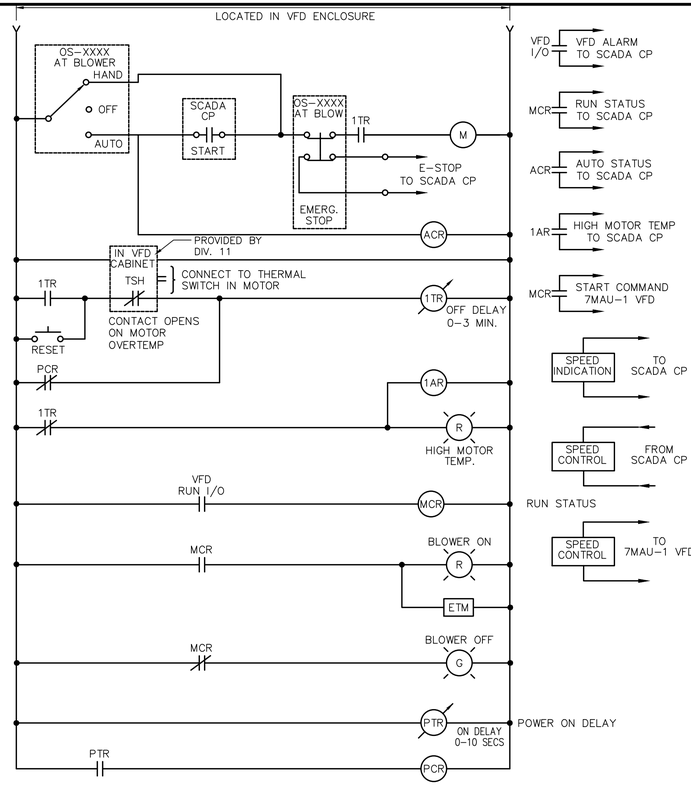
E-0.7



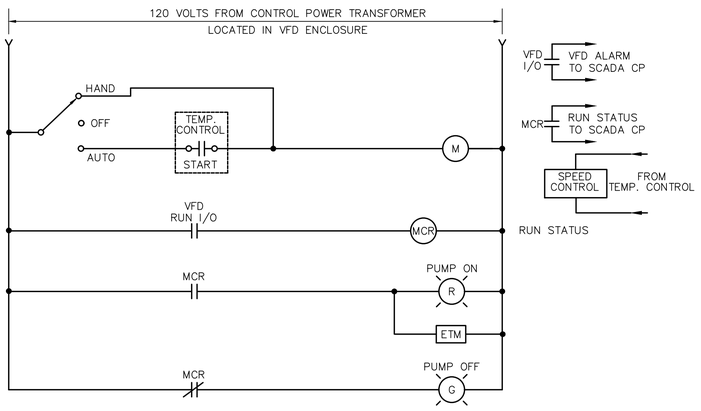
MOTOR CONTROL WIRING DIAGRAM
THICKENED SLUDGE PUMPS
NOT TO SCALE



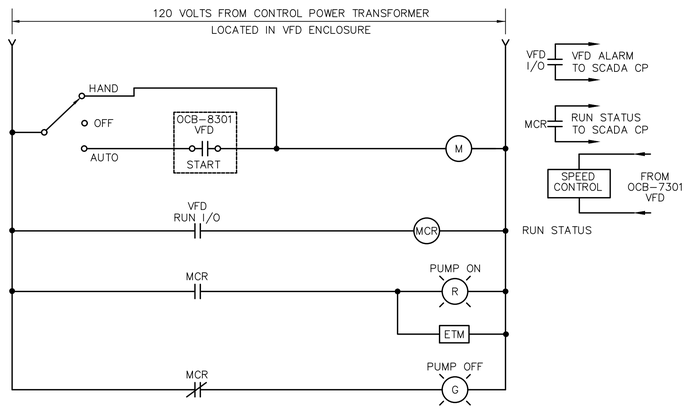
MOTOR CONTROL WIRING DIAGRAM
GRAVITY THICKENER DRIVES
NOT TO SCALE



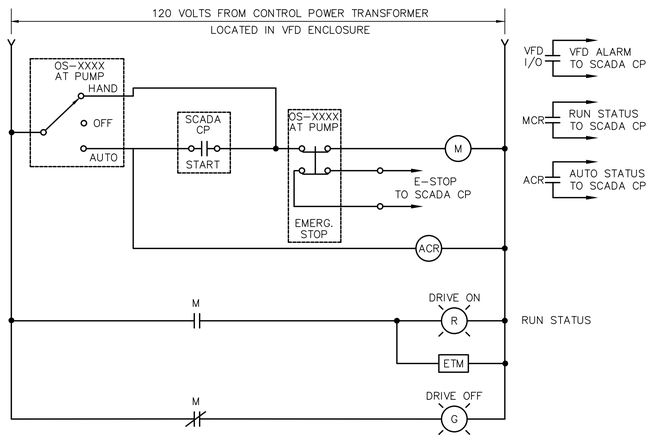
MOTOR CONTROL WIRING DIAGRAM
ODOR CONTROL BLOWERS
NOT TO SCALE



MOTOR CONTROL WIRING DIAGRAM
HOT WATER PUMPS
NOT TO SCALE



MOTOR CONTROL WIRING DIAGRAM
7MAU-1
NOT TO SCALE



MOTOR CONTROL WIRING DIAGRAM
POLYMER FEED PUMPS
NOT TO SCALE

PREPARED BY

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REGISTERED PROFESSIONAL

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617 328-9215
web: www.sar.com

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

ELECTRICAL MOTOR CONTROL WIRING DIAGRAMS

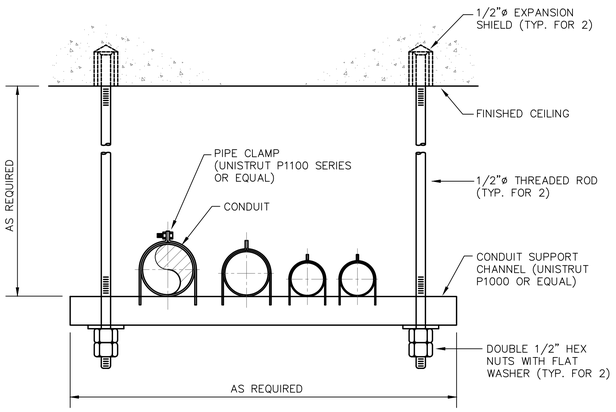
NO.	REVISIONS	DATE

DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

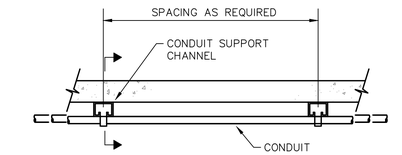
SHEET NO.

E-0.8

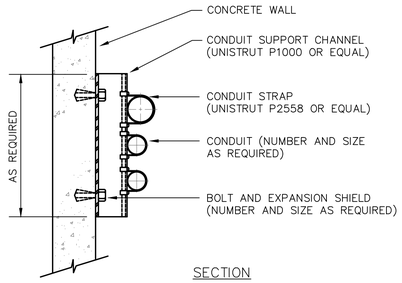


TYPICAL CONDUIT CEILING SUPPORT

NOT TO SCALE



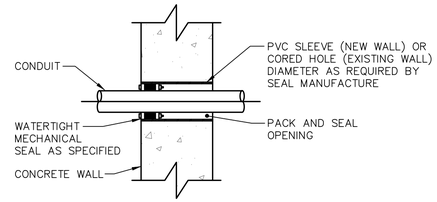
PLAN



SECTION

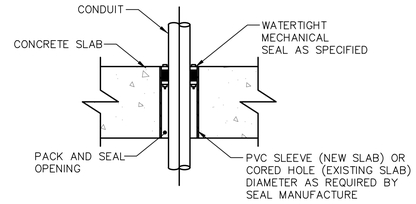
TYPICAL CONDUIT WALL SUPPORT

NOT TO SCALE



CONDUIT PENETRATION THROUGH NEW & EXISTING CONCRETE WALL

NOT TO SCALE

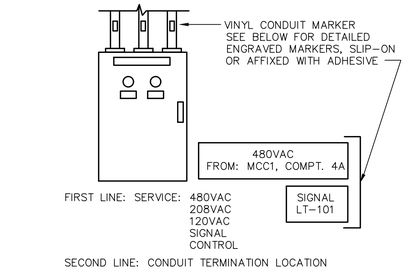


CONDUIT PENETRATION PASSING THROUGH NEW & EXISTING CONCRETE SLAB

NOT TO SCALE

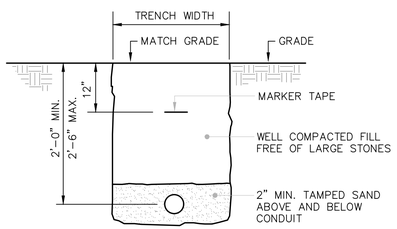
GENERAL NOTES:

1. ALL MOUNTING BRACKETS, SUPPORTS, FASTENERS, AND ECT. WITHIN THE WET WELL SHALL BE STAINLESS STEEL.



CONDUIT MARKER DETAIL

NOT TO SCALE



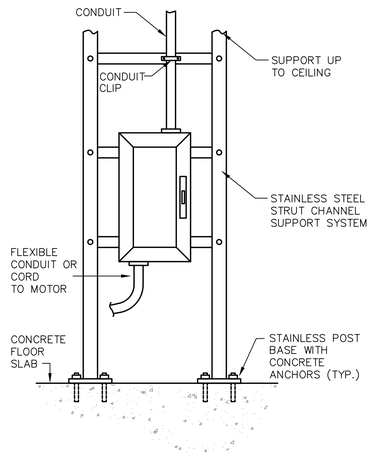
NOTES:

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.

