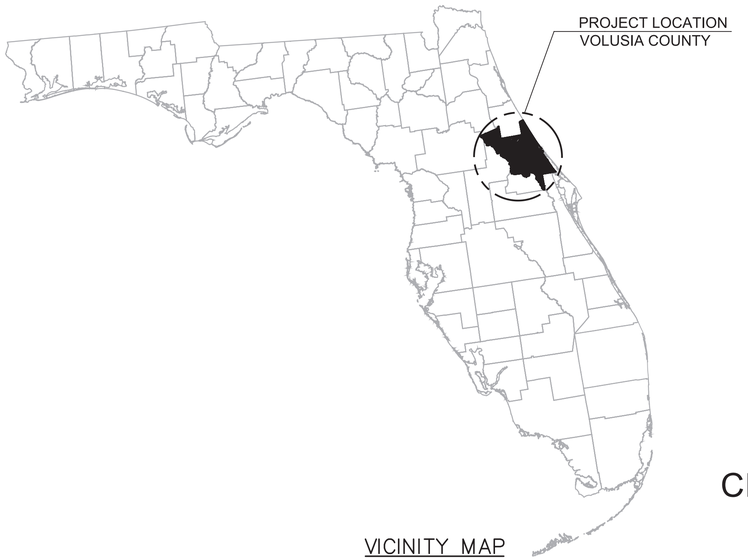
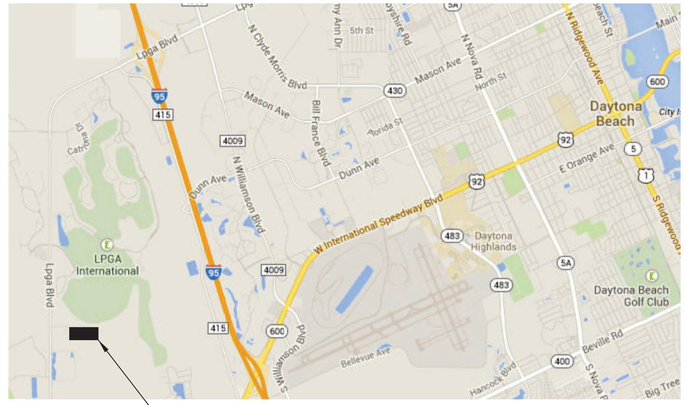


VICINITY MAP
N.T.S.

CITY OF DAYTONA BEACH UTILITIES DEPARTMENT
DAYTONA BEACH, FLORIDA



3651 LPGA BOULEVARD,
DAYTONA BEACH FL, 32115

LOCATION MAP
N.T.S.

CITY CONTRACT NUMBER: 1307-1022

CONTRACT DOCUMENTS FOR CONSTRUCTION OF THE

WESTSIDE REGIONAL WATER RECLAMATION FACILITY
BIOSOLIDS DEWATERING SYSTEM IMPROVEMENTS

100 PERCENT SUBMITTAL
ISSUE FOR BID

CAROLLO PROJECT NO. 8290U.10

FEBRUARY 2020

REGISTERED ENGINEERS/ARCHITECT
STATE OF FLORIDA

GENERAL / CIVIL /
PROCESS / MECHANICAL

Digitally signed by Sudhanva Paranjape
Contact Info: Carollo Engineering, Inc.
Date: 2020.02.04 15:50:42 -05'00'

SUDHANVA PARANJAPE LICENSE No 64472 STATE OF FLORIDA PROFESSIONAL ENGINEER

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SUDHANVA V. PARANJAPE
P.E. No. 64472

STRUCTURAL

John Sobczak
c=US, o=Wekiva Engineering LLC, ou=A01410C0000016BC32080D40000D1FC, cn=John Sobczak
15:59:42 2020.02.04 '00'05-
2019.021.20061

John Sobczak

JOHN VINCENT SOBCZAK LICENSE No. 71407 STATE OF FLORIDA PROFESSIONAL ENGINEER

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JOHN SOBCZAK
P.E. No. 71407

ELECTRICAL AND
INSTRUMENTATION

Digitally signed by Thein Win
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THEIN WIN
P.E. No. 65722

JOB NO.
8290U.10

DRAWING NO.
G01

WEKIVA ENGINEERING LLC
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WINTER PARK, FL 32789
PHONE: (321) 972-4989

carollo
200 EAST ROBINSON STREET, SUITE 1400
ORLANDO, FL 32801
PHONE: (407) 478-4642 FAX: (407) 478-4643
CA 00008571

HILLERS ELECTRICAL ENGINEERING, INC.
23257 STATE ROAD 7, SUITE 100
BOCA RATON, FLORIDA 33428
(561) 451-9165
(561) 451-4886 FAX
LICENSE NO: EB 0006877

GENERAL:

G01	COVER SHEET
G02	SHEET INDEX
G03	ABBREVIATIONS & SYMBOLS
G04	DEWATERING SYSTEM EXISTING PROCESS FLOW DIAGRAM
G05	DEWATERING SYSTEM PROPOSED PROCESS FLOW DIAGRAM

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MD01	DEWATERING BUILDING SECOND FLOOR DEMOLITION PLAN
MD02	DEWATERING BUILDING SECOND FLOOR DEMOLITION PHOTOS
MD03	DEWATERING BUILDING FIRST FLOOR DEMOLITION PLAN
MD04	DEWATERING BUILDING FIRST FLOOR DEMOLITION PHOTOS - SHEET 1
MD05	DEWATERING BUILDING FIRST FLOOR DEMOLITION PHOTOS - SHEET 2
MD06	DEWATERING BUILDING FIRST FLOOR DEMOLITION PHOTOS - SHEET 3
MD07	DEWATERING BUILDING FIRST FLOOR DEMOLITION PHOTOS - SHEET 4
MD08	DEWATERING BUILDING ODOR CONTROL SYSTEM DEMOLITION PHOTOS

CIVIL:

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C02	POLYMER SYSTEM YARD PIPING PLAN

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S03B	DEWATERING BUILDING PROPOSED PLAN (ANDRITZ)
S03C	DEWATERING BUILDING PROPOSED PLAN (BDP)
S04A	DEWATERING BUILDING PROPOSED PLATFORM PLAN (ALFA LAVAL)
S04B	DEWATERING BUILDING PROPOSED PLATFORM PLAN (ANDRITZ)
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S06	DEWATERING BUILDING ELEVATED PLATFORM (ALFA LAVAL & ANDRITZ)
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S09	DEWATERING BUILDING SCHEDULES & DETAILS
S10	POLYMER CONTAINMENT CANOPY PLAN, SECTION AND DETAIL
S11	DEWATERING BUILDING DETAILS

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M01B	DEWATERING BUILDING PROPOSED LAYOUT (ANDRITZ)
M01C	DEWATERING BUILDING PROPOSED LAYOUT (BDP)
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M02B	TRUCK LOADING STATION PROPOSED CONVEYOR (ANDRITZ)
M02C	TRUCK LOADING STATION PROPOSED CONVEYOR (BDP)
M03A	DEWATERING BUILDING PROPOSED SECTION (ALFA LAVAL)
M03B	DEWATERING BUILDING PROPOSED SECTION (ANDRITZ)
M03C	DEWATERING BUILDING PROPOSED SECTION (BDP)
M04A	DEWATERING BUILDING PROPOSED SECTION (ALFA LAVAL)
M04B	DEWATERING BUILDING PROPOSED SECTION (ANDRITZ)
M04C	DEWATERING BUILDING PROPOSED SECTION (BDP)
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E04	EXISTING MCC-3 DEMOLITION ONE LINE DIAGRAM
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E06	PROPOSED MCC-3 ONE LINE DIAGRAM (ALFA LAVAL SYSTEM)
E07	PROPOSED MCC-3 ONE LINE DIAGRAM (BDP SYSTEM)
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E16	DEWATERING BUILDING - 2ND FLOOR ELECTRICAL DEMOLITION PLAN
E17	DEWATERING BUILDING - 1ST FLOOR LIGHTING PLAN
E18	DEWATERING BUILDING - 1ST FLOOR ELECTRICAL PLAN (ALFAL LAVAL)
E19	TRUCK LOADING STATION (ALFA LAVAL)
E20	DEWATERING BUILDING - 2ND FLOOR LIGHTING PLAN
E21	DEWATERING BUILDING - 1ST FLOOR ELECTRICAL PLAN (ANDRITZ)
E22	DEWATERING BUILDING - 1ST FLOOR ELECTRICAL PLAN (BDP)
E23	RISER DIAGRAMS
E24	PANELBOARD SCHEDULES
E25	SCHEDULES
E26	ELECTRICAL DETAILS - SHEET 1
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INSTRUMENTATION:

N01	INSTRUMENTATION LEGEND AND SYMBOLS
N02	COMMUNICATION BLOCK DIAGRAM
N03	P&ID - DEWATERING SYSTEM DIAGRAM SHEET 1
N04	P&ID - DEWATERING SYSTEM DIAGRAM SHEET 2
N05	P&ID - DEWATERING SYSTEM DIAGRAM SHEET 3
N06	P&ID TYPICAL ALFA LAVAL BFP
N07	P&ID WASHWATER PUMPS
N08	INSTRUMENTATION DETAILS

100% SUBMITTAL
ISSUE FOR BID

REV	DATE	BY	DESCRIPTION

DESIGNED SP
DRAWN JB
CHECKED SP
DATE FEBRAURY 2020

SUDHANVA PARANJAPE LICENSE No 64472 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Sudhanva Paranjape
Contact Info: Carollo Engineers, PC
Date: 2020.02.04 15:11:46-05'00'

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THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
GENERAL
SHEET INDEX

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 8290U.10
DRAWING NO. G02
SHEET NO.

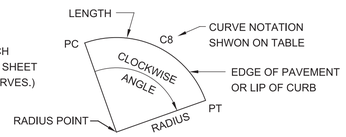
PROJECT NO.
FILE NAME: 8290U10-G02.dgn

CIVIL LEGEND

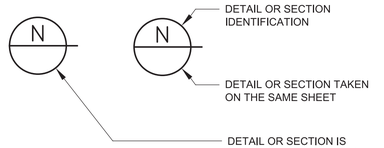
NEW STRUCTURES
EXISTING STRUCTURES
NEW PIPING (TRIPLE LINES)
NEW PIPING (SINGLE LINE)
EXISTING PIPING (TRIPLE LINES)
EXISTING PIPING (SINGLE LINE)
HIDDEN LINE
CENTER, MONUMENT, OR SURVEY LINE
GUARDRAIL
EXISTING CONTOURS — 1675
NEW CONTOURS — 1675
NEW CONTOURS BY OTHERS — 1675
NEW FENCE — X — X — X
EXISTING FENCE — X — X — X
NEW POWER POLE & LINE — PP — E — E
EXISTING POWER POLE & LINE — PP — E — E
EXISTING ELECTRICAL UNDERGROUND
PROPERTY LINE OR RIGHT OF WAY
NEW SLOPE — TOP
EXISTING SLOPE — TOE / TOP / TOE
FUTURE CONSTRUCTION
EXISTING ROAD
CURB & GUTTER — OR
ABANDONE
DEMOLISH AND REMOVE
MODIFY
RELOCATE
SHORING
GRADE BREAK — GB
RIDGE LINE — R — R — R
FLOW DIRECTION
FLOW LINE
NEW LIGHT POLE
EXISTING LIGHT POLE
NEW POWER POLE
EXISTING POWER POLE
SAVE TREE OR SHRUB — S
BENCH MARK
FIRE HYDRANT
TREES AND BRUSH
GUARD POST
TRAFFIC SIGNS — B — B B
CATCH BASIN
DRAINAGE INLET
DRAINAGE HEADWALL
ELECTRICAL HANDHOLE — HH-1

CIVIL LEGEND (CONT)

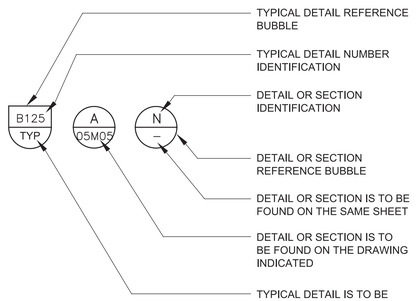
ELECTRICAL MANHOLE — MH
ELECTRICAL PULLBOX — PB-1
MANHOLE
DRYWELL
SLOPE CALLOUT — 2:1 = 2/1, 3:1 = 3/1
ROADWAY CROSS-SLOPE — 2.00% (FT/FT)
ROADWAY GRADE — S=0.0100 (FT/FT)
DRAINAGE DITCH OR CHANNEL GRADE — S=0.0020 (FT/FT)
STATE PLANE COORDINATES — N 711289.78, E 1432605.38
NEW SPOT ELEVATION — 1325.46
EXISTING SPOT ELEVATION — 1328.2
ELEVATION — 1325.00
INVERT ELEVATION — INV 1320.0
CENTERLINE ELEVATION — ℄ 1315.0
ROADWAY CURVES (SEE TABLE ON EACH GRADING & PAVING SHEET WITH ROADWAY CURVES.)



DRAWING CROSS REFERENCE



AT TITLE



AT CROSS REFERENCE

BUILDING MATERIALS LEGEND

VIEW IN SECTION

MATERIAL	EXISTING	REMOVE	NEW	TEMPORARY
CLASS "A", "B", AND "D" CONCRETE				
CLASS "C" CONCRETE				
STEEL				
CAST IRON OR FIBERGLASS				
ALUMINUM				
BRICK OR BLOCK				
WOOD CROSS GRAIN, FINISH				
WOOD, STRUCTURAL				
BRONZE, BRASS, OR COPPER				
GRAVEL/CRUSHED SHELL				
RUBBER				
SOIL				
ASPHALTIC CONCRETE PAVEMENT				
RIP RAP				
TYPE II AGGREGATE BASE ROADWAY OR WALK				
CONCRETE PAVEMENT				

GENERAL CIVIL NOTES

1. EXISTING FACILITY AND UTILITY INFORMATION SHOWN ON THE DRAWINGS WAS OBTAINED FROM AVAILABLE RECORDS OR ELECTRONIC FILES. NEITHER THE OWNER NOR ENGINEER ASSUMES ANY RESPONSIBILITY FOR FACILITIES AND UTILITIES NOT SHOWN OR NOT IN THE LOCATION SHOWN. THE CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS, SIZES, MATERIAL TYPES AND ELEVATIONS SHOWN AND AROUND OR NEAR AREAS OF NEW CONSTRUCTION PRIOR TO START OF CONSTRUCTION.
2. ALL ELEVATIONS NEED TO BE VERIFIED IN DATUM 88
3. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING FACILITIES AND UTILITIES SHOWN OR NOT SHOWN WHICH ARE TO REMAIN IN PLACE FROM DAMAGE. ALL FACILITIES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED TO THE ENGINEER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE WITHOUT ADDITIONAL COMPENSATION.
4. THE CONTRACTOR SHALL COMPLY WITH THE CITY OF DAYTONA BEACH UTILITIES DEPARTMENT CRITERIA FOR THE SEPARATION OF WATER MAINS AND SANITARY SEWERS.
5. PROVIDE A MINIMUM OF 36 INCHES COVER ON ALL PIPELINES UNLESS OTHERWISE SHOWN OR DIRECTED.
6. STRAIGHT ALIGNMENT AND UNIFORM SLOPES SHALL BE MAINTAINED BETWEEN INVERTS SHOWN.
7. ADJUST ALL VALVE BOXES, VAULTS, PULL BOXES AND MANHOLES TO FINISHED GRADE UNLESS OTHERWISE SHOWN OR DIRECTED. MANHOLES IN OPEN FIELDS SHALL BE SET ONE FOOT ABOVE FINISHED GRADE AND VAULTS SHALL BE SIX INCHES ABOVE FINISHED GRADE. APPROXIMATE RIM ELEVATIONS ARE SHOWN ON DRAWINGS.
8. ALL DEBRIS FROM DEMOLITION IS TO BE DISPOSED OF LEGALLY OFF SITE. ANY SALVAGABLE MATERIALS OR EQUIPMENTS SHALL BE THE PROPERTY OF THE OWNER AND REMOVED TO LOCATION AS DIRECTED BY THE OWNER.
9. ALL TRENCHING AND BACKFILL SHALL BE IN ACCORDANCE WITH DETAIL P002 TYP
10. ALL BURIED VALVE INSTALLATIONS SHALL BE IN ACCORDANCE WITH DETAIL P022 TYP
11. FOR PIPING CONNECTIONS TO STRUCTURE SEE MECHANICAL DRAWINGS.
12. THE CONTRACTOR SHALL SHORE, SUPPORT AND PROTECT EXISTING STRUCTURES AND FACILITIES AS NECESSARY TO KEEP THEM IN GOOD WORKING CONDITION.
13. WHERE REPLACING EXISTING PAVEMENT, MATCH EXISTING GRADE AT EXISTING STRUCTURES AND BUILDINGS, EXCEPT WHEN NOTED OTHERWISE.
14. CONTRACTOR SHALL NOTIFY SUNSHINE STATE ONE CALL SERVICE (1-800-432-4770) 48 HOURS PRIOR TO PROJECT STAKEOUT AND COMMENCING PROJECT EXCAVATION/TRENCHING. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL EXISTING UTILITIES IN THE PATH OF CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY WHEN CONFLICTS BETWEEN THESE DRAWINGS AND ACTUAL FIELD CONDITIONS ARE DISCOVERED.
15. PROVIDE GRAVEL MAINTENANCE STRIP ON THE PERIMETER OF ALL NEW STRUCTURES

MECHANICAL AND PIPING ABBREVIATIONS

GENERAL

A/C	AIR COMPRESSOR
A/D	AIR DRYER
ARV	AIR RELEASE VALVE
AVRV	AIR/VACUUM RELEASE VALVE
AV	ANGLE VALVE
BE	BEVELED END
BCV	BALL CHECK VALVE
BFV	BUTTERFLY VALVE
BOP	BOTTOM OF PIPE
BFP	BACKFLOW PREVENTER
BPV	BACK PRESSURE VALVE
BV	BALL VALVE
BYP	BYPASS OR BY-PASS
CARV	COMBINATION AIR RELEASE VALVE
CLC	CENTERLINE
CLPS	CLARIFIED LIQUID PUMP STATION
CON	CONCENTRIC
CONN	CONNECTION
CPLG	COUPLING
DB	DEGASIFIER BLOWER
DCBP	DOUBLE CHECK BACKFLOW PREVENTER
DGS	DEGASIFIER
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DMJ	DISMANTLING JOINT
DN	DOWN
DR	DRAIN
DV	DIAPHRAGM VALVE
DWV	DRAIN WASTE VENT
ECC	ECCENTRIC
EFL	EFFLUENT
EL	ELEVATION
EPV	ECCENTRIC PLUG VALVE
EQPT	EQUIPMENT
EQPTD	EQUIPMENT DRAIN
ESEW	EMERGENCY SHOWER AND EYEWASH
EXP	EXPANSION
FAP	FOUL AIR PIPE
FBA	FILTER BACKWASH AIR
FBP	FILTER BYPASS
FBWS	FILTER BACKWASH SUPPLY
FBWW	FILTER BACKWASH WASTE
FC	FLEXIBLE CONNECTION
FCA	FLANGED COUPLING ADAPTER
FCPLG	FLEXIBLE COUPLING
FCV	FLAPPER CHECK VALVE
FD	FLOOR DRAIN
FE	FILTER EFFLUENT
FH	FIRE HYDRANT
FI	FILTER INFLUENT
FLG	FLANGE
FLGA	FLANGED ADAPTER
FLT	FILTER / SAND SEPARATOR
FLW	PIPE FLOW LINE OR SPRING LINE
FP	FIRE PROTECTION
FSP	FABRICATED STEEL PIPE
GALV	GALVANIZE
GLV	GLOBE VALVE
GTV	GATE VALVE
H/B	HOSE BIBB
HORIZ	HORIZONTAL
HPT	HIGH POINT
HR	HOSE RACK
ID	INSIDE DIAMETER
IDW	INDIRECT WASTE
INF	INFLUENT
INJ	INJECTOR

GENERAL - CONTINUED

INV	INVERT
IPS	IRON PIPE SIZE
IPR	INPLANT RECYCLE
IV	ISOLATION VALVE
LP	LOW POINT
LPV	LOW POINT VALVE
LR	LONG RADIUS
MIX	STATIC MIXER
MK	MARK
MM	MAGNETIC FLOW METER
MOT	MAINTENANCE OF TRAFFIC
NC	NORMALLY CLOSED
NDV	NEEDLE VALVE
NO	NORMALLY OPEN
NOM	NOMINAL PIPE SIZE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OVER FLOW
PA	PROCESS AIR
PE	PLAIN END
PFP	PRIMARY NF FEED PUMP
PG	PRESSURE GAUGE
PNV	PINCH VALVE
PRV	PRESSURE REDUCING VALVE
PVC	POLYVINYL CHLORIDE
PTP	PRODUCT TRANSFER PUMP
R	RESTRAINED JOINT
RAS	RETURN ACTIVATED SLUDGE
RDCR	REDUCER
REXP	RUBBER EXPANSION JOINT
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RWL	RAIN WATER LEADER
RW	REUSE WATER
SARV	SEWAGE AIR RELEASE VALVE
SCB	SCRUBBER
SCH	SCHEDULE
SCE	SECONDARY CLARIFIER EFFLUENT
SCV	SWING CHECK VALVE
SD	STORM DRAIN
SDR	SANITARY DRAIN
SDS	STORM SEWER
SIM	SIMILAR
SOLV	SOLENOID VALVE
SPD	SUMP PUMP DISCHARGE
SR	SHORT RADIUS
SRP	SCRUBBER RECIRCULATION PUMP
STL	STEEL
SS	SANITARY SEWER
ST STL	STAINLESS STEEL
SU	STRUCTURE UNDERDRAIN STRUCTURE
SUC	STRUCTURE UNDERDRAIN COLLECTION
SV	SANITARY VENT
SWR	SEAL WATER
SYMM	SYMMETRICAL
TBG	TUBING
TD	TRENCH DRAIN
TOG	TOP OF DRAIN/GRATE
TOP	TOP OF PIPE
TV	THROTTLE VALVE
TWS	TEMPERED WATER SUPPLY
TYP	TYPICAL
VERT	VERTICAL
VNT	VENT
VTR	VENT THROUGH ROOF
WAS	WASTE ACTIVATED SLUDGE
WCO	WALL CLEANOUT
WFH	WALL FIRE HYDRANT
WS	WATER SURFACE

PIPE FITTINGS

CPC	COMPRESSION COUPLING
ELB	ELBOW
LAT	LATERAL
TEE	TEE
WYE	WYE

PIPE JOINT - TYPE

AMJ	AMMONIA JOINT
BZJ	BRAZED JOINT
BNS	BALL AND SOCKET JOINT
BSCIP	BELL AND SPIGOT JOINT CAST IRON PIPE
BSDIP	BELL AND SPIGOT PVC
BSPVC	BUTT WELD JOINT
BUTT	DOUBLE JOINT
DBLJT	FLANGED JOINT
FLGJ	FUSED JOINT
FJ	GROOVED JOINT
GVJ	HUB OR BELL PIPE END
HUB	INSULATED FLANGE JOINT
IFJ	MECHANICAL JOINT
MJ	PLAIN PIPE END
PE	PUSH-ON JOINT
POJ	RING-TITE
RT	SOLDERED JOINT
SJ	SOCKET WELD JOINT(SOLVENT)
SOC	SPIGOT PIPE END
SPIG	SWAGE JOINT
SWJ	THREADED JOINT
TJ	WELDED SOCKET JOINT
WSJ	VAN STONE FLANGE PVC
VSFP	VAN STONE FLANGE STEEL RING
VSFS	

PIPE MATERIALS

AC	ASBESTOS CEMENT (OBSOLETE)
BSP	BLACK STEEL PIPE
C900	CAST IRON SIZE PLASTIC PIPE
CAP	CORRUGATED ALUMINUM PIPE
CIP	CAST IRON PIPE
CISP	CAST IRON SOIL PIPE
CMLC	CEMENT MORTAR LINED AND COATED PIPE
CMLSP	CEMENT MORTAR LINED STEEL PIPE
CMP	CORRUGATED METAL PIPE
CPVC	CHLORINATED POLYVINYL CHLORIDE PIPE
CSP	CARBON STEEL PIPE
CU	COPPER PIPE
DIP	DUCTILE IRON PIPE
DIPBS	DUCTILE IRON PIPE BELL AND SPIGOT
DIPMJ	DUCTILE IRON PIPE MECHANICAL JOINT
FRP	FIBERGLASS PLASTIC PIPE
GLCIP	GLASS LINED CAST IRON PIPE
GSP	GALVANIZED STEEL PIPE
HDPE	HIGH DENSITY POLYETHENE PIPE
NAL	NALGENE VINYL TUBING, SEE NOTE 2, MATERIAL
PE	POLYETHYLENE PIPE
PIP	PLASTIC IRRIGATION PIPE
PP	POLYPROPYLENE PIPE
PVC	POLYVINYL CHLORIDE PIPE
PVDF	POLYVINYLIDENE FLUORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
SCCP	STEEL CYLINDER CONCRETE PIPE
SDR 35	STANDARD SOLID WALL SEWER PIPE
ST STL	STAINLESS STEEL PIPE
VCP	VITRIFIED CLAY PIPE
WIP	WROUGHT IRON PIPE

PIPE JOINT - THREADED

FPT	FEMALE PIPE THREAD
FIPT	FEMALE IRON PIPE THREAD
MPT	MALE PIPE THREAD
MIPT	MALE IRON PIPE THREAD
THD	THREAD OR THREADED
NPT	NATIONAL PIPE THREAD

VALVE OPERATORS

CWO	CHAIN WHEEL OPERATOR
HWO	HAND WHEEL OPERATOR
LVO	LEVEL OPERATED
MRO	MOTOR OPERATED
PNO	PNEUMATIC OPERATOR

FLANGES

BF	BLIND FLANGE
FF	FLAT FACE FLANGE
RF	RAISED FACE FLANGE
RFSO	RAISED FACE SLIP ON
SF	SERRATED FACE, FULL AND PARTIAL
SOF	SLIP ON FLANGE
WNF	WELD NECK FLANGE

OTHERS

STL	GALVANIZED STEEL

100% SUBMITTAL
ISSUE FOR BID

REV	DATE	BY	DESCRIPTION

DESIGNED SP
DRAWN JB
CHECKED SP
DATE FEBRUARY 2020

SUDHANVA PARANJAPE LICENSE No 64472 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Sudhanva Paranjape
Contact Info: Carollo Engineers, Inc.
Date: 2020.02.03 09:11:40-05'00'

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CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
GENERAL
ABBREVIATIONS AND SYMBOLS

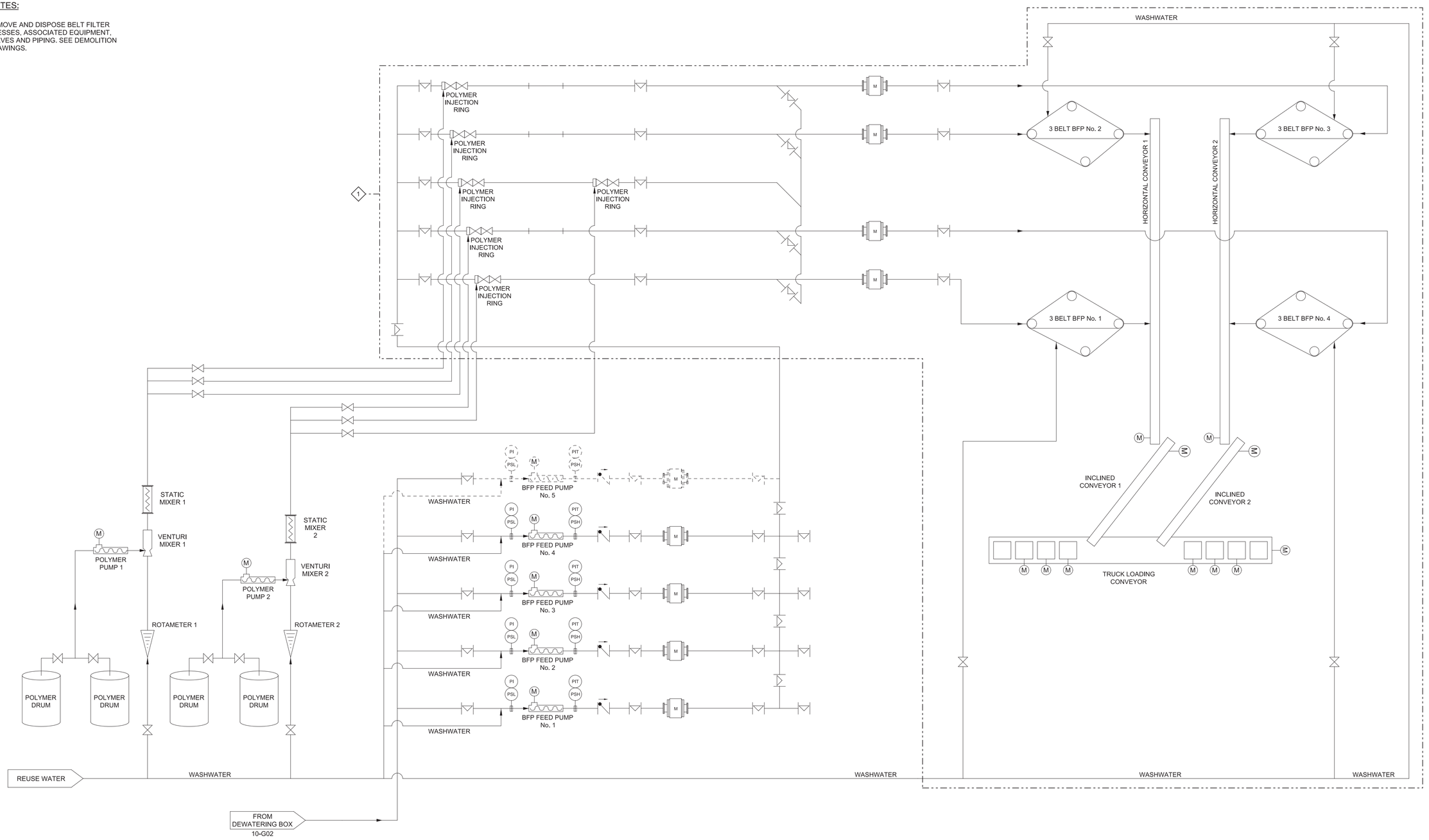
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 8290U.10
DRAWING NO. G03
SHEET NO.

PROJECT NO. 8290U.10 FILE NAME: 8290U10-G03.dgn

KEY NOTES:

1. REMOVE AND DISPOSE BELT FILTER PRESSES, ASSOCIATED EQUIPMENT, VALVES AND PIPING. SEE DEMOLITION DRAWINGS.



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CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

GENERAL

DEWATERING SYSTEM
EXISTING PROCESS FLOW DIAGRAM

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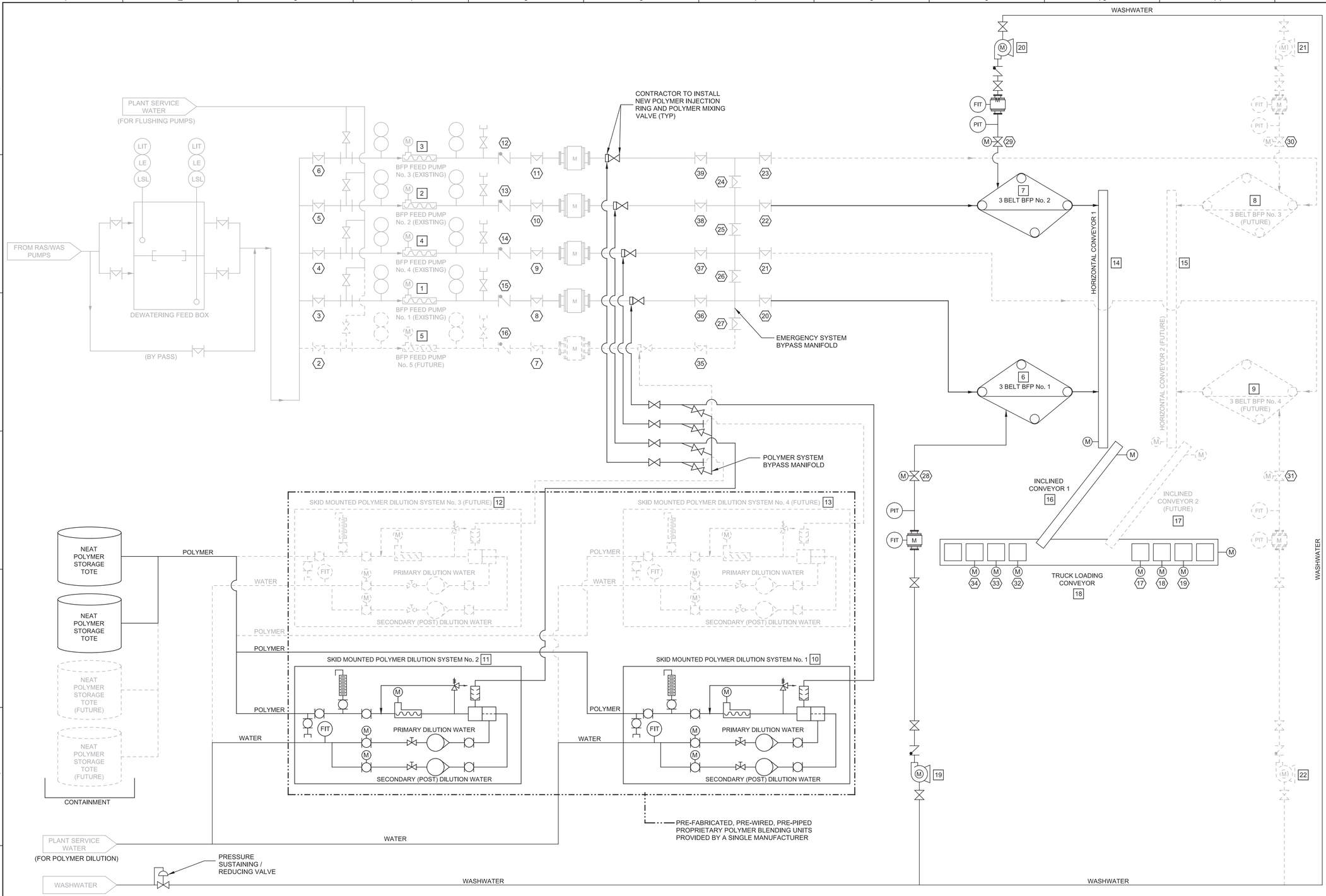
JOB NO. 8290U.10
DRAWING NO. G04
SHEET NO.

PROJECT NO.
FILE NAME: 8290U10-G04.dgn

Plot Date: 03-FEB-2020 2:18:40 PM
User: svcPW
PlotScale: 1:1
DesignScript: Carollo_Std_Pen_v0905.pen
ColorTable: gshade.ctb
Model: Layout1
LAST SAVED BY: John.Buitrago



KEY TAGS:

1	NOT USED
2	4"-BFP-M-PV-002
3	4"-BFP-M-PV-003
4	4"-BFP-M-PV-004
5	4"-BFP-M-PV-005
6	4"-BFP-M-PV-006
7	4"-BFP-M-PV-007
8	4"-BFP-M-PV-008
9	4"-BFP-M-PV-009
10	4"-BFP-M-PV-010
11	4"-BFP-M-PV-011
12	4"-BFP-M-CV-001
13	4"-BFP-M-CV-002
14	4"-BFP-M-CV-003
15	4"-BFP-M-CV-004
16	4"-BFP-M-CV-005
17	X"xX"-CK-E-SG-004
18	X"xX"-CK-E-SG-005
19	X"xX"-CK-E-SG-006
20	4"-BFP-E-PV-020
21	4"-BFP-E-PV-021
22	4"-BFP-E-PV-022
23	4"-BFP-E-PV-023
24	4"-BFP-M-PV-024
25	4"-BFP-M-PV-025
26	4"-BFP-M-PV-026
27	4"-BFP-M-PV-027
28	2"-WW-E-V-001
29	2"-WW-E-V-002
30	2"-WW-E-V-003
31	2"-WW-E-V-004
32	X"xX"-CK-E-SG-001
33	X"xX"-CK-E-SG-002
34	X"xX"-CK-E-SG-003
35	4"-BFP-M-PV-012
36	4"-BFP-M-PV-013
37	4"-BFP-M-PV-014
38	4"-BFP-M-PV-015
39	4"-BFP-M-PV-016

EQUIPMENT TAGS:

1	F-PMP-01	12	PDS-03
2	F-PMP-02	13	PDS-04
3	F-PMP-03	14	H-CON-01
4	F-PMP-04	15	H-CON-02
5	F-PMP-05	16	I-CON-01
6	BFP-001	17	I-CON-02
7	BFP-002	18	L-CON-01
8	BFP-003	19	WW-PMP-001
9	BFP-004	20	WW-PMP-002
10	PDS-01	21	WW-PMP-003
11	PDS-02	22	WW-PMP-004

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CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
GENERAL
DEWATERING SYSTEM
PROPOSED PROCESS FLOW DIAGRAM

VERIFY SCALES
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JOB NO. 8290U.10
DRAWING NO. G05
SHEET NO.

PROJECT NO.
FILE NAME: 8290U10-G05.dgn

Plot Date: 03-FEB-2020 2:18:42 PM
User: svcPW
PlotScale: 1:1
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ColorTable: gshade.ctb
Model: Layout1
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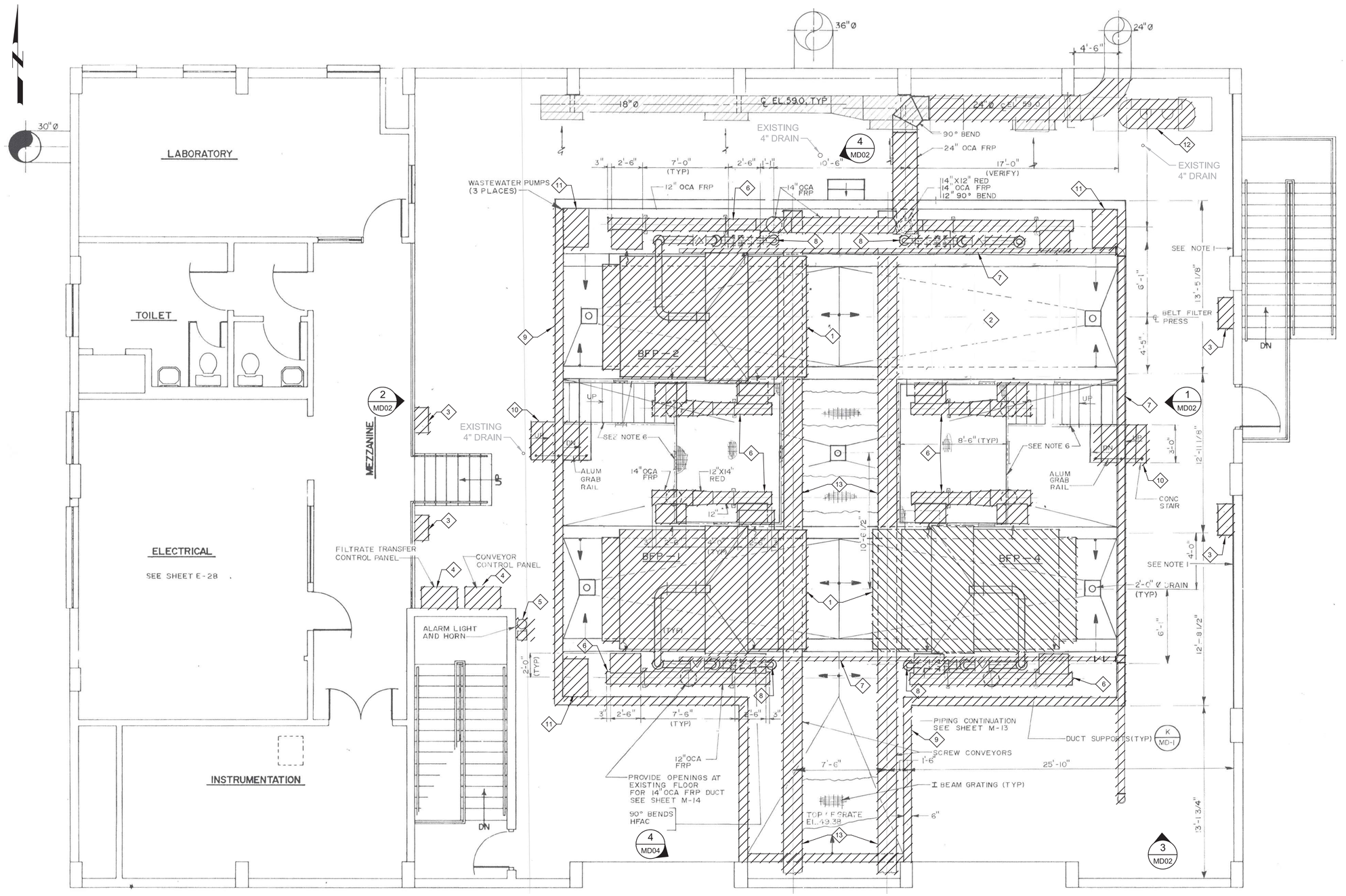

A PLAN

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

GENERAL NOTES:

1. COORDINATE WITH OWNER ON THE TIMING FOR THIS DEMOLITION WORK. PROVIDE A DETAILED SEQUENCE OF DEMOLITION SHOWN ON THIS SHEET FOR APPROVAL OF OWNER AND ENGINEER. THE EXISTING BFPs ON THE 2nd FLOOR WILL NEED TO BE IN OPERATION UNTIL A POINT UNTIL THE NEW CONVEYORS WILL BE INSTALLED. CONTRACTOR AT THAT POINT NEED TO RENT A MOBILE SLUDGE DEWATERING SYSTEM AND MAKE FULLY FUNCTIONAL UNTIL THE EXISTING BFPs ARE TAKEN OFF-LINE FOR THIS DEMOLITION TO HAPPEN.
2. CONTRACTOR TO SUBMIT A DETAILED CONSTRUCTION SEQUENCE AND SCHEDULLE TO MINIMIZE THE TIME FOR THE RENTAL UNIT.

LEGEND:

REMOVE AND DISPOSE

KEY NOTES:

1. REMOVE AND DISPOSE OF BELT FILTER PRESS (TYP OF 3)
2. BFP 3 ALREADY REMOVED
3. REMOVE AND DISPOSE OF BFP CONTROL PANLES (TYP OF 4)
4. REMOVE ABANDONED CONTROL PANELS FOR FILTRATE AND CONVEYORS.
5. REMOVE ALARM PANEL.
6. REMOVE AND DISPOSE OF ODOR CONTROL DUCTS. FLOOR PENETRATION TO BE PATCHED.
7. REMOVE AND DISPOSE PORTION OF WASHWATER PIPING. FLOOR PENETRATION TO BE PATCHED.
8. REMOVE & DISPOSE ALL SLUDGE FEED PIPING THROUGH FLOOR. PENETRATION TO BE RELOCATED. (TYP OF 4)
9. DEMOLISH CONCRETE CONTAINMENT WALL, GRIND TO THE FLOOR. PATCH AND REPAIR AT THE CONNECTION TO THE FLOOR. ANY EXPOSED FLOOR REBAR SHOULD BE PATCHED PER DETAILS ON THE STRUCTURAL DRAWINGS.
10. DEMOLISH CONCRETE STEPS. GRIND TO THE FLOOR. PATCH AND REPAIR AT THE CONNECTION TO THE FLOOR. ANY EXPOSED FLOOR REBAR SHOULD BE PATCHED PER DETAILS ON THE STRUCTURAL DRAWINGS.
11. DEMOLISH CONCRETE PAD. GRIND TO THE FLOOR. PATCH AND REPAIR AT THE CONNECTION TO THE FLOOR. ANY EXPOSED FLOOR REBAR SHOULD BE PATCHED PER DETAILS ON THE STRUCTURAL DRAWINGS.
12. REMOVE AND DISPOSE OF AIR COMPRESSOR.
13. REMOVE AND DISPOSE OF HORIZONTAL CONVEYOR.

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CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
DEMOLITION
DEWATERING BUILDING
SECOND FLOOR DEMOLITION PLAN

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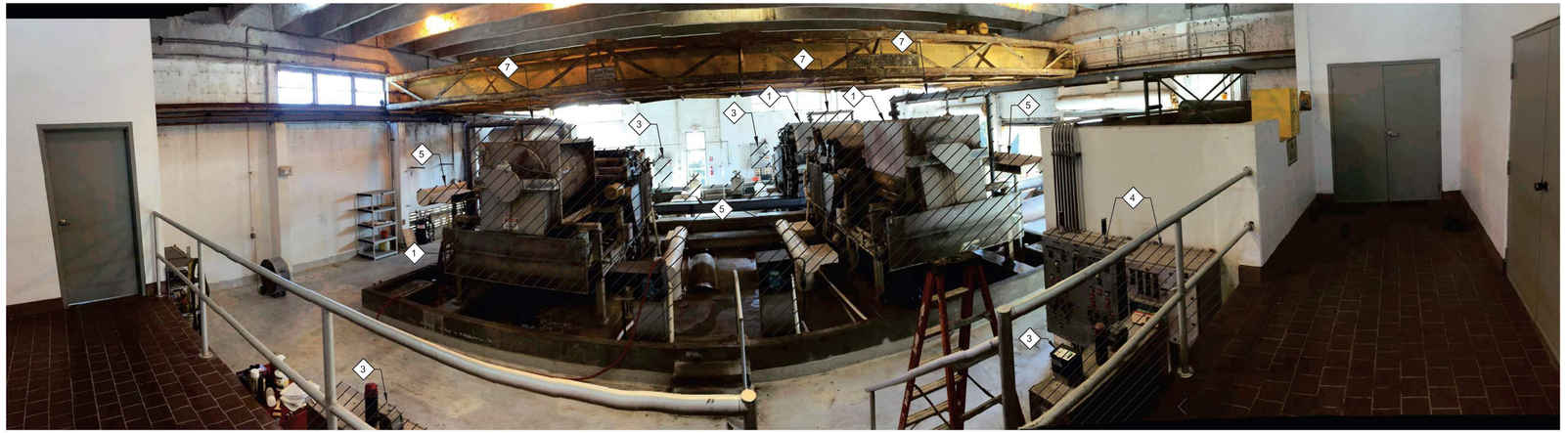
JOB NO. 8290U.10
DRAWING NO. MD01
SHEET NO.

PROJECT NO.
FILE NAME: 8290U10-MD01.dgn

Plot Date: 03-FEB-2020 2:19:13 PM
User: svcPW
PlotScale: 1:1
DesignScript: Carollo_Std_Pen_v0905.pen
ColorTable: gshade.ctb
Model: Layout1
LAST SAVED BY: John.Buitrago

1 / MD01 PHOTO SHOWING BFP No. 4, ODOR CONTROL DUCTWORK, SULDGE FEED PIPING, WASHWATER PIPING ON EAST SIDE OF DEWATERING SYSTEM

3 / MD01 PHOTO SHOWING WASHWATER PIPING



2 / MD01 PHOTO SHOWING BFP No. 1, BFP No. 2, ODOR CONTROL DUCTWORK, SULDGE FEED PIPING, WASHWATER PIPING ON WEST SIDE OF DEWATERING SYSTEM

4 / MD01 PHOTO SHOWING BFP No. 2

LEGEND:

REMOVE AND DISPOSE

KEY NOTES:

1. REMOVE AND DISPOSE OF BELT FILTER PRESS (TYP OF 3)
2. BFP 3 ALREADY REMOVED
3. REMOVE AND DISPOSE OF BFP CONTROL PANLES (TYP OF 4)
4. REMOVE ABANDONED CONTROL PANELS FOR FILTRATE AND CONVEYORS.
5. REMOVE AND DISPOSE OF ODOR CONTROL DUCTS. PATCH FLOOR PENETRATION. NORTH WALL PENETRATION TO BE CAPPED INSIDE ROOM.
6. REMOVE AND DISPOSE PORTION OF WASHWATER PIPING. PATCH FLOOR PENETRATION.
7. REMOVE & DISPOSE ALL SLUDGE FEED PIPING THROUGH FLOOR. PENETRATION TO BE RELOCATED. (TYP OF 4)
8. REMOVE AND DISPOSE OF AIR COMPRESSOR.

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THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
DEMOLITION
DEWATERING BUILDING SECOND FLOOR DEMOLITION PHOTOS

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JOB NO. 8290U.10
DRAWING NO. MD02
SHEET NO.

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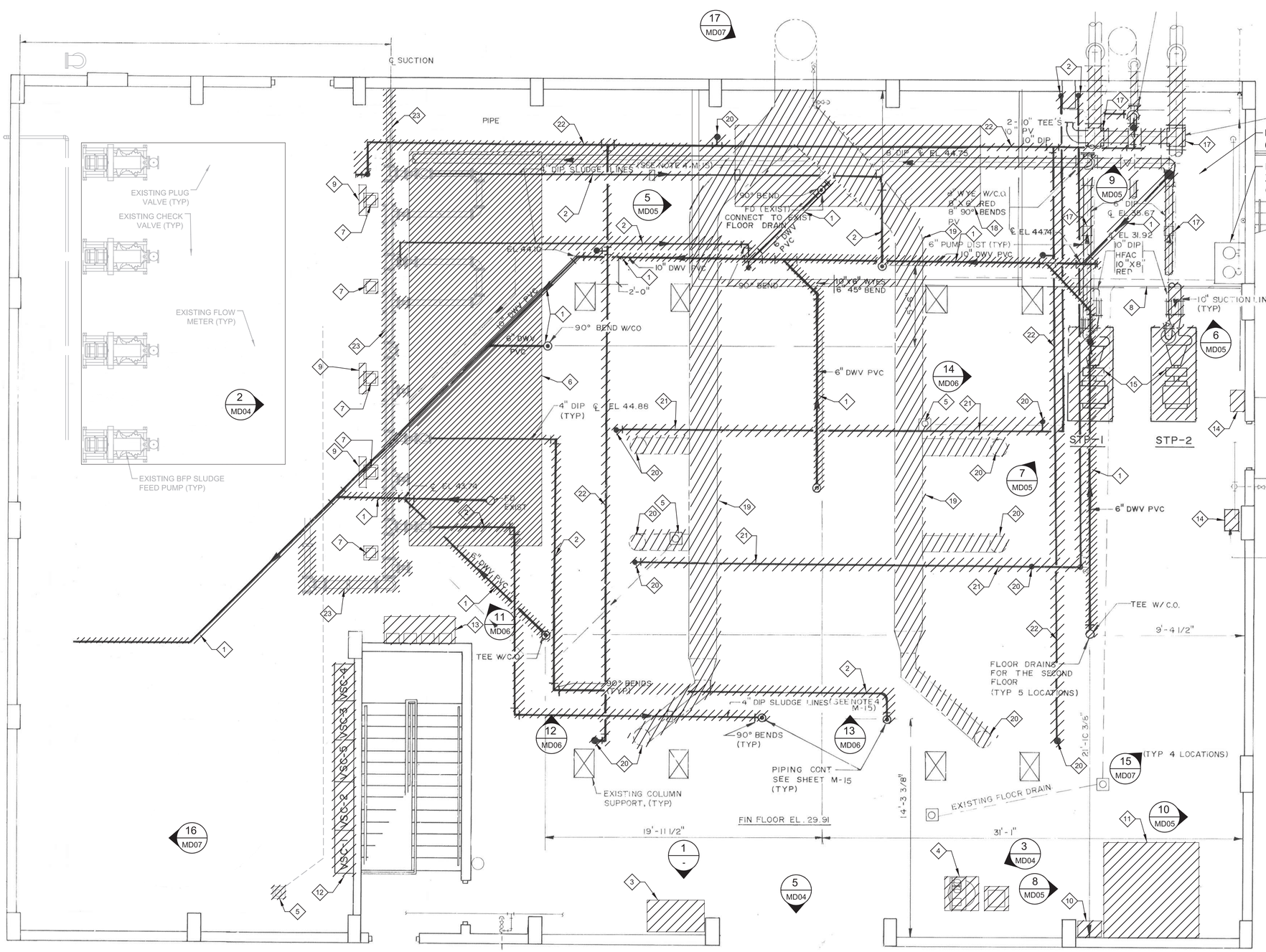
PROJECT NO.
FILE NAME: 8290U10-MD02.dgn



A FIRST FLOOR PLAN
SCALE: 1/4=1'0"
FILE: -

GENERAL NOTES:

1. PROVIDE A DETAILED SEQUENCE OF DEMOLITION SHOWN ON THIS SHEET FOR APPROVAL OF OWNER AND ENGINEER. THE EXISTING BFPs ON THE 2nd FLOOR WILL NEED TO BE IN OPERATION UNTIL A POINT UNTIL THE NEW CONVEYORS WILL BE INSTALLED. CONTRACTOR AT THAT POINT NEED TO RENT A MOBILE SLUDGE DEWATERING SYSTEM AND MAKE FULLY FUNCTIONAL UNTIL THE EXISTING BFPs ARE TAKEN OFF-LINE FOR THIS DEMOLITION TO HAPPEN. COORDINATE WITH THE DELIVERY AND INSTALLATION OF THE NEW BFPs IN CONJUNCTION WITH THE DEMOLITION OF THESE DRAINAGE PIPES.

KEY NOTES:

1. REMOVE AND DISPOSE DRAINAGE PIPE MOUNTED ON FIRST FLOOR CEILING. COORDINATE WITH OWNER ON THE TIMING FOR THIS DEMOLITION WORK. SEE GENERAL NOTE.
2. REMOVE AND DISPOSE OF SLUDGE FEED PIPING MOUNTED ON FIRST FLOOR CEILING. FLOOR PENETRATION TO BE PATCHED.
3. REMOVE LOADING CONVEYOR CONTROL PANEL.
4. REMOVE AND DISPOSE OF EXISTING AIR COMPRESSOR AND DRYER.
5. CUT FLOOR, REMOVE THE FLOOR DRAIN AND CAP THE 3" CISP AND ABANDON IN PLACE, EXCEPT FOR THAT IN THE BFP AREA OR THE NEW ELECTRICAL ROOM.
6. UPON COMPLETION OF CONSTRUCTION, REMOVE EXISTING COMMON EQUIPMENT PAD. SEE STRUCTURAL DRAWINGS.
7. REMOVE AND DISPOSE OF EXISTING EQUIPMENT RACK SUPPORTS AND PADS (TYP. OF 5)
8. FILL PIT TO A LEVEL FLUSH FLUSH WITH THE SURROUNDING AREA. SEE STRUCTURAL DRAWINGS.
9. REMOVE AND DISPOSE EXISTING POLYMER DILUTION EQUIPMENT.
10. REMOVE AND DISPOSE ABANDONED WASHWATER ELECTRICAL DISCONNECTS AND COUNDUIT. COORDINATE DEMOLITION TIMING AND SEQUENCE WITH ENGINEER AND OWNER.
11. REMOVE AND DISPOSE OF EXISTING PUMP STATION AND PAD. COORDINATE DEMOLITION TIMING AND SEQUENCE WITH ENGINEER AND OWNER. SEE PHOTO 8 ON SHEET 10-MD05.
12. REMOVE AND DISPOSE SLUDGE FEED PUMP DISCONNECTS & CONDUITS. COORDINATE DEMOLITION TIMING AND SEQUENCE WITH ENGINEER AND OWNER.
13. REMOVE AND DISPOSE OF EXISTING ELECTRICAL DISCONNECTS, ALARM PANEL, AND CONDUIT. COORDINATE DEMOLITION TIMING AND SEQUENCE WITH ENGINEER AND OWNER.
14. REMOVE AND DISPOSE ABANDONED SLUDGE TRANSFER PUMP DISCONNECTS, CONTORL PANEL, AND CONDUIT.
15. REMOVE AND DISPOSE SLUDGE TRANSFER PUMP. DEMOLISH PUMP SUPPORT PAD. DEMOLITION OF THIS WORK SHALL BE DONE BEFORE THE COMMENCEMENT OF THE PROPOSED DEWATERING IMPROVEMENTS PROJECT.
16. CUT PIPE AND CAP FLUSH WITH FLOOR.
17. REMOVE AND DISPOSE OF EXISTING PIPING AND PIPE SUPPORTS.
18. DEMOLISH POLYMER PIT CONTAINMENT WALL, PADS, AND PIPE SUPPORTS.
19. REMOVE AND DISPOSE ODOR CONTROL DUCTS. FLOOR PENETRATION TO BE PATCHED. NORTH WALL PENETRATION TO BE CAPPED INSIDE ROOM. DEMOLITION OF THIS WORK SHALL BE DONE BEFORE THE COMMENCEMENT OF THE PROPOSED DEWATERING IMPROVEMENTS PROJECT.
20. FLOOR PENETRATION TO BE PATCHED. DEMOLITION OF THIS WORK SHALL BE DONE BEFORE THE COMMENCEMENT OF THE PROPOSED DEWATERING IMPROVEMENTS PROJECT (BY OTHERS). COORDINATE WITH ENGINEER AND OWNER FOR TIMING OF THE DEMOLITION OF THE WORK.
21. REMOVE AND DISPOSE OF ABANDONED PIPING.
22. REMOVE AND DISPOSE OF ABANDONED RW BOOSTER PUMP PIPING.
23. REMOVE EXISTING SLUDGE FEED PIPING, FITTING AND VALVES. COORDINATE WITH OWNER ON THE TIMING FOR THIS DEMOLITION WORK. SEE GENERAL NOTE.

LEGEND:

REMOVE AND DISPOSE

1 - PHOTO SHOWING CONVEYOR CONTROL PANEL

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CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

DEMOLITION

DEWATERING BUILDING FIRST FLOOR DEMOLITION PLAN

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JOB NO. 8290U.10
DRAWING NO. MD03
SHEET NO.

PROJECT NO. FILE NAME: 8290U10-MD03.dgn

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User: svcPW
PlotScale: 1:1
DesignScript: Carollo_Std_Pen_v0905.pen
ColorTable: gshade.ctb
Model: Layout1
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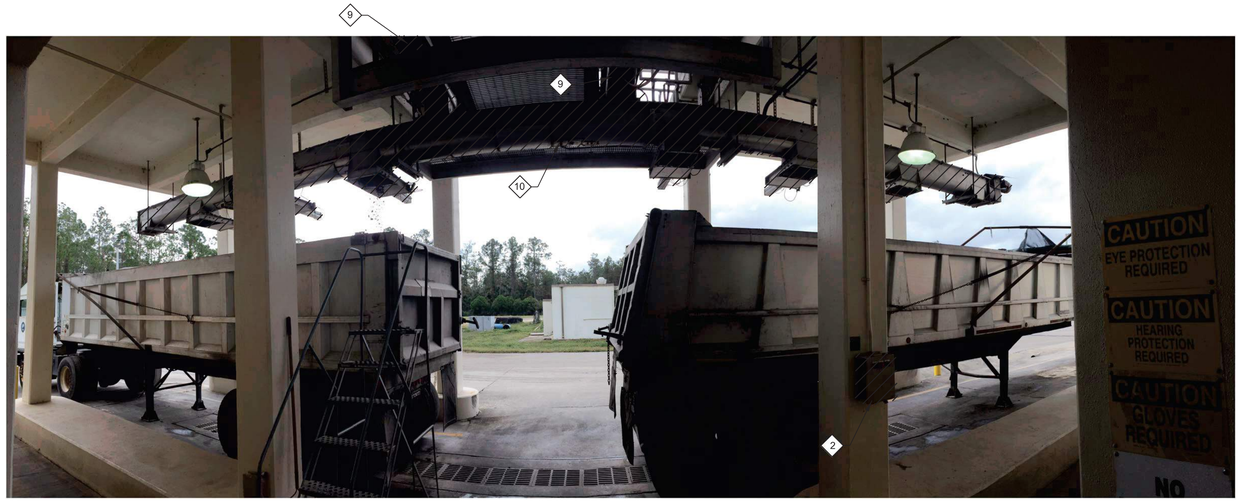
2 MD03 PHOTO SHOWING SLUDGE FEED PIPE, POLYMER PIPE AND EQUIPMENT RACK SUPPORTS

4 MD01 PHOTO SHOWING TRUCK LOADING STATION INCLINED CONVEYORS

3 MD03 PHOTO SHOWING AIR COMPRESSOR



5 MD03 PHOTO SHOWING TRUCK LOADING STATION LOOKING SOUTH

LEGEND:

REMOVE AND DISPOSE

KEY NOTES:

1. REMOVE AND DISPOSE EXISTING POLYMER DILUTION EQUIPMENT.
2. REMOVE CONTROL PANEL.
3. REMOVE AND DISPOSE ODOR CONTROL DUCTS. FLOOR PENETRATION TO BE PATCHED. NORTH WALL PENETRATION TO BE CAPPED INSIDE ROOM.
4. REMOVE AND DISPOSE OF EXISTING EQUIPMENT RACK SUPPORTS AND PADS (TYP. OF 5)
5. REMOVE AND DISPOSE OF EXISTING AIR COMPRESSOR, ASSOCIATED EQUIPMENT AND CONCRETE PAD.
6. REMOVE POLYMER PIPE.
7. REMOVE SLUDGE FEED PIPE.
8. REMOVE AND DISPOSE OF SLUDGE FEED PIPING MOUNTED ON FIRST FLOOR CEILING. FLOOR PENETRATION TO BE PATCHED.
9. REMOVE INCLINED CONVEYORS.
10. REMOVE TRUCK LOADING CONVEYOR.

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CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
DEMOLITION
DEWATERING BUILDING
FIRST FLOOR DEMOLITION PHOTOS - SHEET 1

VERIFY SCALES
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SHEET NO.

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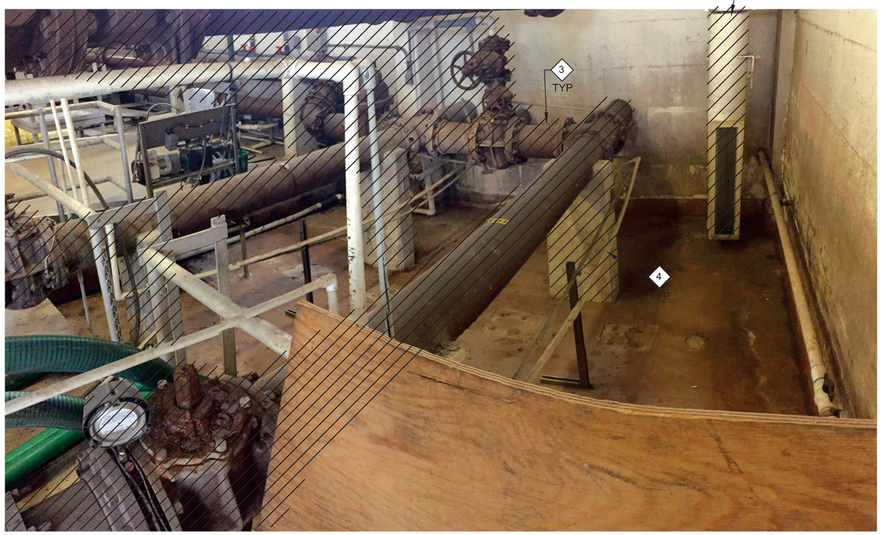
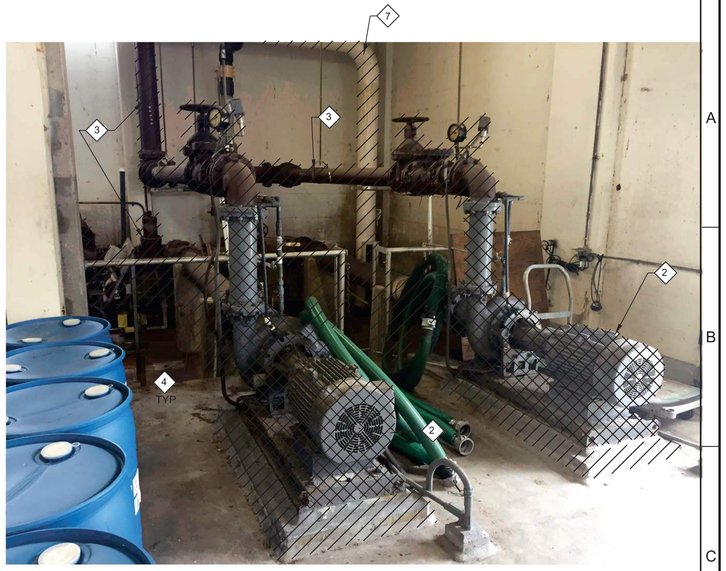
PROJECT NO.
FILE NAME: 8290U10-MD04.dgn

5 MD03 PHOTO SHOWING ABANDONED POLYMER SYSTEM



6 MD03 PHOTO SHOWING SLDUGE FEED PIPING ON NORTH EAST CORNER OF THE BUILDING



7 MD03 PHOTO SHOWING SLUDGE TRANSFER PUMPS

8 MD03 PHOTO SHOWING PUMP STATION

9 MD03 PHOTO SHOWING RECLAIMED WATER 6" DI AND 2" PVC PIPING

10 MD03 PHOTO SHOWING REUSE WATER 10" AT THE SOUTH EAST CORNER OF THE BUILDING

LEGEND:

- REMOVE AND DISPOSE
- REMOVE AND RELOCATE
- REMOVE AND REPLACE

KEY NOTES:

1. REMOVE AND DISPOSE OF EXISTING AIR COMPRESSOR, ASSOCIATED EQUIPMENT AND CONCRETE PAD.
2. REMOVE AND RELOCATE SLUDGE TRANSFER PUMP. DEMOLISH PUMP SUPPORT PAD.
3. REMOVE AND DISPOSE SLUDGE FEED PIPING.
4. REMOVE AND DISPOSE OF EXISTING PIPE SUPPORTS.
5. REMOVE AND DISPOSE OF EXISTING PUMP STATION, ASSOCIATED PIPING AND PAD.
6. DEMOLISH POLYMER PIT CONTAINMENT WALL, PADS, PIPING AND PIPE SUPPORTS.
7. REMOVE AND DISPOSE OF ODOR CONTROL DUCT.
8. RECLAIMED WATER 6" DI PIPE TO REMAIN.
9. REMOVE AND DISPOSE RECLAIMED WATER 2" PVC PIPING.
10. REMOVE AND REPLACE SPOOL PIECE AND VALVE. SEE MECHANICAL DRAWINGS.
11. UPON REMOVAL OF EXISTING PUMP STATION AND ASSOCIATED 10" REUSE WATER PIPE. PROVIDE 10" X 6" REDUCER AND VALVE TO FEED THE BFP WASHWATER PUMPS. SEE MECHANICAL DRAWINGS.

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THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

DEMOLITION

DEWATERING BUILDING FIRST FLOOR DEMOLITION PHOTOS - SHEET 2

VERIFY SCALES
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DRAWING NO. MD05
SHEET NO.

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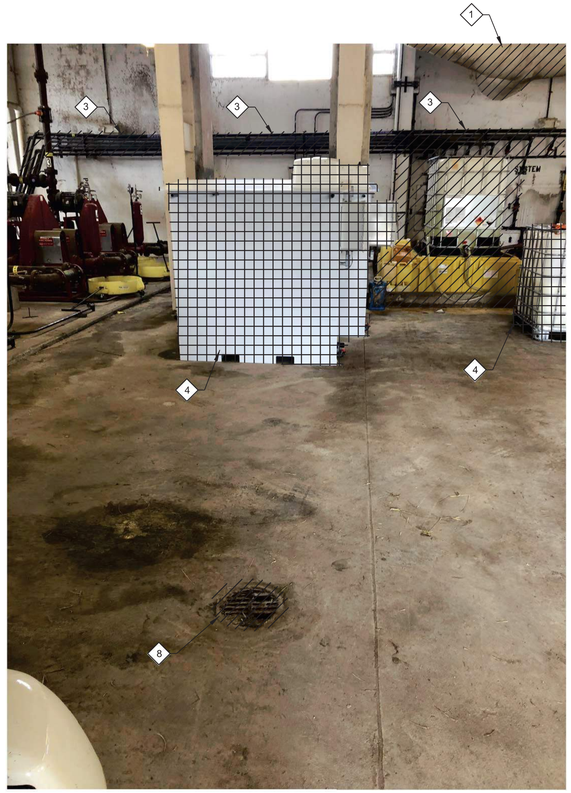
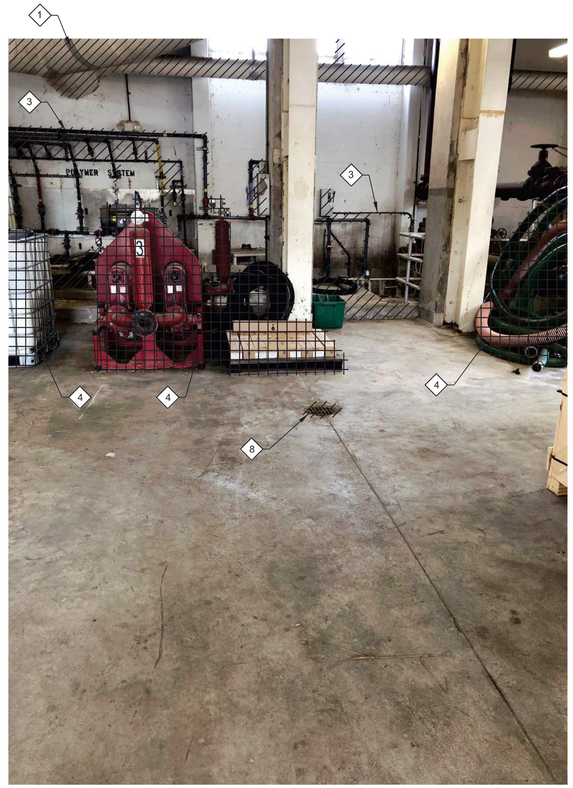
PROJECT NO. 8290U10 FILE NAME: 8290U10-MD05.dgn

11 MD03 PHOTO SHOWING DEWATERING BUILDING FIRST FLOOR SLUDGE FEED PUMPS



12 MD07 PHOTO SHOWING DEWATERING BUILDING FIRST FLOOR PROPOSED BFPs AREA



13 MD07 PHOTO SHOWING DEWATERING BUILDING FIRST FLOOR PROPOSED BFPs AREA

14 MD03 PHOTO SHOWING DEWATERING BUILDING FIRST FLOOR LOOKING EAST

LEGEND:

- REMOVE AND DISPOSE
- REMOVED AS PART OF THE WESTSIDE REGIONAL WATER RECLAMATION FACILITY IMPROVEMENTS PROJECT
- REMOVE AND RELOCATE

KEY NOTES:

1. REMOVE AND DISPOSE ODOR CONTROL DUCTS, FLOOR PENETRATION TO BE PATCHED. NORTH WALL PENETRATION TO BE CAPPED INSIDE ROOM.
2. REMOVE, DISPOSE OF SLUDGE FEED PIPE AND ASSOCIATED INSTRUMENTS. REMOVE AND DISPOSE OF SLUDGE FEED PIPING MOUNTED ON FIRST FLOOR CEILING. FLOOR PENETRATION TO BE PATCHED.
3. REMOVE AND DISPOSE OF ABANDONED POLYMER SYSTEM PVC PIPING AND EQUIPMENT. COORDINATE DEMOLITION TIMING AND SEQUENCE WITH ENGINEER AND OWNER.
4. CONTRACTOR TO COORDINATE WITH OWNER AND REMOVE / RELOCATE ALL EQUIPMENT AND APPURTENANCES IN THE AREA OF THE NEW BELT FILTER PRESSES.
5. DEMOLITION OF EXISTING PIPING AND VALVES TO BE PERFORMED UNDER THE "WEST REGIONAL WATER RECLAMATION FACILITY IMPROVEMENTS" PROJECT.
6. REMOVE AND DISPOSE ABANDONED SLUDGE TRANSFER PUMP DISCONNECTS, CONTROL PANEL AND CONDUIT.
7. REMOVAL OF PUMP, DEMOLITION OF ASOCIATED PIPING, VALVES AND FITTINGS TO BE PERFORMED UNDER THE "WEST REGIONAL WATER RECLAMATION FACILITY IMPROVEMENTS" PROJECT.
8. CUT FLOOR, REMOVE FLOOR DRAIN AND CAP THE 3" CISP AND ABANDON IN PLACE.

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ISSUE FOR BID

REV	DATE	BY	DESCRIPTION

DESIGNED SP
DRAWN JB
CHECKED SP
DATE FEBRUARY 2020

SUDHANVA PARANJAPE LICENSE No 64472 STATE OF FLORIDA PROFESSIONAL ENGINEER

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THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
DEMOLITION
DEWATERING BUILDING FIRST FLOOR
DEMOLITION PHOTOS - SHEET 3

VERIFY SCALES
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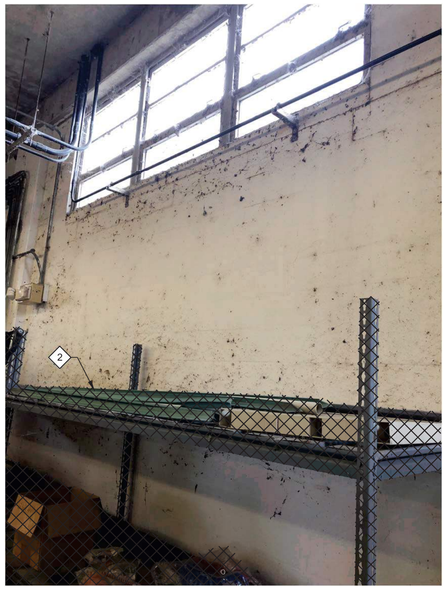
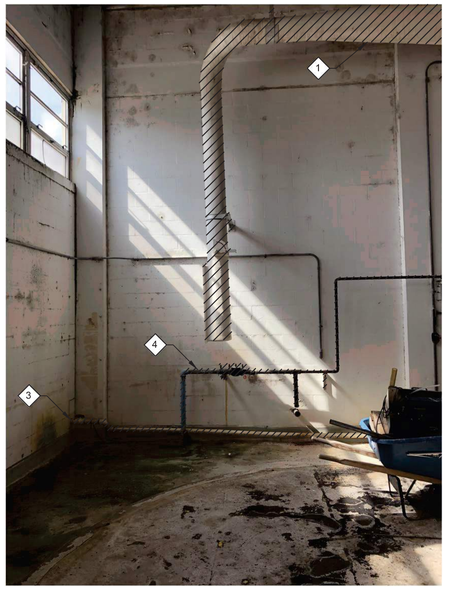
JOB NO. 8290U.10
DRAWING NO. MD06
SHEET NO.

$$$$DATE$$$$
$$$$USER$$$$
$$$$PLOT_INFO$$$$
LAST SAVED BY: John.Bultrago

PROJECT NO. 8290U10 FILE NAME: 8290U10-MD06.dgn



15 MD07 PHOTO SHOWING DEWATERING BUILDING FIRST FLOOR PORTION OF EAST WALL



16 MD07 PHOTO SHOWING DEWATERING BUILDING FIRST FLOOR SOUTHWEST CORNER

17 MD07 PHOTO SHOWING DEWATERING BUILDING PORTION OF NORTH WALL OUTSIDE

LEGEND:

REMOVE AND DISPOSE

KEY NOTES:

1. REMOVE AND DISPOSE ODOR CONTROL DUCTS AND SUPPORTS. WALL TO BE PATCHED.
2. CONTRACTOR TO COORDINATE WITH OWNER AND RELOCATE THE RACK.
3. CAP 2" PVC PIPE AT WALL, REMOVE AND DISPOSE THE REMAINING PIPE.
4. REMOVE A DISPOSE WATER LINE PIPE.
5. CONTRACTOR TO FIELD DETERMINE THE USE AND ROUTE OF THE PIPES AND REMOVE AND DEMOLISH AS NECESSARY TO CREATE AN OPENING FOR A NEW ROLL-UP DOOR NEXT TO THE POLYMER CONTAINEMNT AREA.

$$$$DATE$$$$
$$$$USER$$$$
$$$$PLOT_INFOS$$$$
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CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

DEMOLITION

DEWATERING BUILDING FIRST FLOOR DEMOLITION PHOTOS - SHEET 4

VERIFY SCALES
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JOB NO. 8290U.10
DRAWING NO. MD07
SHEET NO.

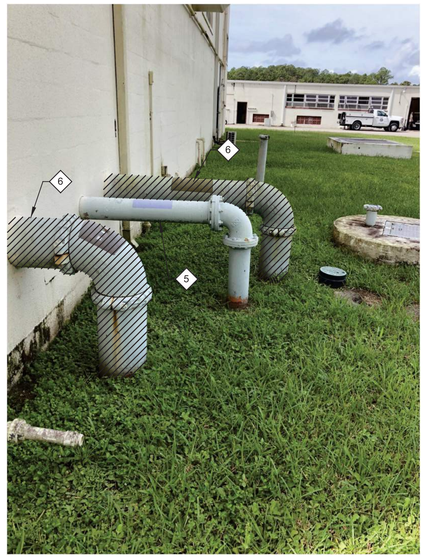
PROJECT NO. 8290U10 FILE NAME: 8290U10-MD07.dgn

1 - PHOTO SHOWING FLOCK TANK AND ODOR CONTROL DUCT

3 - PHOTO SHOWING FLOCK TANK, ODOR CONTROL DUCT, AIR COMPRESSOR AND AUXILIARY EQUIPMENT

5 - PHOTO SHOWING ODOR CONTROL DUCT AT NORTHWEST CORNER OF BUILDING

2 - PHOTO SHOWING AIR COMPRESSOR AND AUXILIARY EQUIPMENT



4 - PHOTO SHOWING SLUDGE TRASFER PIPING

LEGEND:

REMOVE AND DISPOSE

KEY NOTES:

1. REMOVE AND DISPOSE OF ODOR CONTROL SCRUBBER TANK
2. REMOVE AND DISPOSE OF AIR COMPRESSOR.
3. REMOVE AND DISPOSE OF AIR COMPRESSOR AUXILIARY EQUIPMENT.
4. REMOVE AND DISPOSE OF ODOR CONTROL DUCT. REMOVE DUCT WALL SUPPORTS AND PATCH WALL TO MATCH EXISTING CONDITIONS.
5. RECLAIMED WATER 6" DI PIPE TO REMAIN.
6. REMOVE AND DISPOSE SLUDGE TRANSFER PIPING. CUT PIPING AT GRADE LEVEL. CAP REMAINING PIPE.
7. REMOVE ODOR CONTROL FAN.

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CHECKED SP
DATE FEBRAURY 2020

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CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

DEMOLITION

DEWATERING BUILDING ODOR CONTROL SYSTEM DEMOLITION PHOTOS

VERIFY SCALES
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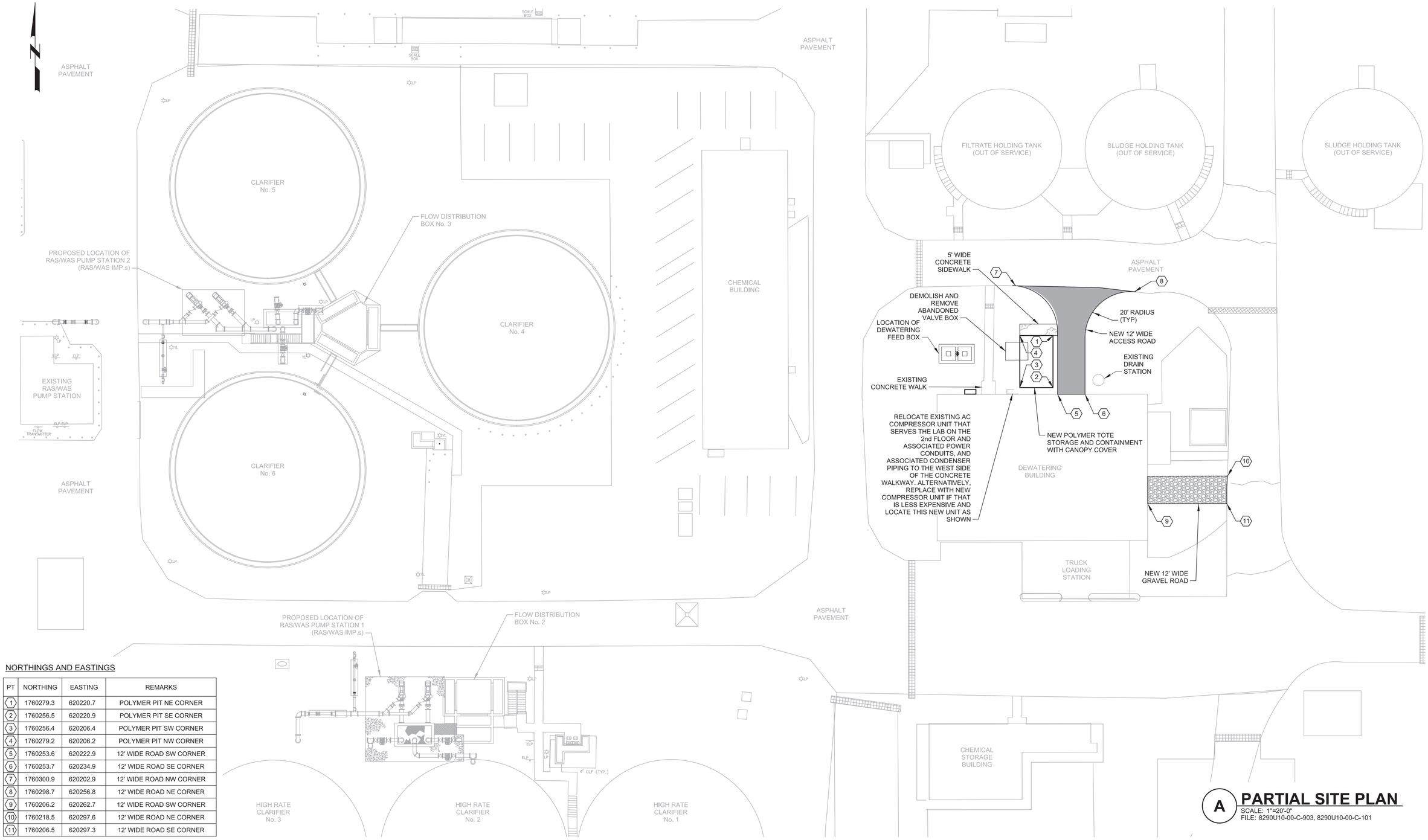
JOB NO. 8290U.10
DRAWING NO. MD08
SHEET NO.



NORTHINGS AND EASTINGS

PT	NORTHING	EASTING	REMARKS
1	1760279.3	620220.7	POLYMER PIT NE CORNER
2	1760256.5	620220.9	POLYMER PIT SE CORNER
3	1760256.4	620206.4	POLYMER PIT SW CORNER
4	1760279.2	620206.2	POLYMER PIT NW CORNER
5	1760253.6	620222.9	12' WIDE ROAD SW CORNER
6	1760253.7	620234.9	12' WIDE ROAD SE CORNER
7	1760300.9	620202.9	12' WIDE ROAD NW CORNER
8	1760298.7	620256.8	12' WIDE ROAD NE CORNER
9	1760206.2	620262.7	12' WIDE ROAD SW CORNER
10	1760218.5	620297.6	12' WIDE ROAD NE CORNER
11	1760206.5	620297.3	12' WIDE ROAD SE CORNER

A PARTIAL SITE PLAN

SCALE: 1"=20'-0"
FILE: 8290U10-00-C-903, 8290U10-00-C-101

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DATE FEBRAURY 2020

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CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
CIVIL
SITE PLAN OF EXISTING AND PROPOSED SLUDGE HANDLING FACILITIES

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JOB NO. 8290U.10
DRAWING NO. C01
SHEET NO.

PROJECT NO. 8290U.10 FILE NAME: 8290U10-C01.dgn

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Model: Layout1
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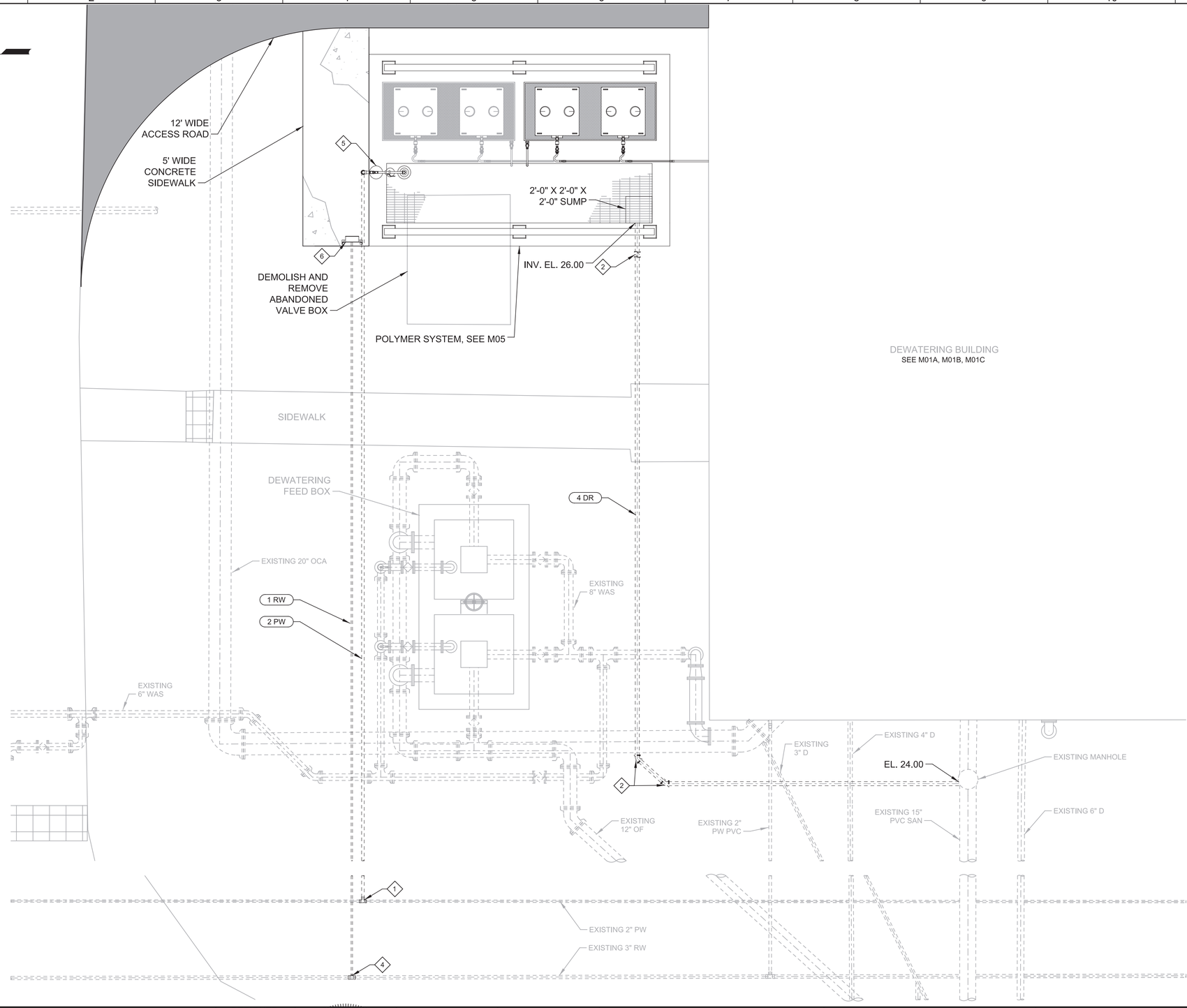

GENERAL NOTES:

1. CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING YARD PIPING

KEY NOTES:

1. CUT-IN WITH 2" TEE
2. 4" PLUG VALVE WITH VALVE BOX
3. 4" - 45° BEND
4. CUT-IN WITH 3" x 1" TEE
5. EYE WASH STATION
6. HOSE BIB AND RACK

A PLAN

SCALE: 1/4"=1'-0"
FILE: 8290C10-00-C-101, 8290C10-00-C-903, 8290C10-00-M101A

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DATE FEBRAURY 2020

LUDHANVA PARANJAPE LICENSE No 64472 STATE OF FLORIDA PROFESSIONAL ENGINEER

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CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

CIVIL

POLYMER SYSTEM YARD PIPING PLAN

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JOB NO. 8290U.10
DRAWING NO. C02
SHEET NO.

GENERAL STRUCTURAL NOTES

GENERAL CONDITIONS

1. ALL STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE MECHANICAL, CIVIL, ARCHITECTURAL, ELECTRICAL, HVAC, PLUMBING AND SHOP DRAWINGS AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL REVIEW AND VERIFY DIMENSIONS SHOWN IN ALL PLANS AND REVIEW ALL FIELD CONDITIONS THAT MAY AFFECT THE WORK DEPICTED ON THE DRAWINGS. SHOULD DISCREPANCIES APPEAR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING TO OBTAIN ENGINEER'S CLARIFICATION BEFORE COMMENCING WITH THE WORK.
3. FOR ALL ITEMS EMBEDDED IN OR PASSING THROUGH CONCRETE, THE CONTRACTOR SHALL INITIALLY REFER TO MECHANICAL, HVAC, AND PLUMBING DRAWINGS FOR TYPE, SIZE, LOCATION, AND SPECIAL INSTALLATION REQUIREMENTS FOR THESE ITEMS.
4. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PROTECT EXISTING STRUCTURES FROM DAMAGE WHEN WORKING IN AND AROUND EXISTING STRUCTURES PERFORMING WORK SUCH AS DEMOLITION, FOUNDATION EXCAVATIONS, AND OTHERS.
5. SIZE AND LOCATION OF EQUIPMENT PADS AND ANCHOR BOLTS SHALL BE PER EQUIPMENT MANUFACTURER'S REQUIREMENTS.
6. ANY CONSTRUCTION EQUIPMENT THAT MAY INDUCE VIBRATION TO THE STRUCTURE SHALL BE ADEQUATELY ISOLATED FROM THE STRUCTURE.
7. ALL DETAILS AND SECTIONS SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL BE CONSTRUED TO APPLY TO ANY SIMILAR SITUATION ELSEWHERE ON THE PROJECT, EXCEPT WHERE A DIFFERENT DETAIL IS SHOWN.

DESIGN CRITERIA

BUILDING CODES AND REFERENCES:

1. 2017 FLORIDA BUILDING CODE, SIXTH EDITION
2. REINFORCED CONCRETE: ACI 350-06 "CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES"
3. ALUMINUM: ADM1-2010, ALUMINUM DESIGN MANUAL
4. LIVE LOADS:

PLATFORMS AND STAIRS	100 PSF
SLABS ON GRADE	300 PSF

7. WIND DESIGN CRITERIA:

RISK CATEGORY	III
ULTIMATE DESIGN WIND SPEED, V_{ULT}	147 MPH
NOMINAL DESIGN WIND SPEED, V_{ASD}	114 MPH
EXPOSURE CATEGORY	C

CONCRETE (CAST-IN-PLACE)

1. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 318 REQUIREMENTS.
2. ALL CONCRETE SHALL BE AIR-ENTRANED WITH A MINIMUM OF 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS UNLESS OTHERWISE NOTED.
3. WATER REDUCING AGENT SHALL BE IN ACCORDANCE WITH ASTM C494.
4. ALL CONCRETE SURFACES EXPOSED TO AIR, UNLESS OTHERWISE NOTED IN THE SPECIFICATIONS, SHALL BE TREATED WITH AN APPROPRIATE CURING METHOD AS SOON AS FINISHING IS COMPLETED OR FORMS ARE REMOVED.
5. ALL EXPOSED CORNERS SHALL HAVE A MINIMUM CHAMFER OF 3/4" UNLESS OTHERWISE NOTED.
6. THE CONTRACTOR SHALL OBTAIN ENGINEER'S APPROVAL FOR THE LOCATIONS OF CONSTRUCTION JOINTS THAT ARE NOT SHOWN ON THE DRAWINGS.

REINFORCING STEEL

1. REINFORCEMENT SHALL CONFORM TO ASTM A615, GRADE 60 REQUIREMENTS. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A315 REQUIREMENTS. ALL ACCESSORIES SHALL BE IN CONFORMANCE WITH ACI 315 REQUIREMENTS.
2. REINFORCING STEEL SHALL HAVE THE FOLLOWING CLEAR COVER UNLESS OTHERWISE NOTED:
   a. CONCRETE CAST AGAINST EARTH 3"
   b. ALL FORMED SURFACES 2"
3. LAP SPLICES SHALL BE AS SHOWN ON THE DRAWINGS. FOR LAP SPLICES NOT SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL OBTAIN ENGINEERS APPROVAL.
4. THE CONTRACTOR SHALL PREPARE PLACING DRAWINGS AND SCHEDULES IN CONFORMANCE WITH ACI 315 REQUIREMENTS.

ALUMINUM

1. ALUMINUM DESIGN, DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO THE LATEST EDITION OF THE ALUMINUM DESIGN MANUAL.
2. ALUMINUM IN CONTACT WITH OR EMBEDDED IN CONCRETE OR MASONRY SURFACES SHALL BE COATED WITH A HEAVY COATING OF ALKALI RESISTANT BITUMINOUS PAINT.
3. ALL BOLTS USED IN CONNECTIONS WITH ALUMINUM MEMBERS SHALL BE STAINLESS STEEL A316, UNLESS NOTED OTHERWISE.
4. ALL WELDING OF ALUMINUM STRUCTURES SHALL CONFORM TO "STRUCTURAL WELDING CODE - ALUMINUM", AWS D1.2, LATEST EDITION.

STAINLESS STEEL

1. STAINLESS STEEL PLATES, SHEETS AND STRUCTURAL SHAPES SHALL BE IN ACCORDANCE TO ASTM A240.
2. STAINLESS STEEL MATERIALS SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:
   a. EXTERIOR AND SUBMERGED USE: TYPE 316, TYPE 316L (WHERE WELDED)
   a. INTERIOR AND ARCHITECTURAL USE : TYPE 304, TYPE 304L (WHERE WELDED)
3. ALL WELDING OF STRUCTURAL STAINLESS STEEL SHALL CONFORM TO "STRUCTURAL WELDING CODE - STAINLESS STEEL", ASW D1.6, LATEST EDITION.
4. STAINLESS STEEL BOLTS, NUTS AND WASHERS SHALL BE TYPE 316 IN ACCORDANCE TO ASTM F593 UNLESS NOTED OTHERWISE.

PRE-ENGINEERED ALUMINUM CANOPY

LOADING:

- ROOF COLLATERAL 3 PSF
- ROOF LIVE 20 PSF
- WIND LOADS SEE TABLE THIS SHEET, OPEN STRUCTURE CLASSIFICATION, OBSTRUCTED WIND FLOW, SEE S01 FOR GENERAL WIND DESIGN CRITERIA

GENERAL:

FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED TO DESIGN, FABRICATE, DELIVER TO JOB SITE AND ERECT THE PRE-ENGINEERED CANOPY AS NOTED AND SHOWN ON THE DRAWINGS.

THE PRE-ENGINEERED CANOPY SHALL CONSIST OF A ROOF DECK, POSTS, PURLINS, GUTTERS, DOWNSPOUTS, FLASHING, AND OTHER MISCELLANEOUS FRAMING. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL PLAN DIMENSIONS WITH PRE-ENGINEERED CANOPY DIMENSIONS AND RESOLVING DIMENSIONS AND SPATIAL CONFLICTS WITH THE SITE'S SCREEN WALL AND EQUIPMENT PRIOR TO SECURING MATERIALS.

DESIGN AND FABRICATION REQUIREMENTS:

DESIGN, FABRICATION, MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH LATEST ALUMINUM DESIGN MANUAL, ERECT CANOPY IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.

CANOPY SHALL BE DESIGNED BY A STATE OF FLORIDA REGISTERED ENGINEER RETAINED BY THE MANUFACTURER IN COMPLIANCE WITH BUILDING CODE REQUIREMENTS AND FOR WIND SPEED AS SPECIFIED ON THIS SHEET. DETAILED SIGNED AND SEALED SHOP DRAWINGS SHALL BE SUBMITTED FOR ENGINEER'S REVIEW. DEFLECTION SHALL BE LIMITED TO L/180 FOR ROOF MEMBERS (WIND OR LIVE). LATERAL DRIFT SHALL BE LIMITED TO H/60 (WIND) . DESIGN AND DETAIL STRUCTURE FOR THERMAL EXPANSION AND CONTRACTION.