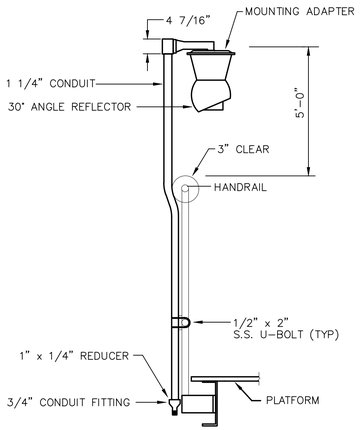
SINGLE UNDERGROUND CONDUIT SECTION

NOT TO SCALE



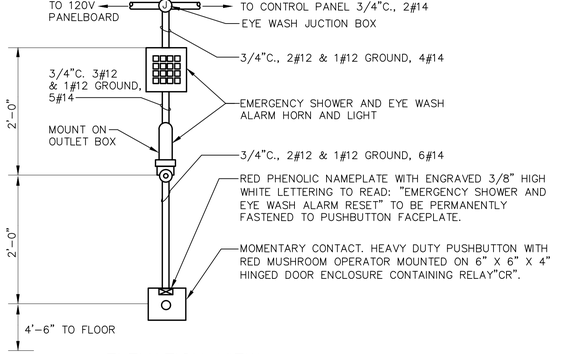
ELECTRICAL EQUIPMENT STANCHION MOUNTING DETAIL

NOT TO SCALE



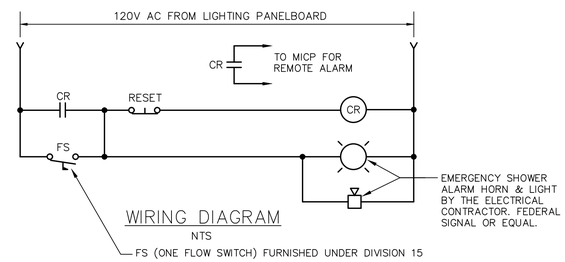
LIGHT FIXTURE RAIL MOUNTING DETAIL

NOT TO SCALE



ELEVATION VIEW

NOT TO SCALE



WIRING DIAGRAM

NTS

NOTE:
1. ALL EXPOSED SURFACES OF COMPONENTS SHALL HAVE A YELLOW ENAMEL FINISH, INCLUDING CONDUIT (WITHIN 10'-0" RADIUS OF THE STATION, BOXES, ENCLOSURE AND HORN GRILLE.

2. ALARM STATION TO BE MOUNTED OUTSIDE OF EACH CHEMICAL ROOM CONTAINING A EMERGENCY SHOWER. REFER TO PLAN DRAWINGS FOR EYEWASH JUNCTION BOX LOCATIONS.

EMERGENCY EYE WASH ALARM STATION

NOT TO SCALE

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

ELECTRICAL DETAILS

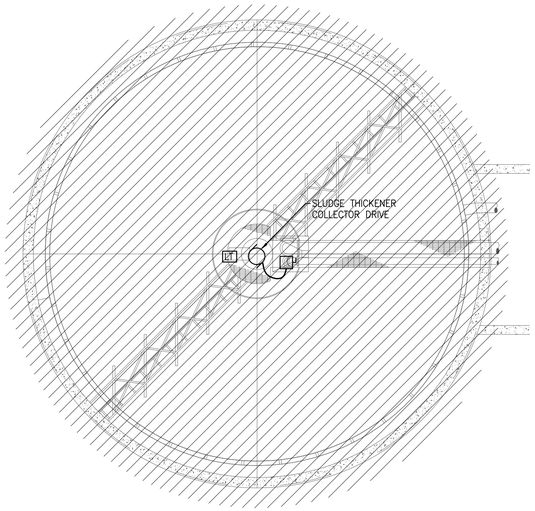
NO.	REVISIONS	DATE

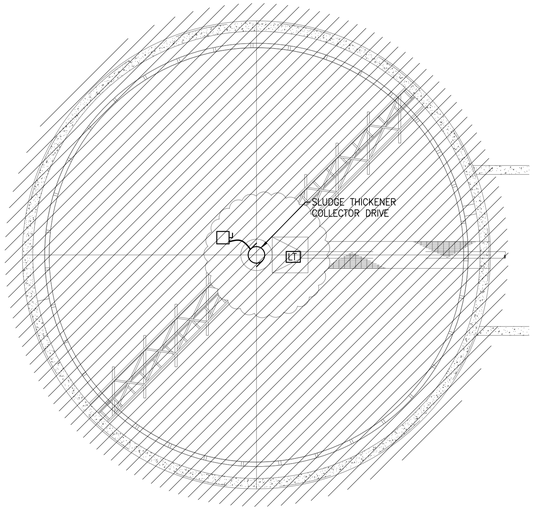
DRAWN BY:	RB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

SHEET NO.

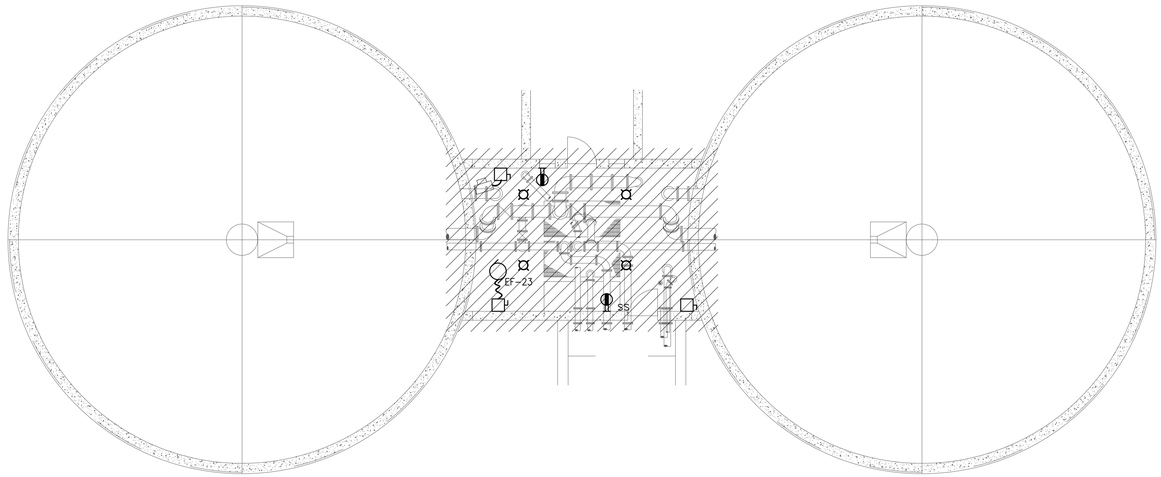
E-0.9





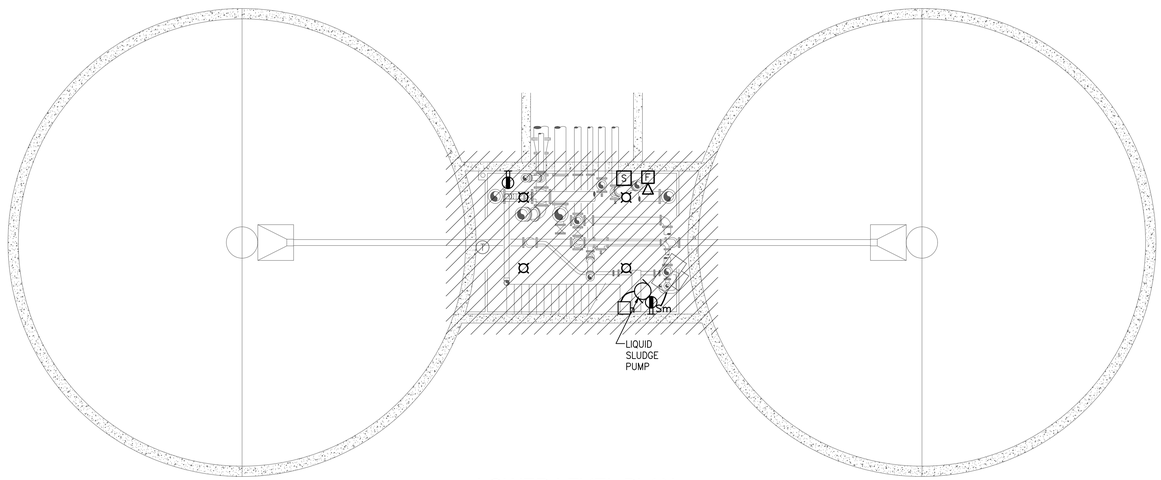
UPPER LEVEL PLAN

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



MID LEVEL PLAN

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



LOWER LEVEL PLAN

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

11/2/2020 1:36 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADES\ELECTRICAL DEPARTMENT\PHASE IA\18009.00 ELEC SOLIDS HANDLING BUILDING & TANKS - 1A.DWG (BETA STB BW.STB)