SPECIALTY ENGINEER TO PREPARE COMPLETE STRUCTURAL DESIGN CALCULATIONS FOR CANOPY MEMBERS EXCEPT CANOPY ANCHORAGE. PROVIDE REACTIONS AS REQUIRED FOR ANCHORAGE DESIGN BY THE ENGINEER OF RECORD.

THE FABRICATOR SHALL DESIGN AND DETAIL ALL PARTS OF CONNECTIONS NOT FULLY DETAILED ON THE DESIGN DRAWINGS. THE NUMBER OF FASTENERS AND OTHER SIMILAR ELEMENTS WHEN SHOWN ON THE DRAWINGS ARE PICTORIAL ONLY.

ALL WELDING TO BE DONE BY HELI-ARC PROCESS.

USE SECTIONS TRUE TO DETAILS WITH CLEAN, STRAIGHT, SHARPLY DEFINED PROFILES AND SMOOTH SURFACES OF UNIFORM COLOR AND TEXTURES, FREE FROM DEFECTS IMPAIRING STRENGTH AND DURABILITY.

METAL ROOF SHALL BE FORMED OR EXTRUDED ALUMINUM SHAPES, INTERLOCKING SELF-FLASHING SECTIONS. SHOP FABRICATE TO LENGTHS AND PANEL WIDTHS REQUIRED FOR FIELD ASSEMBLY. DEPTH OF SECTION TO COMPLY WITH STRUCTURAL REQUIREMENTS.

SHOP AND ERECTION DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION.

NUMBER CODE COMPONENTS FOR EASE OF FIELD INSTALLATION.

SUBMIT COLOR CHARTS OF COLORS AVAILABLE FOR POST, TRIM, AND ROOF PANELS, HOWEVER, CONTRACTOR TO INCLUDE THE COST TO CUSTOM COLOR MATCH OWNERS' PREFERRED COLOR.

MATERIALS:

- ALUMINUM EXTRUSIONS: 6063 ALLOY, T-6 TEMPER
- DECK SCREWS: NO. 14x1 INCH (25MM), SELF-TAPPING, TYPE 18-8 STAINLESS STEEL WITH NEOPRENE WASHER.
- TRIM SCREWS: NO. 10x1/2 INCH (13MM), SELF-TAPPING, TYPE 18-8 STAINLESS STEEL.
- RIVETS TO BE SIZE 3/16" BY 1/2" GRIP RANGE ALUMINUM RIVETS WITH ALUMINUM MANDREL.
- OTHER FASTENERS: TYPE 18-8 STAINLESS STEEL, FASTENER TYPE AS RECOMMENDED BY MANUFACTURER FOR SPECIFIC CONDITIONS.
-
- ALL BOLTS, NUTS AND WASHERS TO BE 18-8 NON-MAGNETIC STAINLESS STEEL.

FINISH:

1. FINISH SYSTEM SHALL BE KYNAR 500 PVDF, FORMULATED TO CONTAIN 70 PERCENT PVFD RESIN. EPOXY PRIME COAT SHALL BE APPLIED TO BOTH SIDES TO A DRY FILM THICKNESS OF APPROXIMATELY 0.2 MIL. ONE COAT OF PVFD COLOR COATING SHALL BE APPLIED TO EXPOSED SIDES TO PROVIDE A DRY FILM THICKNESS OF NOT LESS THAN 0.8 MIL, 1.0 MIL TOTAL COATING.
2. THE SURFACE CONDITION OF THE FINISH COAT SHALL BE 100 PERCENT FREE OF HOLIDAYS, DRIP MARKS, SCRATCHES, ROLL MARKS, OR ABRASIONS. SURFACES SHALL BE FREE OF CHECKING, CRAZING, PEELING, OR LOSS OF ADHESION.

INSTALLATION:

1. ALUMINUM CANOPY MANUFACTURER SHALL PERFORM INSTALLATION UTILIZING FULL-TIME CONSTRUCTION DIVISION PERSONNEL. SUBLETTING OF INSTALLATION IS NOT ACCEPTABLE.
2. WHERE METAL SURFACES COME IN CONTACT WITH NON-COMPATIBLE METALS, KEEP SURFACES FROM DIRECT CONTACT BY USE OF A PERMANENT, NON-DETERIORATING ISOLATION MATERIAL.
3. SET SUPPORTING FRAMES AND STRUCTURAL ELEMENTS TO REQUIRED ELEVATIONS, PROPERLY ALIGNED, PLUMB AND LEVEL.
4. INSTALL CANOPY ROOF SECTIONS, ACCESSORIES, AND RELATED FLASHINGS WATERTIGHT. PROVIDE ROOF SLOPE FOR RAIN DRAINAGE WITHOUT PONDING WATER. ALIGN AND ANCHOR ROOFING TO STRUCTURAL SUPPORT MEMBERS.

WARRANTY:

MANUFACTURER SHALL WARRANT THE ENTIRE SYSTEM AGAINST DEFECTS IN LABOR AND MATERIALS FOR A PERIOD OF 2 YEARS COMMENCING ON THE DATE OF SUBSTANTIAL COMPLETION. THIS WARRANTY REQUIRES THE MANUFACTURER TO DO ALL THAT IS NECESSARY TO EFFECTIVELY CORRECT ANY DEFICIENCIES IN A TIMELY MANNER AT NO EXPENSE TO THE OWNER.

STRUCTURAL ABBREVIATIONS

&	AND	EXIST	EXISTING	PCS	PIECES
@	AT	EXP	EXPANSION	PEMB	PRE-ENGINEERED METAL BUILDING
#	NUMBER	FE	FIRE EXTINGUISHER	PERP	PERPENDICULAR
ADDTL	ADDITIONAL	FF	FAR FACE, FINISHED FLOOR	PL	PLATE
ALUM	ALUMINUM	FG	FINISHED GRADE	PLF	POUND PER LINEAR FOOT
AEWS	AUTOMATIC END WELDED STUD(S)	FRP	FIBER REINFORCED PLASTIC	PT	PRESSURE TREATED
ALT	ALTERNATE	FT	FOOT	PROJ	PROJECTION
APROX	APPROXIMATE(LY)	FTG	FOOTING	PSF	POUNDS PER SQUARE FOOT
BLD	BUILDING	FV	FIELD VERIFY	PSI	POUNDS PER SQUARE INCH
BM	BEAM	GA	GAGE	PVC	POLYVINYL CHLORIDE
BOT	BOTTOM	GALV	GALVANIZED	R	RADIUS
CJ	CONTROL JOINT	HK	HOOK	REINF	REINFORCING
CL	CENTER LINE	HORIZ	HORIZONTAL	REQD	REQUIRED
CLR	CLEAR	HSS	HOLLOW STRUCTURAL SECTION	RO	ROUGH OPENING
CMU	CONCRETE MASONRY UNIT	HP	HIGH POINT	SCHED	SCHEDULE(D)
COL	COLUMN	ID	INSIDE DIAMETER	SIM	SIMILAR
CONC	CONCRETE	JT	JOINT	SJ	SAWCUT JOINT
CONN	CONNECTION	LB(S)	POUND(S)	SMS	SHEET METAL SCREW
CONST JT	CONSTRUCTION JOINT	LONG	LONGITUDINAL	SPECS	SPECIFICATIONS
CONT	CONTINUOUS	LP	LOW POINT	SQ	SQUARE
DIA	DIAMETER	MANUF	MANUFACTURER	SS	STAINLESS STEEL
DIM	DIMENSION	MATL	MATERIAL	STD	STANDARD
DEG	DEGREE(S)	MAX	MAXIMUM	STL	STEEL
DO	DITTO	MECH	MECHANICAL	T/	TOP OF
DWG	DRAWING	MFR	MANUFACTURER	TB	TIE BEAM
DWL	DOWEL(S)	MIN	MINIMUM	T&B	TOP AND BOTTOM
(E)	EXISTING	MISC	MISCELLANEOUS	THK	THICK
EA	EACH	MO	MASONRY OPENING	THRU	THROUGH
EF	EACH FACE	MTL	METAL	TOC	TOP OF CONCRETE
EJ	EXPANSION JOINT	NO	NUMBER	TOS	TOP OF STEEL
EL	ELEVATION	NTS	NOT TO SCALE	TYP	TYPICAL
ELEC	ELECTRICAL	OC	ON CENTER	UNO	UNLESS NOTED OTHERWISE
EMBED	EMBEDMENT	OD	OUTSIDE DIAMETER	VERT	VERTICAL
EQ	EQUAL	OH	OPPOSITE HAND	WT	WEIGHT
EW	EACH WAY	OPNG	OPENING	WWF	WELDED WIRE FABRIC

LEGEND

STRUCTURAL LEGEND APPLIES TO "S" SHEETS ONLY

- EARTH FILL
- UNDISTURBED EARTH
- COMPACTED GRANULAR FILL
- GROUT OR SAND (AS NOTED)
- GRATING
- CONCRETE
- EXISTING CONCRETE
- DEMOLITION
- STEEL

SYMBOLS

SYMBOLS APPLY TO "S" SHEETS ONLY

- 1 — COLUMN OR WALL LINE TAG
- T/SLAB EL.0.00 — ELEVATION TAG
- 00 / S00 — SECTION NO. / BUILDING SECTION INDICATOR / DWG. NO. OF SECTION VIEW
- A / S00 — DETAIL NO. / DETAIL INDICATOR / DWG. NO / INDICATES DETAIL SECTION CUT (WHERE SHOWN)

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John Sobczak c=US, o=Wekiva Engineering LLC, ou=A01410C000001 6B C32080D400001FCD, cn=John Sobczak 10:25:38 2020.02.04 '00'05' 2019.021.20061

John Sobczak

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THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
STRUCTURAL
GENERAL NOTES, ABBREVIATIONS, SYMBOLS, AND LEGEND

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
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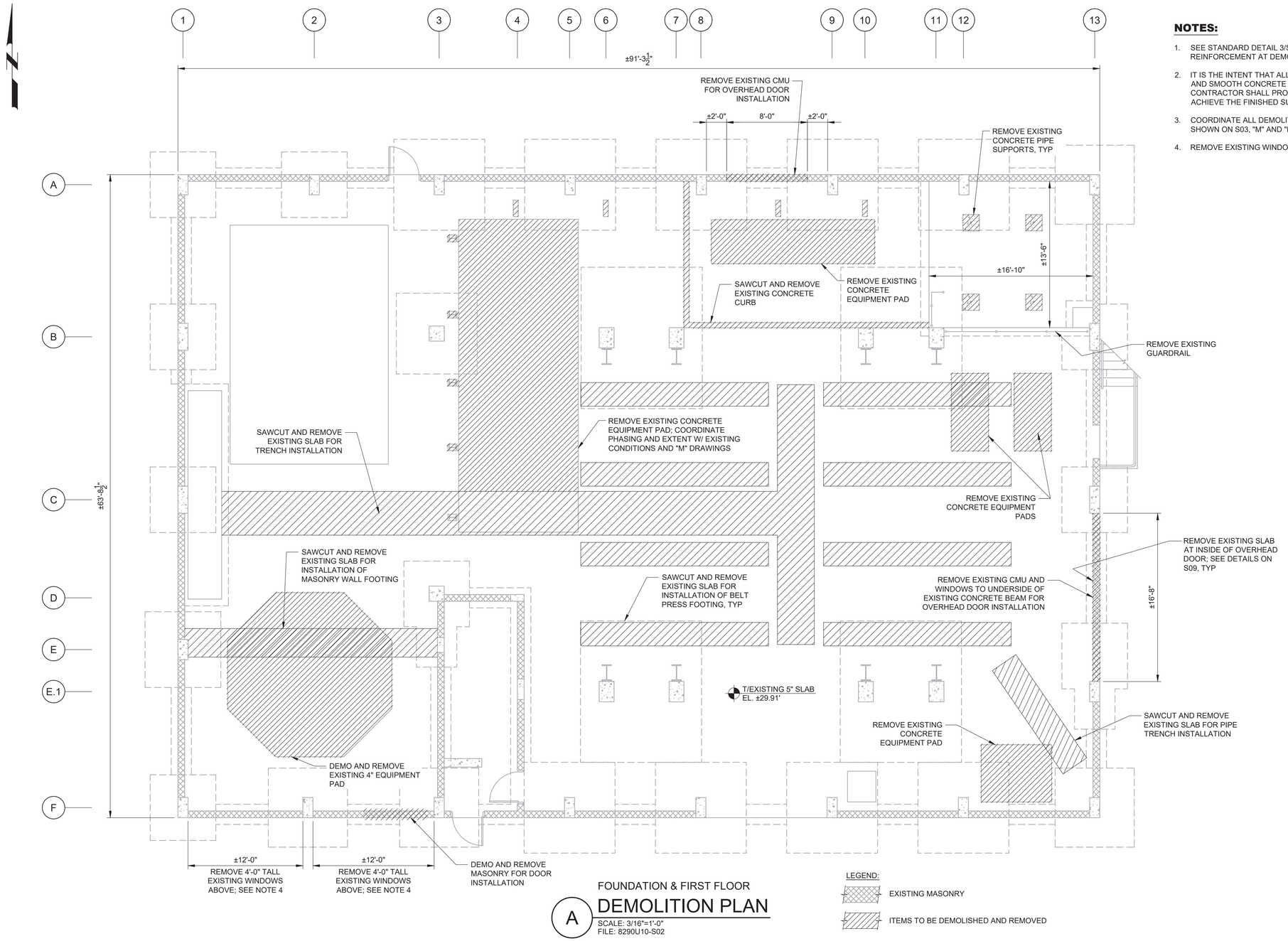
JOB NO. 8290U.10
DRAWING NO. S01
SHEET NO.

PROJECT NO. 10557F10 FILE NAME: 10557F10-C02.dgn



NOTES:

1. SEE STANDARD DETAIL 3/S09 FOR FINISHING OF EXPOSED ANCHOR BOLTS OR REINFORCEMENT AT DEMOLISHED CONCRETE.
2. IT IS THE INTENT THAT ALL EQUIPMENT PADS BE REMOVED TO PROVIDE A FLUSH AND SMOOTH CONCRETE SURFACE RELATIVE TO THE EXISTING SLAB. CONTRACTOR SHALL PROVIDE SELF-LEVELING SURFACER AS NEEDED TO ACHIEVE THE FINISHED SURFACE DESIRED.
3. COORDINATE ALL DEMOLITION EXTENT WITH THE PROPOSED CONSTRUCTION SHOWN ON S03, "M" AND "E" SHEETS.
4. REMOVE EXISTING WINDOW SILL BLOCK AND PROVIDE MASONRY INFILL PER S08.

FOUNDATION & FIRST FLOOR

A DEMOLITION PLAN

SCALE: 3/16"=1'-0"
FILE: 8290U10-S02

LEGEND:

- EXISTING MASONRY
- ITEMS TO BE DEMOLISHED AND REMOVED

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THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
STRUCTURAL
DEWATERING BUILDING FIRST FLOOR DEMOLITION PLAN

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DRAWING NO. S02
SHEET NO.

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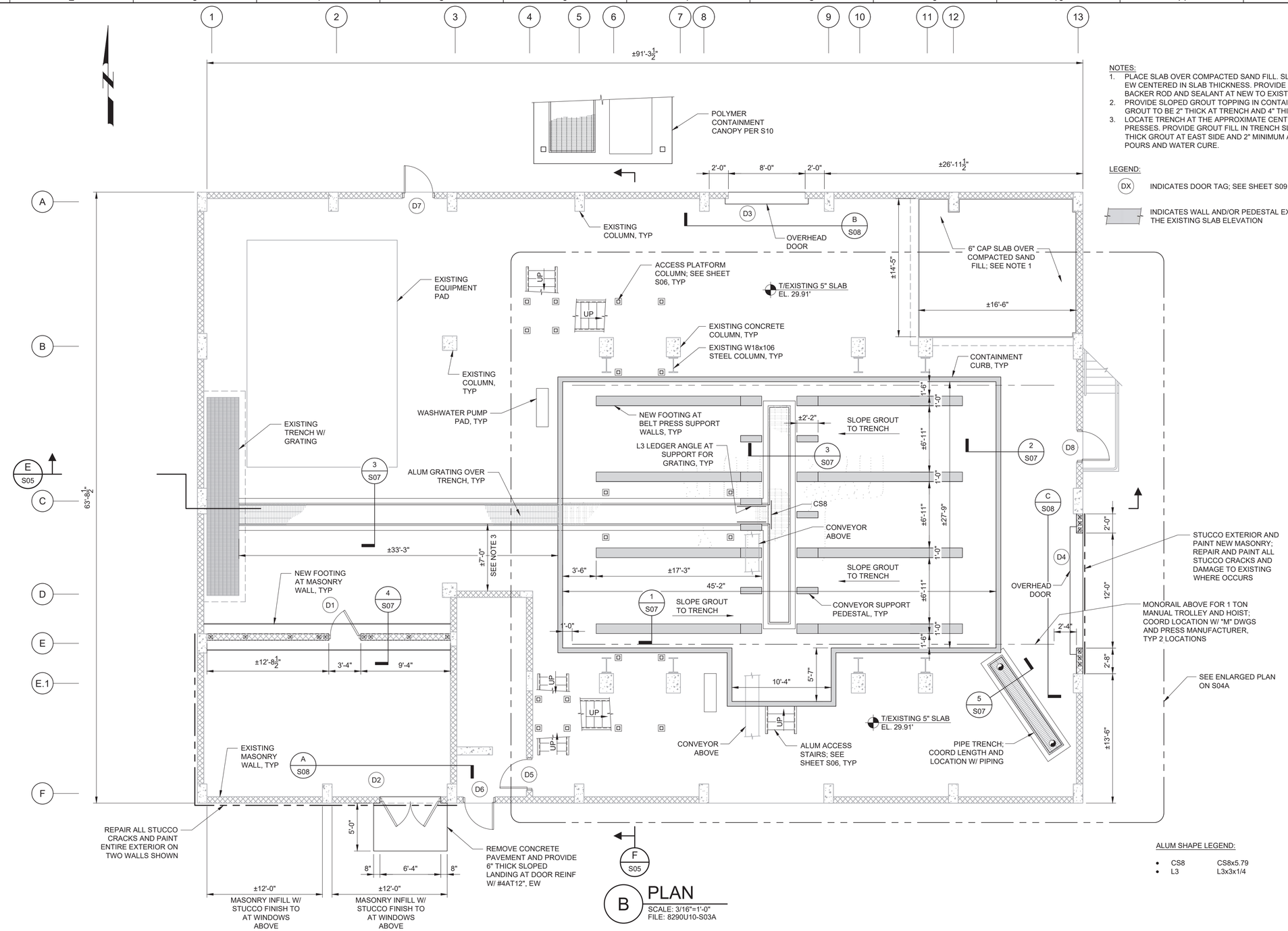

NOTES:

1. PLACE SLAB OVER COMPACTED SAND FILL. SLAB TO BE 6" THICK REINFORCED W/ #4AT6", EW CENTERED IN SLAB THICKNESS. PROVIDE 3/4" EXPANSION JOINT MATERIAL WITH BACKER ROD AND SEALANT AT NEW TO EXISTING INTERFACE.
2. PROVIDE SLOPED GROUT TOPPING IN CONTAINMENT AREA WITH WWF REINFORCEMENT. GROUT TO BE 2" THICK AT TRENCH AND 4" THICK AT CONTAINMENT WALL.
3. LOCATE TRENCH AT THE APPROXIMATE CENTER BETWEEN THE TWO BELT FILTER PRESSES. PROVIDE GROUT FILL IN TRENCH SLOPING TO EXISTING SUMP. PROVIDE 6" THICK GROUT AT EAST SIDE AND 2" MINIMUM AT WEST SIDE. POUR GROUT FILL IN 2 POURS AND WATER CURE.

LEGEND:

(DX) INDICATES DOOR TAG; SEE SHEET S09 FOR SCHEDULE.

INDICATES WALL AND/OR PEDESTAL EXTENDING ABOVE THE EXISTING SLAB ELEVATION

ALUM SHAPE LEGEND:

- CS8 CS8x5.79
- L3 L3x3x1/4

B PLAN

SCALE: 3/16"=1'-0"
FILE: 8290U10-S03A

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THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

STRUCTURAL

DEWATERING BUILDING
PROPOSED PLAN (ALFA LAVAL)

VERIFY SCALES
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JOB NO. 8290U.10
DRAWING NO. S03A
SHEET NO.

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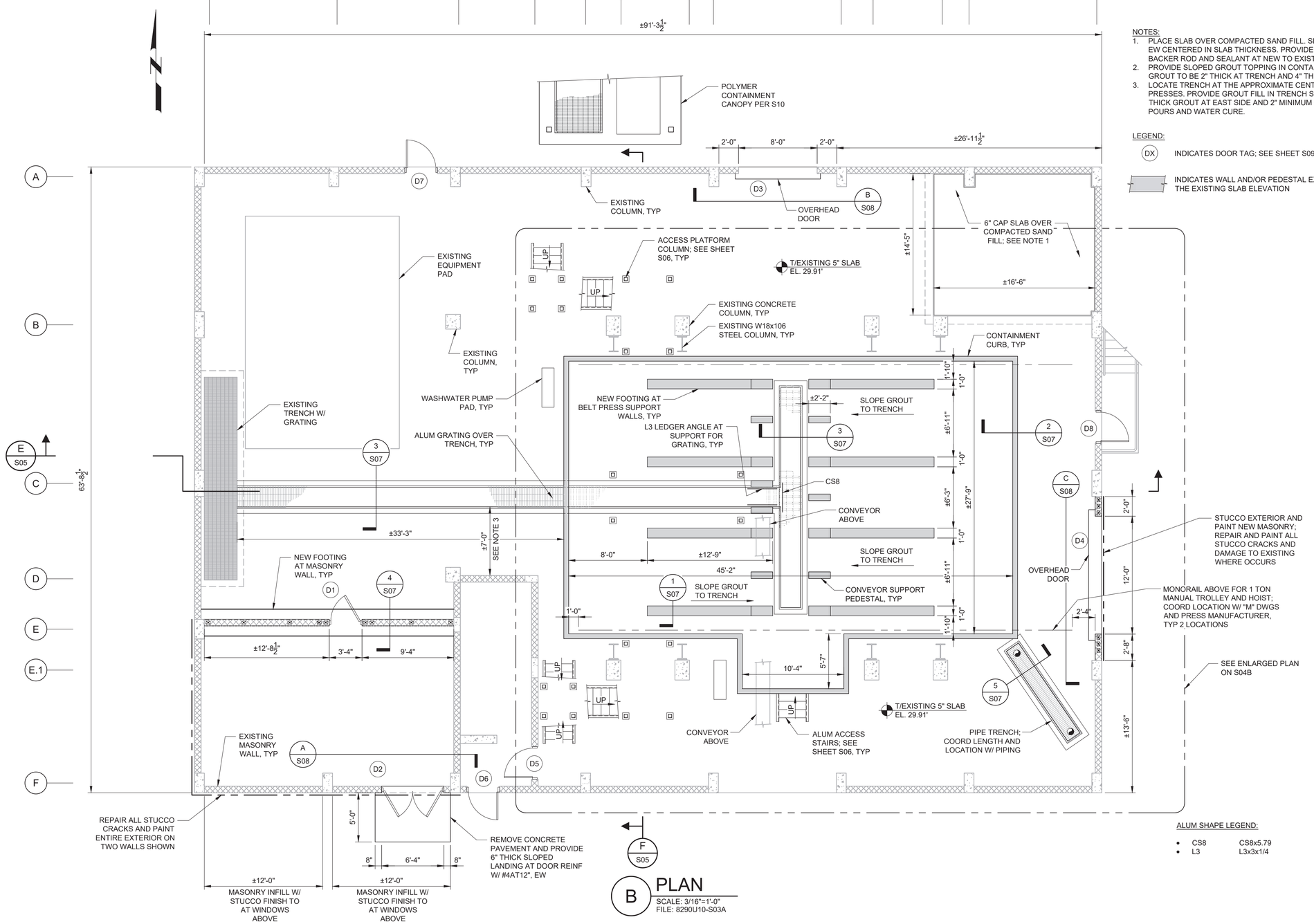
PROJECT NO. 10557F10 FILE NAME: 10557F10-C02.dgn



NOTES:

1. PLACE SLAB OVER COMPACTED SAND FILL. SLAB TO BE 6" THICK REINFORCED W/ #4AT6", EW CENTERED IN SLAB THICKNESS. PROVIDE 3/4" EXPANSION JOINT MATERIAL WITH BACKER ROD AND SEALANT AT NEW TO EXISTING INTERFACE.
2. PROVIDE SLOPED GROUT TOPPING IN CONTAINMENT AREA WITH WWF REINFORCEMENT. GROUT TO BE 2" THICK AT TRENCH AND 4" THICK AT CONTAINMENT WALL.
3. LOCATE TRENCH AT THE APPROXIMATE CENTER BETWEEN THE TWO BELT FILTER PRESSES. PROVIDE GROUT FILL IN TRENCH SLOPING TO EXISTING SUMP. PROVIDE 6" THICK GROUT AT EAST SIDE AND 2" MINIMUM AT WEST SIDE. POUR GROUT FILL IN 2 POURS AND WATER CURE.

LEGEND:

(DX) INDICATES DOOR TAG; SEE SHEET S09 FOR SCHEDULE.

INDICATES WALL AND/OR PEDESTAL EXTENDING ABOVE THE EXISTING SLAB ELEVATION

ALUM SHAPE LEGEND:

- CS8 CS8x5.79
- L3 L3x3x1/4

B PLAN

SCALE: 3/16"=1'-0"
FILE: 8290U10-S03A

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THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

STRUCTURAL

DEWATERING BUILDING PROPOSED PLAN (ANDRITZ)

VERIFY SCALES
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JOB NO. 8290U.10
DRAWING NO. S03B
SHEET NO.

LAST SAVED BY: John.Buitrago

PROJECT NO. 10557F10 FILE NAME: 10557F10-C02.dgn

NOTES:
1. PLACE SLAB OVER COMPACTED SAND FILL. SLAB TO BE 6" THICK REINFORCED W/ #4AT6", EW CENTERED IN SLAB THICKNESS. PROVIDE 3/4" EXPANSION JOINT MATERIAL WITH BACKER ROD AND SEALANT AT NEW TO EXISTING INTERFACE.
2. PROVIDE SLOPED GROUT TOPPING IN CONTAINMENT AREA WITH WWF REINFORCEMENT. GROUT TO BE 2" THICK AT TRENCH AND 4" THICK AT CONTAINMENT WALL.
3. LOCATE TRENCH AT THE APPROXIMATE CENTER BETWEEN THE TWO BELT FILTER PRESSES. PROVIDE GROUT FILL IN TRENCH SLOPING TO EXISTING SUMP. PROVIDE 6" THICK GROUT AT EAST SIDE AND 2" MINIMUM AT WEST SIDE. POUR GROUT FILL IN 2 POURS AND WATER CURE.

LEGEND:

(DX) INDICATES DOOR TAG; SEE SHEET S09 FOR SCHEDULE.

INDICATES WALL AND/OR PEDESTAL EXTENDING ABOVE THE EXISTING SLAB ELEVATION

ALUM SHAPE LEGEND:

• CS8	CS8x5.79
• L3	L3x3x1/4

B PLAN
SCALE: 3/16"=1'-0"
FILE: 8290U10-S03A

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CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
STRUCTURAL
DEWATERING BUILDING
PROPOSED PLAN (BDP)

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JOB NO. 8290U.10
DRAWING NO. S03C
SHEET NO.

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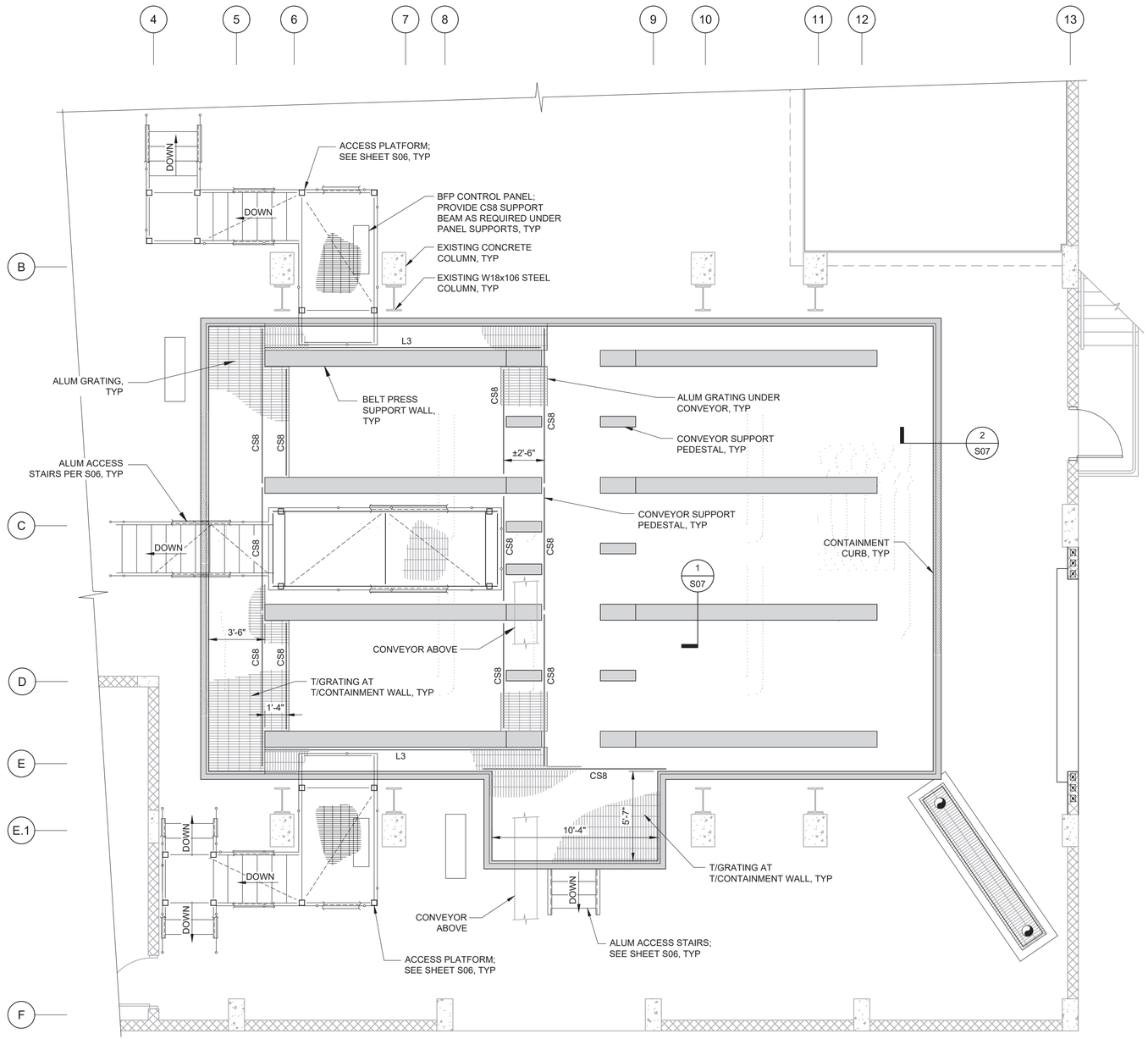

E PLAN

SCALE: 1/4"=1'-0"
FILE: 8290U10-S04A

NOTES:
1. SEE S03 FOR ADDITIONAL INFORMATION ON PROPOSED CONSTRUCTION NOT DESCRIBED ON THIS PLAN.

ALUM SHAPE LEGEND:

- CS8 CS8x5.79
- L3 L3x3x1/4

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THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
STRUCTURAL
DEWATERING BUILDING
PROPOSED PLATFORM PLAN (ALFA LAVAL)

VERIFY SCALES
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JOB NO. 8290U.10
DRAWING NO. S04A
SHEET NO.

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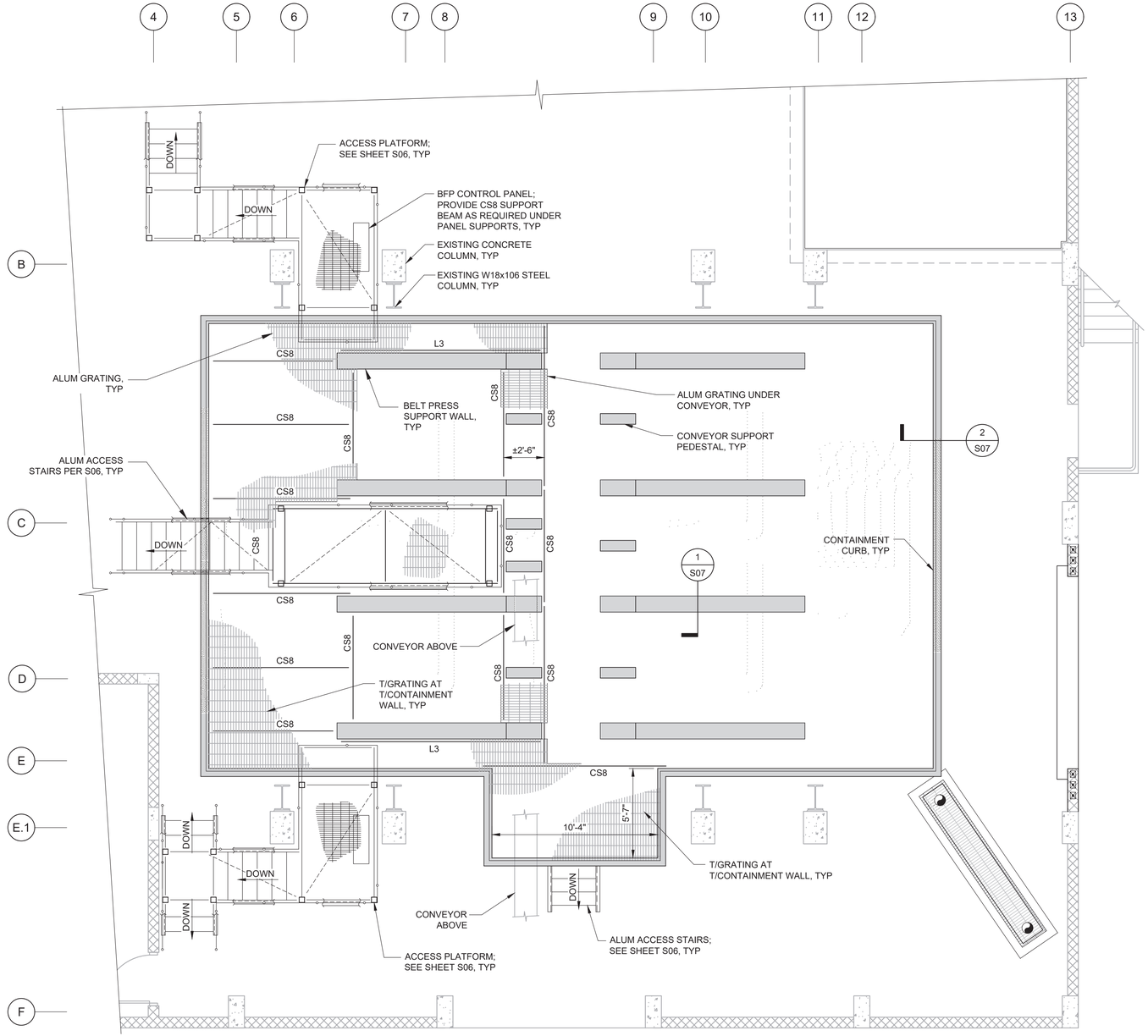
PROJECT NO. 10557F10 FILE NAME: 10557F10-C02.dgn



E PLAN

SCALE: 1/4"=1'-0"
FILE: 8290U10-S04A

NOTES:
1. SEE S03 FOR ADDITIONAL INFORMATION ON PROPOSED CONSTRUCTION NOT DESCRIBED ON THIS PLAN.

ALUM SHAPE LEGEND:

- CS8 CS8x5.79
- L3 L3x3x1/4

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THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
STRUCTURAL
DEWATERING BUILDING PROPOSED PLATFORM PLAN (ANDRITZ)

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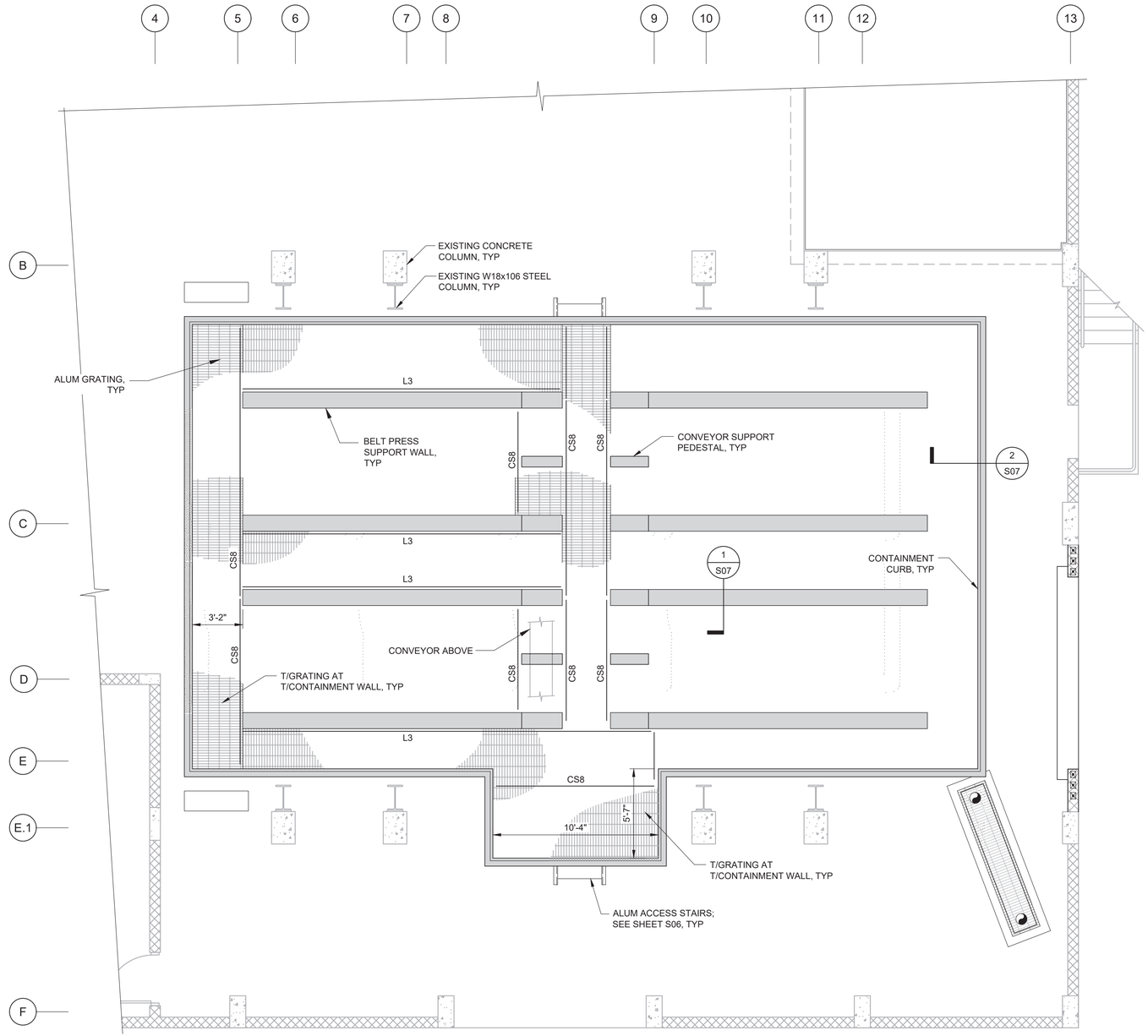
JOB NO. 8290U.10
DRAWING NO. S04B
SHEET NO.

PROJECT NO. 10557F10 FILE NAME: 10557F10-C02.dgn



E PLAN

SCALE: 1/4"=1'-0"
FILE: 8290U10-S04A

NOTES:
1. SEE S03 FOR ADDITIONAL INFORMATION ON PROPOSED CONSTRUCTION NOT DESCRIBED ON THIS PLAN.

ALUM SHAPE LEGEND:

- CS8 CS8x5.79
- L3 L3x3x1/4

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'00'05- 10:28:48 2020.02.04 2019.021.20061

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THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
STRUCTURAL
DEWATERING BUILDING
PROPOSED PLATFORM PLAN (BDP)

VERIFY SCALES
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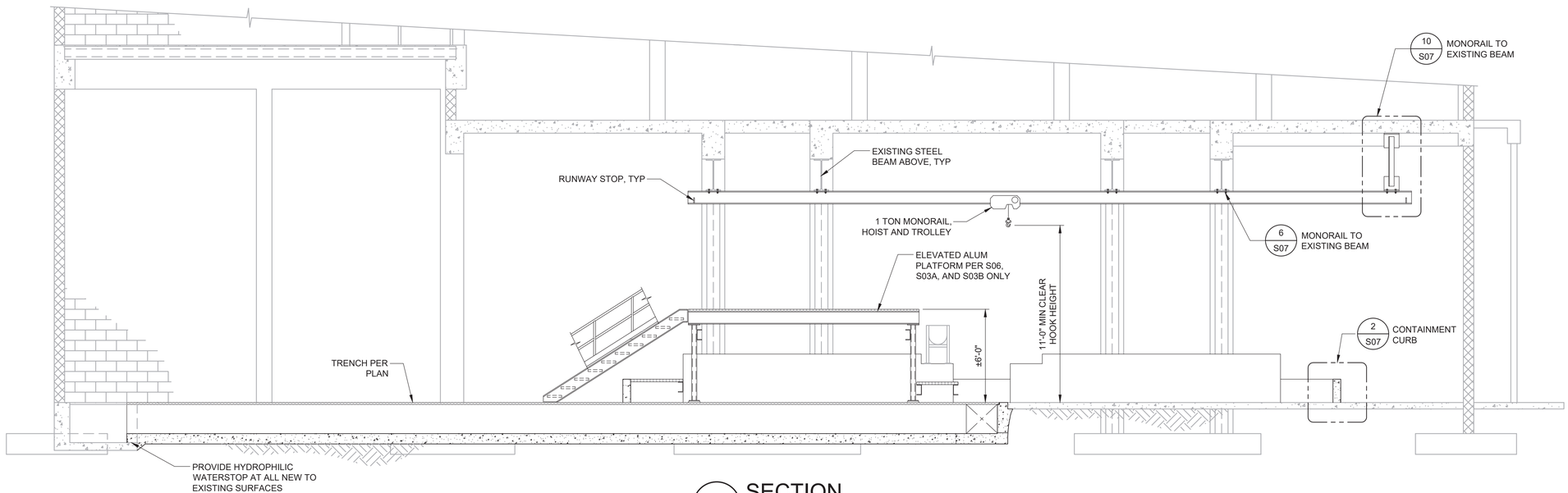
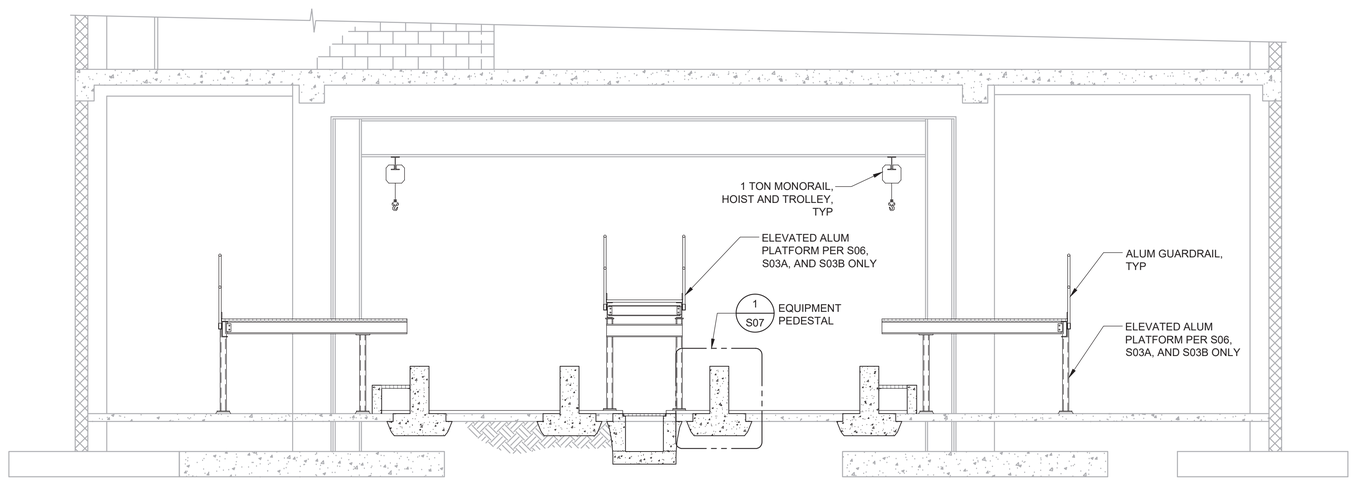
JOB NO. 8290U.10
DRAWING NO. S04C
SHEET NO.

PROJECT NO. 10557F10 FILE NAME: 10557F10-C02.dgn



E SECTION

SCALE: 1/4"=1'-0"
FILE: 8290U10-S05



F SECTION

SCALE: 1/4"=1'-0"
FILE: 8290U10-S05

NOTE:
1. EQUIPMENT IS NOT SHOWN FOR CLARITY.
2. THE LAYOUT SHOWN IS REPRESENTATIVE OF ONLY ONE MANUFACTURER OF THE BELT PRESS EQUIPMENT. CONTRACTOR SHALL COORDINATE ALL ELEVATIONS OF CONVEYOR SUPPORT WALLS, CONTAINMENT WALLS, BELT PRESS SUPPORT WALLS, ETC. WITH "M" DRAWINGS AND THE EQUIPMENT MANUFACTURER.

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CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
STRUCTURAL
DEWATERING BUILDING SECTIONS

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DRAWING NO. S05
SHEET NO.

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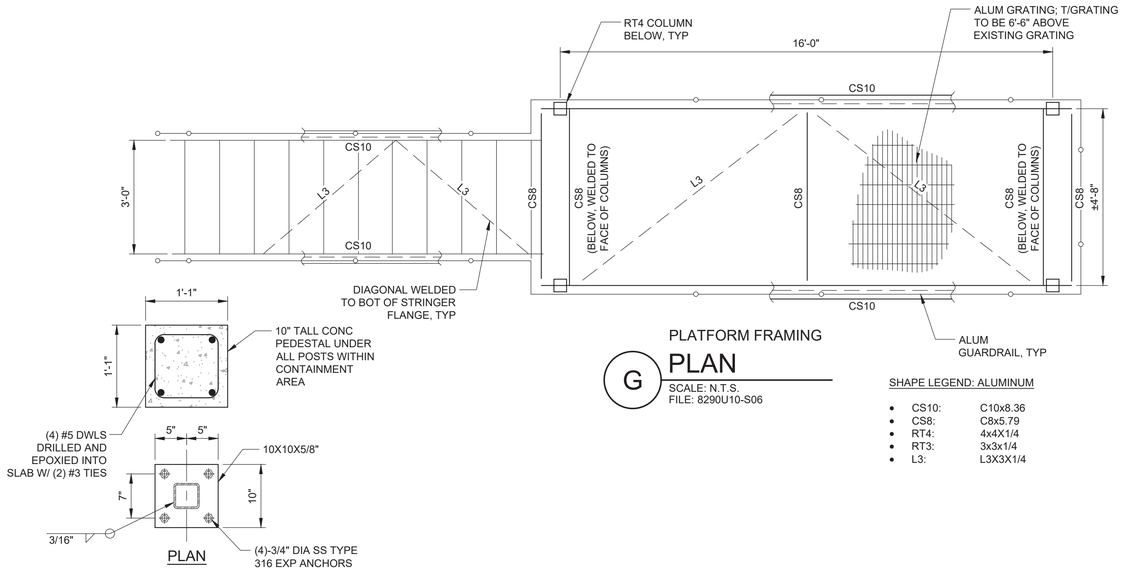


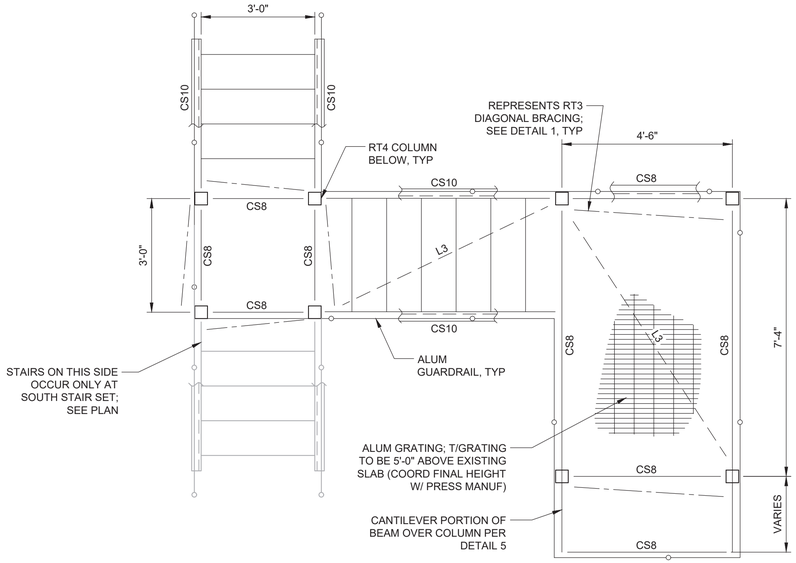
PLATFORM FRAMING

G PLAN

SCALE: N.T.S.
FILE: 8290U10-S06

SHAPE LEGEND: ALUMINUM

- CS10: C10x8.36
- CS8: C8x5.79
- RT4: 4x4X1/4
- RT3: 3x3x1/4
- L3: L3X3X1/4



PLATFORM FRAMING

H PLAN

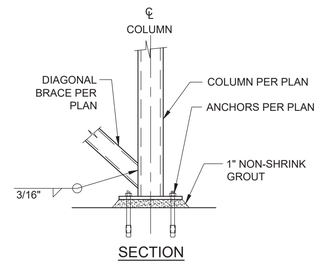
SCALE: N.T.S.
FILE: 8290U10-S06

SHAPE LEGEND: ALUMINUM

- CS10: C10x8.36
- CS8: C8x5.79
- RT4: 4x4X1/4
- RT3: 3x3x1/4
- L3: L3X3X1/4

NOTES:

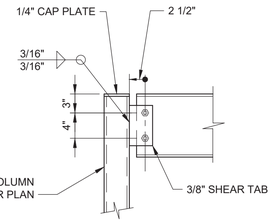
1. THE LOCATIONS AND ELEVATIONS OF THE PLATFORMS SHOWN ON THE DRAWINGS SHALL BE COORDINATED WITH THE SELECTED BELT FILTER PRESS MANUFACTURER TO PROVIDE PROPER ACCESS FOR OPERATION AND MAINTENANCE TO THE VARIOUS ELEMENTS ON THE BELT PRESS SUCH AS BUT NOT LIMITED TO, THE HANDWHEEL OPERATORS FOR ALL WASHWATER BOXES, FILTERS FOR HYDRAULIC SYSTEM, PLOWS/PLOW RODS, CONTROL PANELS, ETC. THE CONTRACTOR SHALL SUBMIT THE SHOP DRAWING FOR THE PLATFORMS AND ASSOCIATED STAIRS AFTER CONSULTATION WITH THE PRESS MANUFACTURER.



COLUMN CONNECTION

1 DETAIL

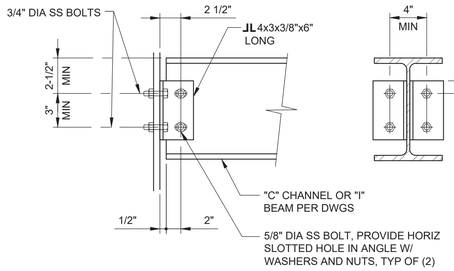
SCALE: 1"=1'-0"
FILE: 8290U10-S06



TYPICAL FRAMING CONNECTION

2 DETAIL

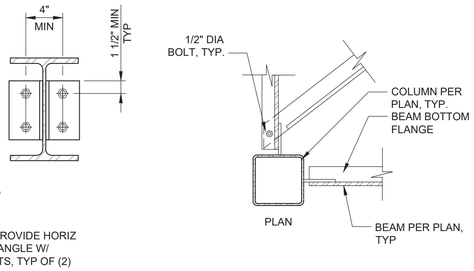
SCALE: 1"=1'-0"
FILE: 8290U10-S06



BEAM-TO-BEAM CONNECTION

3 DETAIL

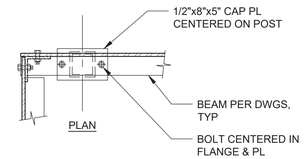
SCALE: 1"=1'-0"
FILE: 8290U10-S06

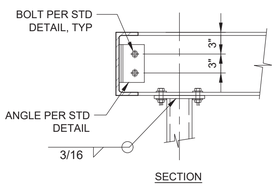


DIAGONAL BRACING CONNECTION

4 DETAIL

SCALE: 1"=1'-0"
FILE: 8290U10-S06

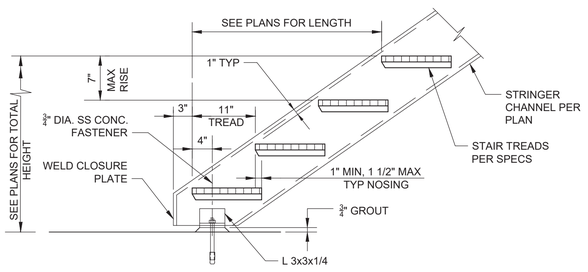




COLUMN TO BEAM CONNECTION

5 DETAIL

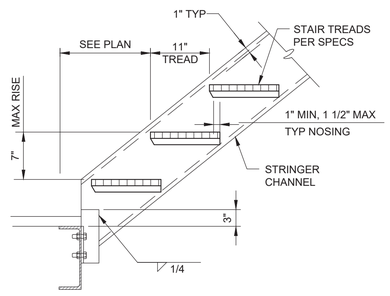
SCALE: 1"=1'-0"
FILE: 8290U10-S06



STAIR STRINGER TO SLAB CONNECTION

6 DETAIL

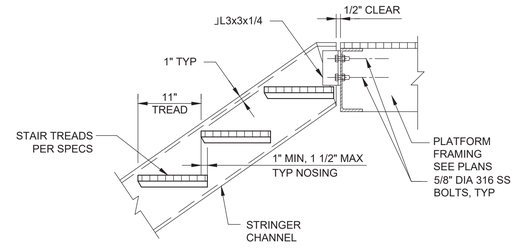
SCALE: 1"=1'-0"
FILE: 8290U10-S06



STAIR STRINGER TO PLATFORM CONNECTION

7 DETAIL

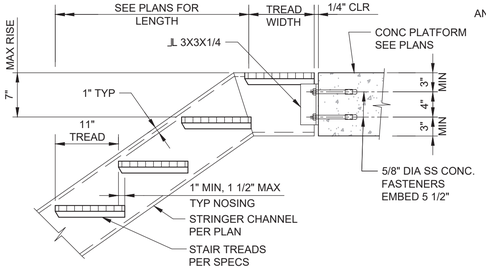
SCALE: 1"=1'-0"
FILE: 8290U10-S06



STAIR STRINGER TO PLATFORM CONNECTION

8 DETAIL

SCALE: 1"=1'-0"
FILE: 8290U10-S06



STAIR STRINGER TO CONCRETE

9 DETAIL

SCALE: 1"=1'-0"
FILE: 8290U10-S06

WEKIVA ENGINEERING
711 N ORANGE AVE, SUITE A
WINTER PARK, FL 32789
P: 321.972.4989 CA Lic. No: 31920

100% SUBMITTAL
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REV	DATE	BY	DESCRIPTION

DESIGNED JS
DRAWN JS
CHECKED DM
DATE FEBRAURY 2020

JOHN VINCENT SOBCZAK LICENSE No. 71407 STATE OF FLORIDA PROFESSIONAL ENGINEER

John Sobczak c=US, o=Wekiva Engineering LLC, ou=A01410C0000016BC320B0D400001FCD, cn=John Sobczak 10:29:24 2020.02.04 '00'05-2019.021.20061

John Sobczak

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carollo
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Orlando, FL 32801
Phone (407) 478-4642
CA No. 8571

THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

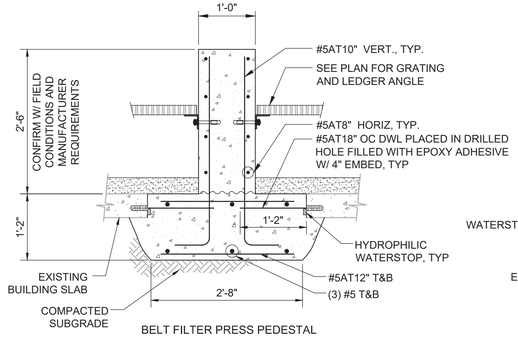
CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
STRUCTURAL
DEWATERING BUILDING
ELEVATED PLATFROM PLAN (ALFA LAVAL & ANDRITZ)

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 8290U.10
DRAWING NO. S06
SHEET NO.

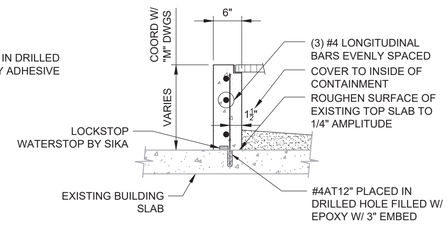
LAST SAVED BY: John.Buitrago

PROJECT NO. 10557F10 FILE NAME: 10557F10-C02.dgn



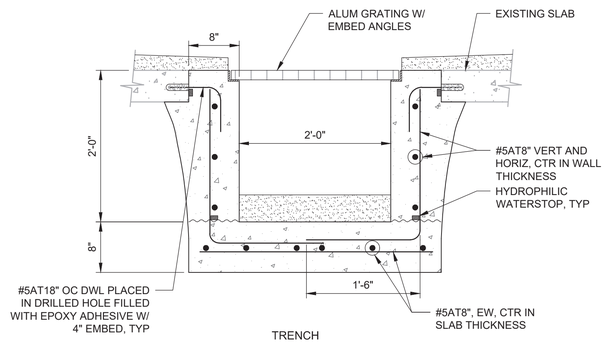
BELT FILTER PRESS PEDESTAL

1 DETAIL
S03
SCALE: 3/4"=1'-0"
FILE: 8290U10-S07



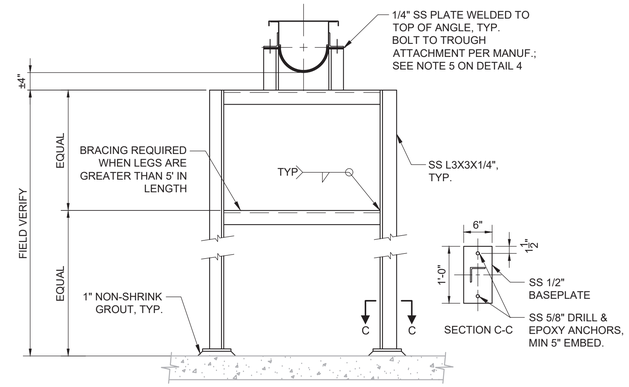
CONTAINMENT CURB

2 DETAIL
S03
SCALE: 3/4"=1'-0"
FILE: 8290U10-S06



TRENCH

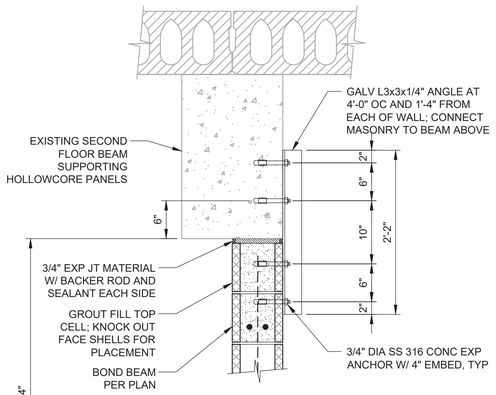
3 DETAIL
S03
SCALE: 1"=1'-0"
FILE: 8290U10-S06



PRESS BUILDING INTERIOR CONVEYOR SUPPORT

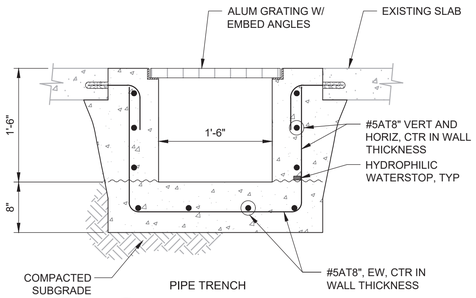
NOTE:
1. ALL STEEL SHOWN SHALL BE SS TYPE 316L.

7 DETAIL
S03
SCALE: 3/4"=1'-0"
FILE: 8290U10-S06



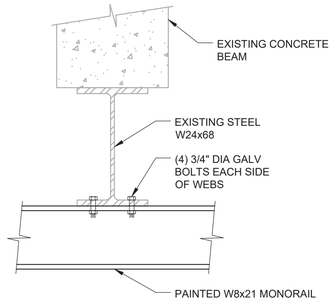
ELECTRICAL BUILDING MASONRY WALL

4 DETAIL
S03
SCALE: 1"=1'-0"
FILE: 8290U10-S06



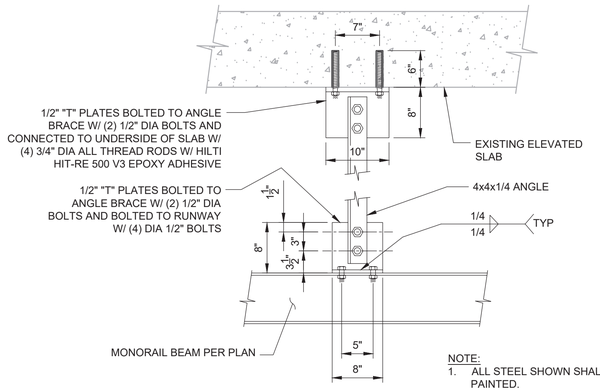
PIPE TRENCH

5 DETAIL
S03
SCALE: 1"=1'-0"
FILE: 8290U10-S06



MONORAIL TO EXISTING BEAM CONNECTION

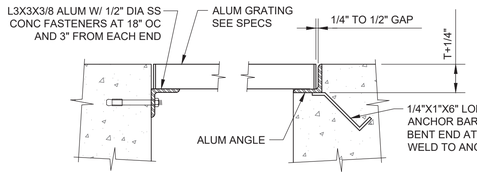
6 DETAIL
S03
SCALE: 1"=1'-0"
FILE: 8290U10-S06



NOTE:
1. ALL STEEL SHOWN SHALL BE PAINTED.

MONORAIL SUPPORT

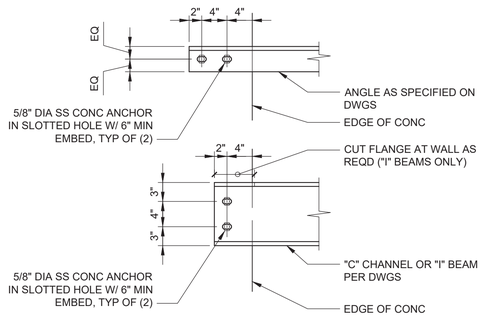
10 DETAIL
TYP
SCALE: 1"=1'-0"
FILE: 8290U10-S06



MAXIMUM SPAN	DEPTH	BEARING BAR	
		THICKNESS	SPACING
3'-0"	1 1/4"	3/16"	1 3/16"
4'-0"	1 1/2"	3/16"	1 3/16"
5'-0"	2"	3/16"	1 3/16"
6'-0"	2 1/4"	3/16"	1 3/16"

GRATING AND GRATING SUPPORT

8 DETAIL
TYP
SCALE: 1"=1'-0"
FILE: 8290U10-S06



BEAM CONNECTION TO CONCRETE

9 DETAIL
TYP
SCALE: 1"=1'-0"
FILE: 8290U10-S06

WEKIVA ENGINEERING
711 N ORANGE AVE, SUITE A
WINTER PARK, FL 32789
P: 321.972.4989 CA Lic. No: 31920

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DATE FEBRAURY 2020

JOHN VINCENT SOBCZAK LICENSE No. 71407 STATE OF FLORIDA PROFESSIONAL ENGINEER

John Sobczak c=US, o=Wekiva Engineering LLC, ou=A01410C0000016BC32080D400001FCD, cn=John Sobczak 10:29:41 2020.02.04 '00'05-2019,021,20061

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CA No. 8571

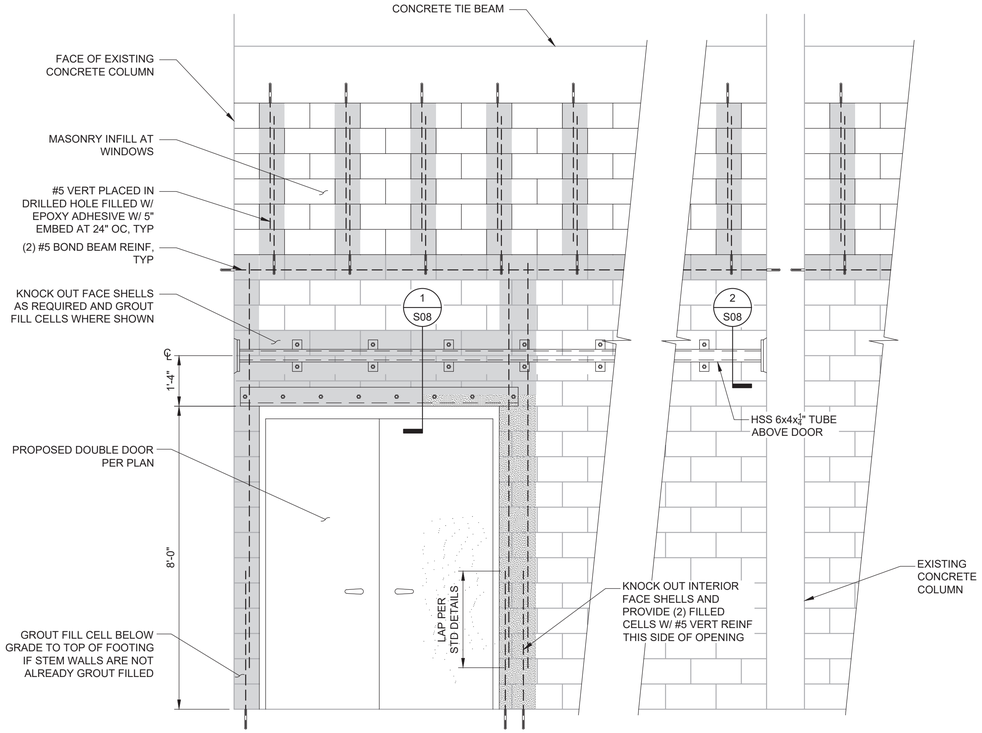
THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
STRUCTURAL
DEWATERING BUILDING DETAILS

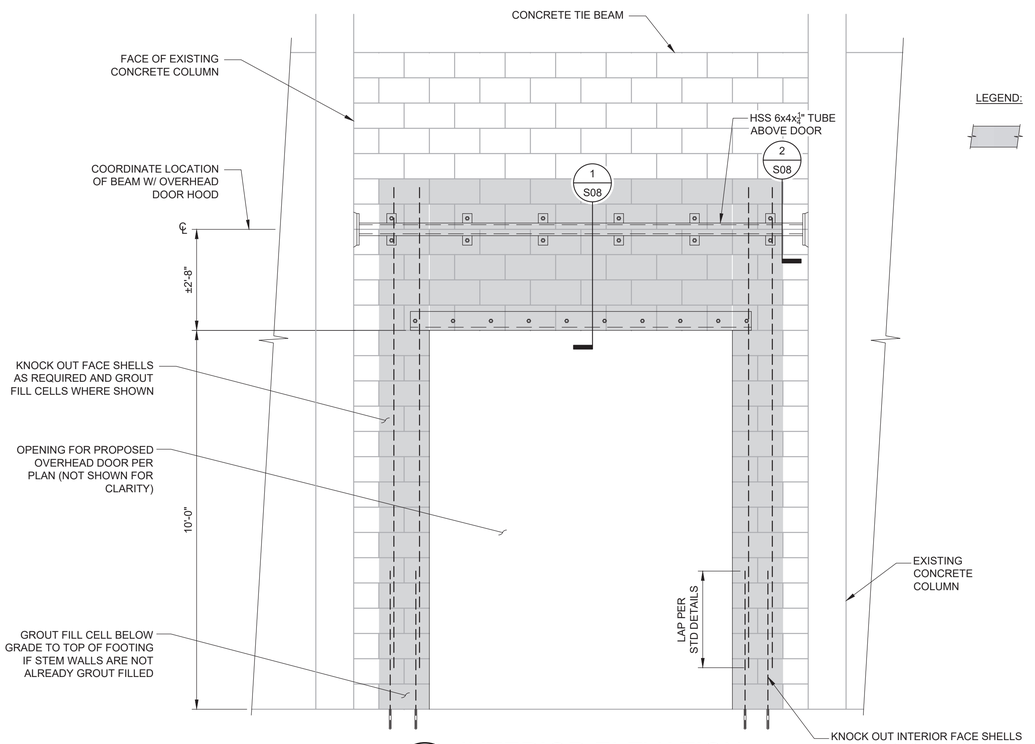
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 8290U.10
DRAWING NO. S07
SHEET NO.

PROJECT NO. 10557F10 FILE NAME: 10557F10-C02.dgn



A INTERIOR ELEVATION
SCALE: 1/4"=1'-0"
FILE: 8290U10-S08



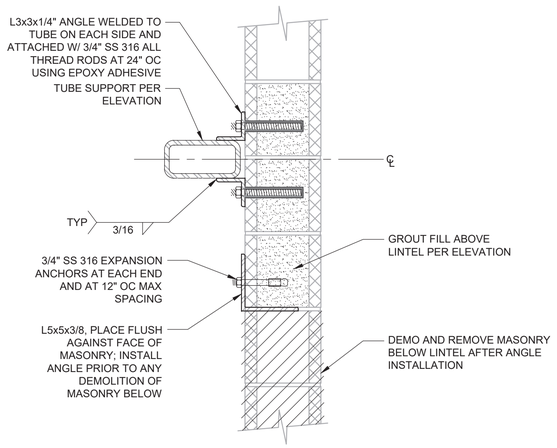
LEGEND:

INDICATES GROUT FILLED MASONRY

B INTERIOR ELEVATION
SCALE: 1/4"=1'-0"
FILE: 8290U10-S08

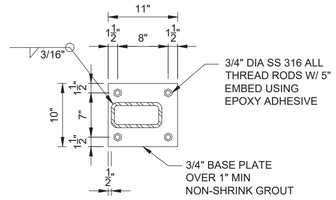
NOTES:

1. UNLESS INDICATED OTHERWISE ALL ANCHORS ON THIS SHEET SHALL BE INSTALLED USING EPOXY ADHESIVE SYSTEM HILTI HIT-RE 500 V3. WHERE INSTALLED IN NON-FILLED MASONRY CELLS PROVIDE SCREEN TUBE PER MANUFACTURER AND USE HILTI HIT-HY 270 ADHESIVE SYSTEM. ALL INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.



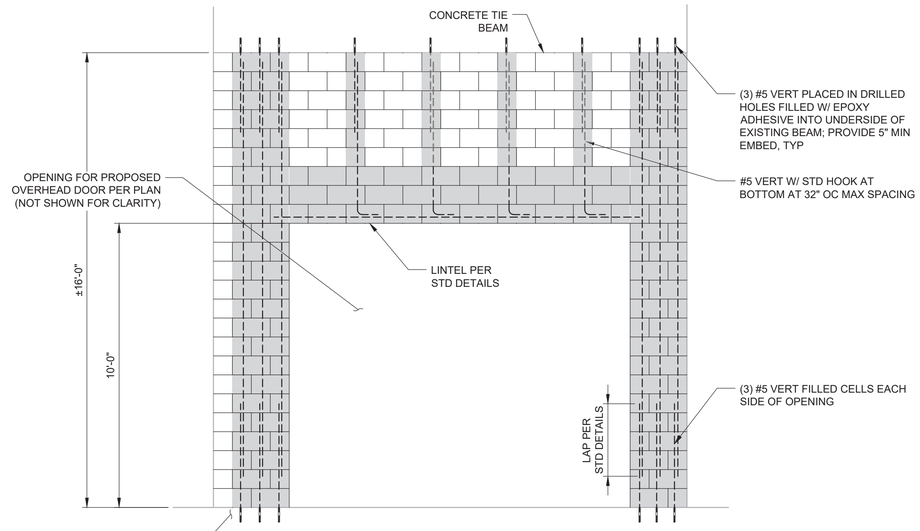
RETROFIT LINTEL

1 S03 DETAIL
SCALE: 1-1/2"=1'-0"
FILE: 8290U10-S08



MONORAIL TO EXISTING BEAM CONNECTION

2 S03 DETAIL
SCALE: 1"=1'-0"
FILE: 8290U10-S08



C INTERIOR ELEVATION
SCALE: 3/8"=1'-0"
FILE: 8290U10-S08

WEKIVA ENGINEERING
711 N ORANGE AVE, SUITE A
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P: 321.972.4989 CA Lic. No: 31920

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JOHN VINCENT SOBCZAK LICENSE No. 71407 STATE OF FLORIDA PROFESSIONAL ENGINEER

John Sobczak c=US, o=Wekiva Engineering LLC, ou=A01410C0000016BC320B0D400001FCD, cn=John Sobczak 10:31:13 2020.02.04 '00'05-2019.021.20061

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CA No. 8571

THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
STRUCTURAL
DEWATERING BUILDING DETAILS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 8290U.10
DRAWING NO. S08
SHEET NO.

PROJECT NO. 10557F10 FILE NAME: 10557F10-C02.dgn

DOOR SCHEDULE

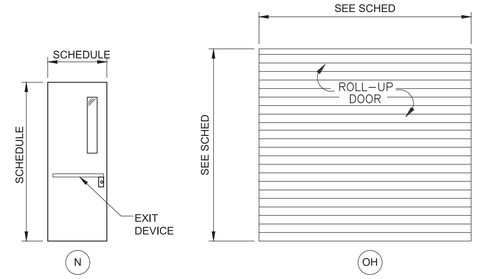
ROOM	NUMBER	SIZE					FRAMES			DETAILS			FIRE RATING (HOURS)	DESIGN WIND PRESSURE	NOTES
		WIDTH	HEIGHT	TYPE	MAT'L	FIN	TYPE	MAT'L	FIN	HEAD	JAMB	THRES-HOLD			
DEWATERING	D-1	3'-0"	8'-0"	N	AL	P	B	AL	P	1	1	1	1	-	-
	D-2	(2) 3'-0"	8'-0"	N	AL	P	A	AL	P	1	1	1	1	+49/-54	-
	D-3	8'-0"	10'-0"	-	GS	P	-	GS	P	2	2	2	1	+44/-48	-
	D-4	12'-0"	10'-0"	-	GS	P	-	GS	P	2	2	2	1	+44/-48	-
	D-5	3'-0"	7'-0"	N	AL	P	B	AL	P	1	1	1	1	-	-
	D-6	3'-0"	7'-0"	N	AL	P	C	AL	P	1	1	1	1	+49/-54	4
	D-7	4'-0"	7'-0"	N	AL	P	C	AL	P	1	1	1	1	+49/-54	4
	D-8	3'-0"	7'-0"	N	AL	P	C	AL	P	1	1	1	1	+49/-54	4

GENERAL NOTES

NOTES:
1. SEE SPECIFICATION 08710 FOR DOOR HARDWARE (HW-1 FOR EACH DOOR).
2. ALL DOORS AND GLAZING SHALL HAVE A VALID FLORIDA PRODUCT APPROVAL NUMBER AND SHALL MEET THE SPECIFIC DESIGN WIND PRESSURES AND IMPACT RESISTANCE REQUIREMENTS.
3. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING OPENING DIMENSIONS PRIOR TO ANY FABRICATION.
4. PROVIDE GLAZING ABOVE DOOR MATCHING EXISTING; FIELD VERIFY EXISTING CONDITION.

LIST OF ABBREVIATIONS:

AL = ALUMINUM GS = GALVANIZED STEEL
P = PREFINISHED/PAINTED



DOOR TYPES

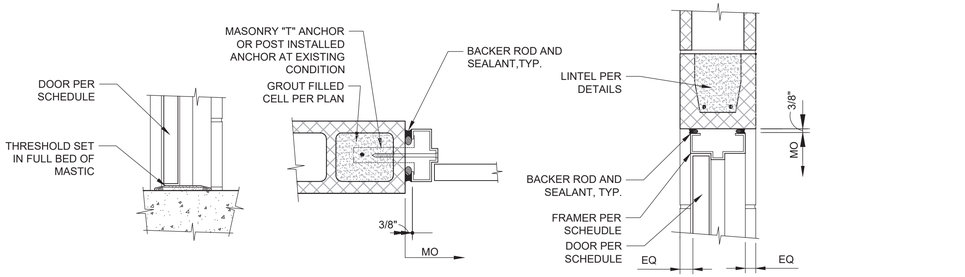
FINISH SCHEDULE

ROOM	FLOOR	BASE	WALLS				CEILING	COMMENTS
ELECTRICAL ROOM			NORTH	SOUTH	EAST	WEST		
N/A	PF	NONE	CMU/P	CMU/P	CMU/P	CMU/P	CONC/P	SEE NOTE 1 FOR EPOXY FLOOR COATING

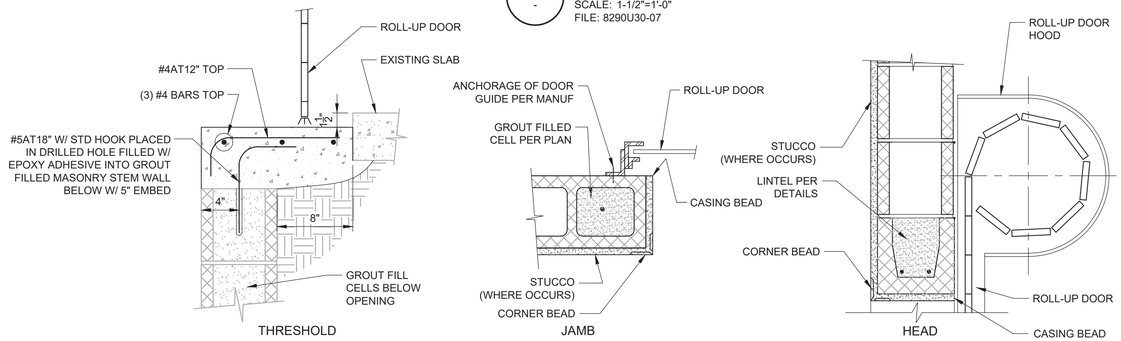
ABBREVIATIONS

CONC = CONCRETE
N/A = NOT APPLICABLE
SL = SEALED CONCRETE
CMU = EXPOSED CONCRETE BLOCK
PF = EPOXY FLOOR
GB = GYPSUM BOARD
P = PAINT

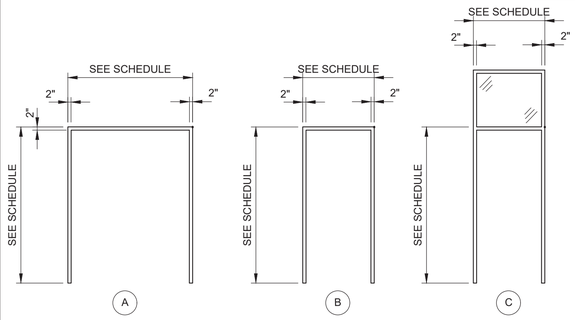
NOTES:
1. EPOXY FLOOR COATING SYSTEM SHALL INCLUDE COROTECH V155 PRE-PRIMER AND COROTECH V440 WATERBORNE AMINE EPOXY WITH COROTECH V630 AGGREGATE BY BENJAMIN MOORE.



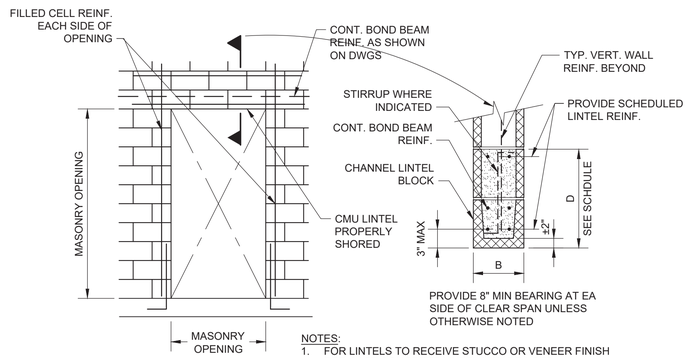
1 DETAIL
SCALE: 1-1/2"=1'-0"
FILE: 8290U30-07



2 DETAIL
SCALE: 1-1/2"=1'-0"
FILE: 8290U30-07



FRAME TYPES



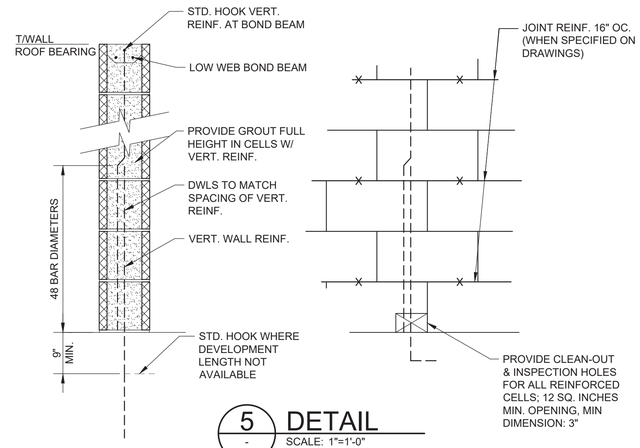
NOTES:
1. FOR LINTELS TO RECEIVE STUCCO OR VENEER FINISH PRE-CAST CONCRETE LINTEL MAY BE USED.
2. IF SPAN EXCEEDS 12'-0" PRECAST PRESTRESSED TYPE OR CAST-IN-PLACE CONSTRUCTION MUST BE USED.

3 DETAIL
SCALE: 1"=1'-0"
FILE: 8290U30-07

SPAN \ MARK	B	D	REINF	STIRRUPS
TO 4'-3"	8"	8"	1-#5 BOT	-
	12"	8"	2-#5 BOT	-
4'-4" TO 6'-3"	8"	16"	2-#5 BOT	-
	12"	16"	2-#5 BOT	-
6'-4" TO 12-0"	8"	24"	2-#5 T&B	-
	12"	24"	2-#6 T&B	#3AT8"

NOTES:
1. PROVIDE REINF AS INDICATED AT ALL OPENINGS BOTH INTERIOR & EXTERIOR WALLS
2. PROVIDE 8" MINIMUM BEARING AT EACH SIDE OF CLEAR SPAN.
3. FULLY GROUT CMU OVER DEPTH "D" TO ENDS OF BEARING.
4. D OF 16" MAY CONSIST OF ONE FULLY GROUTED 16" CMU LINTEL BLOCK OR ONE FULLY GROUTED 8" CMU LINTEL BLOCK PLUS ONE FULLY GROUTED 8" CMU.

4 DETAIL
SCALE: 1"=1'-0"
FILE: 8290U30-07



5 DETAIL
SCALE: 1"=1'-0"
FILE: 8290U30-07

WEKIVA ENGINEERING
711 N ORANGE AVE, SUITE A
WINTER PARK, FL 32789
P: 321.972.4889 CA Lic. No: 31920

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ISSUE FOR BID

REV	DATE	BY	DESCRIPTION

DESIGNED JS
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DATE FEBRAURY 2020

JOHN VINCENT SOBCZAK LICENSE No. 71407 STATE OF FLORIDA PROFESSIONAL ENGINEER

John Sobczak c=US, o=Wekiva Engineering LLC, ou=A01410C0000016BC320BD400001FCD, cn=John Sobczak 10:31:39 2020.02.04 '00'05- 2019.021.20061

John Sobczak

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CA No. 8571

THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
STRUCTURAL
DEWATERING BUILDING SCHEDULES & DETAILS

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JOB NO. 8290U.10
DRAWING NO. S09
SHEET NO.

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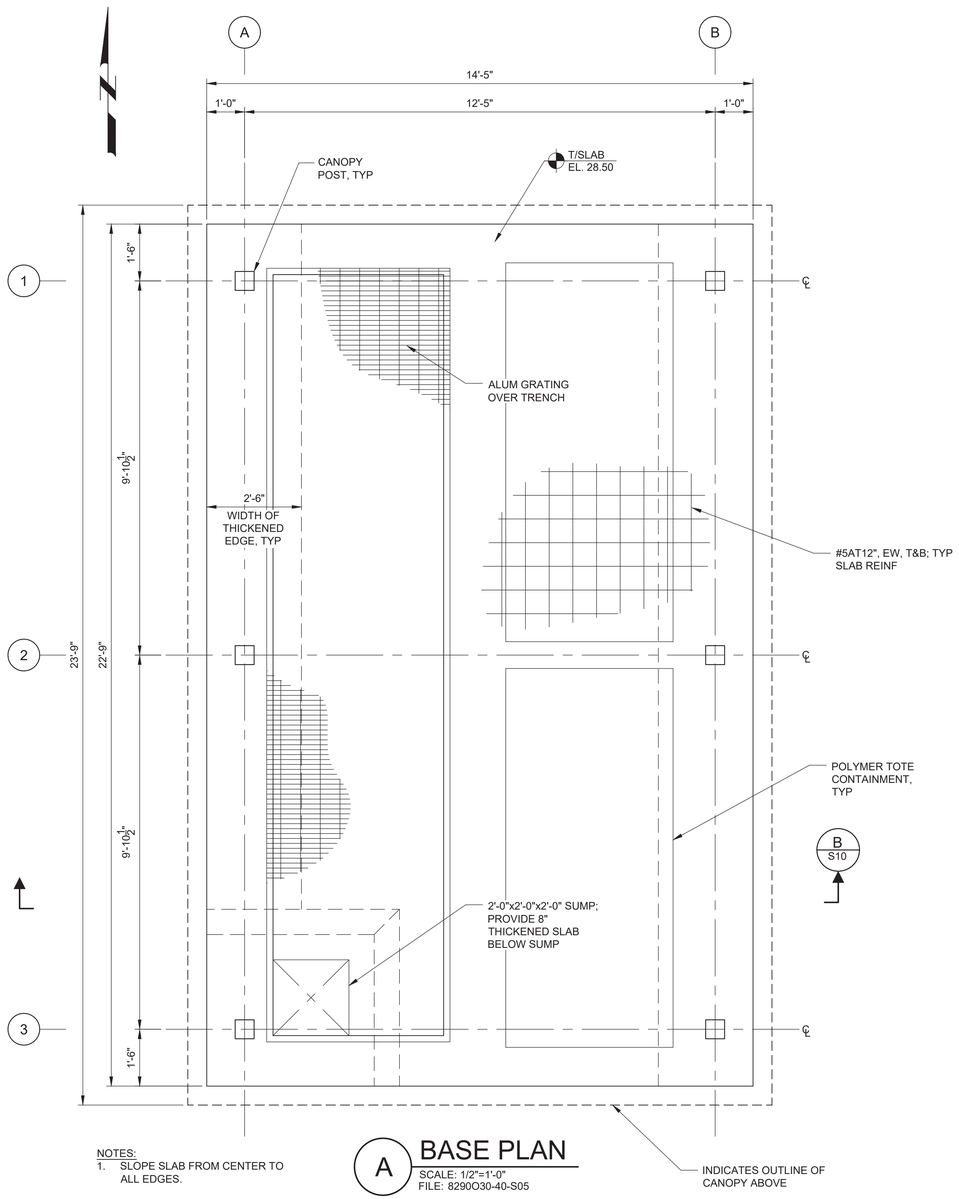
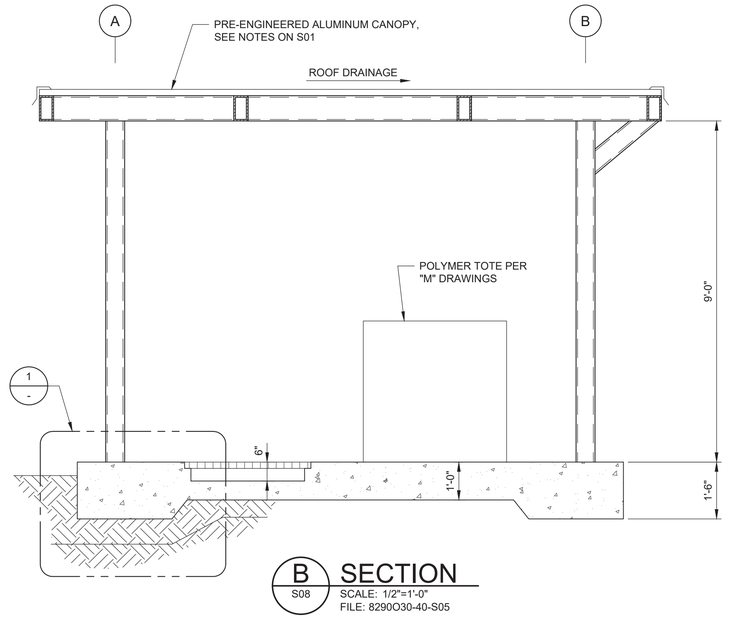
PROJECT NO. 10557F10 FILE NAME: 10557F10-C02.dgn



NOTES:
1. SLOPE SLAB FROM CENTER TO ALL EDGES.

A BASE PLAN
SCALE: 1/2"=1'-0"
FILE: 8290O30-40-S05



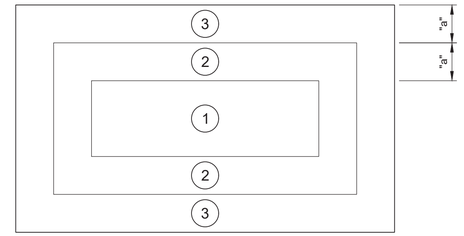
B S08 SECTION
SCALE: 1/2"=1'-0"
FILE: 8290O30-40-S05

WIND DESIGN PRESSURES COMPONENTS CLADDING (+ , -) PSF

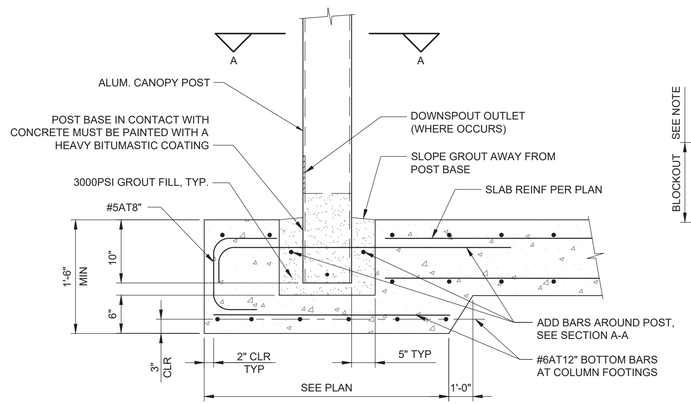
ROOF

EFFECTIVE AREA (SF)		ZONE 1		ZONE 2		ZONE 3	
		(+)	(-)	(+)	(-)	(+)	(-)
≤ a^2	9 SF	17.3	-39.2	26.9	-59.3	34.7	-117.5
$2a^2$	18 SF	17.3	-39.2	26.9	-59.3	26.9	-59.3
> $4a^2$	36.1 SF	17.3	-39.2	17.3	-39.2	17.3	-39.2

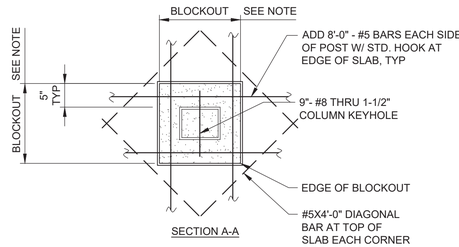
NOTES:
1. FOR WIND DESIGN CRITERIA SEE "WINDLOADS" NOTES IN THE GENERAL STRUCTURAL NOTES THIS SHEET DESIGN PRESSURES ARE PROVIDED AT ULTIMATE DESIGN WIND SPEEDS. TO CONVERT TO NOMINAL DESIGN WIND SPEEDS (ASD) MULTIPLE PRESSURE BY A FACTOR OR 0.60.
2. THE EFFECTIVE AREA SHALL BE DETERMINED AS FOLLOWS UNLESS OTHERWISE NOTED:
   a. THE SPAN LENGTH MULTIPLIED BY AN EFFECTIVE WIDTH THAT NEED NOT BE LESS THAN ONE THIRD THE SPAN LENGTH.
   b. THE AREA THAT IS TRIBUTARY TO AN INDIVIDUAL FASTENER.
3. NEGATIVE SIGN INDICATES PRESSURE ACTING OUTWARD FROM SURFACE.
4. CORNER ZONE WIDTH: "a" : a = 3 FT



ROOF ZONE
KEY PLAN



1 40-S05 DETAIL
SCALE: 1"=1'-0"
FILE: 8290O30-40-S05



NOTE:
1. CONTRACTOR TO CONFIRM POST SIZE PRIOR TO SLAB REINFORCING SHOP DRAWING SUBMITTAL IN ORDER TO VERIFY BLOCKOUT SIZE.

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JOHN VINCENT SOBCZAK LICENSE No. 71407 STATE OF FLORIDA PROFESSIONAL ENGINEER

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CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
STRUCTURAL
POLYMER CONTAINMENT CANOPY PLAN, SECTION AND DETAIL

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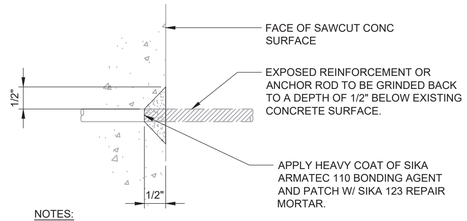
JOB NO. 8290U.10
DRAWING NO. S10
SHEET NO.

PROJECT NO. 10557F10 FILE NAME: 10557F10-C02.dgn

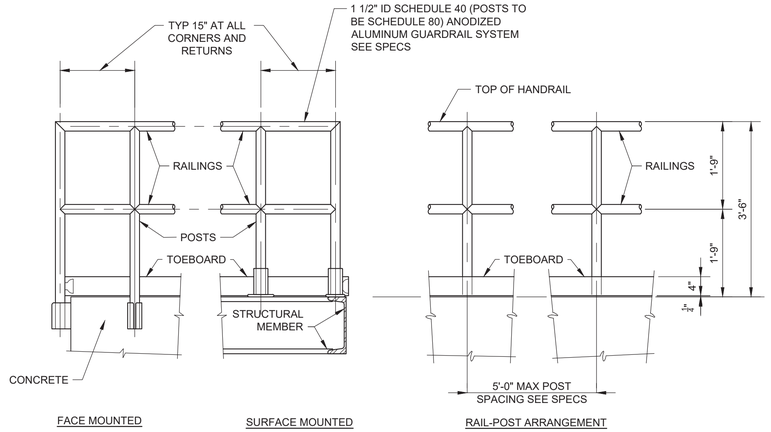


NOTES:

1. DETAIL IS APPLICABLE TO VERTICAL AND HORIZONTAL SURFACES.
2. REINFORCEMENT SHALL BE FREE OF RUST AT TIME OF COATING. APPLY PROTECTIVE COATING ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS.