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Electrical
Demolition
Gravity Thickening
Tanks
Plans

NO.	REVISIONS	DATE

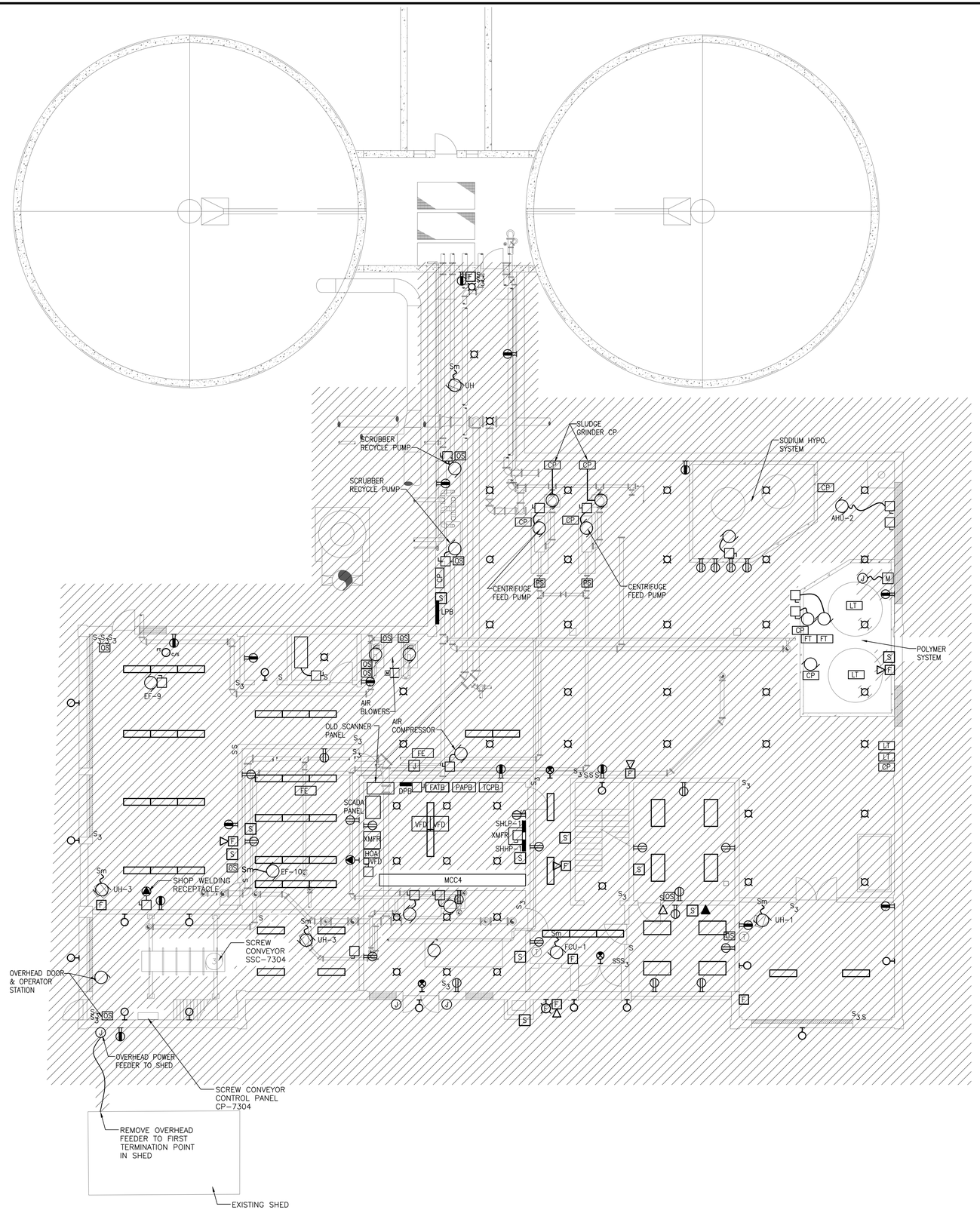
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-7.1



FIRST FLOOR - PLAN

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

11/2/2020 1:36 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADES\ELECTRICAL DEPARTMENT\PHASE 1A\18009.00 ELEC SOLIDS HANDLING BUILDING & TANKS - 1A.DWG (BETA STB BW.STB)

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Electrical
Demolition
Solids Handling
Building
First Floor Plan

NO.	REVISIONS	DATE

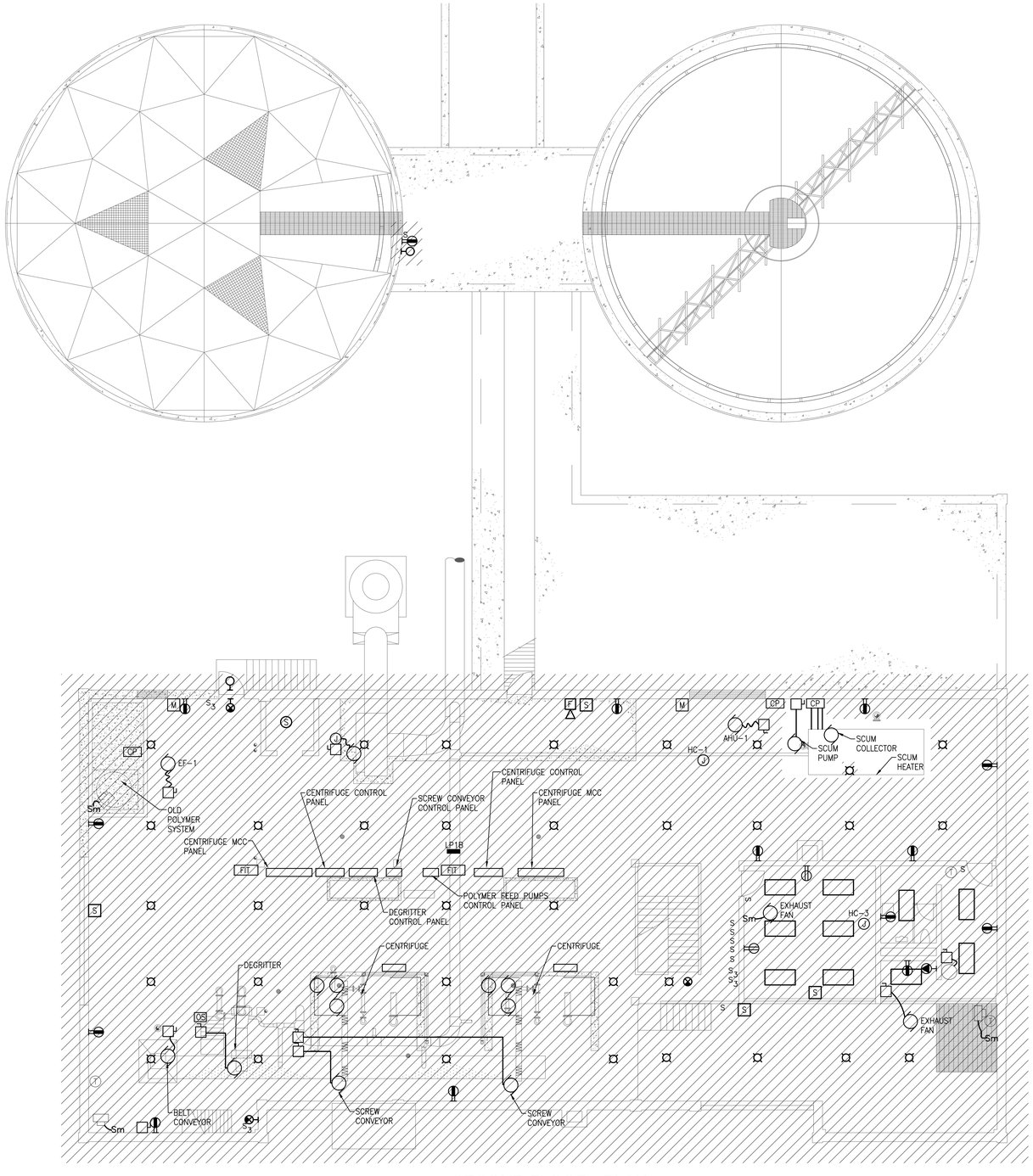
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-7.2