1 DETAIL

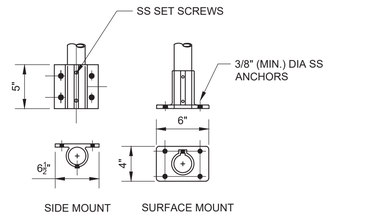
SCALE: 1"=1'-0"
FILE: 8290U30-11



FACE MOUNTED — SURFACE MOUNTED — RAIL-POST ARRANGEMENT

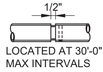
2 DETAIL

SCALE: 1"=1'-0"
FILE: 8290U30-11



SIDE MOUNT — SURFACE MOUNT

CONNECTIONS



LOCATED AT 30'-0" MAX INTERVALS

EXPANSION JT

BASE CONNECTION NOTE:
4 ANCHOR PATTERN SHOWN, 2 BOLT PATTERN WILL BE ACCEPTABLE GIVEN THE LOADING REQUIREMENTS SPECIFIED ARE SATISFIED AND A MINIMUM OF 1/2" DIA. SS BOLTS ARE PROVIDED.

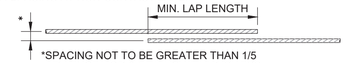
REBAR MINIMUM TENSION DEVELOPMENT & LAP LENGTHS

CONCRETE STRENGTH f'c= 4,000 PSI OR GREATER

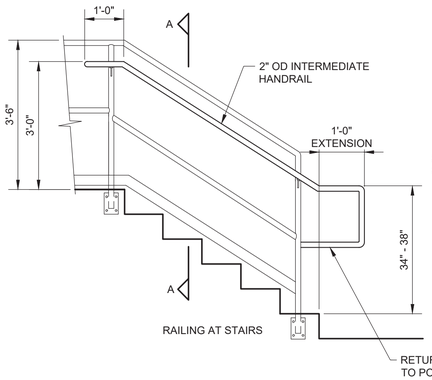
BAR SIZE	DEVELOPMENT LENGTH, ld		LAP LENGTH (CLASS B SPLICE)		BAR SIZE
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	
#3	1'-7"	1'-3"	2'-0"	1'-7"	#3
#4	2'-1"	1'-7"	2'-8"	2'-0"	#4
#5	2'-7"	2'-0"	3'-4"	2'-7"	#5
#6	3'-1"	2'-4"	4'-0"	3'-1"	#6
#7	4'-6"	3'-6"	5'-10"	4'-6"	#7
#8	5'-2"	3'-11"	6'-8"	5'-2"	#8
#9	5'-10"	4'-6"	7'-6"	5'-10"	#9
#10	6'-6"	5'-0"	8'-6"	6'-6"	#10
#11	7'-3"	5'-7"	9'-6"	7'-3"	#11

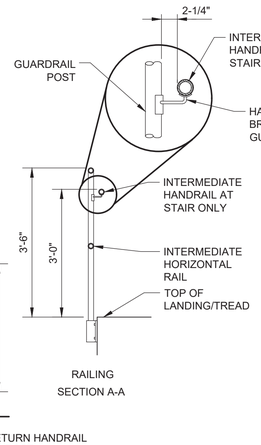
NOTES:
1. GRADE 60 UNCOATED REINFORCEMENT
2. SPLICE LENGTHS GIVEN ABOVE ARE TO BE USED UNLESS NOTED OTHERWISE ON DESIGN DRAWINGS.

MAXIMUM BAR SPACING AT NON-CONTACT LAPS:



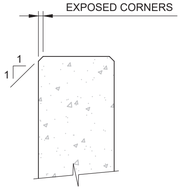
*SPACING NOT TO BE GREATER THAN 1/5 LAP LENGTH OR 6IN. WHICH EVER IS LESS





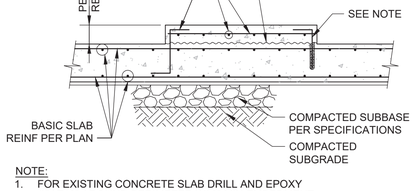
3 DETAIL

SCALE: 1"=1'-0"
FILE: 8290U30-11



5 DETAIL

SCALE: 1"=1'-0"
FILE: 8290U30-11



NOTE:
1. FOR EXISTING CONCRETE SLAB DRILL AND EPOXY #5AT12" AROUND PERIMETER W/ 6" MIN EMBEDMENT.

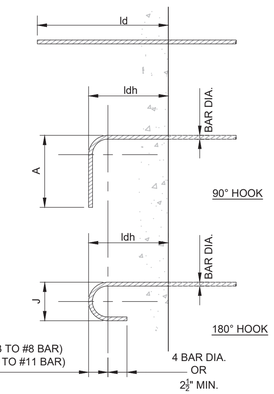
6 DETAIL

SCALE: 1"=1'-0"
FILE: 8290U30-11

STANDARD HOOK DEVELOPMENT LENGTH

BAR SIZE	90° STD HOOK "A"	180° STD HOOK "J"	DEVELOPMENT LENGTH, ldh
#3	6"	3"	6"
#4	8"	4"	7"
#5	10"	5"	9"
#6	1'-0"	6"	10"
#7	1'-2"	7"	1'-0"
#8	1'-4"	8"	1'-2"
#9	1'-7"	11 3/4"	1'-3"
#10	1'-10"	1'-1 1/2"	1'-5"
#11	2'-0"	1'-2 3/4"	1'-7"

*FOR STD HOOK BAR GEOMETRY NOT SHOWN REFER TO MINIMUM ACI REQUIREMENTS



4 DETAIL

SCALE: 1"=1'-0"
FILE: 8290U30-11

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THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
STRUCTURAL
DEWATERING BUILDING DETAILS

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DRAWING NO. S11
SHEET NO.

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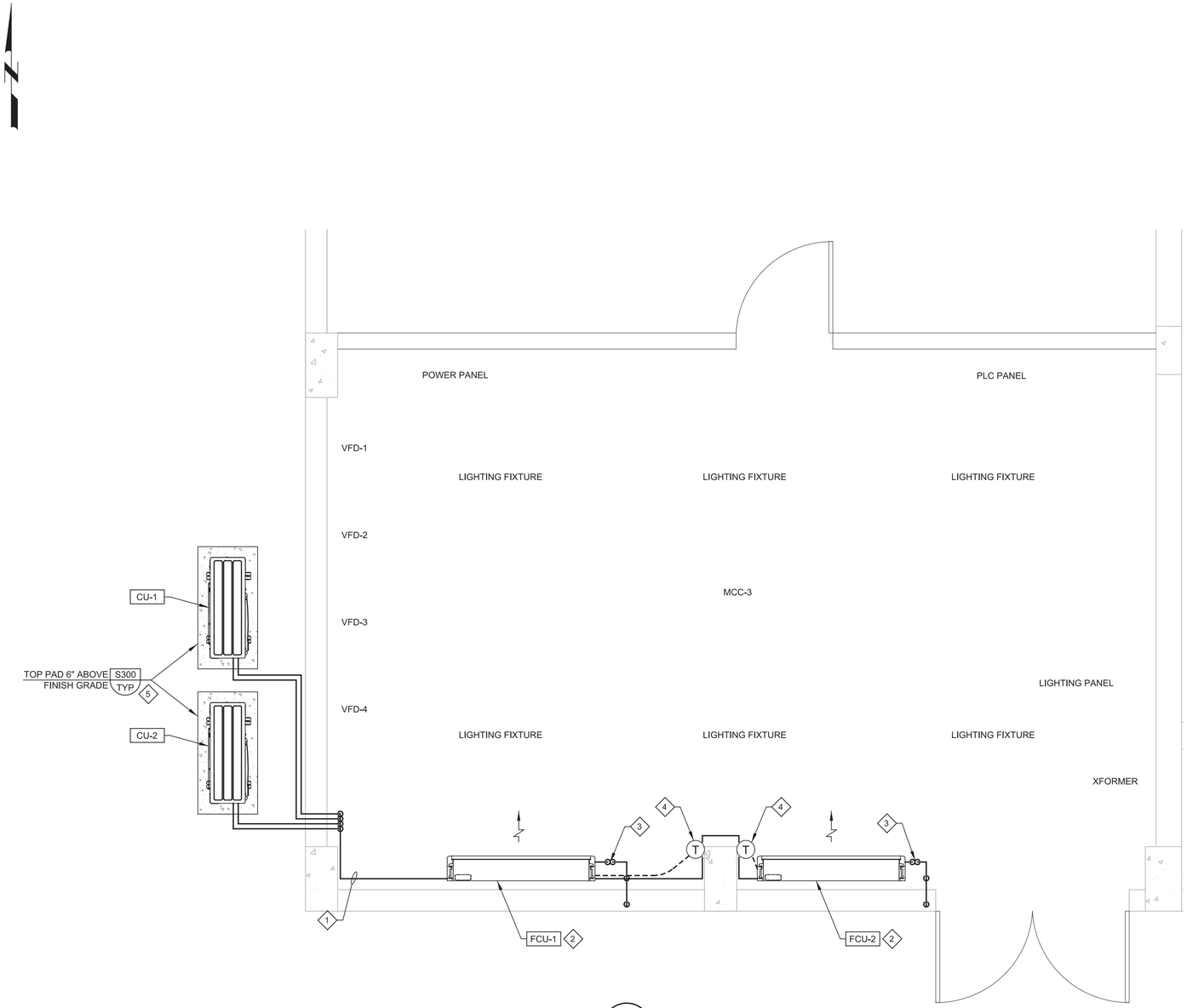
PROJECT NO. 10557F10 FILE NAME: 10557F10-C02.dgn



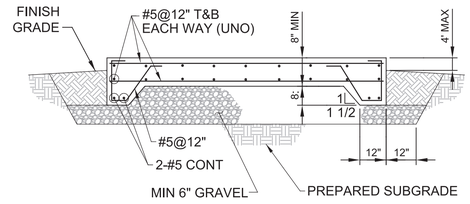
A - **PLAN**
SCALE: 1/2=1'0"
FILE: 8290U10-00-M-101A

KEY NOTES:

1. ROUTE REFRIGERANT PIPING ALONG WALL AND UP TO EACH INDOOR UNIT. PROVIDE INSULATION ON SUCTION LINES.
2. MOUNT INDOOR UNITS ON WALL 6'-0" A.F.F.
3. RUN FULL SIZE CONDENSATE DRAIN LINE DOWN TO 6" ABOVE GRADE. PENETRATE WALL AND TURN DOWN WITH ELBOW. INSTALL P-TRAP NEXT TO INDOOR UNIT.
4. MOUNT THERMOSTAT AT 60" A.F.F.
5. PROVIDE CONCRETE PAD 8" LARGER THAN FOOTPRINT OF OUTDOOR UNIT. PROVIDE SNAP-RITE, FAT BOY A/C ANCHORING CLIP ATTACHEMENT TO UNIT BY USE OF #10 SELF DRILLING STAINLESS STEEL SCREWS DIRECTLY TO LIGHT GUAGE UNIT HOUSING,, ALL SCREWS SHALL BE STAINLESS STEEL AND A MININUM OF 1/2" LONG, FOR THE 145 MPH WIND VELOCITY, MINIMUM NUMBER OF CLIPS PER SIDE OF THE UNIT SHALL BE 2.

Equip. No.	E-House Building Location	Cooling				Mechanical Heat (MBH)	Unit Power			Air Fan		OSA (cfm)	Additional Requirement (see Notes at End of Schedule)
		Net Total/ Sensible (MBH)	Evaporator		Condenser Inlet DB (°F)		Indoor V	Ph	Indoor Oudoor MCA / MOP	cfm	ESP "WC		
			Inlet DB/WB (°F)	Outlet DB/WB (°F)									
FCU-1 CU-1	Dewatering Building	31.7 / 29.4	76.6 / 65.4	60.4 / 59.4	92	6.8	208	1	1 25 / 30	Per Man.	.125	0	3,4,8,9,13,16
FCU-2 CU-2	Dewatering Building	31.7 / 29.4	76.6 / 65.4	60.4 / 59.4	92	6.8	208	1	1 25 / 30	Per Man.	.125	0	3,4,8,9,13,16

Additional Requirement Notes:
1. Roof mounted.
2. Base/floor mounted.
3. Side return connection.
4. Side supply discharge connection.
5. Bottom return connection.
6. Bottom supply discharge connection.
7. Thermostat provided by Contractor.
8. Thermostat provided by manufacturer.
9. 24-volt control voltage.
10. 120-volt control voltage.
11. Natural gas fired.
12. Liquefied petroleum gas fired.
13. Indoor blower fan direct drive. Powered from outdoor unit.
14. Indoor blower fan belt drive.
15. Include auxiliary electrical heater (Power Included in Unit Power).
16. Provide Coil, internal piping, and appurtenances coated with factory applied phenol formaldehydethermisetting resinous coating (Heresite).



NOTE:
1. DIM REQD TO SUIT EQUIPMENT OR AS NOTED ON DRAWINGS.

S300 TYP EQUIPMENT SLAB DETAIL

REV	DATE	BY	DESCRIPTION
			100% SUBMITTAL ISSUE FOR BID

DESIGNED HR
DRAWN JB
CHECKED HR
DATE FEBRAURY 2020

SUDHANVA PARANJAPE LICENSE No 64472 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Sudhanva Paranjape
Contact Info: Carollo Engineers, Inc.
Date: 2020.02.04 09:21:30 -05'00'

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CITY OF DAYTONA BEACH
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HVAC
ELECTRICAL ROOM HVAC PLAN

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JOB NO. 8290U.10
DRAWING NO. H01
SHEET NO.

GENERAL NOTES:

1. PROPOSED FUTURE ELEMENTS ARE DEPICTED WITH HIDDEN LINES.

KEY TAGS:

1	BFP-001	BELT FILTER PRESS NO. 1	8	DRY-01	DRYER UNIT No. 1
2	BFP-002	BELT FILTER PRESS NO. 2	9	I-CON-01	INCLINED CONVEYOR No. 1
3	BFP-003	BELT FILTER PRESS NO. 3 (FUTURE)	10	I-CON-02	INCLINED CONVEYOR No. 2 (FUTURE)
4	BFP-004	BELT FILTER PRESS NO. 4 (FUTURE)	11	F-PMP-04	BFP FEED PUMP No. 4 (EXISTING)
5	H-CON-01	HORIZONTAL SCREW CONVEYOR No. 1	12	F-PMP-03	BFP FEED PUMP No. 3 (EXISTING)
6	H-CON-02	HORIZONTAL SCREW CONVEYOR No. 2 (FUTURE)	13	F-PMP-02	BFP FEED PUMP No. 2 (EXISTING)
7	CMP-01	AIR COMPRESSOR No. 1	14	F-PMP-01	BFP FEED PUMP No. 1 (EXISTING)
			15	WW-PMP-01	WASHWATER PUMP No. 1
			16	WW-PMP-02	WASHWATER PUMP No. 2
			17	PDS-01	POLYMER DILUTION SYSTEM No. 1
			18	PDS-02	POLYMER DILUTION SYSTEM No. 2
			19	PDS-03	POLYMER DILUTION SYSTEM No. 3 (FUTURE)
			20	PDS-04	POLYMER DILUTION SYSTEM No. 4 (FUTURE)

KEY NOTES:

1. 1'-6" HIGH CONTAINMENT WALL
2. ALUMINUM GRATING
3. 4" SLUDGE FEED PIPE DI
4. 6" WASHWATER PIPE DI
5. 3" WASHWATER PIPE PVC
6. HOSE BIB AND HOSE RACK
7. 2" WASHWATER PIPE PVC
8. BFP CONTROL PANEL
9. 6" - 90° BEND DI
10. 6" X 3" TEE DI
11. 6" X 3" REDUCER DI
12. 3" - 90° BEND PVC
13. 3" X 2" REDUCER PVC
14. 2" - 90° BEND PVC
15. FUTURE WASHWATER PUMP CONCRETE PAD
16. ELEVATED PLATFORM. SEE STRUC. DWGS
17. 4" - 90° BEND DI
18. 3" BALL VALVE PVC
19. POLYMER CONTAINMENT PIT. SEE M05 AND STRUC. DWGS
20. 2" POLYMER PIPE
21. 2" WASHWATER FLOWMETER
22. 2" PRESSURE INDICATION TRANSMITTER
23. ROLL-UP DOOR
24. INSTALL 6" PRESSURE SUSTAINING / REDUCING VALVE (SINGER MODEL 106/206-PR-R), OR APPROVED EQUAL. PROVIDE PIPE SUPPORTS AS NECESSARY TO SUPPORT THE WEIGHT OF THE VALVE
25. 10" X 6" REDUCER
26. CONTAINMENT PIT ACCESS STAIRS
27. 2" BALL VALVE
28. 2" MOTORIZED BALL VALVE
29. CONNECT TO EXISTING 4" PLUG VALVE
30. 4" MOTORIZED PLUG VALVE DI
31. DRAIN TRENCH
32. POLYMER TOTE
33. OUTLINE OF REMOVABLE SERVICE PLATFORM
34. POLYMER INJECTION RING AND POLYMER MIXING VALVE
35. 1" POLYMER PIPE PVC
36. 2" POLYMER DILUTION WATER PIPE PVC
37. REPLACE EXISTING 6" DIP SPOOL PIECE AND 6" VALVE WITH 6" X 2" REDUCER AND 2" VALVE
38. 2" CHECK VALVE PVC
39. 18" WIDE X 18" DEEP PIPE TRENCH WITH ALUMINUM GRATING
40. TAP INTO EXISTING 2" REUSE WATER PIPE WITH 1" PVC PIPE TO PROVIDE WATER FOR HOSE BIBS ADJACENT TO THE BELT FILTER PRESSES
41. ROUTE 1" PVC REUSE WATER PIPE SUSPENDE FROM THE CEILING TO EACH HOSE BIB
42. BLIND FLANGE
43. 1 TON MONORAIL HOIST SUPPORT BEAM. SEE STRUC. DWGS
44. PROVIDE AN ALUMINUM RAMP OVER THE POLYMER PIPE. CUSTOM FABRICATE ALUMINUM RAMP AND ADJUST LENGTH AND HEIGHT BASED ON No. OF POLYMER PIPES AND SPACING. USE 316 SS HARDWARE FOR MOUNTING OF ALUMINUM RAMP

FROM EXISTING DISTRIBUTION BOX
EXISTING 2" REUSE WATER PIPE
EXISTING 4" PLUG VALVE (TYP)
EXISTING 8" SLUDGE FEED PIPE
EXISTING 4" CHECK VALVE (TYP)
1'-0" MIN (TYP)
EXISTING FLOW METER (TYP)
EXISTING DRAIN TRENCH
EXISTING CONCRETE COLUMN, TYP
EXISTING STEEL COLUMN, TYP
EXISTING 6" DI RECLAIMED WATER
ELECTRICAL ROOM
STAIRWELL
EXISTING 10" WASH WATER PIPE, SEE SHEET C02 FOR CONTINUATION
FUTURE
TYP
TYP.
46'-2"
28'-9"
16'-6"
17'-8"
17'-2"
7'-0"
5'-0"
4'-0"
2'-5"
2'-0"
7'-4"
3'-6"
2'-6"
1'-3"
2'-9"
1'-0"
5'-0" (TYP)
5'-6 7/8"
1'-7"
6'-6"
8'-0"
5'-7"
7'-7"
12'-0"
2'-3"

A PLAN
SCALE: 1/4=1'0"
FILE: 8290U10-00-M-101A

REV	DATE	BY	DESCRIPTION

100% SUBMITTAL
ISSUE FOR BID

DESIGNED SP
DRAWN JB
CHECKED SP
DATE FEBRAURY 2020

SUBHANVA PARANJAPE LICENSE No 64472 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Subhanva Paranjape
Contact Info: Carollo Engineers, Inc.
Date: 2020.02.04 09:25:41 -05'00'

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CA No. 8571

THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
MECHANICAL
DEWATERING BUILDING PROPOSED LAYOUT (ALFA LAVAL)

VERIFY SCALES
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JOB NO. 8290U.10
DRAWING NO. M01A
SHEET NO.

Plot Date: 03-FEB-2020 2:21:48 PM
User: svcPW
PlotScale: 1:1
DesignScript: Carollo_Std_Pen_v0905.pen
ColorTable: gshade.ctb
Model: Layout1
LAST SAVED BY: John.Buitrago

GENERAL NOTES:

1. PROPOSED FUTURE ELEMENTS ARE DEPICTED WITH HIDDEN LINES.

KEY TAGS:

1	BFP-001	BELT FILTER PRESS NO. 1
2	BFP-002	BELT FILTER PRESS NO. 2
3	BFP-003	BELT FILTER PRESS NO. 3 (FUTURE)
4	BFP-004	BELT FILTER PRESS NO. 4 (FUTURE)
5	H-CON-01	HORIZONTAL SCREW CONVEYOR No. 1
6	H-CON-02	HORIZONTAL SCREW CONVEYOR No. 2 (FUTURE)
7	CMP-01	AIR COMPRESSOR No. 1
8	DRY-01	DRYER UNIT No. 1
9	I-CON-01	INCLINED CONVEYOR No. 1
10	I-CON-02	INCLINED CONVEYOR No. 2 (FUTURE)
11	F-PMP-04	BFP FEED PUMP No. 4 (EXISTING)
12	F-PMP-03	BFP FEED PUMP No. 3 (EXISTING)
13	F-PMP-02	BFP FEED PUMP No. 2 (EXISTING)
14	F-PMP-01	BFP FEED PUMP No. 1 (EXISTING)
15	WW-PMP-01	WASHWATER PUMP No. 1
16	WW-PMP-02	WASHWATER PUMP No. 2
17	PDS-01	POLYMER DILUTION SYSTEM No. 1
18	PDS-02	POLYMER DILUTION SYSTEM No. 2
19	PDS-03	POLYMER DILUTION SYSTEM No. 3 (FUTURE)
20	PDS-04	POLYMER DILUTION SYSTEM No. 4 (FUTURE)

KEY NOTES:

1. 1'-6" HIGH CONTAINMENT WALL
2. ALUMINUM GRATING
3. 4" SLUDGE FEED PIPE DI
4. 6" WASHWATER PIPE DI
5. 3" WASHWATER PIPE PVC
6. HOSE BIB AND HOSE RACK
7. 2" WASHWATER PIPE PVC
8. BFP CONTROL PANEL
9. 6" - 90° BEND DI
10. 6" X 3" TEE DI
11. 6" X 3" REDUCER DI
12. 3" - 90° BEND PVC
13. 3" X 2" REDUCER PVC
14. 2" - 90° BEND PVC
15. FUTURE WASHWATER PUMP CONCRETE PAD
16. ELEVATED PLATFORM. SEE STRUCTURAL DRAWINGS
17. 4" - 90° BEND DI
18. 3" BALL VALVE PVC
19. POLYMER CONTAINMENT PIT. SEE M05 AND STRUCTURAL DRAWINGS
20. 2" POLYMER PIPE
21. 2" WASHWATER FLOWMETER
22. 2" PRESSURE INDICATION TRANSMITTER
23. ROLL-UP DOOR
24. INSTALL 6" PRESSURE SUSTAINING / REDUCING VALVE (SINGER MODEL 106/206-PR-R), OR APPROVED EQUAL. PROVIDE PIPE SUPPORTS AS NECESSARY TO SUPPORT THE WEIGHT OF THE VALVE
25. 10" X 6" REDUCER
26. CONTAINMENT PIT ACCESS STAIRS
27. 2" BALL VALVE
28. 2" MOTORIZED BALL VALVE
29. CONNECT TO EXISTING 4" PLUG VALVE
30. PROVIDE ALUMINUM GRATING
31. DRAIN TRENCH
32. POLYMER TOTE
33. OUTLINE OF REMOVABLE SERVICE PLATFORM
34. POLYMER INJECTION RING AND POLYMER MIXING VALVE
35. 1" POLYMER PIPE PVC
36. 2" POLYMER DILUTION WATER PIPE PVC
37. REPLACE EXISTING 6" DIP SPOOL PIECE AND 6" VALVE WITH 6" X 2" REDUCER AND 2" VALVE
38. 2" CHECK VALVE PVC
39. 18" WIDE X 18" DEEP PIPE TRENCH WITH ALUMINUM GRATING
40. TAP INTO EXISTING 2" REUSE WATER PIPE WITH 1" PVC PIPE TO PROVIDE WATER FOR HOSE BIBS ADJACENT TO THE BELT FILTER PRESSES
41. ROUTE 1" PVC REUSE WATER PIPE SUSPENDE FROM THE CEILING TO EACH HOSE BIB
42. BLIND FLANGE
43. 1 TON MONORAIL HOIST SUPPORT BEAM. SEE STRUC. DWGS
44. PROVIDE AN ALUMINUM RAMP OVER THE POLYMER PIPE. CUSTOM FABRICATE ALUMINUM RAMP AND ADJUST LENGTH AND HEIGHT BASED ON No. OF POLYMER PIPES AND SPACING. USE 316 SS HARDWARE FOR MOUNTING OF ALUMINUM RAMP

FROM EXISTING DISTRIBUTION BOX
EXISTING 2" REUSE WATER PIPE
EXISTING 8" SLUDGE FEED PIPE
EXISTING 4" PLUG VALVE (TYP)
EXISTING 4" CHECK VALVE (TYP)
EXISTING FLOW METER (TYP)
EXISTING DRAIN TRENCH
EXISTING CONCRETE COLUMN, TYP
EXISTING STEEL COLUMN, TYP
EXISTING 6" DI RECLAIMED WATER
EXISTING 10" WASH WATER PIPE, SEE SHEET C02 FOR CONTINUATION
ELECTRICAL ROOM
STAIRWELL
1'-0" MIN (TYP)
46'-2"
16'-6"
28'-9"
17'-8"
16'-6"
6'-6 1/2"
17'-2"
8'-0"
7'-7"
12'-0"
5'-0" (TYP)

A PLAN

SCALE: 1/4=1'0"
FILE: 8290U10-00-M-101A

REV	DATE	BY	DESCRIPTION
			100% SUBMITTAL ISSUE FOR BID

DESIGNED SP
DRAWN JB
CHECKED SP
DATE FEBRAURY 2020

SUDHANVA PARANJAPE LICENSE No 64472 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Contact Info: Carollo Engineers, Inc.
Date: 2020.02.04 09:29:20 -05'00'

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CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
MECHANICAL
DEWATERING BUILDING
PROPOSED LAYOUT (ANDRITZ)

VERIFY SCALES
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JOB NO. 8290U.10
DRAWING NO. M01B
SHEET NO.

PROJECT NO.
FILE NAME: 8290U10-M01B.dgn

GENERAL NOTES:

1. PROPOSED FUTURE ELEMENTS ARE DEPICTED WITH HIDDEN LINES.

KEY TAGS:

1	BFP-001	BELT FILTER PRESS NO. 1
2	BFP-002	BELT FILTER PRESS NO. 2
3	BFP-003	BELT FILTER PRESS NO. 3 (FUTURE)
4	BFP-004	BELT FILTER PRESS NO. 4 (FUTURE)
5	H-CON-01	HORIZONTAL SCREW CONVEYOR No. 1
6	H-CON-02	HORIZONTAL SCREW CONVEYOR No. 2 (FUTURE)
7	CMP-01	AIR COMPRESSOR No. 1
8	DRY-01	DRYER UNIT No. 1
9	I-CON-01	INCLINED CONVEYOR No. 1
10	I-CON-02	INCLINED CONVEYOR No. 2 (FUTURE)
11	F-PMP-04	BFP FEED PUMP No. 4 (EXISTING)
12	F-PMP-03	BFP FEED PUMP No. 3 (EXISTING)
13	F-PMP-02	BFP FEED PUMP No. 2 (EXISTING)
14	F-PMP-01	BFP FEED PUMP No. 1 (EXISTING)
15	WW-PMP-01	WASHWATER PUMP No. 1
16	WW-PMP-02	WASHWATER PUMP No. 2
17	PDS-01	POLYMER DILUTION SYSTEM No. 1
18	PDS-02	POLYMER DILUTION SYSTEM No. 2
19	PDS-03	POLYMER DILUTION SYSTEM No. 3 (FUTURE)
20	PDS-04	POLYMER DILUTION SYSTEM No. 4 (FUTURE)

KEY NOTES:

1. 1'-0" HIGH CONTAINMENT WALL
2. ALUMINUM GRATING
3. 4" SLUDGE FEED PIPE DI
4. 6" WASHWATER PIPE DI
5. 3" WASHWATER PIPE PVC
6. HOSE BIB AND HOSE RACK
7. 2" WASHWATER PIPE PVC
8. BFP CONTROL PANEL
9. 6" - 90° BEND DI
10. 6" X 3" TEE DI
11. 6" X 3" REDUCER DI
12. 3" - 90° BEND PVC
13. 3" X 2" REDUCER PVC
14. 2" - 90° BEND PVC
15. BELT FILTER PRESS HYDRAULIC UNIT
16. FUTURE WASHWATER PUMP CONCRETE PAD
17. 4" - 90° BEND DI
18. 3" BALL VALVE PVC
19. POLYMER CONTAINMENT PIT. SEE M05 AND STRUCTURAL DRAWINGS
20. 2" POLYMER PIPE
21. 2" WASHWATER FLOWMETER
22. 2" PRESSURE INDICATION TRANSMITTER
23. ROLL-UP DOOR
24. INSTALL 6" PRESSURE SUSTAINING / REDUCING VALVE (SINGER MODEL 106/206-PR-R), OR APPROVED EQUAL. PROVIDE PIPE SUPPORTS AS NECESSARY TO SUPPORT THE WEIGHT OF THE VALVE
25. 10" X 6" REDUCER
26. CONTAINMENT PIT ACCESS STAIRS
27. 2" BALL VALVE
28. 2" MOTORIZED BALL VALVE
29. CONNECT TO EXISTING 4" PLUG VALVE
30. PROVIDE ALUMIN GRATING
31. DRAIN TRENCH
32. POLYMER TOTE
33. ROUTE 1" PVC REUSE WATER PIPE SUSPENDED FROM THE CEILING TO EACH HOSE BIB
34. POLYMER INJECTION RING AND POLYMER MIXING VALVE
35. 1" POLYMER PIPE PVC
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40. TAP INTO EXISTING 2" REUSE WATER PIPE WITH 1" PVC PIPE TO PROVIDE WATER FOR HOSE BIBS ADJACENT TO THE BELT FILTER PRESSES
41. BLIND FLANGE
42. 1 TON MONORAIL HOIST SUPPORT BEAM. SEE STRUCTURAL DRAWINGS
43. PROVIDE AN ALUMINUM RAMP OVER THE POLYMER PIPE. CUSTOM FABRICATE ALUMINUM RAMP AND ADJUST LENGTH AND HEIGHT BASED ON No. OF POLYMER PIPES AND SPACING. USE 316 SS HARDWARE FOR MOUNTING OF ALUMINUM RAMP

FROM EXISTING DISTRIBUTION BOX
EXISTING 2" REUSE WATER PIPE
EXISTING 4" PLUG VALVE (TYP)
EXISTING 4" CHECK VALVE (TYP)
EXISTING FLOW METER (TYP)
EXISTING DRAIN TRENCH
EXISTING 6" DI RECLAIMED WATER
EXISTING STEEL COLUMN, TYP
EXISTING CONCRETE COLUMN, TYP
ELECTRICAL ROOM
STAIRWELL
EXISTING 10" WASH WATER PIPE, SEE SHEET C02 FOR CONTINUATION
FUTURE
1'-0" MIN (TYP)
50'- 1/2"
19'-0"
16'-6"
28'-9"
12'-4"
7'-4"
5'-5 1/2"
5'-4"
4'-10"
5'-3"
2'-7"
2'-2 1/2"
5'-6 7/8"
4'-0"
3'-0"
1'-6"
2'-0"

A PLAN
SCALE: 1/4=1'0"
FILE: 8290U10-00-M-101A

100% SUBMITTAL
ISSUE FOR BID

REV	DATE	BY	DESCRIPTION

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DRAWN JB
CHECKED SP
DATE FEBRAURY 2020

SUDHANVA PARANJAPE LICENSE No 64472 STATE OF FLORIDA PROFESSIONAL ENGINEER

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MECHANICAL
DEWATERING BUILDING
PROPOSED LAYOUT (BDP)

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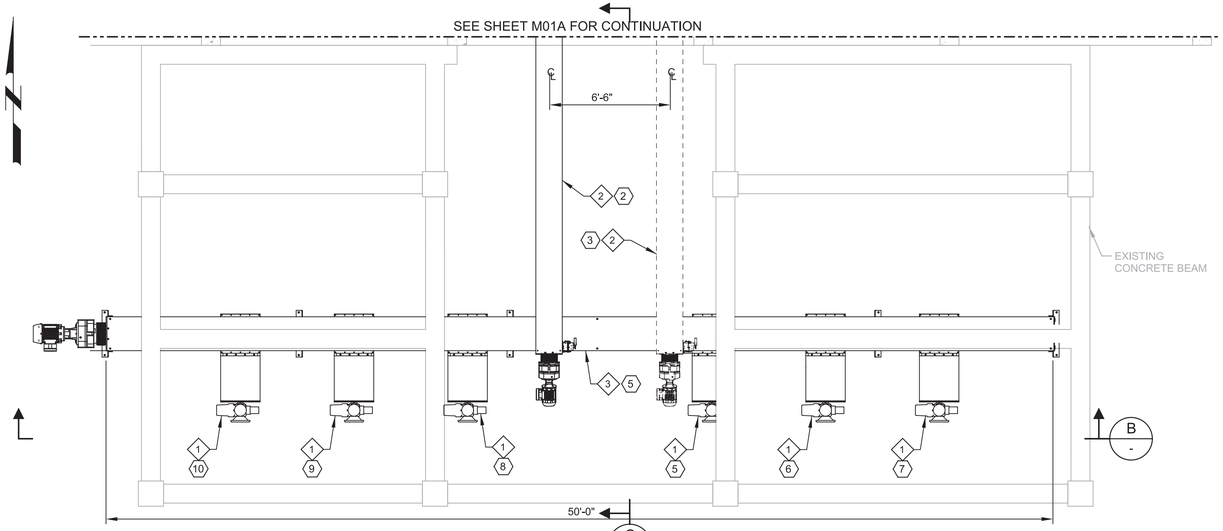
JOB NO. 8290U.10
DRAWING NO. M01C
SHEET NO.

PROJECT NO. 8290U10 FILE NAME: 8290U10-M01C.dgn

SEE SHEET M01A FOR CONTINUATION



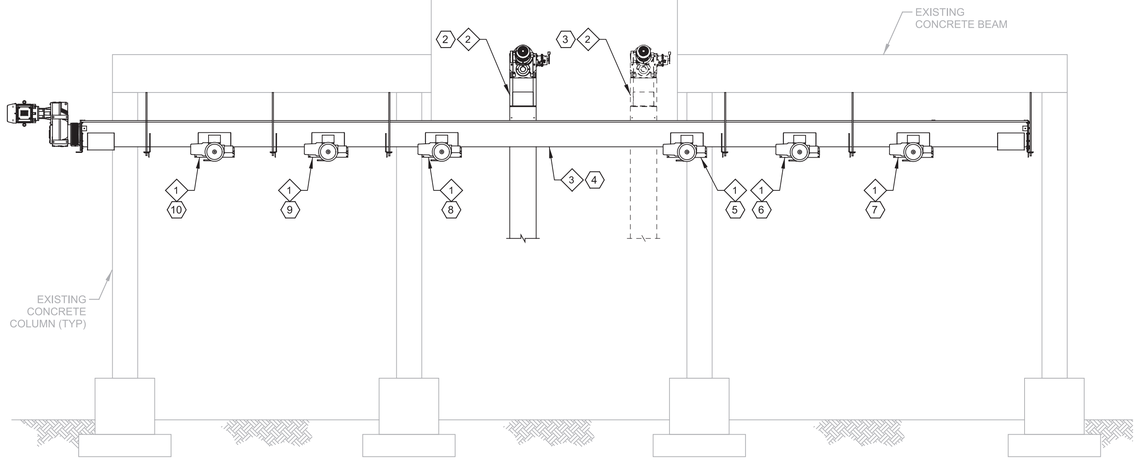
A PLAN
SCALE: 1/4=1'0"
FILE: 8290U10-00-M-101A

KEY NOTES:

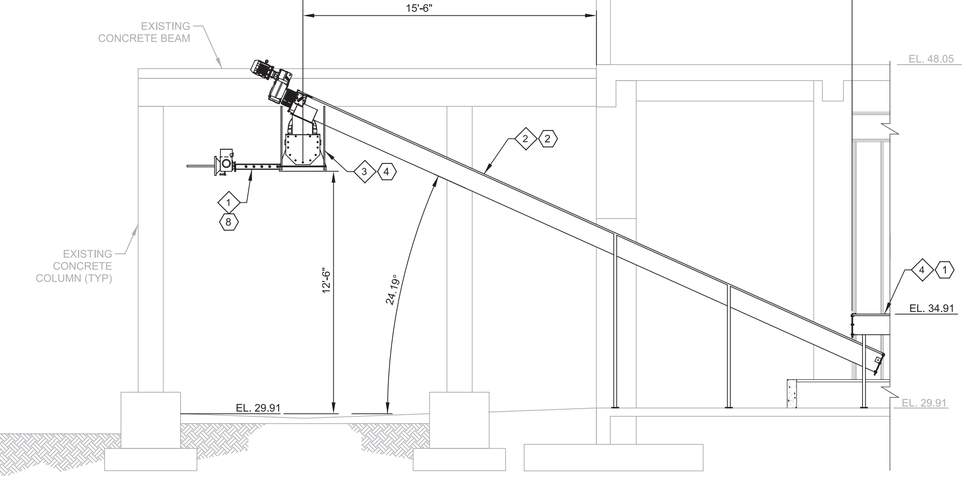
1. SLIDE GATE
2. INCLINED SCREW CONVEYOR
3. TRUCK LOADING CONVEYOR
4. HORIZONTAL SCREW CONVEYOR

KEY TAGS:

1. H-CON-01
2. I-CON-01
3. I-CON-02 (FUTURE)
4. L-CON-01
5. X"xX"-CK-E-SG-001
6. X"xX"-CK-E-SG-002
7. X"xX"-CK-E-SG-003
8. X"xX"-CK-E-SG-004
9. X"xX"-CK-E-SG-005
10. X"xX"-CK-E-SG-006



B SECTION
SCALE: 1/4=1'0"
FILE: 8290U10-00-M-102A



C SECTION
SCALE: 1/4=1'0"
FILE: 8290U10-00-M-102A

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CHECKED SP
DATE FEBRAURY 2020

SUDHANVA PARANJAPE LICENSE No 64472 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Contact: Mgr Central Engineering
Date: 2020.02.04 15:26:42-05'00'

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CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

MECHANICAL

TRUCK LOADING STATION
PROPOSED CONVEYOR (ALFA LAVAL)

VERIFY SCALES
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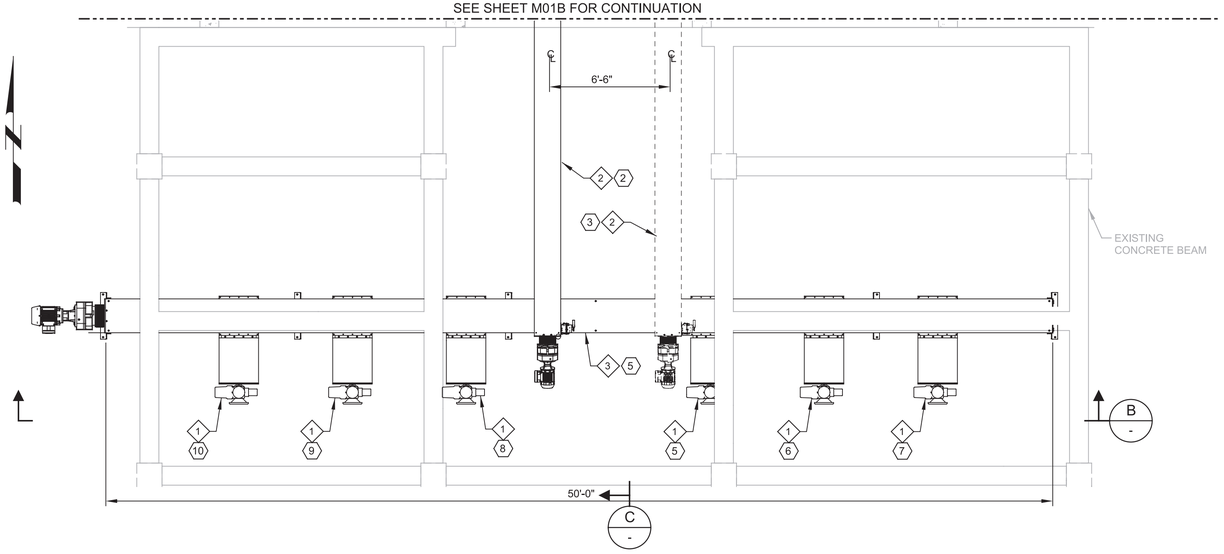
JOB NO. 8290U.10
DRAWING NO. M02A
SHEET NO.

SEE SHEET M01B FOR CONTINUATION



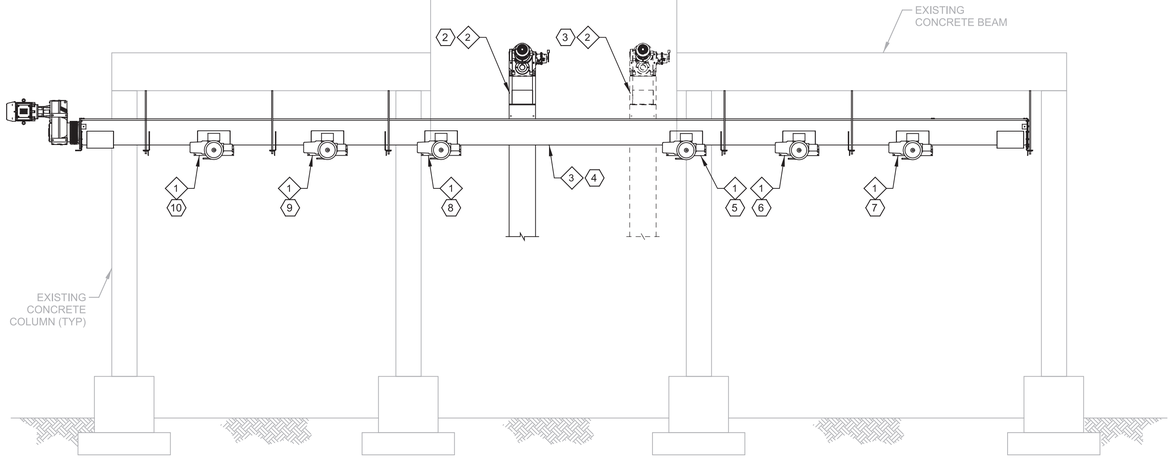
A PLAN
SCALE: 1/4=1'0"
FILE: 8290U10-00-M-101B

KEY NOTES:

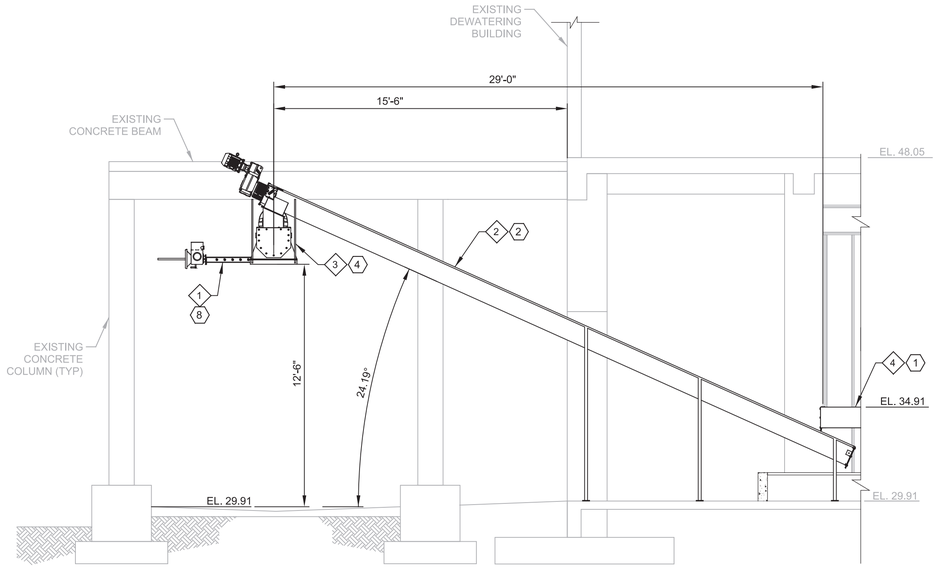
1. SLIDE GATE
2. INCLINED SCREW CONVEYOR
3. TRUCK LOADING CONVEYOR
4. HORIZONTAL SCREW CONVEYOR

KEY TAGS:

1. H-CON-01
2. I-CON-01
3. I-CON-02 (FUTURE)
4. L-CON-01
5. X"xX"-CK-E-SG-001
6. X"xX"-CK-E-SG-002
7. X"xX"-CK-E-SG-003
8. X"xX"-CK-E-SG-004
9. X"xX"-CK-E-SG-005
10. X"xX"-CK-E-SG-006



B SECTION
SCALE: 1/4=1'0"
FILE: 8290U10-00-M-102B



C SECTION
SCALE: 1/4=1'0"
FILE: 8290U10-00-M-102B

100% SUBMITTAL
ISSUE FOR BID

REV	DATE	BY	DESCRIPTION

DESIGNED SP
DRAWN JB
CHECKED SP
DATE FEBRAURY 2020

SUDHANVA PARANJAPE LICENSE No 64472 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Contact Info: Carollo Engineers, PC
Date: 2020.02.04 15:27:42-05'00'

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CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
MECHANICAL
TRUCK LOADING STATION
PROPOSED CONVEYOR (ANDRITZ)

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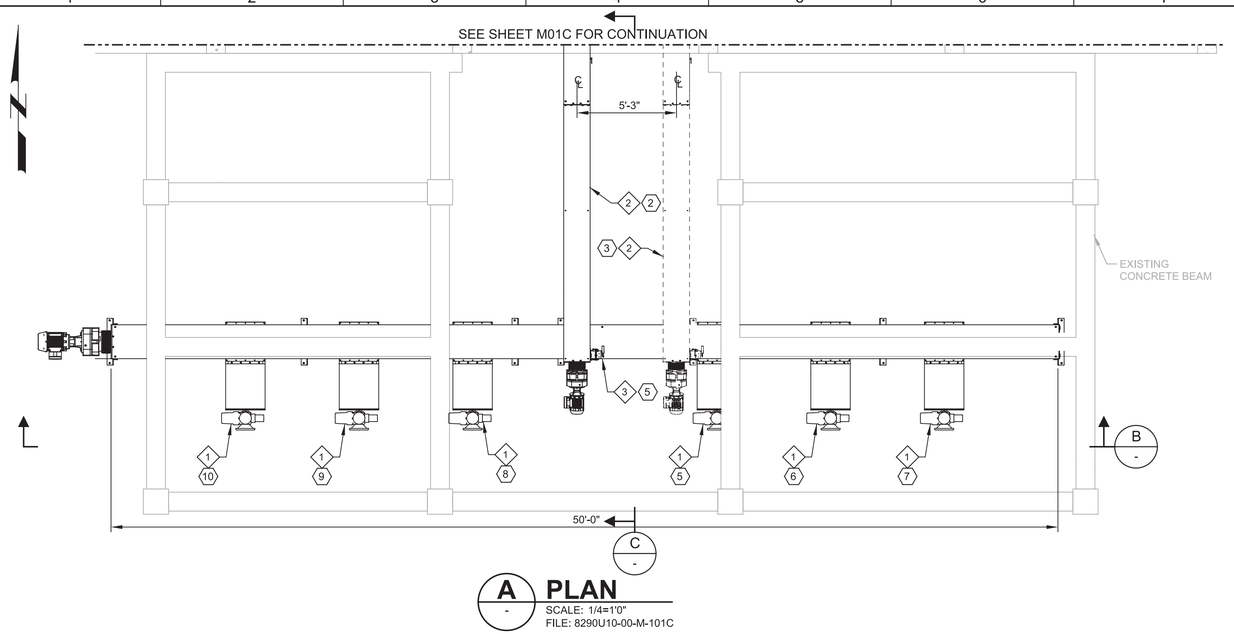
JOB NO. 8290U.10
DRAWING NO. M02B
SHEET NO.