SECOND FLOOR - PLAN

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

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COMMONWEALTH OF MASSACHUSETTS
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web: www.sar.com

PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Electrical Demolition Solids Handling Building Second Floor Plan

NO.	REVISIONS	DATE

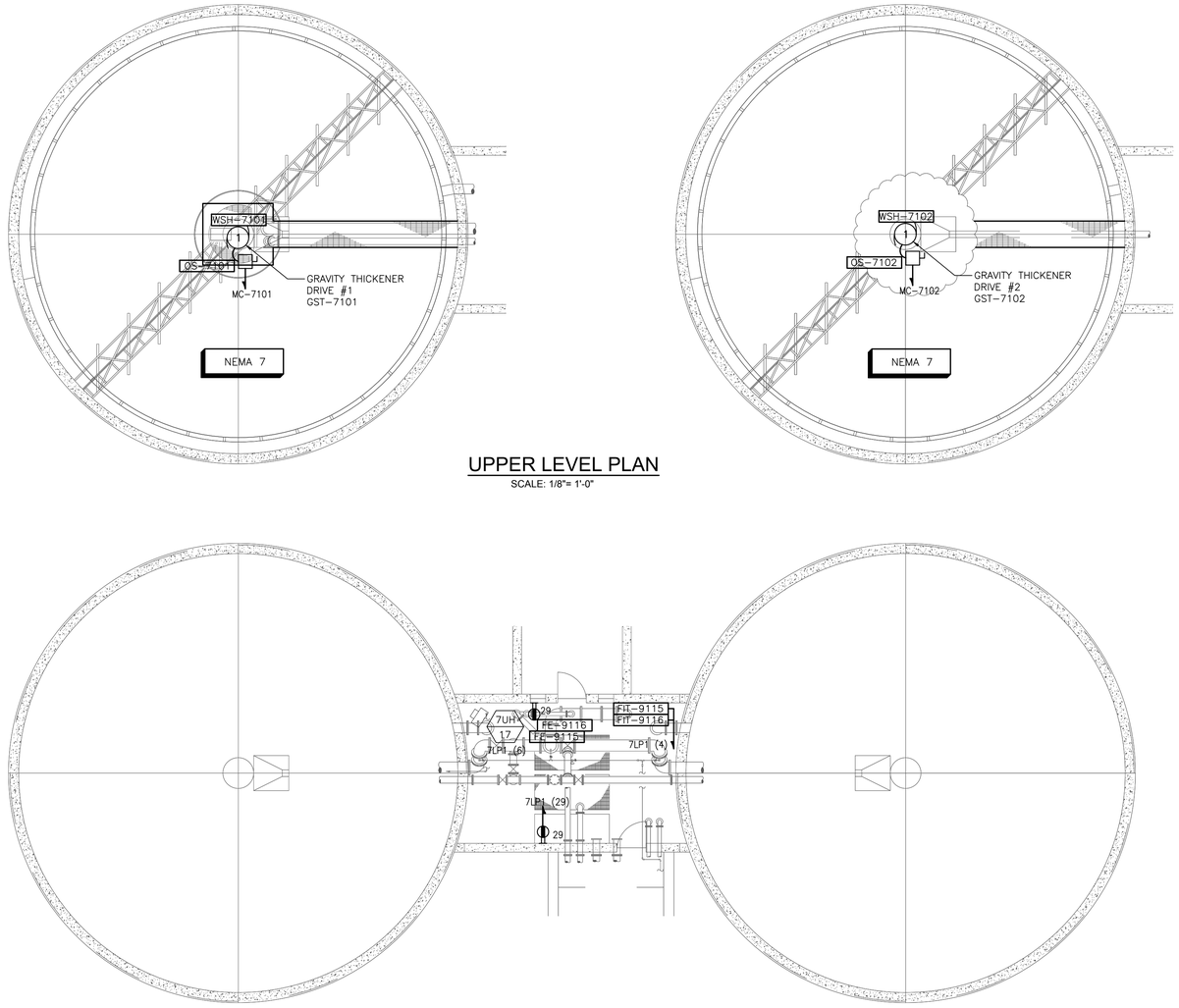
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-7.3

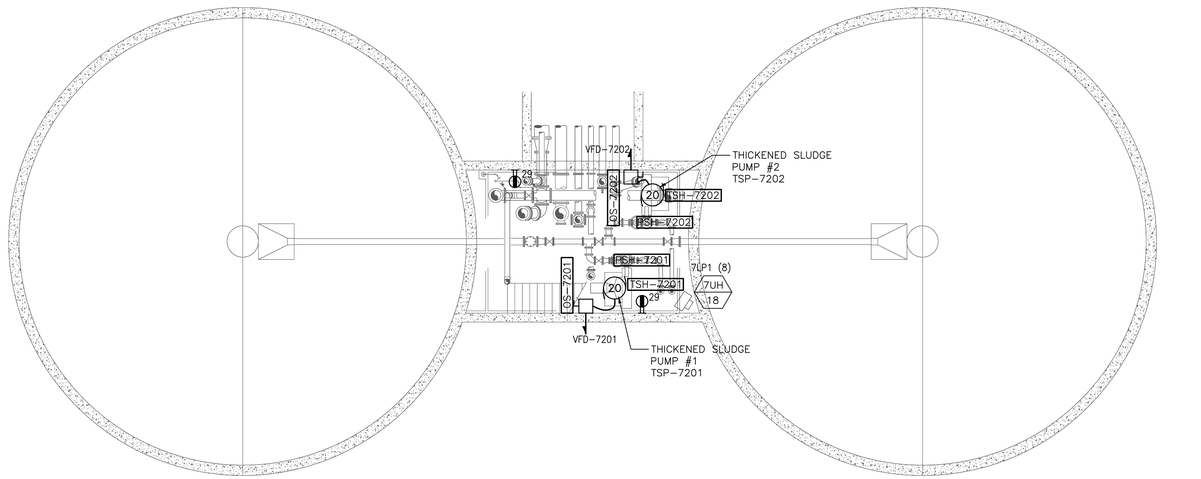


UPPER LEVEL PLAN

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

MID LEVEL PLAN

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



LOWER LEVEL PLAN

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

11/2/2020 1:37 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADES\ELECTRICAL DEPARTMENT\PHASE IA\18009.00 ELEC SOLIDS HANDLING BUILDING & TANKS - 1A.DWG (BETA STB BW.STB)

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Electrical
Gravity Thickening Tanks
New Work Power Plans

NO.	REVISIONS	DATE

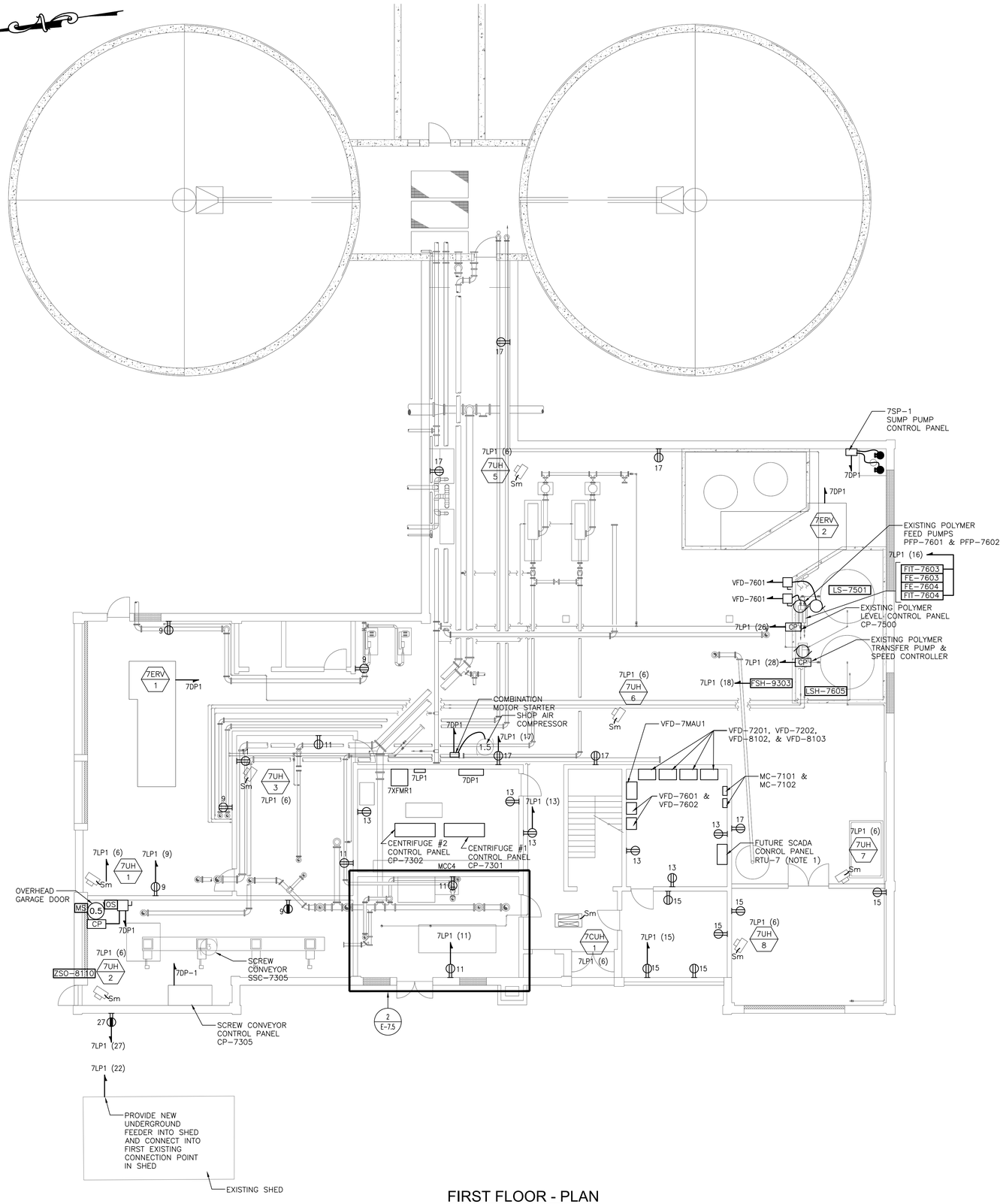
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

AS SHOWN

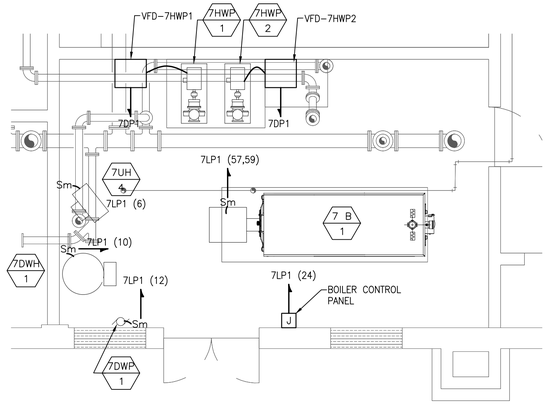
SHEET NO.

E-7.4



FIRST FLOOR - PLAN

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



BOILER ROOM PART PLAN

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

NOTES:

1. PROVIDE WIRE/CABLE TO FLOOR PLUS AN ADDITIONAL 6' FOR FUTURE INSTALLATION IN FUTURE RTU-7 CONTROL PANEL. COIL UP NEATLY, SECURE AND SUPPORT FROM CEILING STRUCTURE.

PREPARED BY

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REGISTERED PROFESSIONAL

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MICHAEL J. COTTER
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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Electrical Solids Handling Building First Floor New Work Power Plan

NO.	REVISIONS	DATE

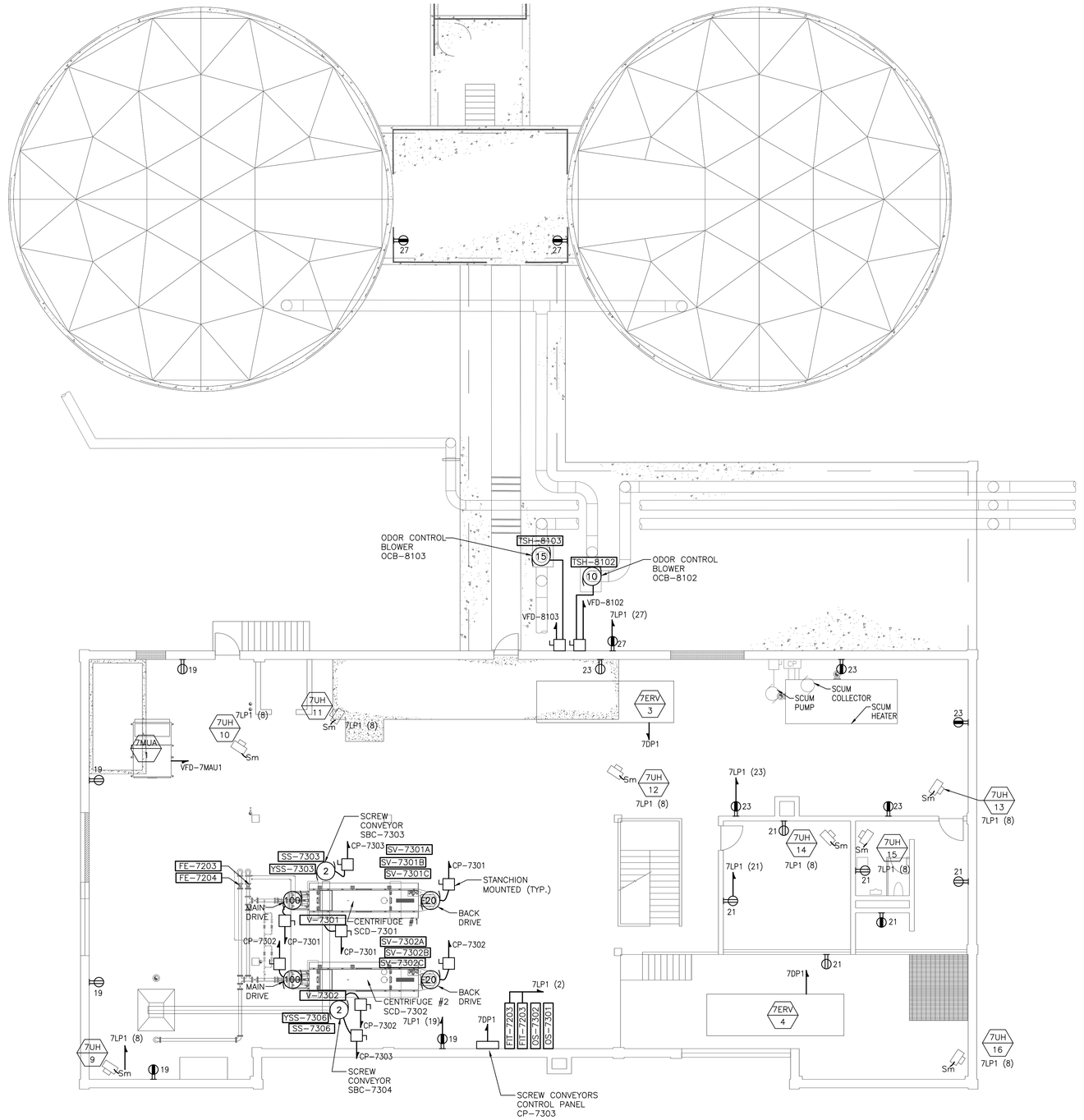
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-7.5



SECOND FLOOR - PLAN

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

11/2/2020 1:38 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADES\ELECTRICAL DEPARTMENT\PHASE IA\18009.00 ELEC SOLIDS HANDLING BUILDING & TANKS - 1A.DWG (BETA STB BW.STB)

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Electrical
Solids Handling
Building
Second Floor
New Work
Power Plan