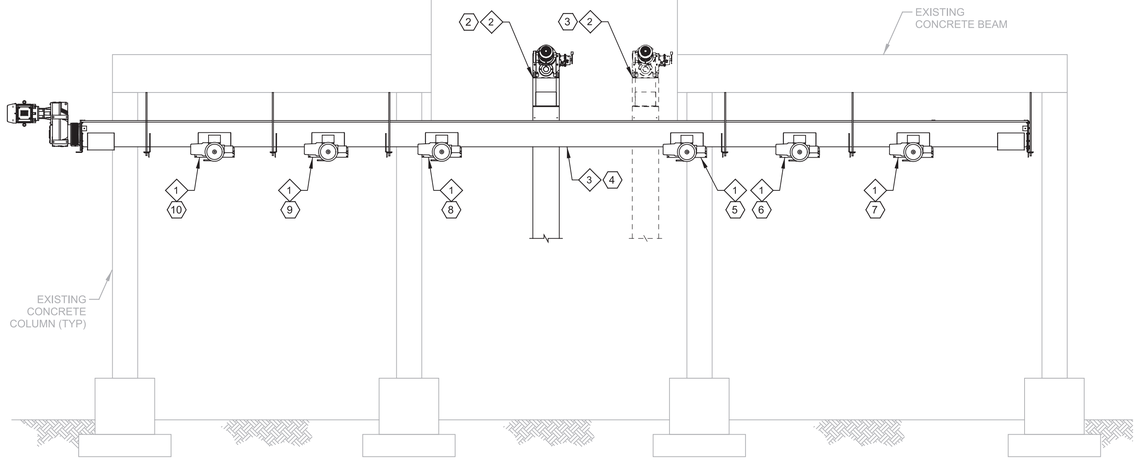
A PLAN
SCALE: 1/4=1'0"
FILE: 8290U10-00-M-101C

KEY NOTES:

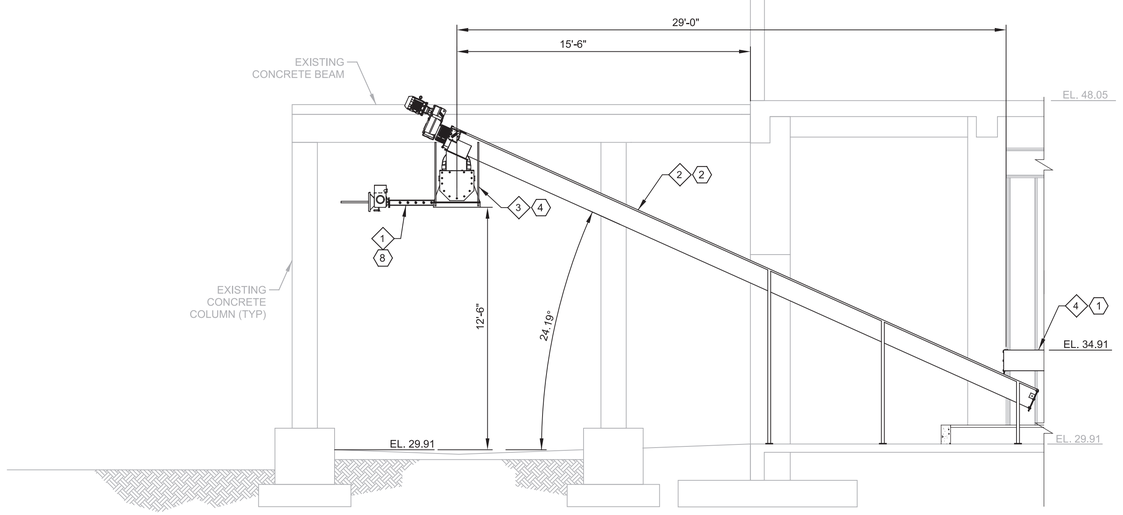
1. SLIDE GATE
2. INCLINED SCREW CONVEYOR
3. TRUCK LOADING CONVEYOR
4. HORIZONTAL SCREW CONVEYOR

KEY TAGS:

1. H-CON-01
2. I-CON-01
3. I-CON-02 (FUTURE)
4. L-CON-01
5. X"xX"-CK-E-SG-001
6. X"xX"-CK-E-SG-002
7. X"xX"-CK-E-SG-003
8. X"xX"-CK-E-SG-004
9. X"xX"-CK-E-SG-005
10. X"xX"-CK-E-SG-006



B SECTION
SCALE: 1/4=1'0"
FILE: 8290U10-00-M-102C



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FILE: 8290U10-00-M-102C

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PROPOSED CONVEYOR (BDP)

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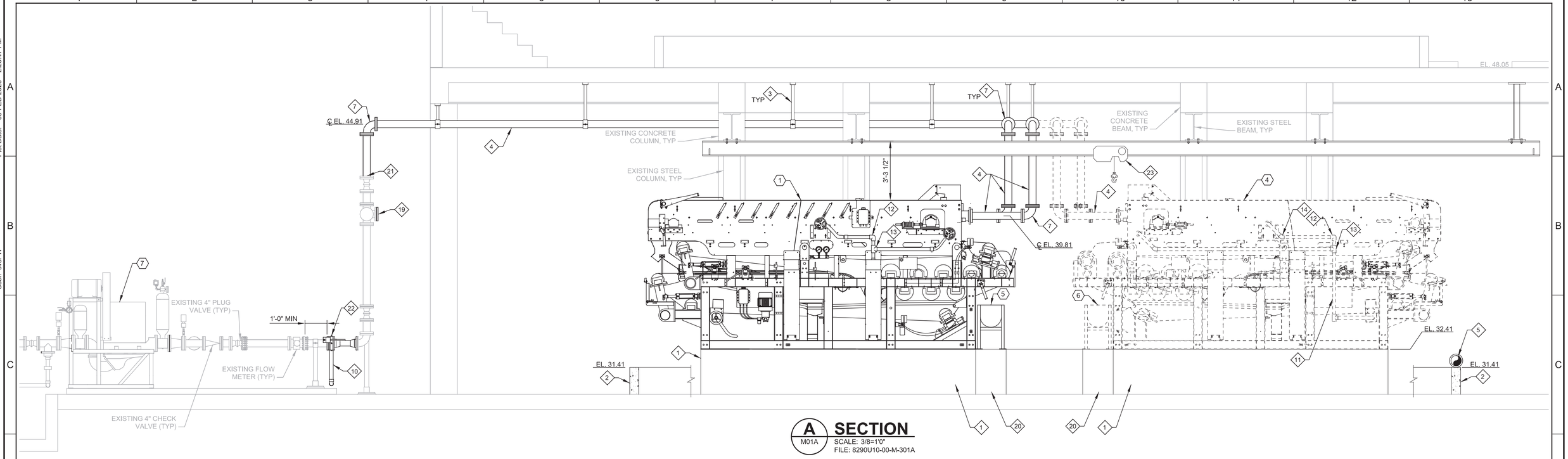
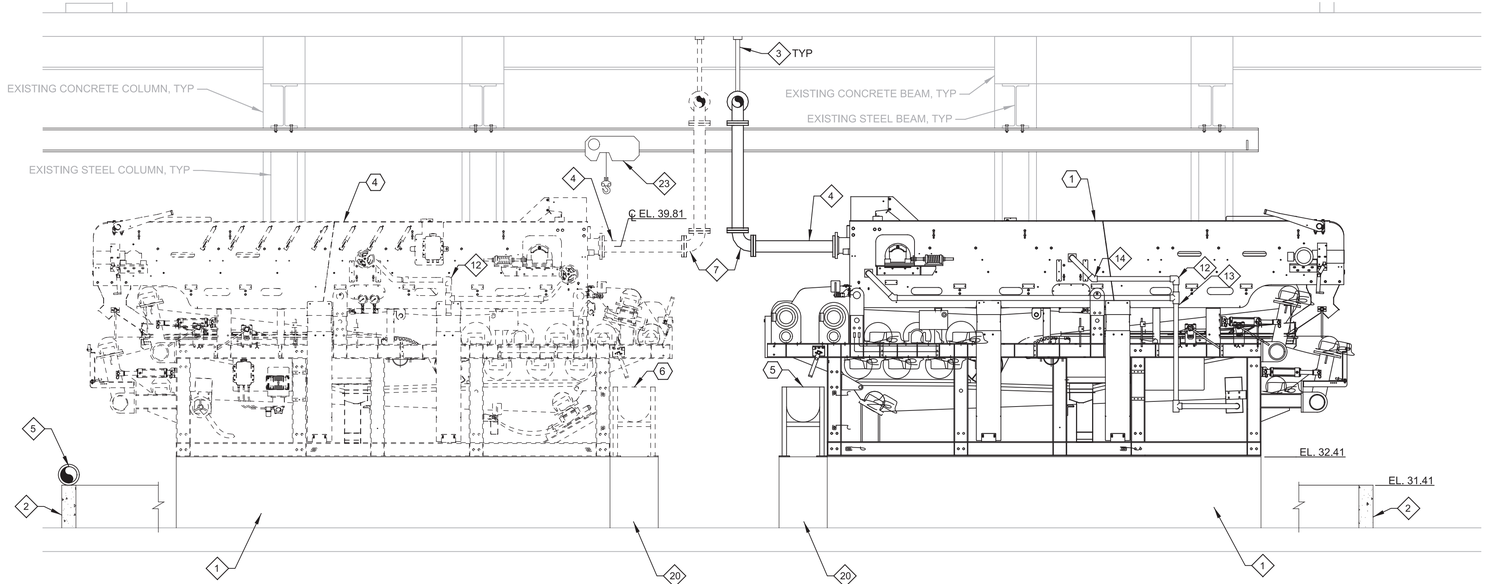
DRAWING NO. M02C
SHEET NO.



A SECTION

M01A

SCALE: 3/8=1'0"
FILE: 8290U10-00-M-301A



B SECTION

M01A

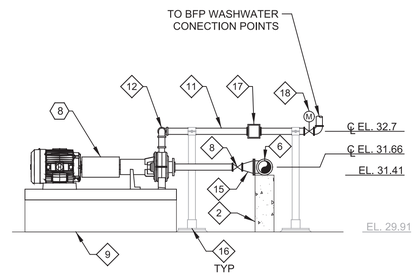
SCALE: 3/8=1'0"
FILE: 8290U10-00-M-301A

GENERAL NOTES:

1. PROPOSED FUTURE ELEMENTS ARE DEPICTED WITH HIDDEN LINES.

KEY TAGS:

1	BFP-001	BELT FILTER PRESS NO. 1
4	BFP-004	BELT FILTER PRESS NO. 4 (FUTURE)
5	H-CON-01	HORIZONTAL SCREW CONVEYOR No. 1
6	H-CON-02	HORIZONTAL SCREW CONVEYOR No. 2 (FUTURE)
7	F-PMP-02	BFP FEED PUMP No. 2 (EXISTING)
8	WW-PMP-01	WASHWATER PUMP No. 1



C SECTION

M01A

SCALE: 1/2=1'0"
FILE: 8290U10-00-M-301A

KEY NOTES:

1. BFP SUPPORT BEAM
2. 1'-6" HIGH CONTAINMENT WALL
3. PIPE SUPPORT FROM CEILING (P630 TYP)
4. 4" SLUDGE FEED PIPE DI
5. 6" WASHWATER PIPE DI
6. 3" WASHWATER PIPE PVC
7. 4" - 90° BEND DI
8. 2" BALL VALVE PVC
9. WASHWATER PUMP SUPPORT PEDESTAL
10. 2" POLYMER PIPE PVC
11. 2" WASHWATER PIPE PVC
12. 2" - 90° BEND PVC
13. 2" TEE PVC
14. 2" - 45° BEND PVC
15. 3" X 2" REDUCER PVC
16. PIPE SUPPORT (P624 TYP)
17. 2" WASHWATER FLOWMETER
18. 2" MOTORIZED WASHWATER CONTROL VALVE
19. BLIND FLANGE
20. CONVEYOR SUPPORT PEDESTAL
21. CONNECT TO EXISTING PLUG VALVE
22. POLYMER INJECTION RING AND POLYMER MIXING VALVE
23. 1 TON MONORAIL HOIST AND TROLLEY. SEE STRUCTURAL DRAWINGS

100% SUBMITTAL
ISSUE FOR BID

REV	DATE	BY	DESCRIPTION

DESIGNED SP
DRAWN JB
CHECKED SP
DATE FEBRAURY 2020

SUDHANVA PARANJAPE LICENSE No 64472 STATE OF FLORIDA PROFESSIONAL ENGINEER

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CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

MECHANICAL

DEWATERING BUILDING
PROPOSED SECTION (ALFA LAVAL)

VERIFY SCALES
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JOB NO. 8290U.10
DRAWING NO. M03A
SHEET NO.

PROJECT NO. 8290U10 FILE NAME: 8290U10-M03A.dgn

Plot Date: 03-FEB-2020 2:20:47 PM
User: svcPW
PlotScale: 1:1
DesignScript: Carollo_Std_Pen_v0905.pen
ColorTable: gshade.ctb
Model: Layout1
LAST SAVED BY: John.Buitrago

Plot Date: 03-FEB-2020 2:20:08 PM User: svcPW Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 1:1 LAST SAVED BY: John.Bultrago

A SECTION M01B
SCALE: 3/8=1'0"
FILE: 8290U10-00-M-301B

GENERAL NOTES:

1. PROPOSED FUTURE ELEMENTS ARE DEPICTED WITH HIDDEN LINES.

KEY TAGS:

1	BFP-001	BELT FILTER PRESS NO. 1
4	BFP-004	BELT FILTER PRESS NO. 4 (FUTURE)
5	H-CON-01	HORIZONTAL SCREW CONVEYOR No. 1
6	H-CON-02	HORIZONTAL SCREW CONVEYOR No. 2 (FUTURE)
7	F-PMP-01	BFP FEED PUMP No. 1 (EXISTING)
8	WW-PMP-01	WASHWATER PUMP No. 1

KEY NOTES:

1. BFP SUPPORT BEAM
2. 1'-6" HIGH CONTAINMENT WALL
3. PIPE SUPPORT FROM CEILING P630 TYP
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5. 6" WASHWATER PIPE DI
6. 3" WASHWATER PIPE PVC
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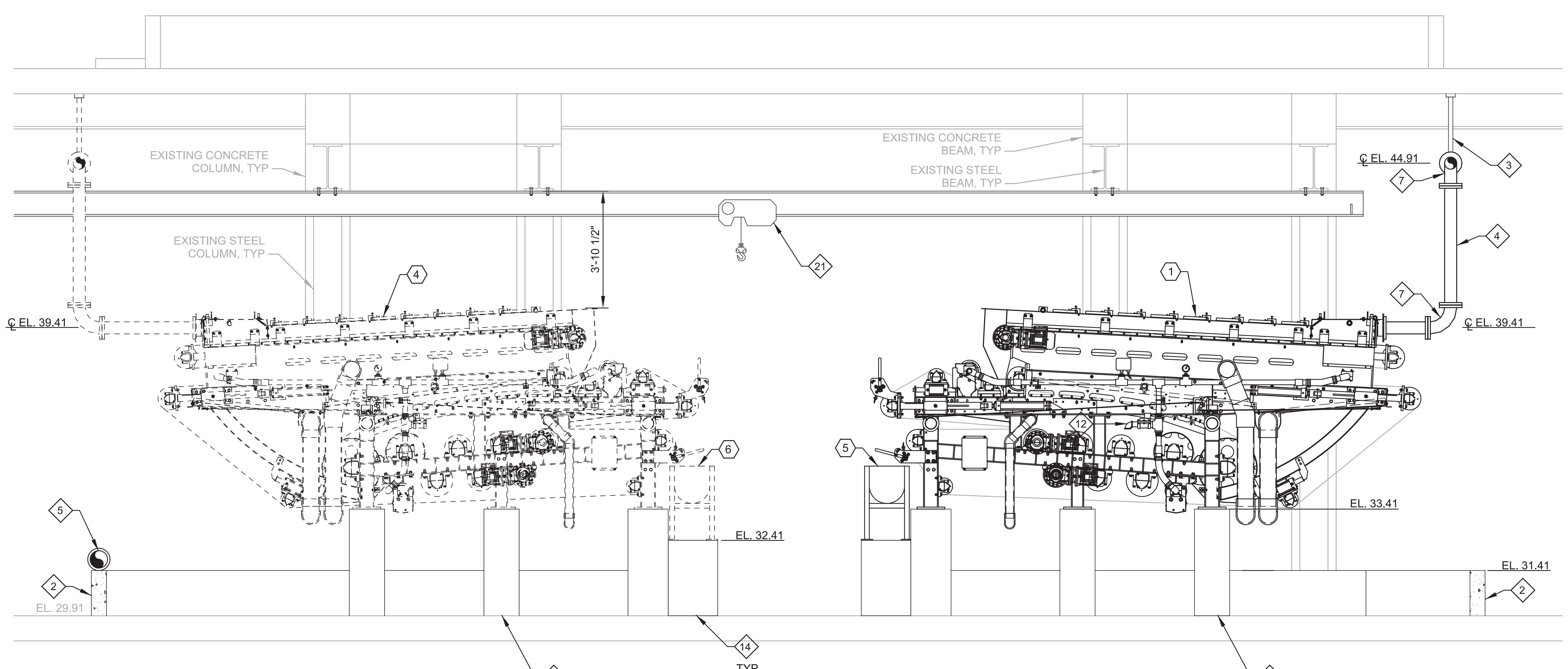
19. CONNECT TO EXISTING PLUG VALVE
20. POLYMER INJECTION RING AND POLYMER MIXING VALVE
21. 1 TON MONORAIL HOIST AND TROLLEY. SEE STRUCTURAL DRAWINGS



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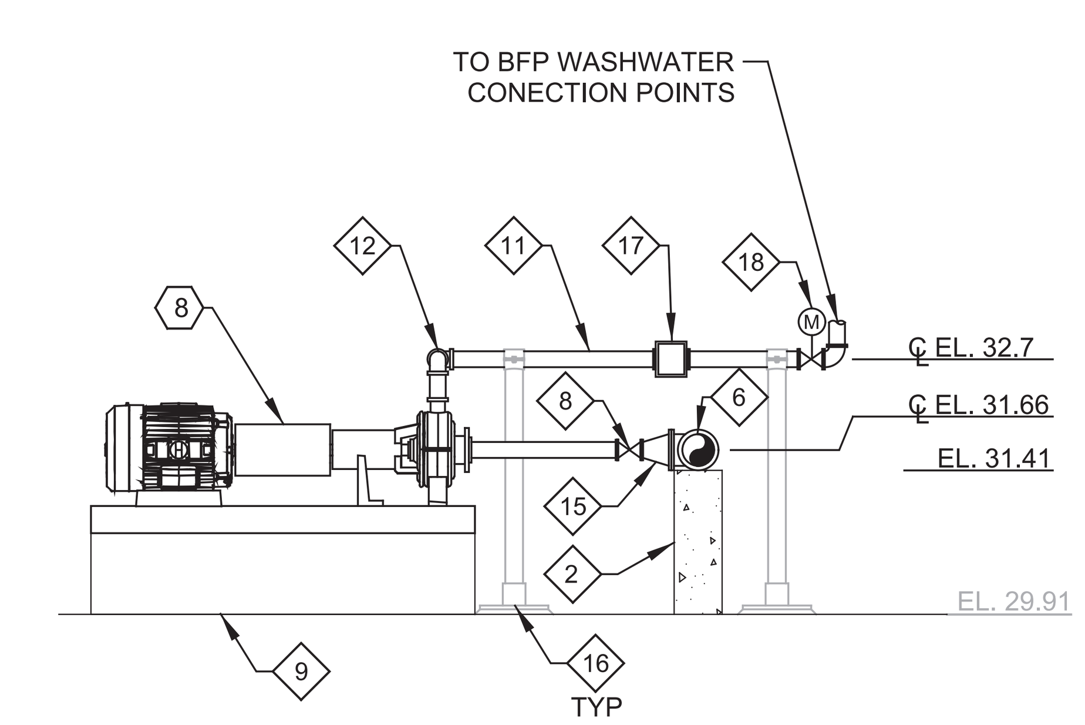
FILE: 8290U10-00-M-301B



C SECTION M01B
SCALE: 1/2=1'0"
FILE: 8290U10-00-M301B

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THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
MECHANICAL
DEWATERING BUILDING
PROPOSED SECTION (ANDRITZ)

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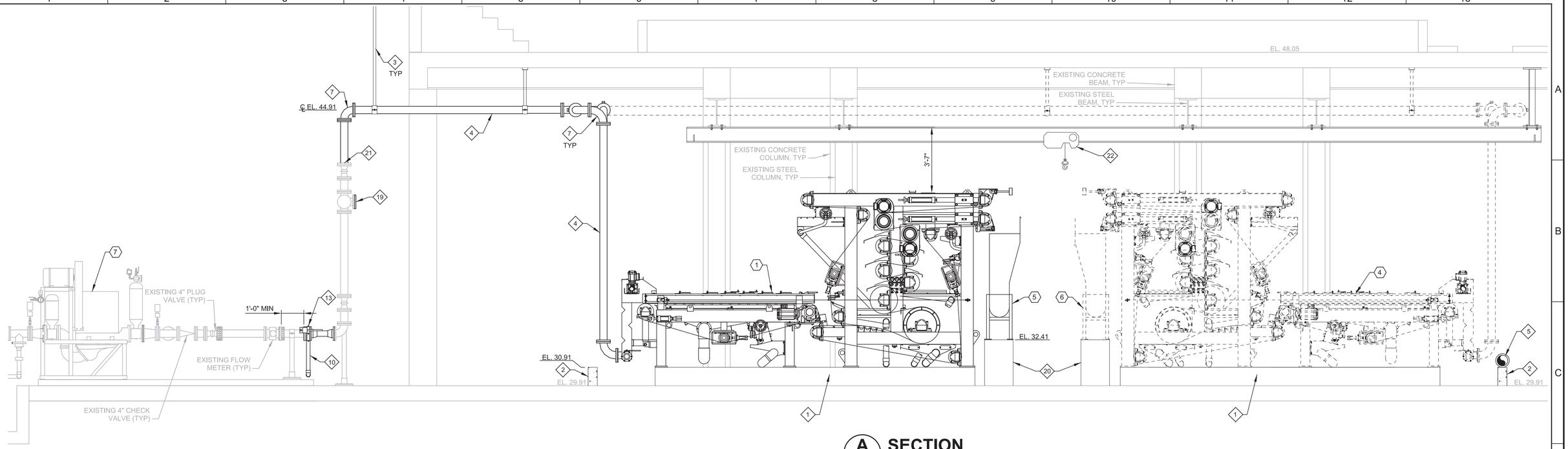
JOB NO.	8290U.10
DRAWING NO.	M03B
SHEET NO.	

PROJECT NO. FILE NAME: 8290U10-M03B.dgn



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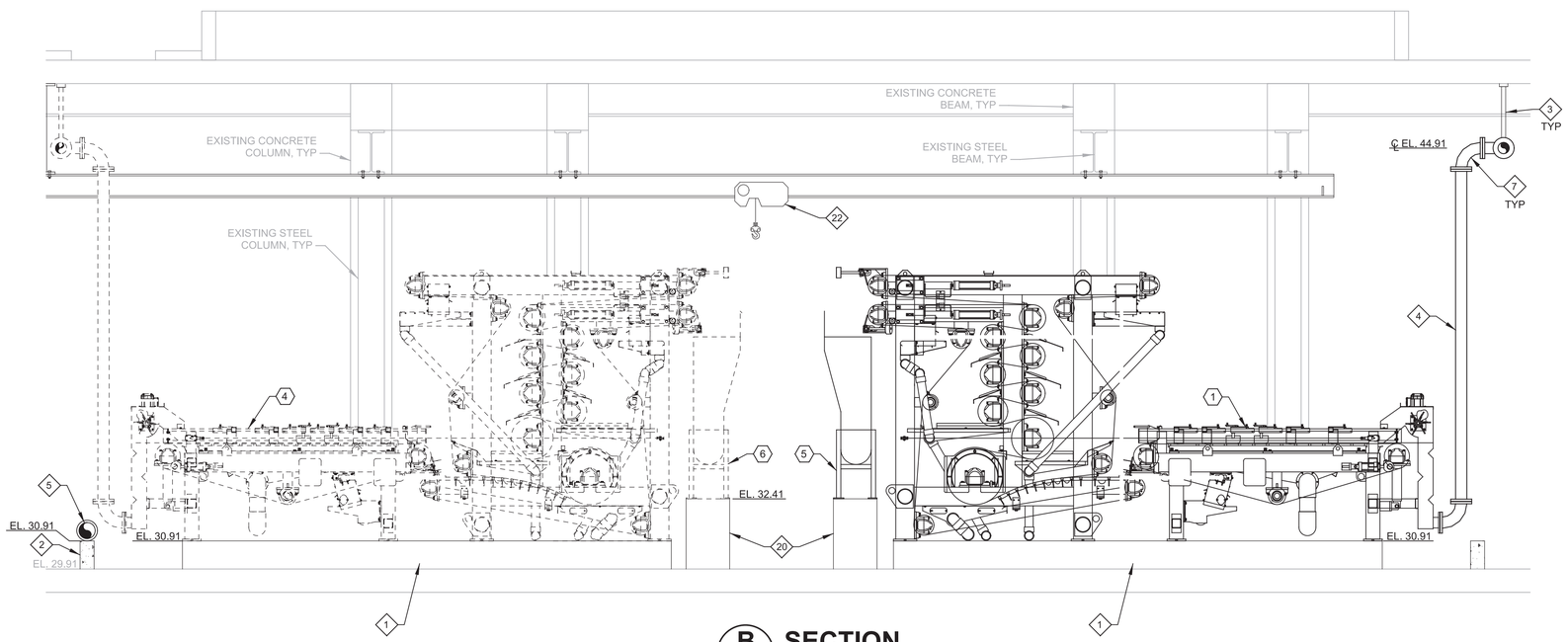
SCALE: 3/8=1'0"
FILE: 8290U10-00-M-301A



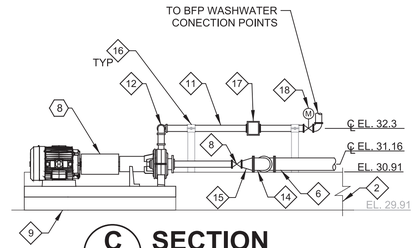
B SECTION (M01C)
SCALE: 3/8=1'0"
FILE: 8290U10-00-M-301A

GENERAL NOTES:

1. PROPOSED FUTURE ELEMENTS ARE DEPICTED WITH HIDDEN LINES.

KEY TAGS:

1	BFP-001	BELT FILTER PRESS NO. 1
4	BFP-004	BELT FILTER PRESS NO. 4 (FUTURE)
5	H-CON-01	HORIZONTAL SCREW CONVEYOR No. 1
6	H-CON-02	HORIZONTAL SCREW CONVEYOR No. 2 (FUTURE)
7	F-PMP-01	BFP FEED PUMP No. 1 (EXISTING)
8	WW-PMP-001	WASHWATER PUMP No. 1



C SECTION (M01C)
SCALE: 1/2=1'0"
FILE: 8290U10-00-M-301A

KEY NOTES:

1. BFP SUPPORT BEAM
2. 1'-6" HIGH CONTAINMENT WALL
3. PIPE SUPPORT FROM CEILING (P630 TYP)
4. 4" SLUDGE FEED PIPE DI
5. 6" WASHWATER PIPE DI
6. 3" WASHWATER PIPE PVC
7. 4" - 90° BEND DI
8. 2" BALL VALVE PVC
9. WASHWATER PUMP SUPPORT PEDESTAL
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11. 2" WASHWATER PIPE PVC
12. 2" - 90° BEND PVC
13. POLYMER INJECTION RING AND POLYMER MIXING VALVE
14. 3" - 90° BEND PVC
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19. BLIND FLANGE
20. CONVEYOR SUPPORT PEDESTAL
21. CONNECT TO EXISTING PLUG VALVE
22. 1 TON MONORAIL HOIST AND TROLLEY. SEE STRUCTURAL DRAWINGS

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SUDHANVA PARANJAPE LICENSE No 64472 STATE OF FLORIDA PROFESSIONAL ENGINEER

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THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
MECHANICAL
DEWATERING BUILDING
PROPOSED SECTION (BDP)

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JOB NO. 8290U.10
DRAWING NO. M03C
SHEET NO.

PROJECT NO. 8290U10 FILE NAME: 8290U10-M03C.dgn

Plot Date: 03-FEB-2020 2:23:36 PM
User: svcPW
PlotScale: 1:1
DesignScript: Carollo_Std_Pen_v0905.pen
ColorTable: gshade.ctb
Model: Layout1
LAST SAVED BY: John.Buitrago

GENERAL NOTES:

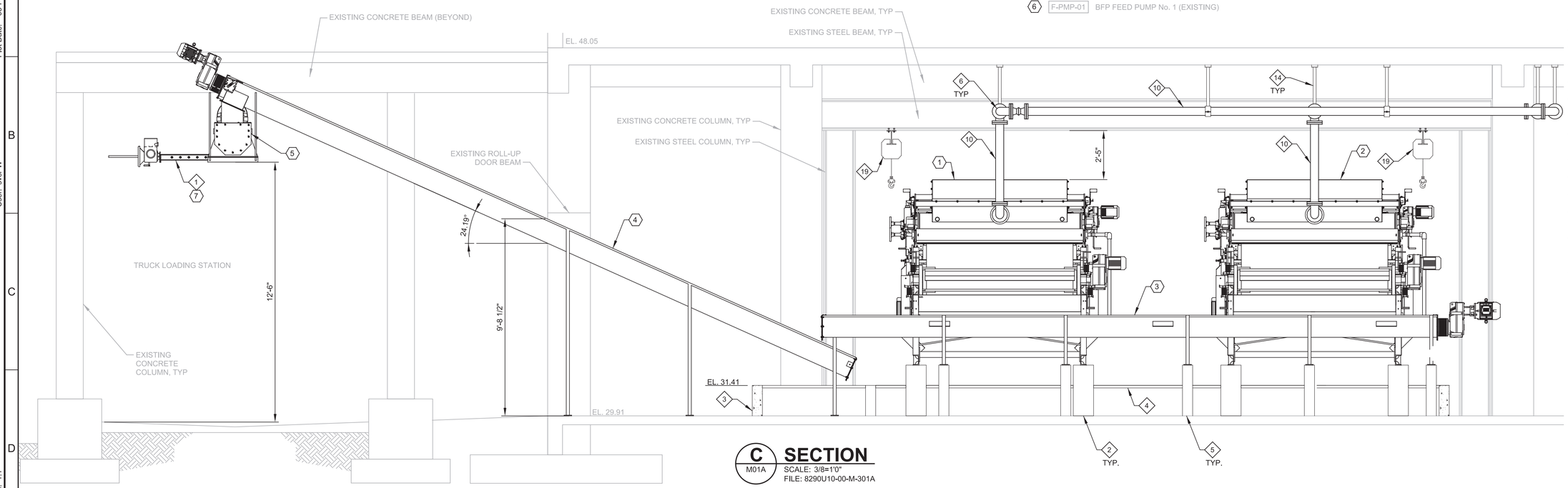
1. PROPOSED FUTURE ELEMENTS ARE DEPICTED WITH HIDDEN LINES.
2. CAP POLYMER PIPE AT INDICATED LOCATION FOR FUTURE POLYMER DILUTION UNITS CONNECTION.

KEY TAGS:

1	BFP-001	BELT FILTER PRESS NO. 1
2	BFP-002	BELT FILTER PRESS NO. 2
3	H-CON-01	HORIZONTAL SCREW CONVEYOR No. 1
4	I-CON-01	INCLINED CONVEYOR No. 1
5	L-CON-01	TRUCK LOADING CONVEYOR
6	F-PMP-01	BFP FEED PUMP No. 1 (EXISTING)
7	X"xX"-CK-E-SG-004	
8	PDS-01	POLYMER DILUTION SYSTEM No. 1
9	PDS-02	POLYMER DILUTION SYSTEM No. 2
10	PDS-03	POLYMER DILUTION SYSTEM No. 3 (FUTURE)
11	PDS-04	POLYMER DILUTION SYSTEM No. 4 (FUTURE)

KEY NOTES:

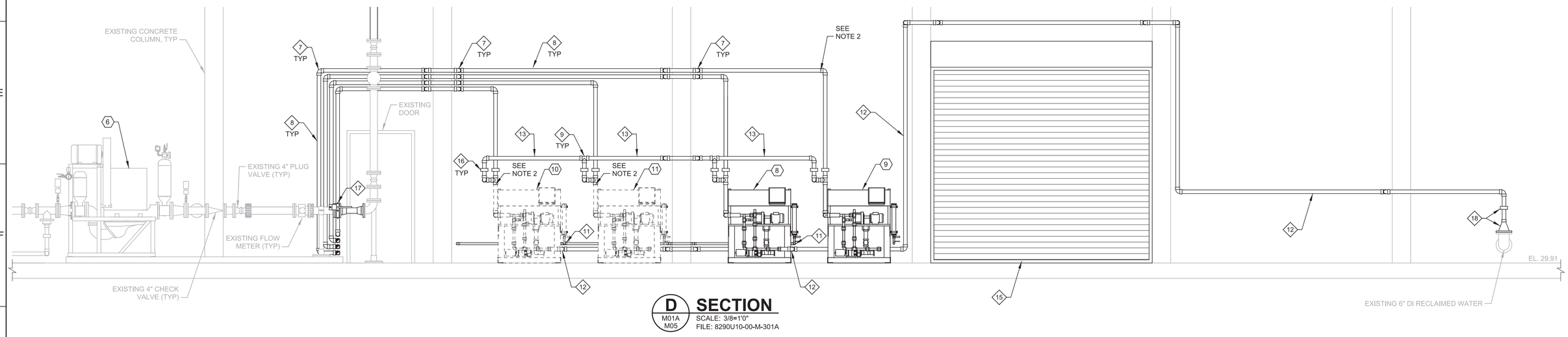
1. SLIDE GATE
2. BFP SUPPORT BEAM
3. 1'-6" CONTAINMENT WALL
4. ALUMINUM GRATING
5. CONVEYOR SUPPORT PEDESTAL
6. 4" - 90° BEND DI
7. 2" - 90° BEND PVC
8. 2" POLYMER PIPE PVC
9. 2" TEE PVC
10. 4" SLUDGE FEED PIPE DI
11. 1" POLMER PIPE PVC
12. 2" POLYMER DILUTION WATER PIPE PVC
13. 2" EMERGENCY POLYMER DILUTION UNIT BYPASS PIPE PVC
14. PIPE SUPPORT P630 TYP
15. ROLL-UP DOOR
16. 2" BALL VALVE
17. POLYMER INJECTION RING AND POLYMER MIXING VALVE
18. REPLACE EXISTING 6" DIP SPOOL PIECE AND 6" VALVE WITH 6" X 2" REDUCER AND 2" VALVE
19. 1 TON MONORAIL HOIST AND TROLLEY. SEE STRUCTURAL DRAWINGS



C SECTION

M01A

SCALE: 3/8=1'0"
FILE: 8290U10-00-M-301A



D SECTION

M01A
M05

SCALE: 3/8=1'0"
FILE: 8290U10-00-M-301A

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CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

MECHANICAL

DEWATERING BUILDING PROPOSED SECTION (ALFA LAVAL)

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JOB NO. 8290U.10
DRAWING NO. M04A
SHEET NO.

GENERAL NOTES:

1. PROPOSED FUTURE ELEMENTS ARE DEPICTED WITH HIDDEN LINES.
2. CAP POLYMER PIPE AT INDICATED LOCATION FOR FUTURE POLYMER DILUTION UNITS CONNECTION.

KEY TAGS:

1	BFP-001	BELT FILTER PRESS NO. 1
2	BFP-002	BELT FILTER PRESS NO. 2
3	H-CON-01	HORIZONTAL SCREW CONVEYOR No. 1
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5	L-CON-01	TRUCK LOADING CONVEYOR
6	F-PMP-01	BFP FEED PUMP No. 1 (EXISTING)
7	X"xX"-CK-E-SG-004	
8	PDS-01	POLYMER DILUTION SYSTEM No. 1
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KEY NOTES:

1. SLIDE GATE
2. BFP SUPPORT BEAM
3. 1'-6" CONTAINMENT WALL
4. ALUMINUM GRATING
5. CONVEYOR SUPPORT PEDESTAL
6. ROLL-UP DOOR
7. 2" - 90° BEND PVC
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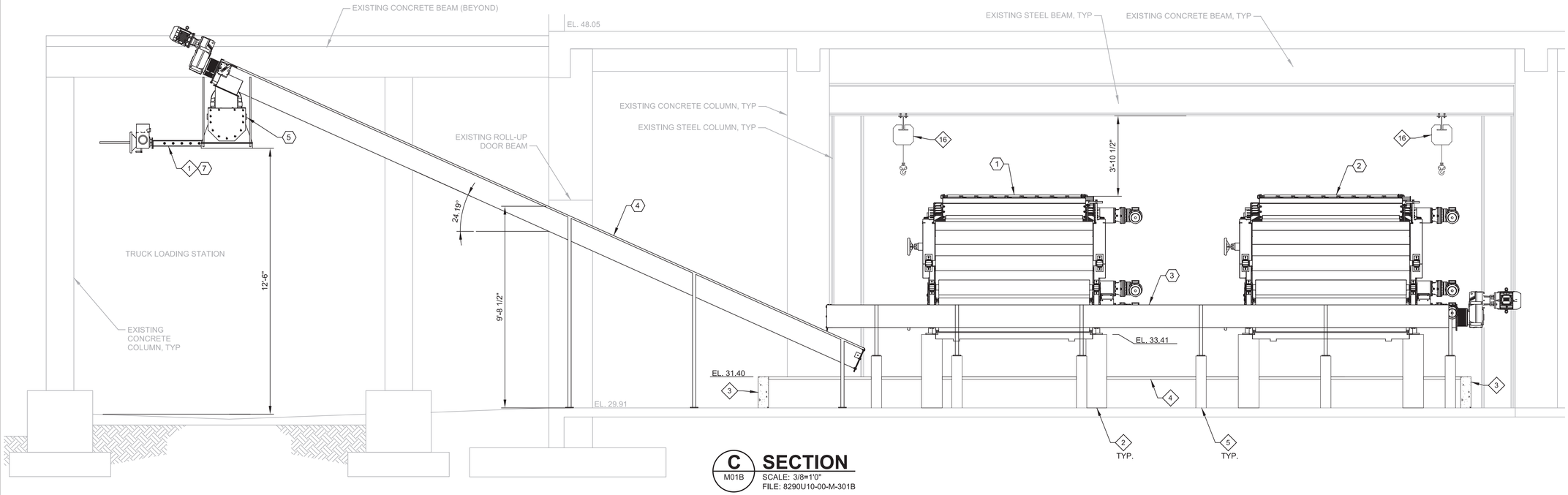
16. 1 TON MONORAIL HOIST AND TROLLEY. SEE STRUCTURAL DRAWINGS



C SECTION

M01B

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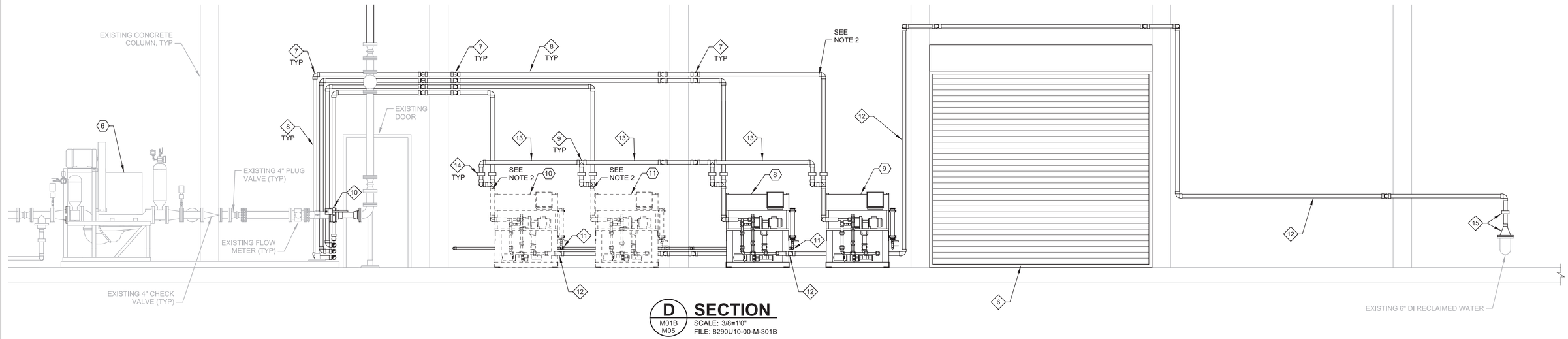
FILE: 8290U10-00-M-301B



D SECTION

M01B
M05

SCALE: 3/8=1'0"
FILE: 8290U10-00-M-301B

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CHECKED SP
DATE FEBRAURY 2020

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CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

MECHANICAL

DEWATERING BUILDING PROPOSED SECTION (ANDRITZ)

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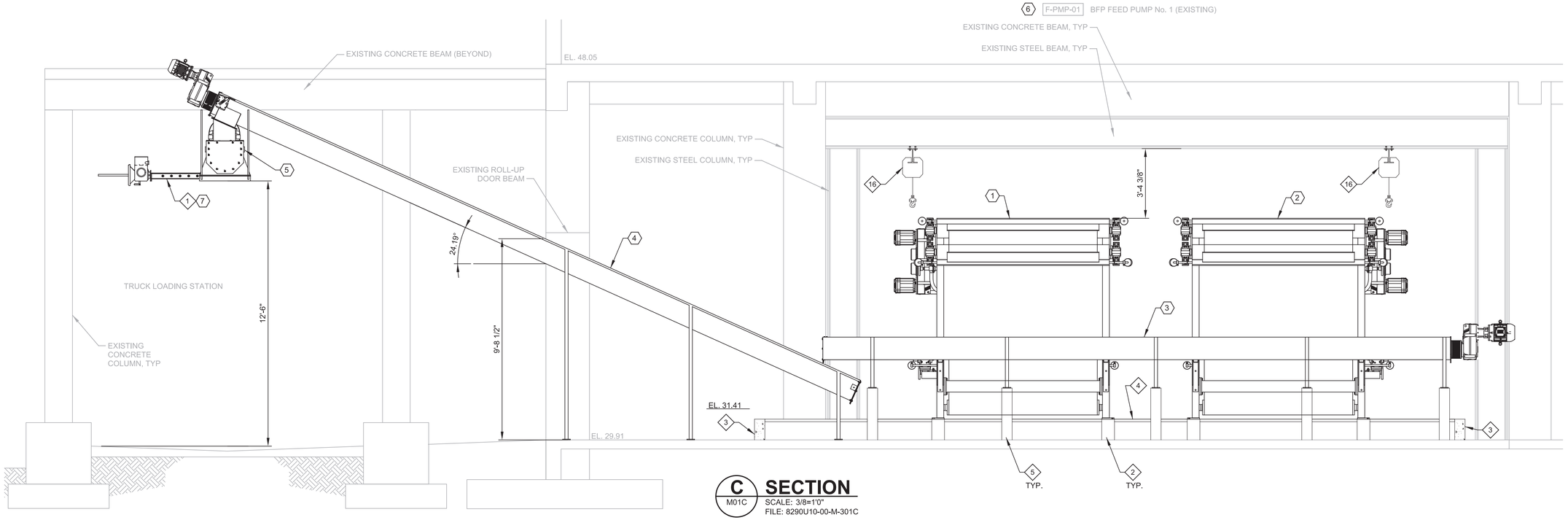

C SECTION

M01C

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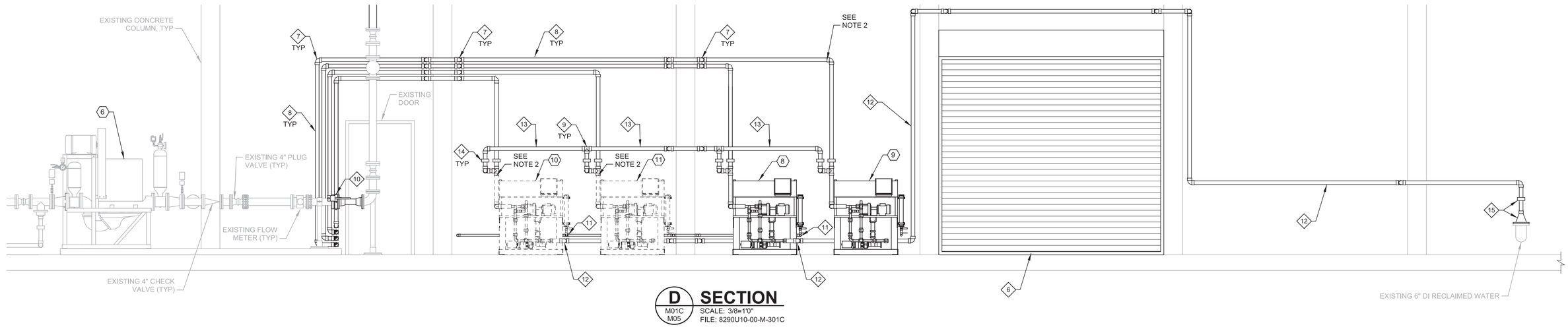

D SECTION

M01C
M05

SCALE: 3/8=1'0"
FILE: 8290U10-00-M-301C

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SUDHANVA PARANJAPE LICENSE No 64472 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Date: 2020.02.04 09:20:50-05'00'

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THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

MECHANICAL

DEWATERING BUILDING PROPOSED SECTION (BDP)

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JOB NO. 8290U.10
DRAWING NO. M04C
SHEET NO.

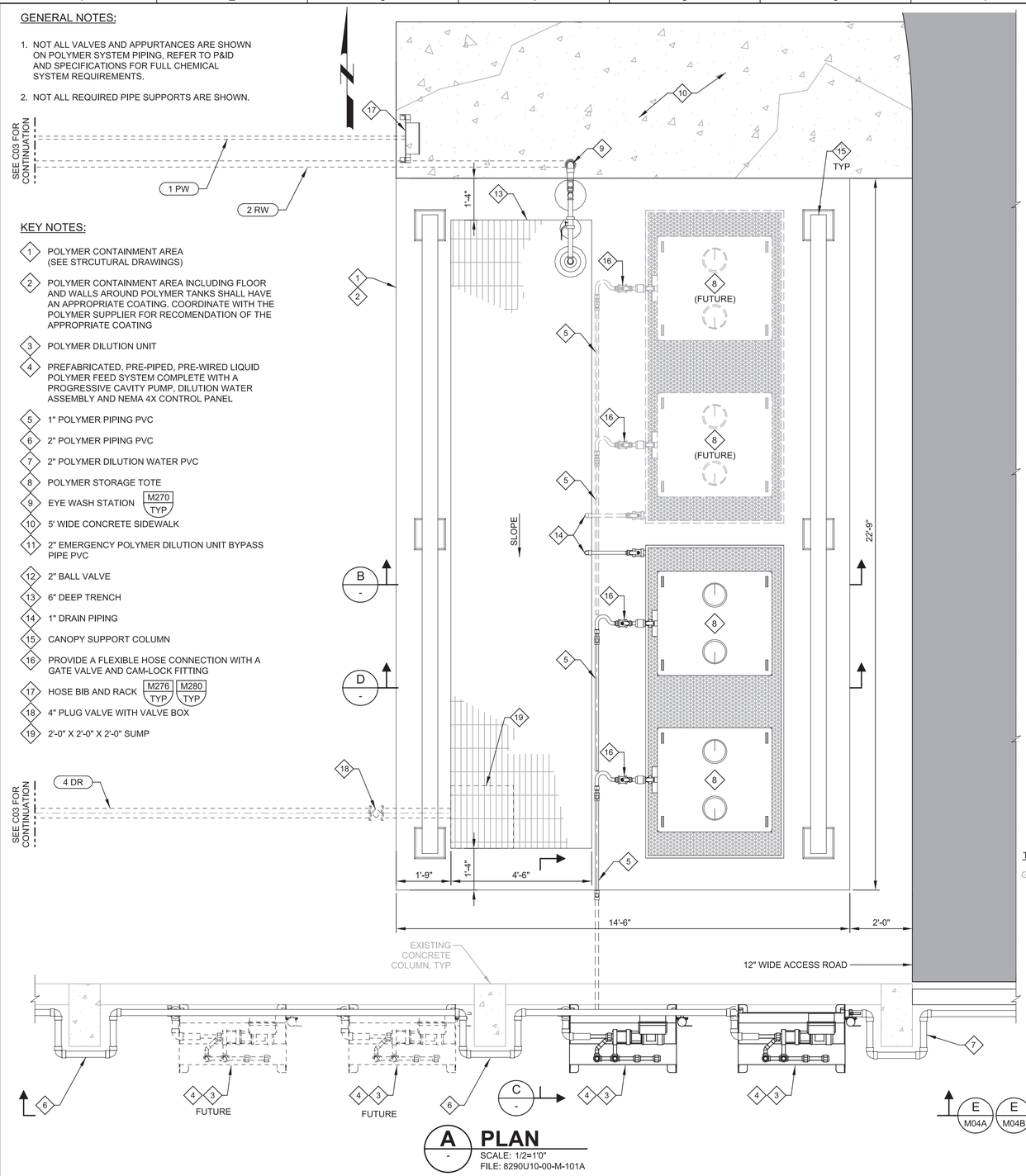
Plot Date: 03-FEB-2020 2:20:41 PM
User: svcPW
PlotScale: 1:1
DesignScript: Carollo_Std_Pen_v0905.pen
ColorTable: gshade.ctb
Model: Layout1
LAST SAVED BY: John.Buitrago
PROJECT NO. 8290U10
FILE NAME: 8290U10-M04C.dgn

GENERAL NOTES:

1. NOT ALL VALVES AND APPURTANCES ARE SHOWN ON POLYMER SYSTEM PIPING, REFER TO P&ID AND SPECIFICATIONS FOR FULL CHEMICAL SYSTEM REQUIREMENTS.
2. NOT ALL REQUIRED PIPE SUPPORTS ARE SHOWN.