NO.	REVISIONS	DATE

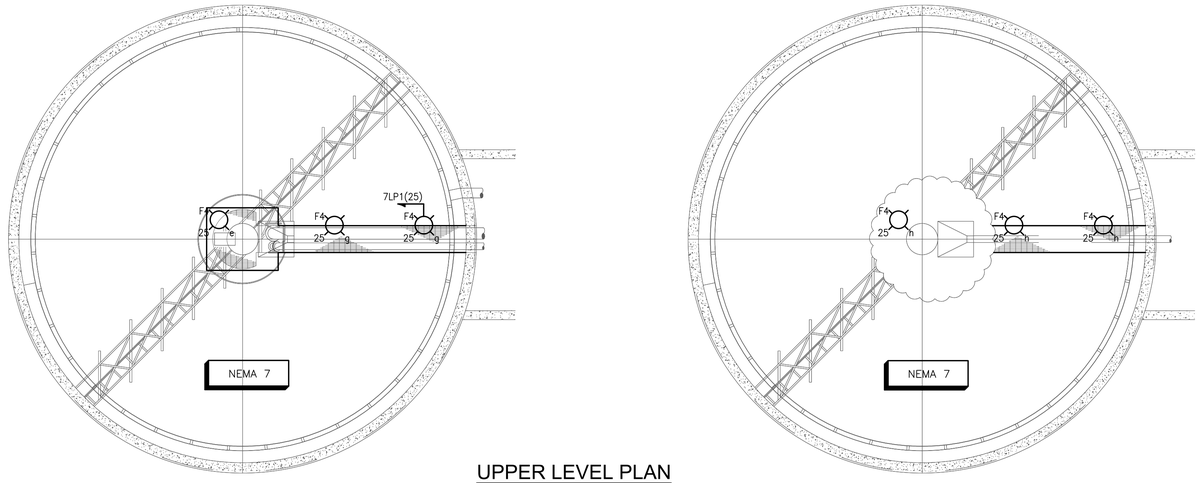
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

AS SHOWN

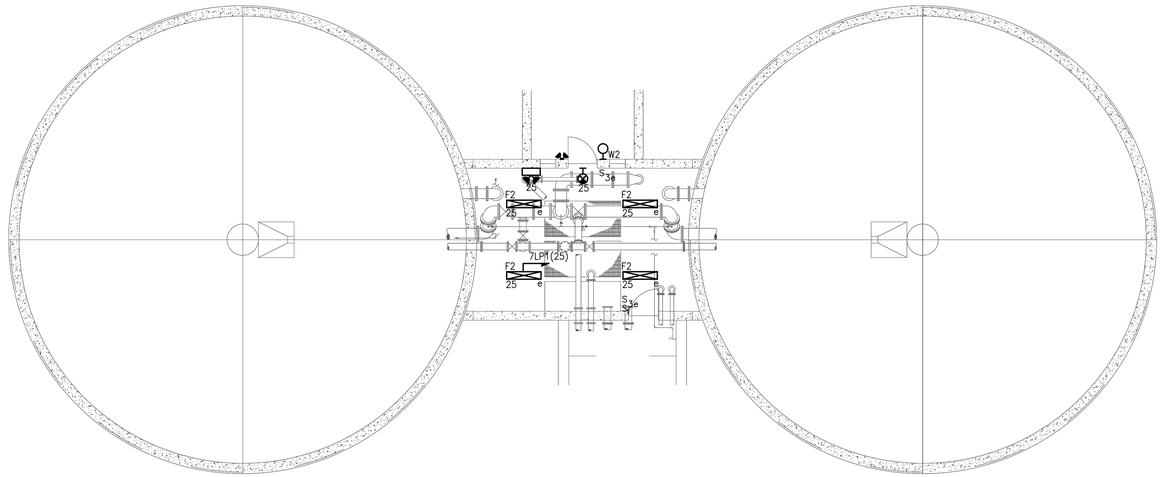
SHEET NO.

E-7.6



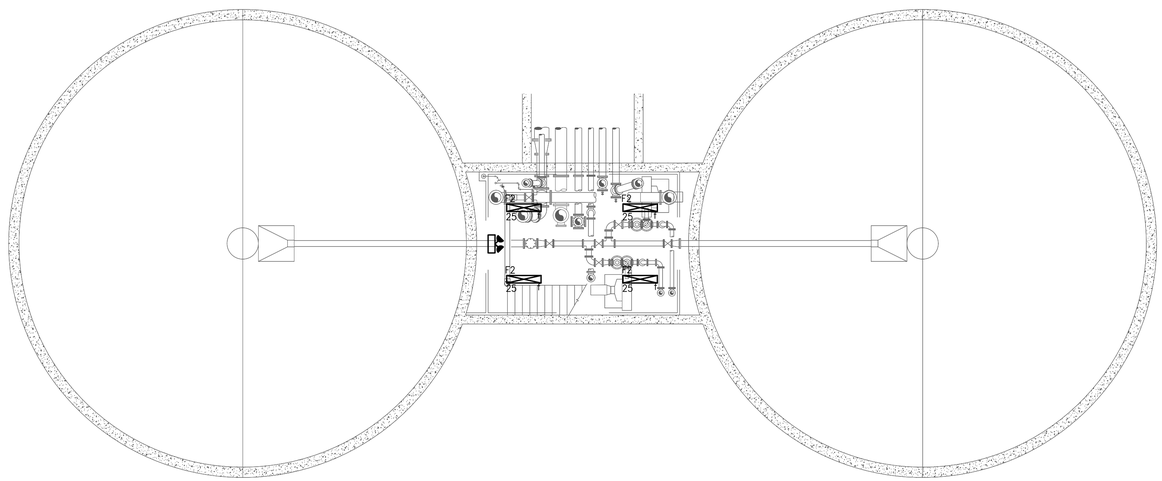
UPPER LEVEL PLAN

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



MID LEVEL PLAN

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



LOWER LEVEL PLAN

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

11/2/2020 1:38 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADES\ELECTRICAL DEPARTMENT\PHASE IA\18009.00 ELEC SOLIDS HANDLING BUILDING & TANKS - 1A.DWG (BETA STB BW.STB)

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Electrical
Gravity Thickening Tanks
New Work Lighting Plans

NO.	REVISIONS	DATE

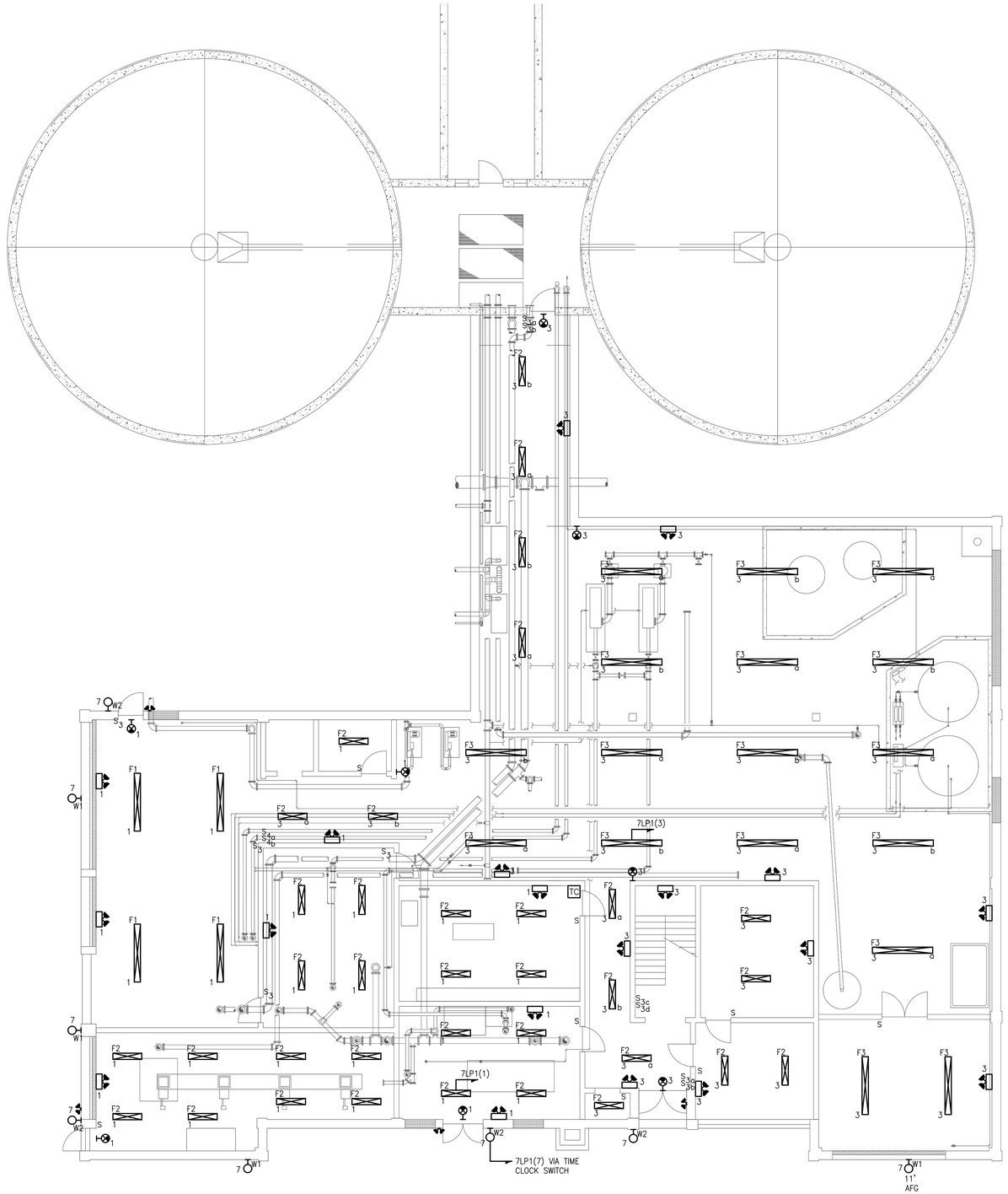
DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-7.7