KEY NOTES:

1. POLYMER CONTAINMENT AREA (SEE STRCUTURAL DRAWINGS)
2. POLYMER CONTAINMENT AREA INCLUDING FLOOR AND WALLS AROUND POLYMER TANKS SHALL HAVE AN APPROPRIATE COATING. COORDINATE WITH THE POLYMER SUPPLIER FOR RECOMENDATION OF THE APPROPRIATE COATING
3. POLYMER DILUTION UNIT
4. PREFABRICATED, PRE-PIPED, PRE-WIRED LIQUID POLYMER FEED SYSTEM COMPLETE WITH A PROGRESSIVE CAVITY PUMP, DILUTION WATER ASSEMBLY AND NEMA 4X CONTROL PANEL
5. 1" POLYMER PIPING PVC
6. 2" POLYMER PIPING PVC
7. 2" POLYMER DILUTION WATER PVC
8. POLYMER STORAGE TOTE
9. EYE WASH STATION (M270 TYP)
10. 5' WIDE CONCRETE SIDEWALK
11. 2" EMERGENCY POLYMER DILUTION UNIT BYPASS PIPE PVC
12. 2" BALL VALVE
13. 6" DEEP TRENCH
14. 1" DRAIN PIPING
15. CANOPY SUPPORT COLUMN
16. PROVIDE A FLEXIBLE HOSE CONNECTION WITH A GATE VALVE AND CAM-LOCK FITTING
17. HOSE BIB AND RACK (M276 TYP) (M280 TYP)
18. 4" PLUG VALVE WITH VALVE BOX
19. 2'-0" X 2'-0" X 2'-0" SUMP



A PLAN
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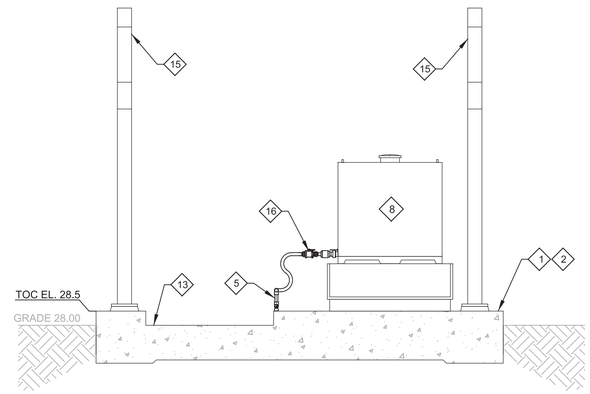

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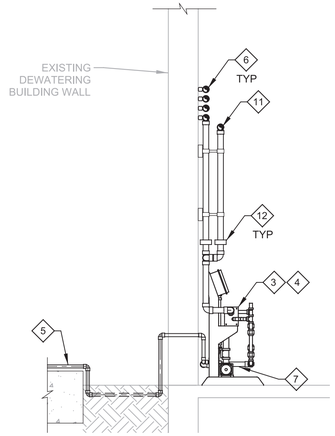

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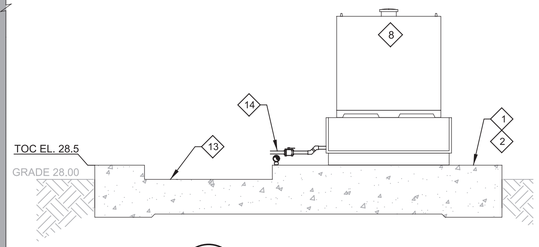

D SECTION
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FILE: 8290U10-00-M-301A

E POLYMER TOTE CONNECTION SAMPLE
SCALE: NTS
FILE: -

REV	DATE	BY	DESCRIPTION
			100% SUBMITTAL ISSUE FOR BID

DESIGNED SP
DRAWN JB
CHECKED SP
DATE FEBRAURY 2020

SUDHANVA PARANJAPE LICENSE No 64472 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Sudhanva Paranjape
Contact Info: Carollo Engineers, PC
Date: 2020.02.03 14:24:30-05'00'

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CA No. 8571

THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
MECHANICAL
POLYMER SYSTEM PLAN AND SECTION

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 8290U.10
DRAWING NO. M05
SHEET NO.

WESTSIDE REGIONAL WRF VALVE AND GATE SCHEDULE

TAG NAME	SIZE (IN)	MATERIAL / TYPE	VALVE ENDS	CLASS (SEE NOTE 2)	OPERATOR (SEE NOTE 9)	LOCATION	REFERENCE DRAWINGS	DESCRIPTION
4"-BFP-M-PV-002	4	DIP	F	150	M,L	BFP FEED PUMP STATION		BFP FEED PUMP NO. 5 SUCTION ISOLATION VALVE
4"-BFP-M-PV-003	4	DIP	F	150	M,L	BFP FEED PUMP STATION		BFP FEED PUMP NO. 1 SUCTION ISOLATION VALVE
4"-BFP-M-PV-004	4	DIP	F	150	M,L	BFP FEED PUMP STATION		BFP FEED PUMP NO. 4 SUCTION ISOLATION VALVE
4"-BFP-M-PV-005	4	DIP	F	150	M,L	BFP FEED PUMP STATION		BFP FEED PUMP NO. 2 SUCTION ISOLATION VALVE
4"-BFP-M-PV-006	4	DIP	F	150	M,L	BFP FEED PUMP STATION		BFP FEED PUMP NO. 3 SUCTION ISOLATION VALVE
4"-BFP-M-PV-007	4	DIP	F	150	M,L	BFP FEED PUMP STATION		BFP FEED PUMP NO. 5 DISCHARGE ISOLATION VALVE
4"-BFP-M-PV-008	4	DIP	F	150	M,L	BFP FEED PUMP STATION		BFP FEED PUMP NO. 1 DISCHARGE ISOLATION VALVE
4"-BFP-M-PV-009	4	DIP	F	150	M,L	BFP FEED PUMP STATION		BFP FEED PUMP NO. 4 DISCHARGE ISOLATION VALVE
4"-BFP-M-PV-010	4	DIP	F	150	M,L	BFP FEED PUMP STATION		BFP FEED PUMP NO. 2 DISCHARGE ISOLATION VALVE
4"-BFP-M-PV-011	4	DIP	F	150	M,L	BFP FEED PUMP STATION		BFP FEED PUMP NO. 3 DISCHARGE ISOLATION VALVE
4"-BFP-M-PV-012	4	DIP	F	150	M,L	BFP FEED PUMP STATION		BFP FEED PUMP NO. 5 FLOW METER ISOLATION VALVE
4"-BFP-M-PV-013	4	DIP	F	150	M,L	BFP FEED PUMP STATION		BFP FEED PUMP NO. 1 FLOW METER ISOLATION VALVE
4"-BFP-M-PV-014	4	DIP	F	150	M,L	BFP FEED PUMP STATION		BFP FEED PUMP NO. 4 FLOW METER ISOLATION VALVE
4"-BFP-M-PV-015	4	DIP	F	150	M,L	BFP FEED PUMP STATION		BFP FEED PUMP NO. 2 FLOW METER ISOLATION VALVE
4"-BFP-M-PV-016	4	DIP	F	150	M,L	BFP FEED PUMP STATION		BFP FEED PUMP NO. 3 FLOW METER ISOLATION VALVE
4"-BFP-M-CV-001	4	DIP	F	150		BFP FEED PUMP STATION		BFP FEED PUMP NO. 3 DISCHARGE CHECK VALVE
4"-BFP-M-CV-002	4	DIP	F	150		BFP FEED PUMP STATION		BFP FEED PUMP NO. 2 DISCHARGE CHECK VALVE
4"-BFP-M-CV-003	4	DIP	F	150		BFP FEED PUMP STATION		BFP FEED PUMP NO. 4 DISCHARGE CHECK VALVE
4"-BFP-M-CV-004	4	DIP	F	150		BFP FEED PUMP STATION		BFP FEED PUMP NO. 1 DISCHARGE CHECK VALVE
4"-BFP-M-CV-005	4	DIP	F	150		BFP FEED PUMP STATION		BFP FEED PUMP NO. 5 DISCHARGE CHECK VALVE
4"-BFP-M-PV-020	4	DIP	F	150	M,L	BFP NO. 1		BFP NO. 1 FEED SLUDGE SUPPLY VALVE
4"-BFP-M-PV-021	4	DIP	F	150	M,L	BFP NO. 4		BFP NO. 4 FEED SLUDGE SUPPLY VALVE
4"-BFP-M-PV-022	4	DIP	F	150	M,L	BFP NO. 2		BFP NO. 2 FEED SLUDGE SUPPLY VALVE
4"-BFP-M-PV-023	4	DIP	F	150	M,L	BFP NO. 3		BFP NO. 3 FEED SLUDGE SUPPLY VALVE
4"-BFP-M-PV-024	4	DIP	F	150	M,L	BFP FEED PUMP STATION		BFP FEED PUMP NO. 3 DISCHARGE BYPASS VALVE
4"-BFP-M-PV-025	4	DIP	F	150	M,L	BFP FEED PUMP STATION		BFP FEED PUMP NO. 2 DISCHARGE BYPASS VALVE
4"-BFP-M-PV-026	4	DIP	F	150	M,L	BFP FEED PUMP STATION		BFP FEED PUMP NO. 4 DISCHARGE BYPASS VALVE
4"-BFP-M-PV-027	4	DIP	F	150	M,L	BFP FEED PUMP STATION		BFP FEED PUMP NO. 1 DISCHARGE BYPASS VALVE
2"-WW-E-V-001	2	316 SS	F	150	E, O/C	BFP NO. 1		BFP NO. 1 MOTORIZED WASHWATER SUPPLY VALVE
2"-WW-E-V-002	2	316 SS	F	150	E, O/C	BFP NO. 2		BFP NO. 2 MOTORIZED WASHWATER SUPPLY VALVE
2"-WW-E-V-003	2	316 SS	F	150	E, O/C	BFP NO. 3		BFP NO. 3 MOTORIZED WASHWATER SUPPLY VALVE
2"-WW-E-V-004	2	316 SS	F	150	E, O/C	BFP NO. 4		BFP NO. 4 MOTORIZED WASHWATER SUPPLY VALVE
X"xX"-CK-E-SG-001	NOTE 10	316 SS	F	150	E, O/C	TRUCK LOADING SCREW CONVEYOR		MOTORIZED LOADING CONVEYOR SLIDE GATE NO. 1
X"xX"-CK-E-SG-002	NOTE 10	316 SS	F	150	E, O/C	TRUCK LOADING SCREW CONVEYOR		MOTORIZED LOADING CONVEYOR SLIDE GATE NO. 2
X"xX"-CK-E-SG-003	NOTE 10	316 SS	F	150	E, O/C	TRUCK LOADING SCREW CONVEYOR		MOTORIZED LOADING CONVEYOR SLIDE GATE NO. 3
X"xX"-CK-E-SG-004	NOTE 10	316 SS	F	150	E, O/C	TRUCK LOADING SCREW CONVEYOR		MOTORIZED LOADING CONVEYOR SLIDE GATE NO. 4
X"xX"-CK-E-SG-005	NOTE 10	316 SS	F	150	E, O/C	TRUCK LOADING SCREW CONVEYOR		MOTORIZED LOADING CONVEYOR SLIDE GATE NO. 5
X"xX"-CK-E-SG-006	NOTE 10	316 SS	F	150	E, O/C	TRUCK LOADING SCREW CONVEYOR		MOTORIZED LOADING CONVEYOR SLIDE GATE NO. 6

NOTES:
1. UNLESS OTHERWISE NOTED, ALL VALVES TO BE PROVIDED BY GENERAL CONTRACTOR
2. VALVE BODY CLASSIFICATION ONLY. OPERATOR SIZE TO BE DETERMINED BY CONTRACTOR/EQUIPMENT SUPPLIER, PER THE SPECIFICATIONS.
3. ELECTRONIC FEEDBACK, AS PRESENTED IN THE INSTRUMENTATION DRAWINGS.
4. ENDS: F = FLANGED; L = LUG; NPT = NPT, S = SOCKET/SOLDER WELD, MJ= MECHANICAL JOINT
5. MATERIAL: DIP = DUCTILE IRON; PVC = POLYVINYL CHLORIDE; SST = STAINLESS STEEL
6. OPERATOR: P = PNEUMATIC; E = ELECTRIC ACTUATOR; M=MANUAL; O/C = OPEN/CLOSE; MO = MODULATING; HW = HANDWHEEL OPERATOR; L = LEVER; S = SOLENOID
7. FOR NON-ACTUATED VALVES, REFER TO THE DRAWINGS AND SPECIFICATIONS FOR SIZE AND VALVE TYPE
8. VALVE HANDWHEEL SHALL THE LARGEST AVAILABLE AND PRACTICAL POSSIBLE FOR EACH VALVE SIZE SPECIFIED.
9. PV - PLUG VALVE, SG - SLIDE GATE, BV - BALL VALVE, CV - CHECK VALVE, BFV - BUTTERFLY VALVE
10. SIZING OF LOADING CONVEYOR SLIDE GATES WILL BE PER LOADING CONVEYOR MANUFACTURER.

MISCELLANEOUS EQUIPMENT SCHEDULE

TAG NUMBER	DESCRIPTION	CAPACITY	MIN DRIVER SIZE (HP)	REMARKS
BFP-001	BELT FILTER PRESS 1	200 - 425 GPM	5.5 (NOTE 2)	3-BELT, 2.2 METERS BFP
BFP-002	BELT FILTER PRESS 2	200 - 425 GPM	5.5 (NOTE 2)	3-BELT, 2.2 METERS BFP
BFP-003	BELT FILTER PRESS 3 (FUTURE)	200 - 425 GPM	5.5 (NOTE 2)	3-BELT, 2.2 METERS BFP
BFP-004	BELT FILTER PRESS 4 (FUTURE)	200 - 425 GPM	5.5 (NOTE 2)	3-BELT, 2.2 METERS BFP
PDS-01	POLYMER DILUTION SYSTEM NO. 1	1.2 - 5.3 GPH		SKID-MOUNTED POLYMER SYSTEM
PDS-02	POLYMER DILUTION SYSTEM NO. 2	1.2 - 5.3 GPH		SKID-MOUNTED POLYMER SYSTEM
PDS-03	POLYMER DILUTION SYSTEM NO. 3 (FUTURE)	1.2 - 5.3 GPH		SKID-MOUNTED POLYMER SYSTEM
PDS-04	POLYMER DILUTION SYSTEM NO. 4 (FUTURE)	1.2 - 5.3 GPH		SKID-MOUNTED POLYMER SYSTEM
H-CON-01	HORIZONTAL SCREW CONVEYOR 1	290 CU. FT/HR	7.5	SHAFTLESS SCREW CONVEYOR
H-CON-02	HORIZONTAL SCREW CONVEYOR 2 (FUTURE)	290 CU. FT/HR	7.5	SHAFTLESS SCREW CONVEYOR
I-CON-01	INCLINED SCREW CONVEYOR 1	290 CU. FT/HR	5	SHAFTLESS SCREW CONVEYOR
I-CON-02	INCLINED SCREW CONVEYOR 2 (FUTURE)	290 CU. FT/HR	5	SHAFTLESS SCREW CONVEYOR
L-CON-01	LOADING SCREW CONVEYOR 1	435 CU. FT/HR	10	SHAFTLESS SCREW CONVEYOR, 6 GATE/8 OPENING
ACU-001	DEWATERING ELECTRICAL ROOM AC UNIT 1	30,000 BTU/HR	-	WALL-MOUNTED AC SYSTEM
ACU-002	DEWATERING ELECTRICAL ROOM AC UNIT 2	30,000 BTU/HR	-	WALL-MOUNTED AC SYSTEM

NOTES:
1. UNLESS OTHERWISE NOTED, ALL EQUIPMENT TO BE PROVIDED BY GENERAL CONTRACTOR
2. MINIMUM DRIVER HORSEPOWER INCLUDES ALL GRAVITY DRIVES, PRESSURE SECTION DRIVES, HYDRAULIC UNIT DRIVES, AND ANY OTHER LOAD REQUIRED TO OPERATE A SINGLE BELT FILTER PRESS.

PUMP SCHEDULE

TAG NUMBER	DESCRIPTION	TYPE	MIN DRIVER SIZE (HP)	DRIVER TYPE (CS/VFD)	FLOW (GPM)	DESIGN TDH (FT)
F-PMP-01	FEED SLUDGE PUMP 1 (BFP #1)	DOUBLE DISK PUMP (EXISTING)	15	VFD	300	140
F-PMP-02	FEED SLUDGE PUMP 2 (BFP #2)	DOUBLE DISK PUMP (EXISTING)	15	VFD	300	140
F-PMP-03	FEED SLUDGE PUMP 3 (BFP #3)	DOUBLE DISK PUMP (EXISTING)	15	VFD	300	140
F-PMP-04	FEED SLUDGE PUMP 4 (BFP #4)	DOUBLE DISK PUMP (EXISTING)	15	VFD	300	140
F-PMP-05	FEED SLUDGE PUMP 5 (STANDBY)	DOUBLE DISK PUMP (FUTURE)	15	VFD	300	140
WW-PMP-01	WASHWATER BOOSTER PUMP 1	CENTRIFUGAL	20	CS	120	224
WW-PMP-02	WASHWATER BOOSTER PUMP 2	CENTRIFUGAL	20	CS	120	224
WW-PMP-03	WASHWATER BOOSTER PUMP 3	CENTRIFUGAL	20	CS	120	224
WW-PMP-04	WASHWATER BOOSTER PUMP 4	CENTRIFUGAL	20	CS	120	224

NOTES:
1. UNLESS OTHERWISE NOTED, ALL PUMPS TO BE PROVIDED BY GENERAL CONTRACTOR
3. DRIVER TYPE: CS = CONSTANT SPEED; VFD = VARIABLE FREQUENCY DRIVE

100% SUBMITTAL
ISSUE FOR BID

REV	DATE	BY	DESCRIPTION

DESIGNED SP
DRAWN JB
CHECKED SP
DATE FEBRAURY 2020

SUDHANVA PARANJAPE LICENSE No 64472 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Sudhanva Paranjape
Contact: Mgr Control Engineering
Date: 2020.02.04 15:26:45-05'00'

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CA No. 8571

THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
MECHANICAL
VALVE AND EQUIPMENT SCHEDULE

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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DRAWING NO. M06
SHEET NO.

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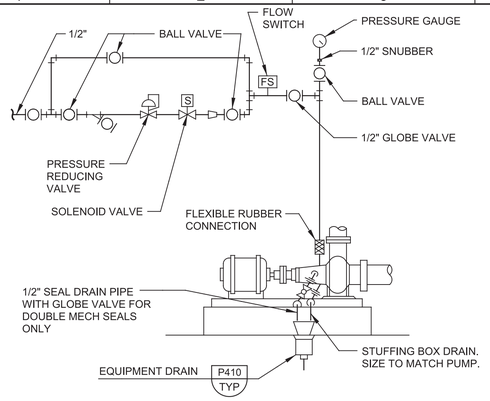
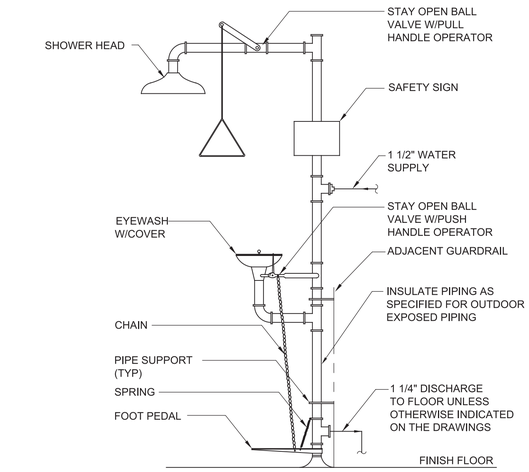


NOTES:

1. THIS INSTALLATION IS TO BE USED AT ALL PUMPS WITH WATER SEAL/FLUSH.
2. FLOW METER CAPACITY AND PIPING SYSTEM SHALL MEET PUMP AND SEAL MANUFACTURERS REQUIREMENTS.
3. UNLESS SPECIFIED OTHERWISE, ALL PIPING SHALL BE GSP.
4. WALL MOUNT EQUIPMENT IF NEAREST WALL IS WITHIN TEN FEET OF PUMP. IF PUMP IS NOT WITHIN 10 FEET OF WALL, MOUNT ON ALUMINUM STAND. SEE EM202 TYP FOR ALUMINUM STAND MOUNTING DETAIL.
5. WHERE A DRIP PAN IS SPECIFIED AND/OR PROVIDED ON THE PUMP BASE, A SEPARATE DRAIN LINE TO THE EQUIPMENT DRAIN SHALL BE PROVIDED.
6. WHEN AN INDICATING FLOW SWITCH IS USED, DELETE THE VARIABLE AREA FLOW METER.

M262 TYP — WATER SEAL PIPING

M — 04/20/15

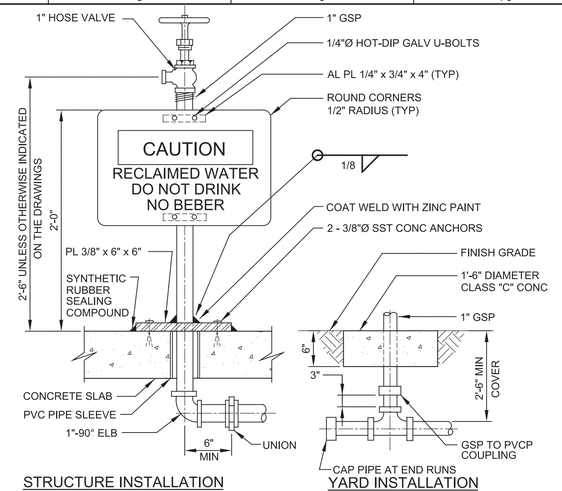


NOTE:

EYE WASH SHALL COME WITH A FLOW SWITCH AND ALARM LIGHT.

M270 TYP — EMERGENCY SHOWER & EYEWASH

N — 04/18/16



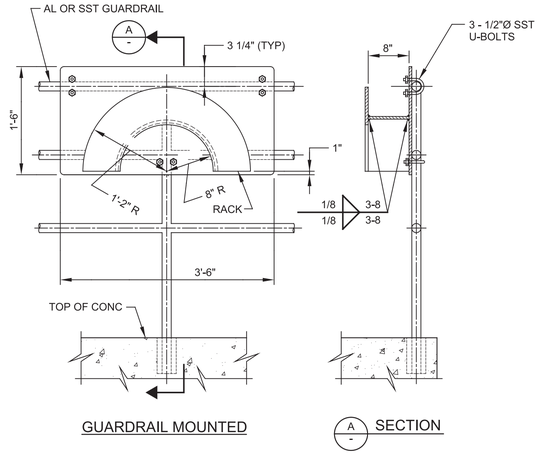
STRUCTURE INSTALLATION — YARD INSTALLATION

NOTES:

1. SIGN SHALL BE 3/8" THICK PLASTIC RESISTANT TO SUNLIGHT (ULTRAVIOLET) DETERIORATION.
2. SIGN SHALL BE 7" x 10" AND SHALL CONFORM TO THE SPECIFICATIONS.
3. SIGN AS SHOWN IS ROTATED 90° OFF TRUE POSITION. SIGN SHALL BE MOUNTED TO PERMIT EASY READING.
4. INSTALL HOSE RACK M280 TYP AT EACH HOSE VALVE.

M276 TYP — 1" HOSE VALVE AND SIGN

NS — 08/01/05

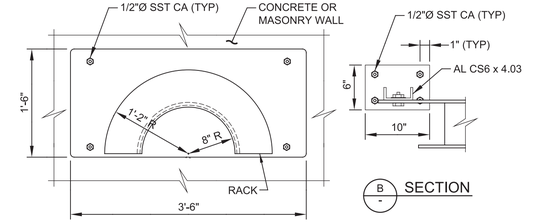


NOTES:

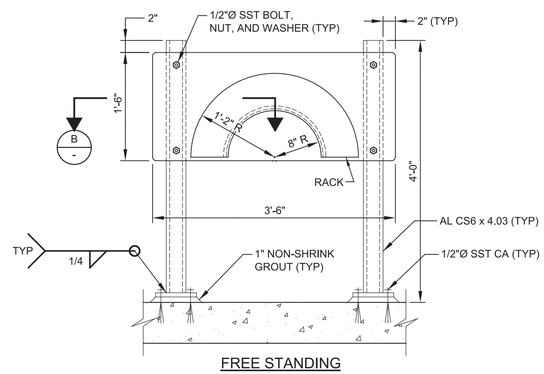
1. HOSE RACK SHALL BE FABRICATED FROM 3/16" ALUMINUM PLATE. ROUND ALL EDGES SMOOTH.
2. HOSE RACKS INSTALLED IN YARD LOCATIONS SHALL BE FREESTANDING. EMBED IN A 4'-6" LONG x 2'-0" WIDE x 8" DEEP CONCRETE PAD WITH #5@12" EW CENTERED.
3. WALL MOUNTED HOSE RACKS ON MASONRY WALL SHALL BE FASTEN TO GROUTED CELLS.

M280 TYP — HOSE RACK

S — SHEET 1 OF 2 — 09/30/07



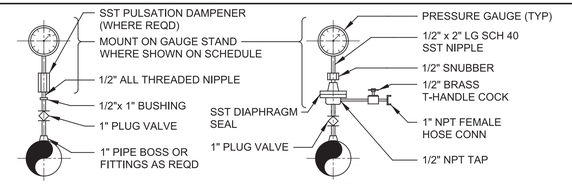
WALL MOUNTED

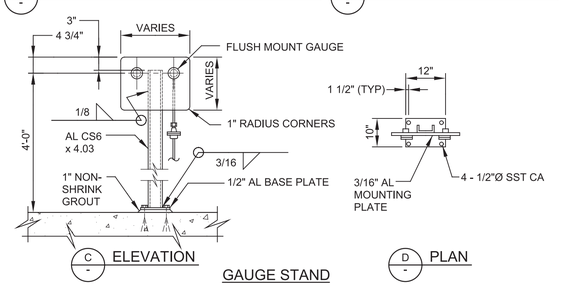


FREE STANDING

M280 TYP — HOSE RACK

S — SHEET 2 OF 2 — 09/30/07



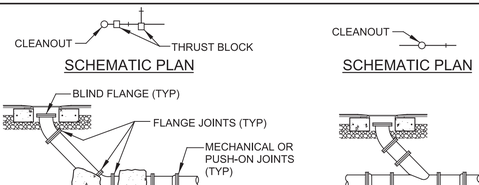


NOTES:

1. ALL GAUGES SHALL BE DUAL SCALE. SCALES ON THE GAUGE FACE SHALL BE MARKED IN PSIG AND FEET OF WATER (FOR POSITIVE READINGS) OR INCHES OF MERCURY (FOR VACUUM READINGS).
2. MOUNTING PLATE DIMENSIONS VARY ACCORDING TO SIZE AND NUMBER OF GAUGES REQUIRED.
3. AT GAUGE STAND, DIAPHRAGM SHALL BE LOCATED BELOW THE MOUNTING PLATE. ONE INCH PIPE SHALL BE ROUTED BETWEEN DIAPHRAGM AND SERVICE PIPE PLUG VALVE. CROSSES WITH THREADED PLUGS SHALL BE USED IN LIEU OF 90° ELBOWS, WITH AT LEAST ONE UNION PER CROSS.
4. COAT ALUMINUM IN CONTACT WITH CONCRETE AS SPECIFIED.

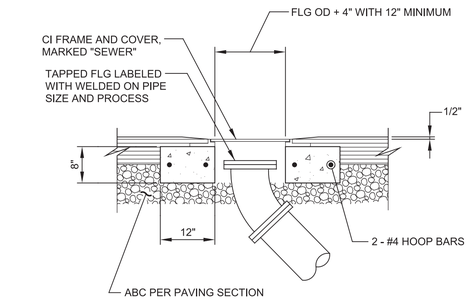
M294 TYP — PRESSURE GAUGE DETAILS

S — 08/01/05



P004 TYP — CLEANOUTS

S — SHEET 1 OF 2 — 07/31/08



TERMINATION IN PAVEMENT
ALL TYPES FOR 4"Ø TO 12"Ø

NOTES:

1. ALL THRUST BLOCKS SHALL BE PLACED PER P102 TYP.
2. CONCRETE RING SHALL BE PLACED AFTER PAVEMENT PLACEMENT.
3. ALL FLANGES CAST IN CONCRETE SHALL BE TAPPED TO ALLOW THE INSTALLATION OF BLIND FLANGES WITH BOLTS.
4. CLEANOUT PIPE SHALL BE SAME SIZE AS LINE PIPE.
5. FOR CLEANOUTS IN YARD AREA, PLACE 12" SQUARE BY 4" THICK CONCRETE PAD.

P004 TYP — CLEANOUTS

S — SHEET 2 OF 2 — 07/31/08

100% SUBMITTAL
ISSUE FOR BID

REV	DATE	BY	DESCRIPTION

DESIGNED SP
DRAWN JB
CHECKED SP
DATE FEBRAURY 2020

SUDHANVA PARANJAPE LICENSE No 64472 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Contact Info: Carollo Engineers, Inc.
Date: 2020.02.21 20:20:00-07'00'

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CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
MECHANICAL
TYPICAL MECHANICAL DETAILS I

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DRAWING NO. TM01
SHEET NO.

PROJECT NO.
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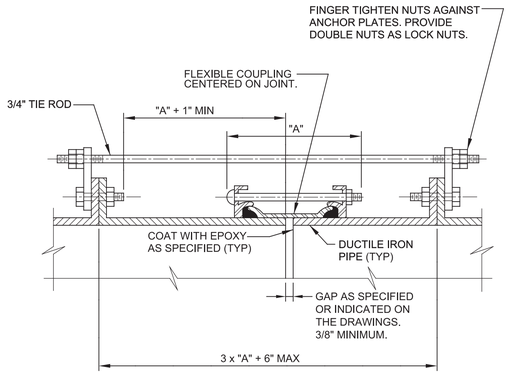
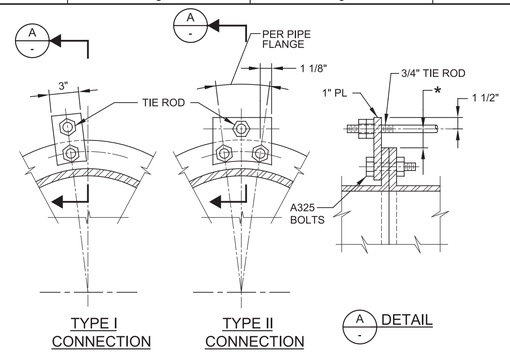


ROD SCHEDULE		
PIPE THRUST. SEE NOTE 2.	TYPE OF CONNECTION	NO. OF RODS
0-6,000#	I	2
6,001 - 12,000#	II	2
12,001 - 18,000#	II	3
18,001 - 24,000#	II	4
24,001 - 30,000#	II	5

P110 TYP N — DIP FLEXIBLE COUPLING TIE DOWN

SHEET 1 OF 2 07/16/13

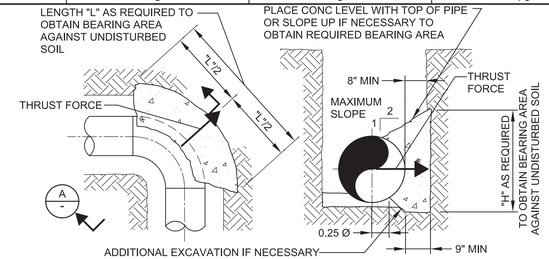


NOTES:

1. ALL EXPOSED FLEXIBLE COUPLINGS SHALL HAVE TIE RODS UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE DRAWINGS.
2. PIPE THRUST SHALL BE BASED ON TEST PRESSURE.
3. PIPE THRUST = 0.7854 x D^2 x TEST PRESSURE, WHERE "D" IS PIPE OD.
4. MINIMUM TIE ROD YIELD = 48,000 PSI.
5. FOR THRUSTS GREATER THAN 30,000 POUNDS, ADD ONE 3/4 INCH DIAMETER TIE ROD FOR EVERY 6,000 POUNDS INCREASE IN THRUST.
6. ALL ROD CONNECTIONS SHALL BE TYPE II FOR THRUSTS GREATER THAN 30,000 POUNDS.
7. GRIND ALL CORNERS SMOOTH.
8. *= AS REQUIRED TO CLEAR FLEXIBLE COUPLING. 3/4" MINIMUM AND 1 1/2" MAXIMUM.

P110 TYP N — DIP FLEXIBLE COUPLING TIE DOWN

SHEET 2 OF 2 07/16/13

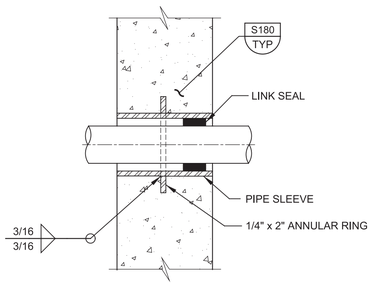


NOTES:

1. BEARING AREA IS THE AREA REQUIRED TO OBTAIN A MAXIMUM SOIL LOADING OF 200 PSF PER FOOT OF DEPTH TO A MAXIMUM VALUE OF 1500 PSF AT THE TOP OF THRUST BLOCK WHEN THE PIPE IS SUBJECTED TO ITS TEST PRESSURE, OR BEARING AREA INDICATED ON THE DRAWINGS.
2. CONCRETE SHALL BE CLASS "A" OR "C".
3. THRUST BLOCK SHALL BEAR ON UNDISTURBED SOIL.

P102 TYP NS — PIPE THRUST BLOCK

08/01/05

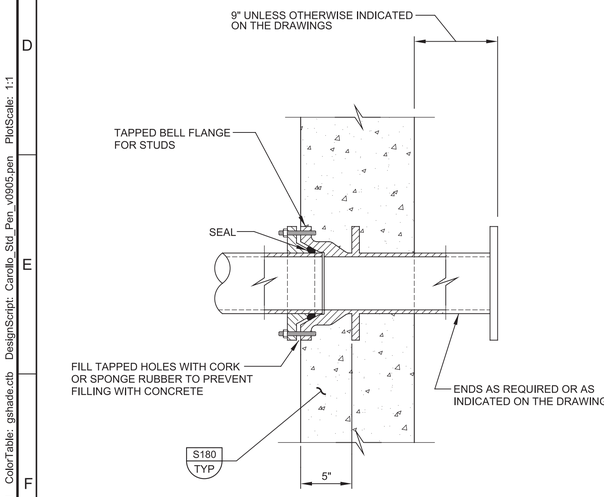


NOTES:

1. 6"Ø SLEEVES AND SMALLER SHALL BE SCH 40 STEEL PIPE.
2. SLEEVES LARGER THAN 6"Ø SHALL BE 1/4" THICK STEEL PIPE.
3. IN WALLS THICKER THAN 12", LINK SEAL SHALL BE INSTALLED AT BOTH ENDS OF WALL SLEEVE. SLEEVE DIAMETER SHALL BE PER LINK SEAL MANUFACTURER'S RECOMMENDATION.
4. SLEEVE SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.

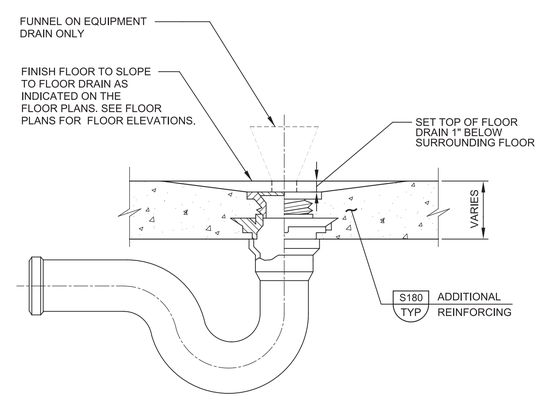
P304 TYP NS — SLEEVE INSTALLATION THROUGH WALLS AND FLOOR SLABS

08/01/05



P306 TYP N — DIP WALL PIPE

07/31/08

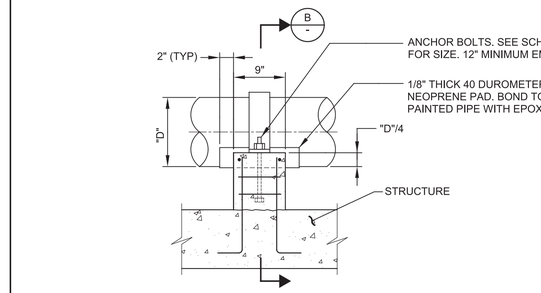


NOTE:

1. PROVIDE 12" RADIUS SLOPE TO EQUIPMENT DRAINS WHERE FLOOR DOES NOT SLOPE TO DRAIN.

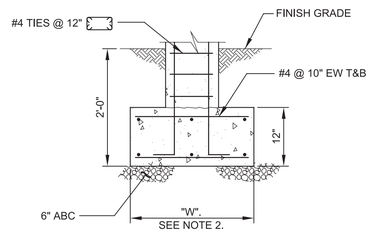
P410 TYP S — FLOOR DRAIN OR EQUIPMENT DRAIN WITH TRAP

08/01/05



P602 TYP N — CONCRETE PIPE SUPPORT

SHEET 1 OF 2 11/30/08



SCHEDULE		
PIPE SIZE	STRAP SIZE	ANCHOR BOLT DIA
8" - 12"	FB 1/4" x 4"	1/2"
14" - 24"	FB 5/16" x 4"	5/8"
26" - 36"	FB 3/8" x 4"	3/4"

NOTES:

1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, MATERIAL FOR ANCHOR BOLTS AND STRAP SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, THE MATERIAL FOR ANCHOR BOLTS AND STRAP SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
2. THE WIDTH OF THE FOOTING "W" = 2'-6". THE LENGTH OF THE FOOTING = "D" + 2'-0".

P602 TYP N — CONCRETE PIPE SUPPORT

SHEET 2 OF 2 11/30/08

100% SUBMITTAL
ISSUE FOR BID

REV	DATE	BY	DESCRIPTION

DESIGNED SP
DRAWN JB
CHECKED SP
DATE FEBRAURY 2020

SUDHANVA PARANJAPE LICENSE No 64472 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Date: 2020.02.04 14:47:30-05'00'

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THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
MECHANICAL
TYPICAL MECHANICAL DETAILS II

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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DRAWING NO. TM02
SHEET NO.

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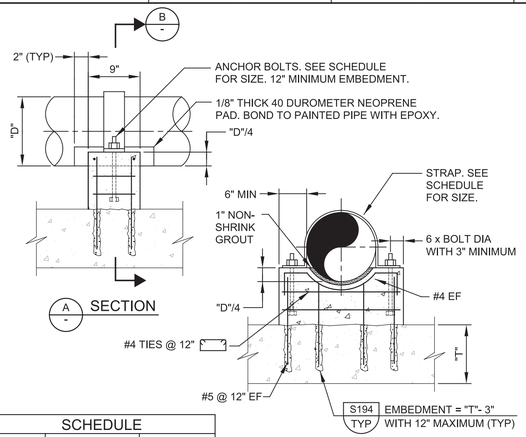


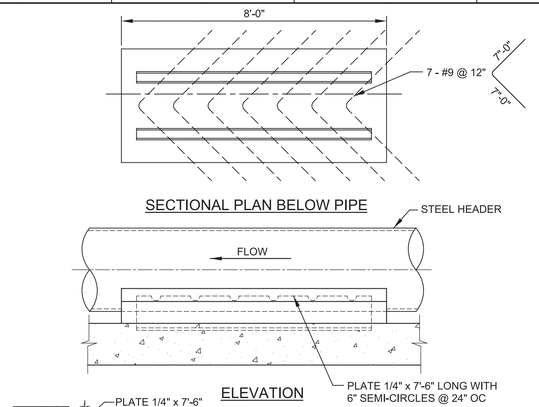
SCHEDULE		
PIPE SIZE	STRAP SIZE	ANCHOR BOLT DIA
8" - 12"	FB 1/4" x 4"	1/2"
14" - 24"	FB 5/16" x 4"	5/8"
26" - 36"	FB 3/8" x 4"	3/4"

NOTES:

1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, MATERIAL FOR ANCHOR BOLTS AND STRAP SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, THE MATERIAL FOR ANCHOR BOLTS AND STRAP SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
2. MIN "T" = 12".

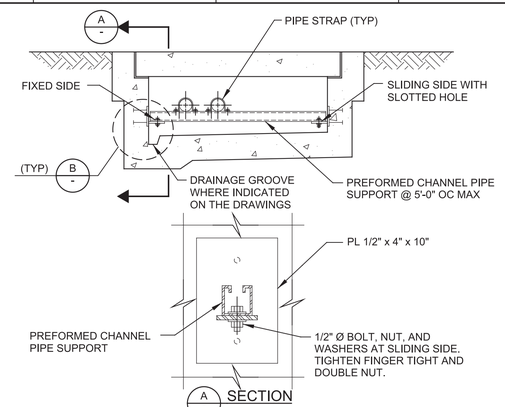
P604 TYP N — CONCRETE PIPE SUPPORT AT EXISTING STRUCTURE

07/31/08



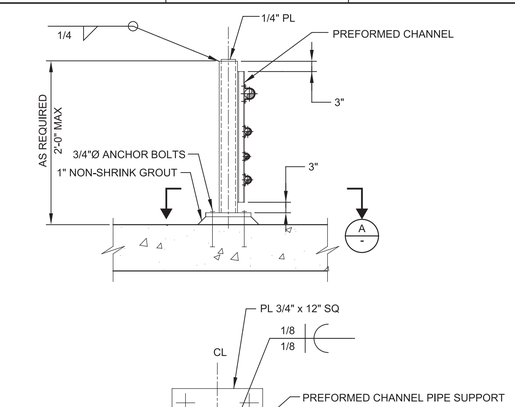
P606 TYP N — PIPE ANCHOR

08/01/05



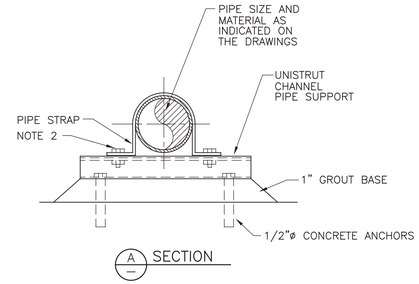
P613 TYP — PREFORMED CHANNEL PIPE SUPPORT IN PIPE OR CONDUIT TRENCH

08/01/05



P615 TYP N — PIPE SUPPORT POST WITH PREFORMED CHANNEL

08/22/08

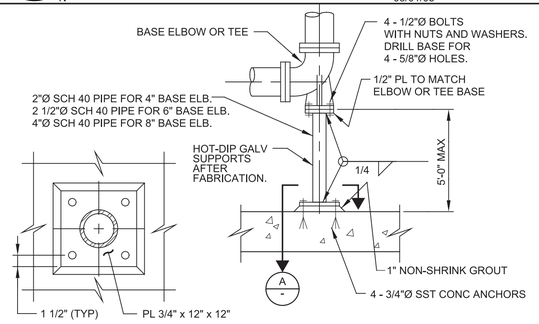


NOTES

1. CHANNELS SHALL BE HOT DIPPED GALVANIZED UNLESS NOTED OTHERWISE.
2. BOLTS & CHANNEL NUTS SHALL BE STAINLESS STEEL HARDWARE AND NON-STAINLESS STEEL CHANNEL AND STRAPS UNLESS OTHERWISE NOTED.

P618 TYP — FLOOR PIPE SUPPORT

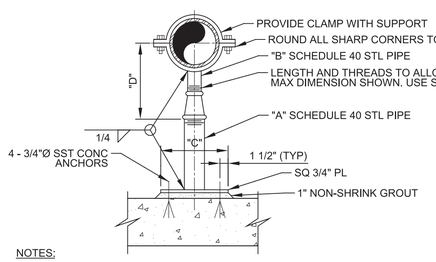
P618-N-P 06-01-99



P620 TYP NS — ELBOW OR TEE PIPE SUPPORT

03/06/13

ADJUSTABLE PIPE SADDLE SUPPORT SCHEDULE (INCHES)					
SIZE OF SUPPORTED PIPE **	PIPE SIZE "A"	PIPE SIZE "B"	"C"	"D" MINIMUM	"D" MAXIMUM
2 1/2 *	2 1/2	1 1/2	12	8	13
3	2 1/2	1 1/2	12	8 1/2	13 1/2
3 1/2	2 1/2	1 1/2	12	8 1/2	13 1/2
4	3	2 1/2	12	9 1/2	14
6	3	2 1/2	12	10 1/2	15 1/2
8	3	2 1/2	12	11 1/2	16 1/2
10	3	2 1/2	12	13 1/2	18 1/2
12	3	2 1/2	12	15	19 1/2
14	4	3	12	16 1/2	20 1/2
16	4	3	12	17 1/2	22 1/2
18	6	3 1/2	14	19 1/2	24
20	6	3 1/2	14	21	25 1/2
24	6	4	14	23 1/2	28 1/2
30	6	4	14	27	31 1/2
32	6	4	14	28 1/2	32 1/2
36	6	4	14	30 1/2	34 1/2

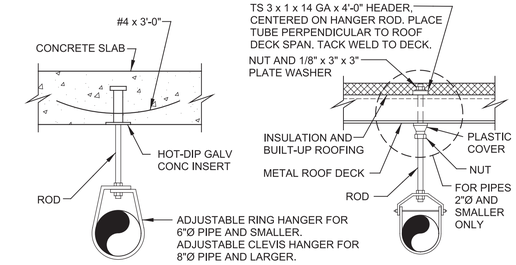


NOTES:

1. HOT-DIP GALVANIZED SUPPORT AFTER FABRICATION.
2. * = USE 2 1/2" SUPPORTS FOR PIPES LESS THEN 2 1/2"Ø.
3. ** = NOMIAL PIPE SIZE.