FIRST FLOOR - PLAN

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

PREPARED BY

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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. COTTER
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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Electrical
Solids Handling
Building
First Floor New
Work Lighting
Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
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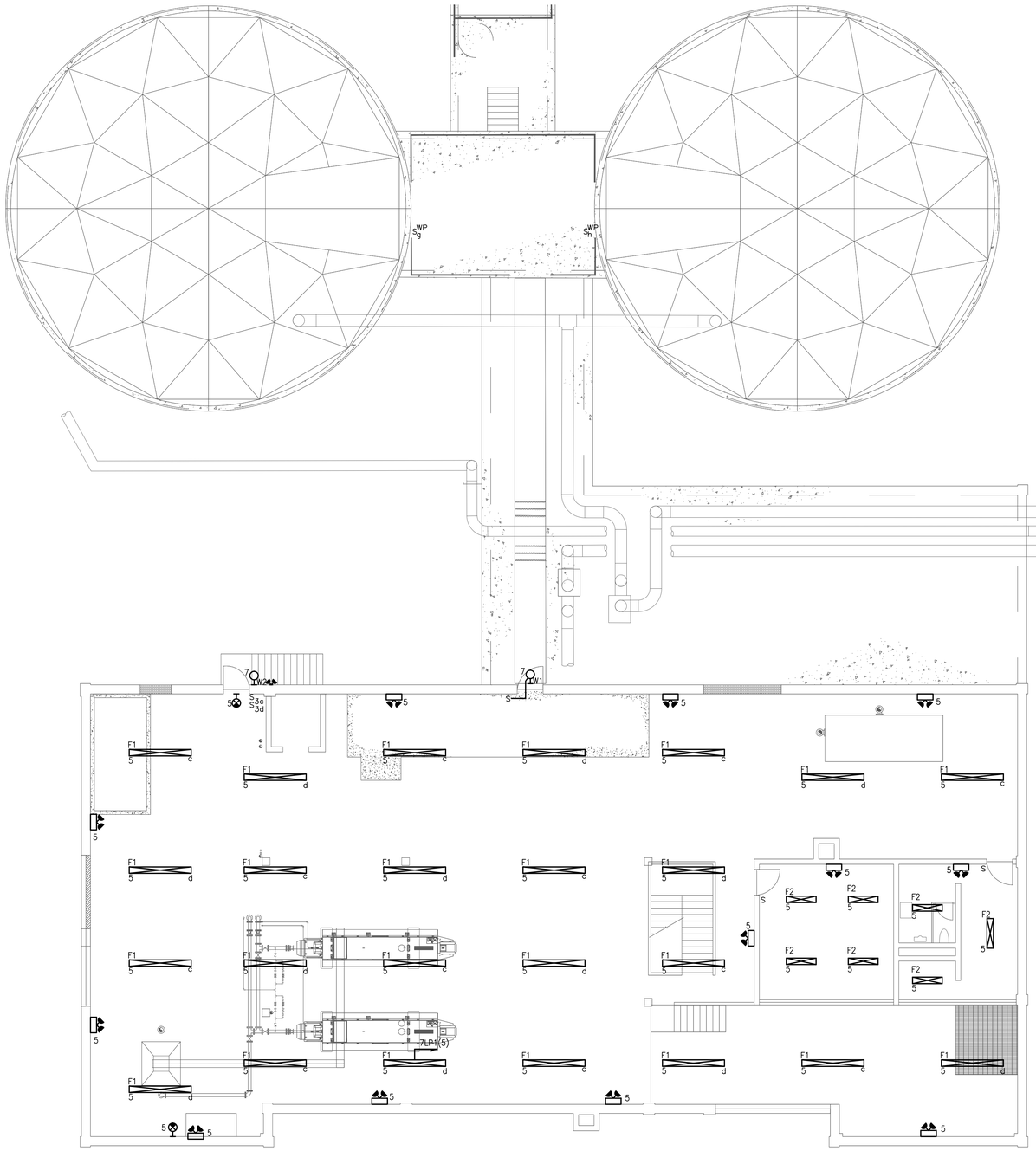
BETA JOB NO.:	6050

SCALE

AS SHOWN

SHEET NO.

E-7.8



SECOND FLOOR - PLAN

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

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TITLE

Electrical
Solids Handling
Building
Second Floor
New Work
Lighting Plan

NO.	REVISIONS	DATE

DRAWN BY:	RLB
DESIGNED BY:	MC
CHECKED BY:	MC
ISSUE DATE:	10/16/2020
BETA JOB NO.:	6050

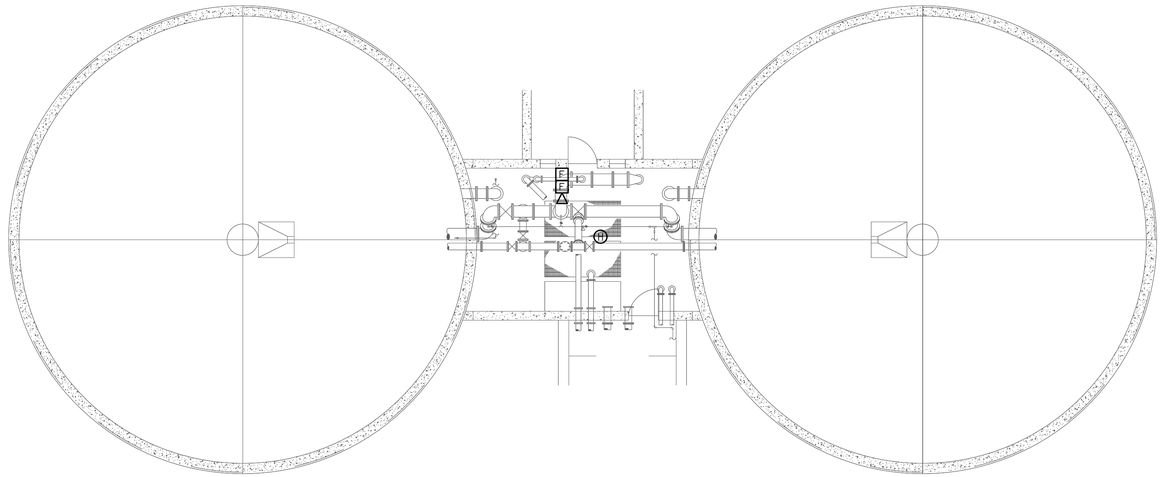
SCALE

AS SHOWN

SHEET NO.

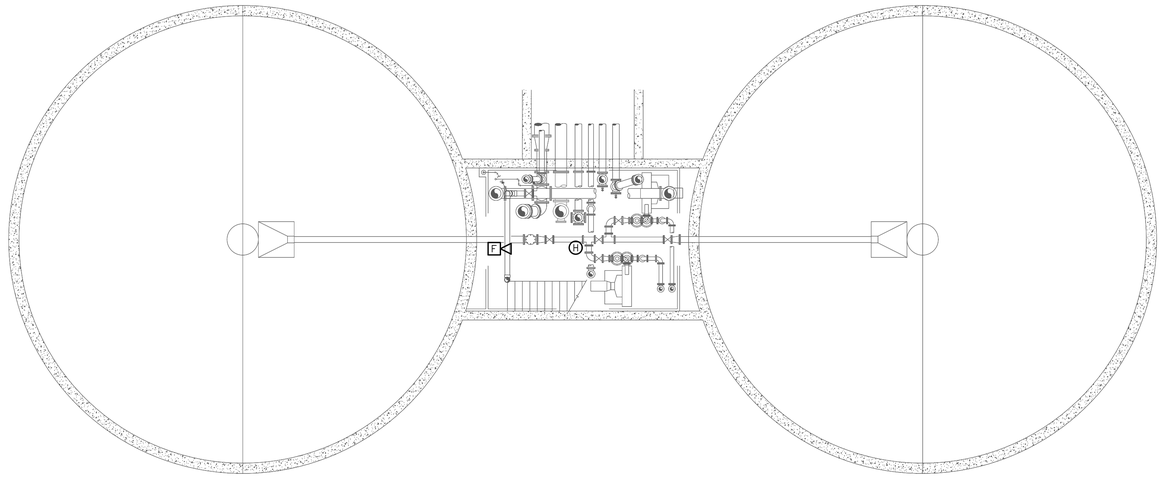
E-7.9

11/2/2020 1:39 PM W:\YEAR - 2018\18009.00 - TAUNTON WWTF UPGRADES\ELECTRICAL DEPARTMENT\PHASE IA\18009.00 ELEC SOLIDS HANDLING BUILDING & TANKS - 1A.DWG (BETA STB BW.STB)



MID LEVEL PLAN

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



LOWER LEVEL PLAN

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

PREPARED BY

BETA
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REGISTERED PROFESSIONAL

COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. COTTER
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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Electrical
Gravity Thickening Tanks
New Work Fire Alarm Plans

NO.	REVISIONS	DATE

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SHEET NO.

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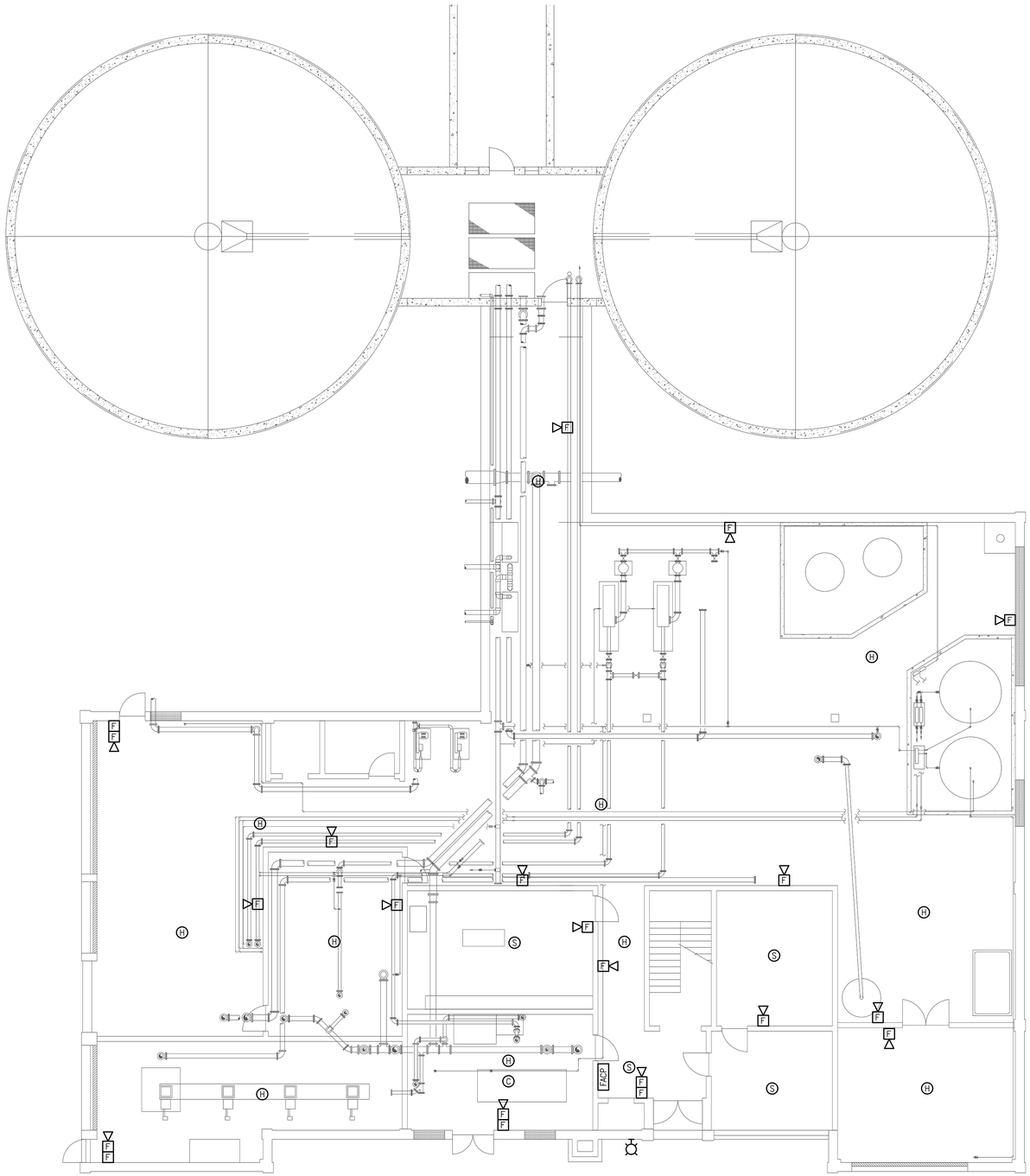

FIRST FLOOR - PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

Electrical Solids Handling Building First Floor New Work Fire Alarm Plan

NO.	REVISIONS	DATE

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SCALE

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SHEET NO.

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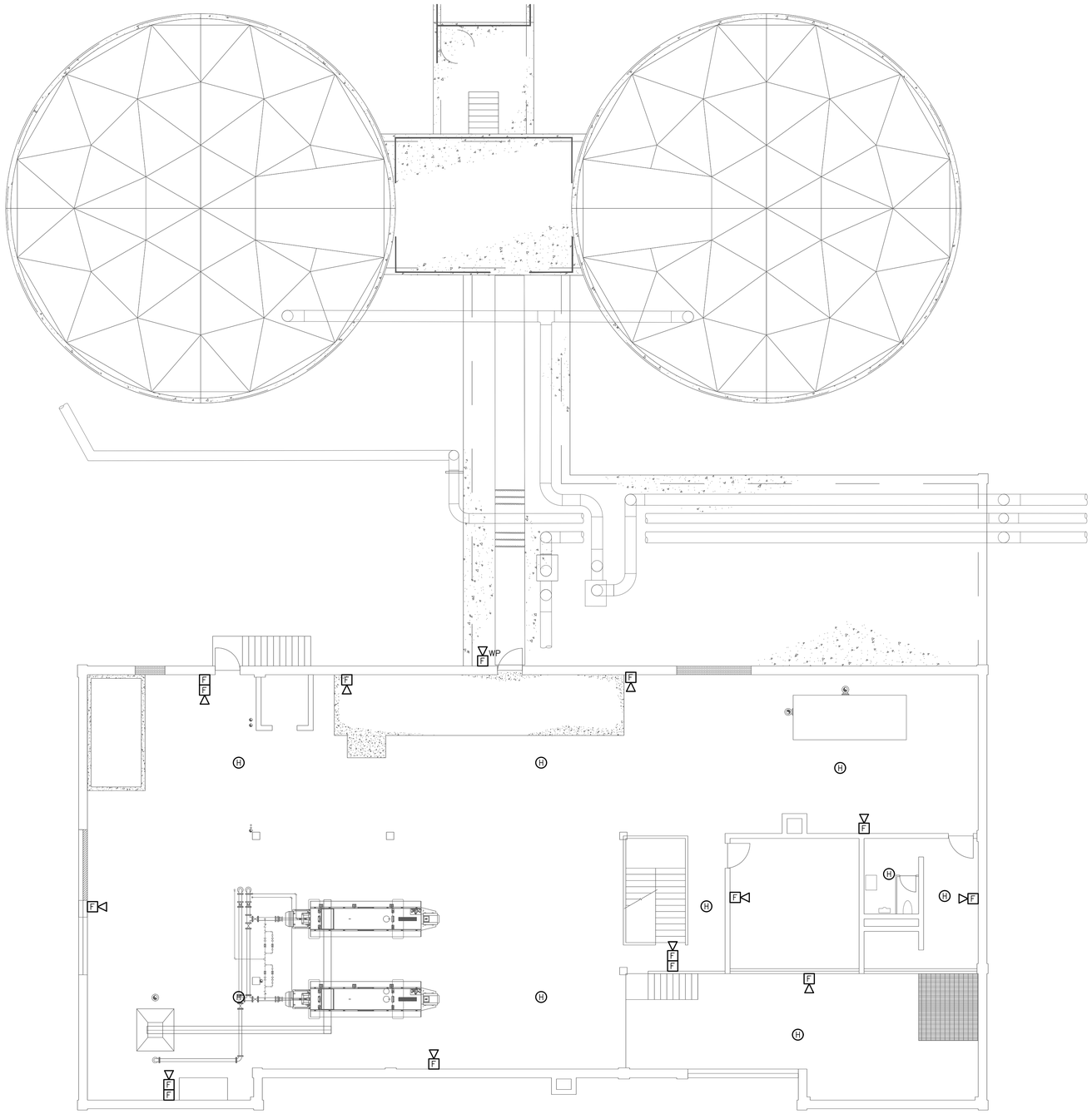

SECOND FLOOR - PLAN

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

PREPARED BY

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PROJECT

Taunton Wastewater Treatment Facility Improvements Solids Handling

Taunton, MA

TITLE

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SCALE

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