P624 TYP NS — ADJUSTABLE PIPE SUPPORT

09/04/13



PIPE HANGER RODS AND SUPPORT SPACING		
PIPE DIA (INCHES)	ROD DIA (INCHES)	MAX SUPPORT SPACING
2 AND LESS	3/8	5 FEET
2 1/2 TO 3 1/2	1/2	10 FEET
4 TO 5	5/8	10 FEET
6	3/4	10 FEET
8	7/8	10 FEET
10	7/8	10 FEET
12	7/8	10 FEET

NOTES:

1. ISOLATE ALL COPPER PIPE FROM SUPPORT WITH PVC TAPE.
2. ALL MATERIALS SHALL BE HOT-DIP GALVANIZED.
3. PROVIDE ADDITIONAL HANGER AT EACH SIDE OF ALL VALVES 4 INCHES AND LARGER.

P630 TYP N — PIPE HANGER

SHEET 1 OF 2 07/31/08

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REV	DATE	BY	DESCRIPTION

DESIGNED SP
DRAWN JB
CHECKED SP
DATE FEBRAURY 2020

SUDHANVA PARANJAPE LICENSE No 64472 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Contact info: Carollo Engineers, Inc.
Date: 2020.02.04 15:23:40 -05'00'

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CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
MECHANICAL
TYPICAL MECHANICAL DETAILS III

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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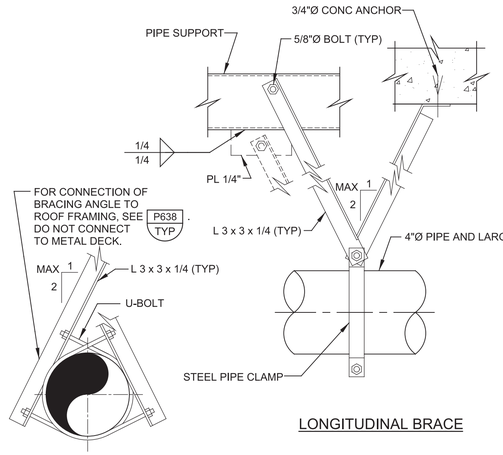
DRAWING NO. TM03
SHEET NO.

PROJECT NO. FILE NAME: 8290U10-TM03.dgn



TRANSVERSE BRACE

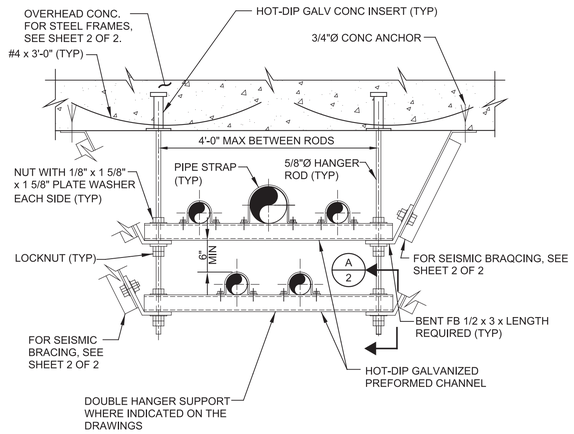
LONGITUDINAL BRACE

NOTES:

1. MAXIMUM LONGITUDINAL BRACE SPACING = 20'-0".
2. MAXIMUM TRANSVERSE BRACE SPACING = 20'-0".
3. DO NOT CONNECT BRACE TO BOTTOM OF ROOF BEAM OR C8 PIPE SUPPORT, EXCEPT AS SHOWN IN P638 TYP.
4. USE LONGITUDINAL AND TRANSVERSE BRACES FOR PIPES 4" AND LARGER.

P630 TYP N PIPE HANGER

SHEET 2 OF 2 07/31/08

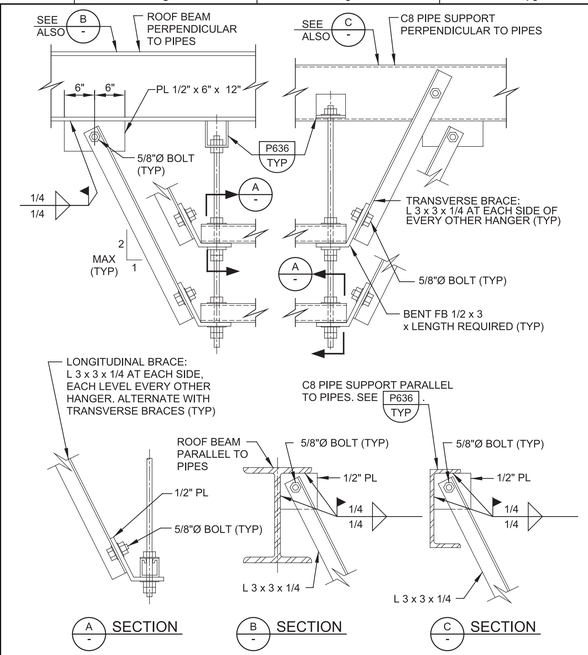


NOTES:

1. HANGER SPACING SHALL BE BASED ON MAXIMUM SPAN ALLOWABLE FOR ANY INDIVIDUAL PIPE.
2. ALL-THREAD ROD SHALL BE USED ONLY FOR DOUBLE SUPPORTS.
3. ALL MATERIALS SHALL BE HOT-DIP GALVANIZED.

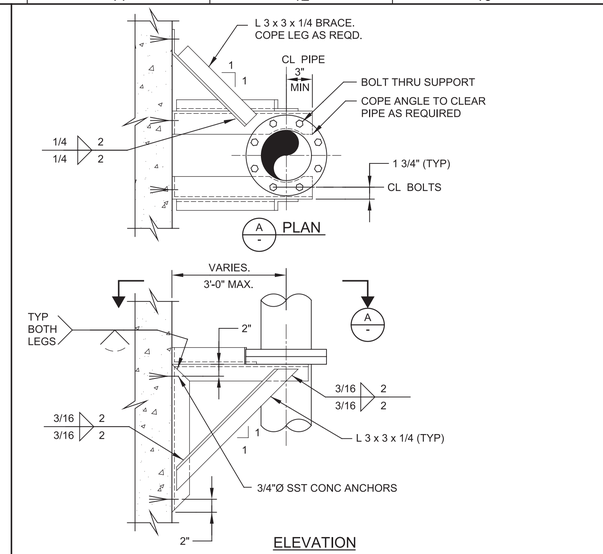
P638 TYP N DOUBLE ROD PIPE HANGER

SHEET 1 OF 2 07/31/08



P638 TYP N DOUBLE ROD PIPE HANGER

SHEET 2 OF 2 07/31/08



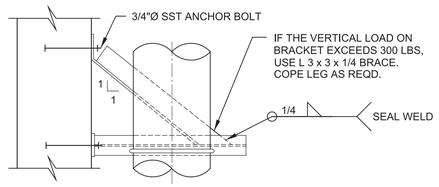
ELEVATION

NOTE:

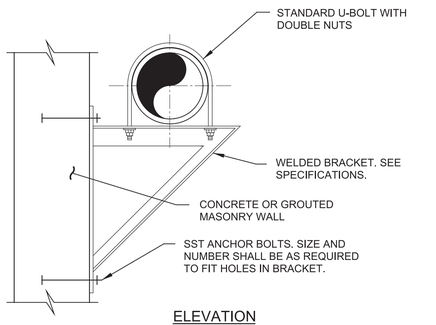
1. HOT-DIP GALVANIZE SUPPORT AFTER FABRICATION.

P656 TYP N VERTICAL PIPE SUPPORT - WALL BRACKET INSIDE

07/31/08



PLAN



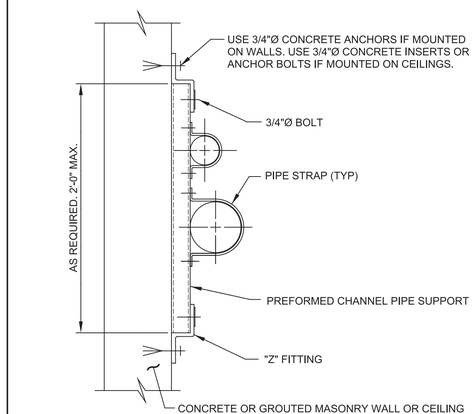
ELEVATION

NOTES:

1. HOT-DIP GALVANIZE SUPPORT AFTER FABRICATION.
2. ISOLATE ALL COPPER PIPE WITH PVC TAPE.

P658 TYP N PIPE SUPPORT - WALL BRACKET BELOW

06/26/13

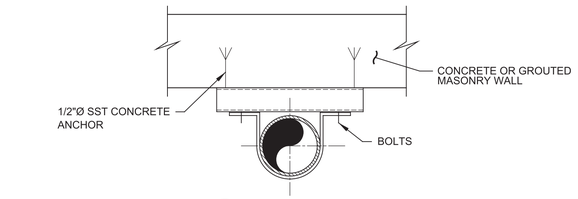


NOTES:

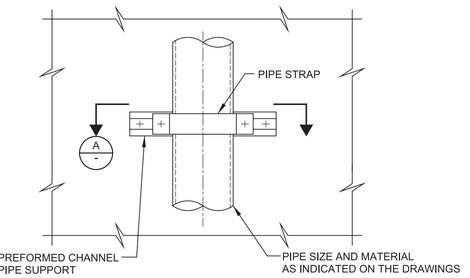
1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, ALL MATERIAL SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, THE MATERIALS SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS. HOT-DIP GALVANIZE AFTER FABRICATION.
2. SPACE PREFORMED CHANNEL PIPE SUPPORTS AT MAXIMUM 5'-0" O.C.

P660 TYP N FLUSH MOUNT PIPE SUPPORT

09/06/13



A - SECTIONAL PLAN



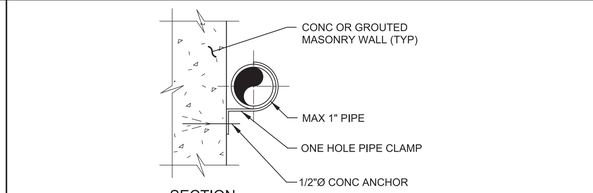
ELEVATION

NOTE:

1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, ALL MATERIAL SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, THE MATERIALS SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS. HOT-DIP GALVANIZE AFTER FABRICATION.

P662 TYP PIPE SUPPORT FOR ONE VERTICAL RISER

07/01/13



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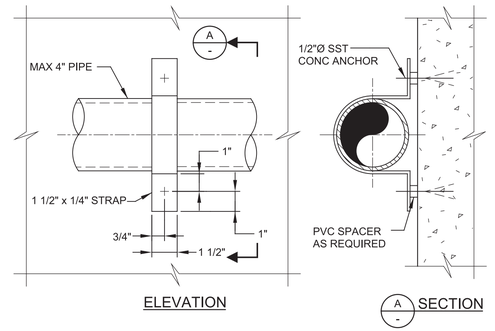

ELEVATION

NOTE:

1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, ALL MATERIAL SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, ALL MATERIAL SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

P664 TYP PIPE SUPPORT - WALL STRAP

07/31/08

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DESIGNED SP
DRAWN JB
CHECKED SP
DATE FEBRAURY 2020

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CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
MECHANICAL
TYPICAL MECHANICAL DETAILS IV

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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DRAWING NO. TM04
SHEET NO.

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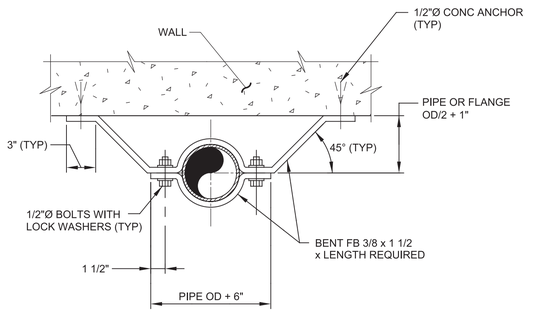
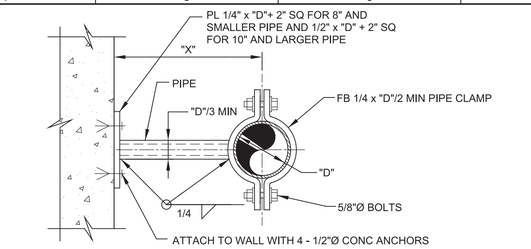


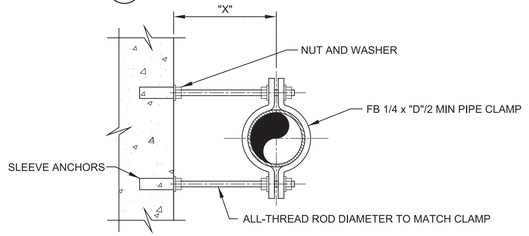
NOTE;

1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, ALL MATERIAL SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, ALL MATERIAL SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

P666 TYP — VERTICAL PIPE SWAY BRACE



A - PLAN - FOR "X" GREATER THAN 12"

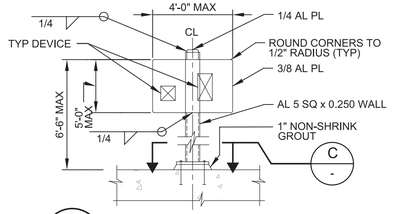


B - PLAN - FOR "X" LESS THAN 12"

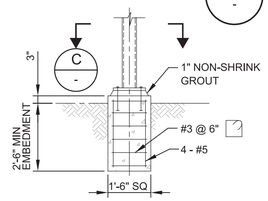
NOTE;

1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, ALL MATERIAL SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, ALL MATERIAL SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

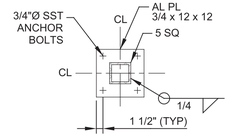
P668 TYP — VERTICAL PIPE SWAY BRACE



A - ELEVATION



B - SECTION

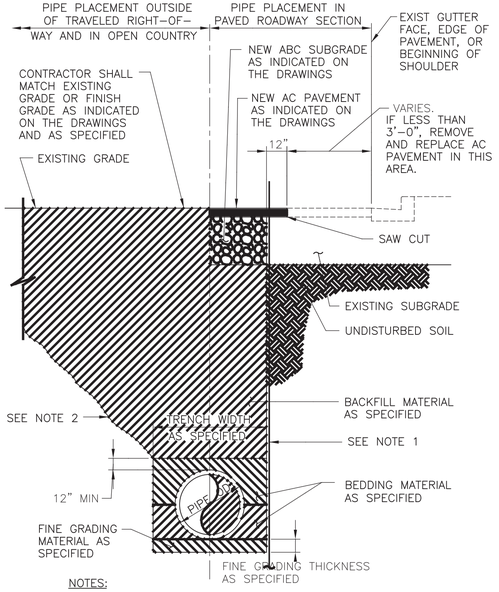


C - SECTION

NOTES:

1. WHERE SEPARATE FOUNDATION IS REQUIRED, SEE SECTION B.
2. COAT ALUMINUM SURFACES IN CONTACT W/ CONCRETE PER SPECIFICATIONS.
3. USE STAINLESS STEEL FASTENERS FOR MOUNTING DEVICES.
4. WEIGHT OF DEVICE(S) SHALL NOT EXCEED 300 POUNDS.

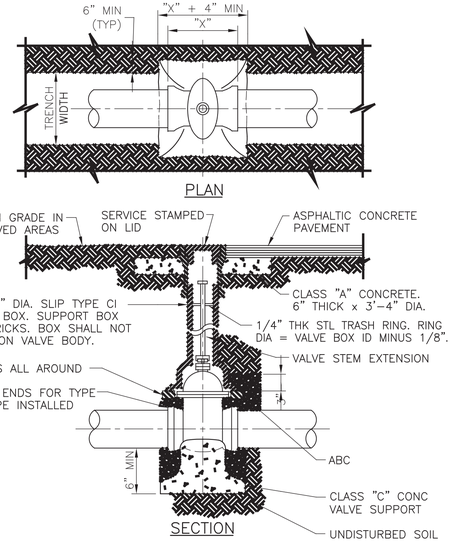
EM202 TYP S — DEVICE SUPPORT AND MOUNTING



NOTES:

1. SEE SPECIFICATIONS FOR SHORING REQUIREMENTS.
2. SEE SPECIFICATIONS FOR SLOPING REQUIREMENTS.

P002 TYP N — PIPE INSTALLATION AND PAVEMENT REPLACEMENT — 08-01-05



NOTES:

1. ALL BURIED VALVES SHALL BE PROVIDED W/ EXTENSION STEM OPERATOR W/ 2" SQ AWWA NUT WITHIN 36" OF VALVE BOX COVER. NUT IS TO INDICATE DIRECTION OF ROTATION TO OPEN VALVE.
2. COAT BURIED PIPE AND VALVE BOX PER SPECIFICATIONS.
3. CLEAN VALVE BOX OF ALL DEBRIS AND SOIL.
4. VALVE TYPE AS INDICATED ON THE DRAWINGS.

P022 TYP — VALVE BOX INSTALLATION — 08-01-05

100% SUBMITTAL
ISSUE FOR BID

REV	DATE	BY	DESCRIPTION

DESIGNED SP
DRAWN JB
CHECKED SP
DATE FEBRAURY 2020

SUDHANVA PARANJAPE LICENSE No 64472 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Sudhanva Paranjape
Contact Info: Carollo Engineers, Inc.
Date: 2020.02.04 15:23:50 -05'00'

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Phone (407) 478-4642
CA No. 8571

THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
MECHANICAL
TYPICAL MECHANICAL DETAILS V

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 8290U.10
DRAWING NO. TM05
SHEET NO.

PROJECT NO.
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Model: Layout1
LAST SAVED BY: John.Buitrago

ELECTRICAL PLAN/LAYOUT

SYMBOL	DESCRIPTION
TTC	TELEPHONE TERMINAL CABINET
TJB , (J) TJB	TERMINAL JUNCTION BOX
	ELECTRICAL EQUIPMENT
(X)	CEILING MOUNTED DOWNLIGHT LUMINAIRE – SEE SCHEDULE FOR TYPE
(X)	FLOURESCENT LUMINAIRE, SURFACE OR LAY IN TYPE SEE SCHEDULE FOR TYPE
(X)	LUMINAIRE AND POLE – SEE SCHEDULE FOR TYPE
(X)	WALL MOUNTED LUMINAIRE – SEE SCHEDULE FOR TYPE
(X)	FLOOD LIGHTS – AIM IN THE DIRECTION SHOWN SEE SCHEDULE FOR TYPE
X	EXIT LIGHTS – SOLID SECTION IS DIRECTION OF FACE SEE SCHEDULE FOR TYPE
[X]	EMERGENCY LIGHT WITH BATTERY PACK SEE SCHEDULE FOR TYPE
	LIGHTING FIXTURE POWER AND SWITCHING LEGEND
(X) Y Z (TYP)	X=FIXTURE TYPE Y=PANEL–CIRCUIT BRKR Z=SWITCH IF NO Z INDICATED, CONNECT DIRECTLY TO CIRCUIT BREAKER.
[B2] LPA–2	CONDUIT/CONDUCTOR – REFER TO CIRCUIT SCHEDULE HOME RUN – PANEL AND CIRCUIT NUMBER SHOWN
	EXPOSED CONDUIT AND CONDUCTORS*
	UNDERGROUND CONDUIT AND CONDUCTORS* NOTE: * ALL UNMARKED CONDUIT RUNS CONSIST OF 2#12, 1#12G IN 3/4"C.
YCX	YARD CONDUIT. REFER TO YARD CONDUIT SCHEDULE
	DIRECT BURIED CONDUIT
	CONDUIT, STUBBED AND CAPPED AS SHOWN
	GROUND WIRE, 4/0 BTC UNLESS OTHERWISE NOTED
	6 FOOT GROUND WIRE PIGTAIL, 4/0 UNLESS OTHERWISE NOTED
	GROUND ROD – 5/8" x 20' COPPER CLAD UNLESS OTHERWISE NOTED
	GROUND TEST WELL, SEE DETAIL
S	WALL SWITCH: 2- DOUBLE POLE, 3- THREE WAY, 4- FOUR WAY, WP-WEATHERPROOF, P- PILOT LIGHT, K- KEY OPERATED, D- DIMMER, CRE- CORROSION RESISTANT
	CONVENIENCE RECEPTACLE – 20A DUPLEX UNLESS SPECIFIED OTHERWISE WP-WEATHERPROOF C- CLOCK HANGER TL- TWIST LOCK CRE- CORROSION RESISTANT GFI-GROUND FAULT INTERRUPTER
	CONVENIENCE RECEPTACLE – 20A QUADROPLEX UNLESS SPECIFIED OTHERWISE
	CONVENIENCE RECEPTACLE – 20A DUPLEX UNLESS SPECIFIED OTHERWISE. LOCATED ABOVE COUNTER TOP GFI-GROUND FAULT INTERRUPTER
	CONVENIENCE RECEPTACLE – 20A DUPLEX UNLESS SPECIFIED OTHERWISE. MOUNTED FLUSH IN FLOOR.
30	RECEPTACLE, SPECIAL PURPOSE – AMPERAGE AS INDICATED.
	TELEPHONE/DATA RECEPTACLE (OUTLET BOX, 18" AFF) W – WALL MOUNTED, 54" AFF
	TELEPHONE/DATA RECEPTACLE MOUNTED FLUSH IN FLOOR
(J)	JUNCTION BOX NEMA 12 ENCLOSURE UNLESS INDICATED OTHERWISE. 4X = NEMA 4X SS
F	FIRE ALARM PULL STATION
F	FIRE ALARM HORN/STROBE LIGHT
F	FIRE ALARM STROBE LIGHT
FACP	FIRE ALARM CONTROL PANEL
FAAP	FIRE ALARM ANNUNCIATOR PANEL

SYMBOL	DESCRIPTION
SD	FIRE ALARM SMOKE DETECTOR EC– MOUNTED TO EXPOSED CEILING H– HARSH ENVIROMENT RATED
HD	FIRE ALARM HEAT DETECTOR EC– MOUNTED TO EXPOSED CEILING
BD R	BEAM DETECTOR, T=TRANSMITTER, R=RECEIVER
SD D	DUCT SMOKE DETECTOR
RTU	REMOTE TEST UNIT
CR	SECURITY CARD READER

ABBREVIATIONS

ABBREVIATIONS	DESCRIPTION
A	AMMETER, AMPERE
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AS	AMMETER SWITCH, AMPERE SENSOR
ASU	AIR SUPPLY UNIT
ATS	AUTOMATIC TRANSFER SWITCH
BC	BYPASS CONTACTOR
BTC	BARE TINNED COPPER
BRKR	BREAKER
C	CONDUIT, CONTACTOR
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CMS	COMBINATION MOTOR STARTER
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CRE	CORROSION RESISTANT
CT	CURRENT TRANSFORMER
DC	DIRECT CURRENT
DIV	DIVISION
DP	DISTRIBUTION PANEL (480V)
EF	EXHAUST FAN
EG	ELECTRICAL GROUND
ETM	ELAPSED TIME METER
EXST	EXISTING
FDR	FEEDER
F, FU	FUSE
FI	FLOW INDICATOR
FLR	FLOOR
FLUOR	FLUORESCENT
FM	FLOW METER
FO	FIBER OPTIC
FS	FLOAT SWITCH, FLOW SWITCH
FT	FLOW TRANSMITTER
FUT	FUTURE
FVNR	FULL VOLTAGE NON–REVERSING STARTER
G	GREEN, GROUND
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTER
GFR	GROUND FAULT RELAY
GND	GROUND
HH	HANDHOLE
HID	HIGH INTENSITY DISCHARGE
HOA	HAND/OFF/AUTO
HOR	HAND/OFF/REMOTE
HPS	HIGH PRESSURE SODIUM
HVAC	HEATING, VENTILATING & AIR CONDITIONING
IC	INTERRUPTING CAPACITY
I & C	INSTRUMENTATION AND CONTROL
IMH	INSTRUMENTATION MANHOLE
INST	INSTANTANEOUS
IP	INSTRUMENT PANEL (PANELBOARD)
J, J–BOX	JUNCTION BOX
K	KEY INTERLOCK
KK	KIRK KEY INTERLOCK
LA	LIGHTNING ARRESTER
LC	LIGHTING CONTACTOR
LP	LIGHTING PANEL (PANELBOARD)
LR	LOCAL/REMOTE, LATCHING RELAY
LS	LIMIT SWITCH
LT FLEX	LIQUID TIGHT FLEX CONDUIT
LTG	LIGHTING
M	MAGNETIC CONTACTOR COIL OR MOTOR
MA	MILLIAMPS
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MERC	MERCURY VAPOR
MH	MOTOR HEATER, MANHOLE
MLO	MAIN LUGS ONLY
MPZ	MINI POWER ZONE
MPR	MOTOR PROTECTION RELAY
MS	MOTOR STARTER
MSC	MANUFACTURER SUPPLIED CABLE
MT	MOUNT
MTD	MOTOR TEMPERATURE DETECTOR
N	NEUTRAL
NC	NORMALLY CLOSED
NEMA	NATIONAL ELECTRIC MANUFACTURER'S ASSOCIATION
NO	NORMALLY OPEN
NP	NAMEPLATE
NTS	NOT TO SCALE
OL	OVERLOAD RELAY
OLM	OPTICAL LINK MODULE
P	POLE
PB	PULL BOX
PC	PHOTOCELL
PH	PHASE
PM	PHASE MONITOR,POWER METER
PNL	PANEL
PP	POWER PANEL (480VAC)
PR	PAIR
PS	PRESSURE SWITCH
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE CONDUIT
RCPT	RECEPTACLE
RMS	ROOT MEAN SQUARE
RS	RIGID STEEL CONDUIT
RGS	RIGID GALVANIZED STEEL CONDUIT
RTU	REMOTE TELEMETRY UNIT
SC	SURGE CAPACITOR
SF	SUPPLY FAN
SH	SPACE HEATER
S/N	SOLID NEUTRAL
SPD	SPEED, OR SURGE PROTECTION DEVICE
SSRVS	SOLID STATE REDUCED VOLTAGE STARTER
SS	STAINLESS STEEL
SV	SOLENOID VALVE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYM	SYMMETRICAL
T	THERMOSTAT
TB	TERMINAL BOARD
TDR	TIME DELAY RELAY
TJB	TERMINAL JUNCTION BOX
TS	THERMAL SWITCH
TSP	TWISTED SHIELDED PAIR
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UPS	UNINTERRUPTIBLE POWER SUPPLY
UVR	UNDER VOLTAGE RELAY
V	VOLTMETER, VOLT
VFD	VARIABLE FREQUENCY DRIVE
VS	VOLTMETER SWITCH
W	WATT
WHD	WATTHOUR DEMAND METER
WP	WEATHERPROOF
XFMR	TRANSFORMER

ONE LINE DIAGRAMS, RISER DIAGRAMS AND SCHEMATICS

SYMBOL	DESCRIPTION
(5)	MOTOR, SQUIRREL CAGE INDUCTION UNLESS OTHERWISE NOTED – HORSEPOWER INDICATED
	OVERLOAD RELAY HEATER
1	MAGNETIC STARTER WITH NEMA SIZE INDICATED
M	MOTOR CIRCUIT PROTECTOR, MAGNETIC, 3 POLE UNLESS INDICATED OTHERWISE.
400	CIRCUIT BREAKER, THERMAL MAGNETIC TRIP SHOWN, 3 POLE UNLESS INDICATED OTHERWISE.
400 225	FUSED SWITCH, SWITCH AND FUSE CURRENT RATING INDICATED, 3 POLE UNLESS INDICATED OTHERWISE.
100	SWITCH – CURRENT RATING INDICATED, 3 POLE UNLESS INDICATED OTHERWISE.
400 600	DRAWOUT CIRCUIT BREAKER, LOW VOLTAGE 600= FRAME RATING, 400=TRIP SETTING
400 600	DRAWOUT CIRCUIT BREAKER, MEDIUM VOLTAGE 600= FRAME RATING, 400=TRIP SETTING
600 400	DRAWOUT FUSED SWITCH, LOW OR MEDIUM VOLTAGE 600= FRAME RATING, 400=FUSE RATING
(3)	CURRENT TRANSFORMER, NUMBER OF WINDINGS INDICATED
480–120 /208V 3ø	TRANSFORMER, VOLTAGES, PHASE AND 15 KVA, RATING INDICATED AS APPLICABLE K–4 RATED
	LIGHTNING ARRESTER
	CAPACITOR OR SURGE CAPACITOR
M	UTILITY METER
G	GENERATOR
X 0–600V	METER SCALE RANGE SHOWN IF REQUIRED A - AMPS PM - PHASE MONITOR V - VOLTS P - POWER METER
	FUSE
TVSS OR SPD	TRANSIENT VOLTAGE SURGE SUPPRESSION (OR) SURGE PROTECTION DEVICE
	GROUND
CPT 120V	CONTROL TRANSFORMER
GFR	GROUND FAULT RELAY WITH C.T.
	PUSH–BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY OPEN
	PUSH–BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY CLOSED
	PUSH BUTTON SWITCH, MAINTAINED CONTACTS WITH MECHANICAL INTERLOCK
	REMOTE DEVICE
A OR A	PUSH TO TEST AND CONNECT INDICATING LIGHT SCHEMATIC DIAGRAMS (LED TYPE) A - AMBER G - GREEN B - BLUE R - RED C - CLEAR W - WHITE
PHASE SHIFT XFMR VFD- XXXX	18–PULSE VFD
VFD- XXXX	6–PULSE VFD

SYMBOL	DESCRIPTION
S M	MANUAL MOTOR STARTER SWITCH, NEMA 4X UNLESS OTHERWISE NOTED. NUMBER OF POLES AS REQUIRED
PB 4X	PUSH–BUTTON STATION, NEMA 12 ENCLOSURE UNLESS INDICATED OTHERWISE. 4X = NEMA 4X 316 STAINLESS STEEL ENCLOSURE. SEE CONTROL DIAGRAMS FOR TYPE PUSH BUTTON REQUIRED
30 4X	NONFUSED DISCONNECT SWITCH, SIZE INDICATED, 3 POLE UNLESS INDICATED OTHERWISE, NEMA 12 ENCLOSURE, 4X = NEMA 4X 316 STAINLESS STEEL
F 40 60 4X	FUSED DISCONNECT SWITCH, SIZE INDICATED (60 = SWITCH RATING: 40 = FUSE RATING) 3 POLE UNLESS INDICATED OTHERWISE, NEMA 12 ENCLOSURE, 4X = NEMA 4X 316 STAINLESS STEEL
LC 30 4X	LIGHTING CONTACTOR, CURRENT RATING INDICATED, NEMA 12 ENCLOSURE UNLESS INDICATED OTHERWISE. SEE CONTROL DIAGRAM FOR NUMBER OF POLES. 4X = NEMA 4X 316 STAINLESS STEEL
2 4X	MAGNETIC STARTER, NEMA SIZE INDICATED, NEMA 12 ENCLOSURE, UNLESS INDICATED OTHERWISE. SEE CONTROL DIAGRAM. 4X = NEMA 4X 316 STAINLESS STEEL
2 4X	COMBINATION (FUSE OR CIRCUIT BREAKER AS INDICATED). MAGNETIC STARTER, NEMA SIZE INDICATED, NEMA 12 ENCLOSURE UNLESS INDICATED OTHERWISE. SEE CONTROL SCHEMATIC DIAGRAM. 4X = NEMA 4X 316 STAINLESS STEEL
	ELECTRIC RESISTANCE HEATER
ETM	ELAPSED TIME METER
CRX	CONTACT – NORMALLY OPEN WITH COIL INDICATED
CRX	CONTACT – NORMALLY CLOSED WITH COIL INDICATED
CRX	CONTROL RELAY, X=SEQUENTIAL NUMBER
LRX (L)	LATCHING RELAY, X=SEQUENTIAL NUMBER L - LATCH, U - UNLATCH
TDX NOTC	TIME DELAY RELAY, X=SEQUENTIAL NUMBER NOTC=NORMALLY OPEN TIMED CLOSED NOTO=NORMALLY OPEN TIMED OPEN AFTER CLOSE NCTO=NORMALLY CLOSED TIMED OPEN NCTC=NORMALLY CLOSED TIMED CLOSED AFTER OPEN
	TEMPERATURE
	OPENS ON RISING TEMPERATURE, CLOSES ON FALLING TEMPERATURE
	CLOSES ON RISING TEMPERATURE, OPENS ON FALLING TEMPERATURE
H O A XOO OOX	SELECTOR SWITCH: MAINTAINED CONTACT WITH CONTACT POSITION INDICATED, CHART IDENTIFIES OPERATION

	POSITION		
CKT.	HAND	OFF	AUTO
1	X	O	O
2	O	O	X

X - CLOSED CONTACT
O - OPEN CONTACT

GENERAL

SYMBOL	DESCRIPTION
	CONNECTION POINT TO EQUIPMENT SPECIFIED, FURNISHED AND INSTALLED UNDER OTHER SECTIONS. RACEWAY, CONDUCTOR AND CONNECTION IN THIS SECTION.
1"C,2#12,1#12G 1"C,1–25/C TYPE 1	INDICATES RACEWAY AND CIRCUIT CONDUCTORS. FIRST NUMBER IS RACEWAY SIZE. THE FOLLOWING NUMBERS ARE THE CONDUCTOR QUANTITIES, SIZES, AND TYPES.
	DEMOLITION TO BE REMOVED OR DELETED

LINE WEIGHT

NEW ——— EXISTING

THEIN WIN LICENSE No. 65722 STATE OF FLORIDA PROFESSIONAL ENGINEER

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HILLERS ELECTRICAL ENGINEERING, INC.
23257 STATE ROAD 7, SUITE 100
BOCA RATON, FLORIDA 33428
(561) 451–9165
(561) 451–4886 FAX
LICENSE NO: EB 0006877

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DESIGNED TW
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CHECKED SP
DATE FEBRAURY 2020

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Phone (407) 478-4642
CA No. 8571

THE CITY OF DAYTONA BEACH INCORPORATED JULY 1926

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
ELECTRICAL
ELECTRICAL LEGEND AND SYMBOLS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 8290U.10
DRAWING NO. 00E01
SHEET NO.

LAST SAVED BY: twin

PROJECT NO.
FILE NAME: 8290U10_E01.dwg

GENERAL NOTES

1. THE SCOPE OF ELECTRICAL WORK SHALL CONSIST PRIMARILY OF THE FOLLOWING:

   A. ALL WORK AS DESCRIBED IN THE SPECIFICATIONS AND THE DRAWINGS.

2. CONTRACTOR SHALL COORDINATE WITH THE INSTRUMENTATION CONTRACTOR/SUPPLIER FOR POWER AND SIGNAL REQUIREMENTS FOR ALL DEVICES TO BE CONNECTED. CONTRACTOR SHALL ADJUST CONDUIT AND CABLE AS PER INSTRUMENTATION REQUIREMENTS TO MATCH THE EQUIPMENT PROVIDED. COORDINATION SHALL BE COMPLETED BEFORE CONDUIT AND CABLE ARE INSTALLED.

3. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR TO INSTALL THE ELECTRICAL SYSTEMS AS INDICATED ON THE DRAWINGS. ITEMS NOT SHOWN BUT OBVIOUSLY NECESSARY FOR COMPLETION OF THE WORK SHALL BE INCLUDED.

4. THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NFPA 70), ELECTRICAL SAFETY IN THE WORKPLACE (NFPA 70E), LOCAL CITY AND COUNTY COUNTY CODES, AND 2017 FLORIDA BUILDING CODE WITH AMENDMENTS.

5. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE ENGINEER AND OWNER.

6. THE CONTRACTOR SHALL BEFORE SUBMITTING HIS BID, VISIT THE SITE OF THE PROJECT AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS. NO ALLOWANCE WILL BE MADE FOR EXISTING CONDITIONS OR FAILURE OF THE CONTRACTOR TO OBSERVE THEM.

7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH ALL LOCAL UTILITIES, INCLUDING THE POWER AND TELEPHONE UTILITIES TO MEET ALL OF THEIR INSTALLATION REQUIREMENTS. ALL FEES, LABOR, EQUIPMENT OR MATERIALS NECESSARY TO MEET THESE REQUIREMENTS ARE TO BE INCLUDED IN THE BID. THE CONTRACTOR SHALL OBTAIN, DELIVER AND INSTALL ALL CONDUITS, PULL-BOXES AND EQUIPMENT AS REQUIRED BY THE UTILITIES TO THEIR SPECIFICATIONS. PROVIDE TEMPORARY POWER AND TELEPHONE AS PER SPECIFICATION.
   POWER UTILITY REPRESENTATIVE: SHAWN MCMICHAEL (386) 322-3412

8. ALL EQUIPMENT AND MATERIAL SHALL BE NEW, UNUSED, AND U.L. LISTED.

9. THE CONTRACTOR IS RESPONSIBLE TO TEST ALL SYSTEMS INSTALLED OR MODIFIED UNDER THIS PROJECT AND IS RESPONSIBLE TO REPAIR OR REPLACE ALL DEFECTIVE WORK TO THE SATISFACTION OF THE ENGINEER AND OWNER.

10. ALL EQUIPMENT FURNISHED AND INSTALLED BY THE CONTRACTOR SHALL BE GUARANTEED AGAINST DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE OR AS OTHERWISE NOTED IN SPECIFICATIONS.

11. ALL CONDUCTORS SHALL BE COPPER. NO ALUMINUM ALLOWED UNLESS SPECIFICALLY INDICATED ON DRAWINGS.

12. ALL YARD CONDUITS (YC) AND EXTERIOR UNDERGROUND CONDUITS SHALL BE CONCRETE ENCASED AS PER DETAILS.

13. SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL ELECTRICAL & CONTROL EQUIPMENT AND MATERIAL.

14. ALL CONTROL PANELS SHALL BE CONSTRUCTED BY A UL 508A APPROVED PANEL VENDOR AND SHALL BEAR A UL 508A LABEL ON THE PANEL.

15. THE DRAWINGS ARE NOT INTENDED TO SHOW THE EXACT LOCATION OF CONDUIT RUNS. THESE ARE TO BE COORDINATED WITH THE OTHER TRADES SO THAT CONFLICTS ARE AVOIDED PRIOR TO INSTALLATIONS.

16. ALL LOCATIONS OF EQUIPMENT, PANELS, CONDUITS ETC. ARE SHOWN FOR ILLUSTRATION PURPOSES. CONTRACTOR SHALL VERIFY AND COORDINATE EXACT LOCATION AND SIZE WITH ALL SUBCONTRACTORS AND EQUIPMENT SUPPLIERS PRIOR TO ANY INSTALLATION AND THEN INSTALL AS SUCH WITH CORRESPONDING CONDUIT STUB-UPS.

17. SEE OTHER DISCIPLINE DRAWINGS FOR COORDINATION OF ALL EQUIPMENT LOCATIONS. ANY CONFLICTS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION AND MOVEMENT OF CONDUITS OR OTHER ELECTRICAL EQUIPMENT SHALL BE ACCOMPLISHED WITHOUT ANY ADDITIONAL COST TO THE OWNER.

18. LOCATIONS OF ABOVE GROUND PULL BOXES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE EXACT LOCATION WITH EXISTING AND NEW PIPING OR CONDUIT AND ADJUST ACCORDINGLY.

19. NOT ALL CONDUITS SHOWN ON RISER AND ONE-LINE DIAGRAMS ARE SHOWN ON BUILDING LAYOUTS. CONTRACTOR SHALL SUPPLY ALL CONDUITS AND CABLES AS SHOWN ON RISER AND ONE-LINE DIAGRAMS.

20. ALL CIRCUITS SHALL BE IDENTIFIED IN JUNCTION BOXES, PULL BOXES, CONTROL PANELS, PANELBOARDS, LIGHTING POLES, CONTROLLERS AND SERVICE POINTS. IDENTIFICATION SHALL MATCH PANELBOARD SCHEDULES.

21. INSTRUMENTATION WIRING IS COMPRISED OF LOW VOLTAGE DC SIGNALS SUCH AS A 4-20MA CURRENT LOOP, ETHERNET COPPER CABLE AND OTHER COMMUNICATION, AND FIRE ALARM COMMUNICATION WIRING. POWER CONDUIT AND WIRING SHALL ONLY CROSS INSTRUMENTATION CONDUIT PERPENDICULARLY AT RIGHT ANGLES WITH A MINIMUM OF 6" SEPARATION.

22. CONDUCTOR PULLING TENSIONS SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATION. CONTRACTOR SHALL INSTALL PULL BOXES TO MEET MANUFACTURER'S REQUIREMENTS.

23. MINIMUM DISTANCE ALLOWED BETWEEN POWER CONDUITS AND INSTRUMENTATION CONDUITS SHALL BE:

VOLTAGE	DISTANCE
480V	2 FT
120V	1 FT

24. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONDUIT AND WIRING INSTALLATION FOR ALL VENDOR PROVIDED EQUIPMENT (PACKAGED SYSTEMS). IF THE SHOP DRAWINGS DIFFER FROM THE DESIGNED FACILITIES, THE CONTRACTOR SHALL REDESIGN THE FACILITIES AND SUBMIT THE REVISED DESIGN FOR THE ENGINEER'S APPROVAL ALONG WITH THE SHOP DRAWINGS. THERE SHALL BE NO ADDITIONAL COST TO THE OWNER FOR THE REDESIGN NOR FOR ANY ADDITIONAL CONDUITS AND WIRING. DURING SUBMITTAL THE CONTRACTOR SHALL VERIFY ALL SUPPLIED BREAKER SIZES FOR ALL PACKAGED SYSTEMS SUCH AS HVAC, EXHAUST FANS, ETC., AND MODIFY ALL BREAKERS IN MCC'S AND PANELBOARDS ACCORDINGLY WITHOUT ANY ADDITIONAL COST TO THE OWNER.

25. ALL EXCAVATIONS FOR CONDUITS NEAR EXISTING PIPING, CONDUIT AND EQUIPMENT SHALL BE HAND EXCAVATED AND COORDINATED WITH PLANT MANAGER/SUPER. ALL WIRES SHALL BE TERMINATED ABOVE GROUND PANEL, EQUIPMENT, ETC.

26. MINIMUM DEPTH FROM TOP OF DUCTBANKS OR CONDUITS TO FINISHED GRADE SHALL BE 24" UNLESS OTHERWISE NOTED.

27. COLORED WARNING TAPE 6" WIDE SHALL BE INSTALLED 6" BELOW FINISHED GRADE AND ALSO 12" ABOVE CONDUIT(S) DIRECTLY ABOVE ALL UNDERGROUND YARD CONDUITS ACCORDING TO THE FOLLOWING SCHEDULE:
   POWER: RED
   ALL OTHER CONDUITS: GREEN

28. CONTRACTOR SHALL RESTORE SIDEWALKS, ROADWAYS, SOD, SPRINKLER SYSTEM PIPING, FLOOR ETC. TO MATCH EXISTING, AFTER THE COMPLETION OF THE CONDUIT AND PULLBOX INSTALLATION.

29. ALL EQUIPMENT GROUND WIRE SIZED PER NEC SHALL BE PULLED IN ALL ELECTRICAL CONDUITS, POWER AND CONTROL, WHETHER OR NOT INDICATED ON THE PLANS.

30. ALL ENCLOSURES, TJB, WIREWAY, PULL BOXES ETC. SHALL CONTAIN A GROUNDING BUS. CONNECT ALL RACEWAY BONDS TO THIS BUS VIA GROUNDING BUSHING AND EXTEND BONDING JUMPER FROM THIS BUS TO THE ENCLOSURE.

31. ALL DUCTBANKS SHALL CARRY A MINIMUM #4/0 AWG BARE TINNED COPPER GROUND WIRE, OVER THE ENTIRE LENGTH, WHICH SHALL BE CONNECTED TO NEAREST SITE GROUNDING GRID OR GROUND RODS CONNECTING ABOVE GROUND PULL BOXES OR EQUIPMENT GROUND BUS, ETC.

32. ALL CONDUITS PENETRATING RATED FIRE WALLS OR RATED FIRE FLOORS SHALL BE INSTALLED WITH U.L. APPROVED DEVICES TO MAINTAIN THE FIRE RATING OF THE WALL OR FLOOR PENETRATED.

33. GROUNDING SHALL BE INSTALLED IN ACCORDANCE WITH NEC, ARTICLE 250. THE GROUNDING SYSTEM TEST SHALL NOT EXCEED A 48 HOUR SPAN DRY RESISTANCE OF 10 OHMS. ADDITIONAL GROUNDING TO MEET THIS REQUIREMENT SHALL BE INSTALLED AT NO EXTRA COST. GROUNDING AND BONDING CONNECTIONS SHALL NOT BE PAINTED. ALL GROUNDING CONNECTIONS SHALL BE EXOTHERMIC UNLESS SPECIFICALLY INDICATED OTHERWISE.

34. PRIMARY STRUCTURE OR BUILDING GROUNDING SHALL BE AN EMBEDDED GRID OF MINIMUM #4/0 AWG BARE TINNED COPPER WIRE INSTALLED IN THE FOUNDATION AND AROUND THE STRUCTURE OR BUILDING PERIMETER, MINIMUM 30" BELOW FINISHED GRADE TO FORM A COMPLETE LOOP. SECONDARY GROUND CONNECTIONS TO ALL METAL EQUIPMENT, HAND RAILS, STRUCTURAL STEEL, CONCRETE PADS, REBAR, ETC. SHALL HAVE A MINIMUM #4 STRANDED BARE TINNED COPPER CONDUCTOR BONDED USING APPROVED LUGS OR EXOTHERMIC CONNECTIONS. ALL EQUIPMENT GROUNDING CONDUCTORS PENETRATING CONCRETE SLABS OR FINISHED GRADE SHALL HAVE A 72" CONDUCTOR PIGTAIL AT EACH LOCATION FOR CONNECTION TO EQUIPMENT.

35. ALL MATERIAL IN DESIGNATED CORROSIVE AREAS SHALL BE NEMA 4X 316 STAINLESS STEEL OR NON-METALLIC, ONLY IF SHOWN ON PLAN TO USE NON-METALLIC.

36. ALL OUTDOOR LIGHTING FIXTURE ENCLOSURES SHALL BE OF COPPER-FREE ALUMINUM CONSTRUCTION. ALL LIGHT FIXTURES SHALL BE LED.

37. CONTRACTOR SHALL BALANCE PANELBOARD LOADS (WITHIN 5%) AT THE END OF THE PROJECT, WHERE POSSIBLE.

38. ALL REFERENCES TO SS OR STAINLESS STEEL MEAN 316 STAINLESS STEEL.

39. ALL VERTICAL CONDUIT PENETRATIONS FROM CONCRETE SLAB SHALL HAVE A MAINTENANCE PAD TO PREVENT CORROSION.

40. NO CONDUIT SHALL PENETRATE AN OUTDOOR ELECTRICAL PANEL FROM THE TOP. FOR OUTDOOR PANELS, ALL CONDUIT PENETRATIONS SHALL BE FROM BOTTOM OR SIDE WITH APPROVED RAINTIGHT HUBS.

41. ALL SPARE CONDUITS SHALL BE SEALED WITH A CAP AT BOTH ENDS AND A PULL STRING INSTALLED WITH IDENTIFICATION ON BOTH ENDS, WHETHER INDICATED OR NOT ON DRAWINGS.

42. PROVIDE CONDUIT DUCT SEAL AT ALL CONDUIT ENDS.

43. FLEXIBLE CONDUITS SHALL BE USED TO TERMINATE ALL MOTORS, OTHER VIBRATING EQUIPMENT, AND FREQUENTLY REMOVED EQUIPMENT AND SHALL BE BETWEEN 18" AND 3' IN LENGTH.

44. ALL REMOVED ELECTRICAL EQUIPMENT SHALL BE DISPOSED PROPERLY BY CONTRACTOR, UNLESS PLANT SUPERINTENDENT WANTS TO RETAIN IT.

NOTE:

THE EXISTING ELECTRICAL INFORMATION IS OBTAINED FROM "RECORD DRAWINGS" AND OTHER "AS-BUILT DRAWINGS". CONTRACTOR SHALL VERIFY THE INFORMATION PROVIDED IN THESE DRAWINGS AND ADJUST ACCORDINGLY. ANY CONFLICTS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION BEFORE SUBMITTING HIS BID/GMP.

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HILLERS ELECTRICAL ENGINEERING, INC.
23257 STATE ROAD 7, SUITE 100
BOCA RATON, FLORIDA 33428
(561) 451-9165
(561) 451-4886 FAX
LICENSE NO: EB 0006877

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CA No. 8571

THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

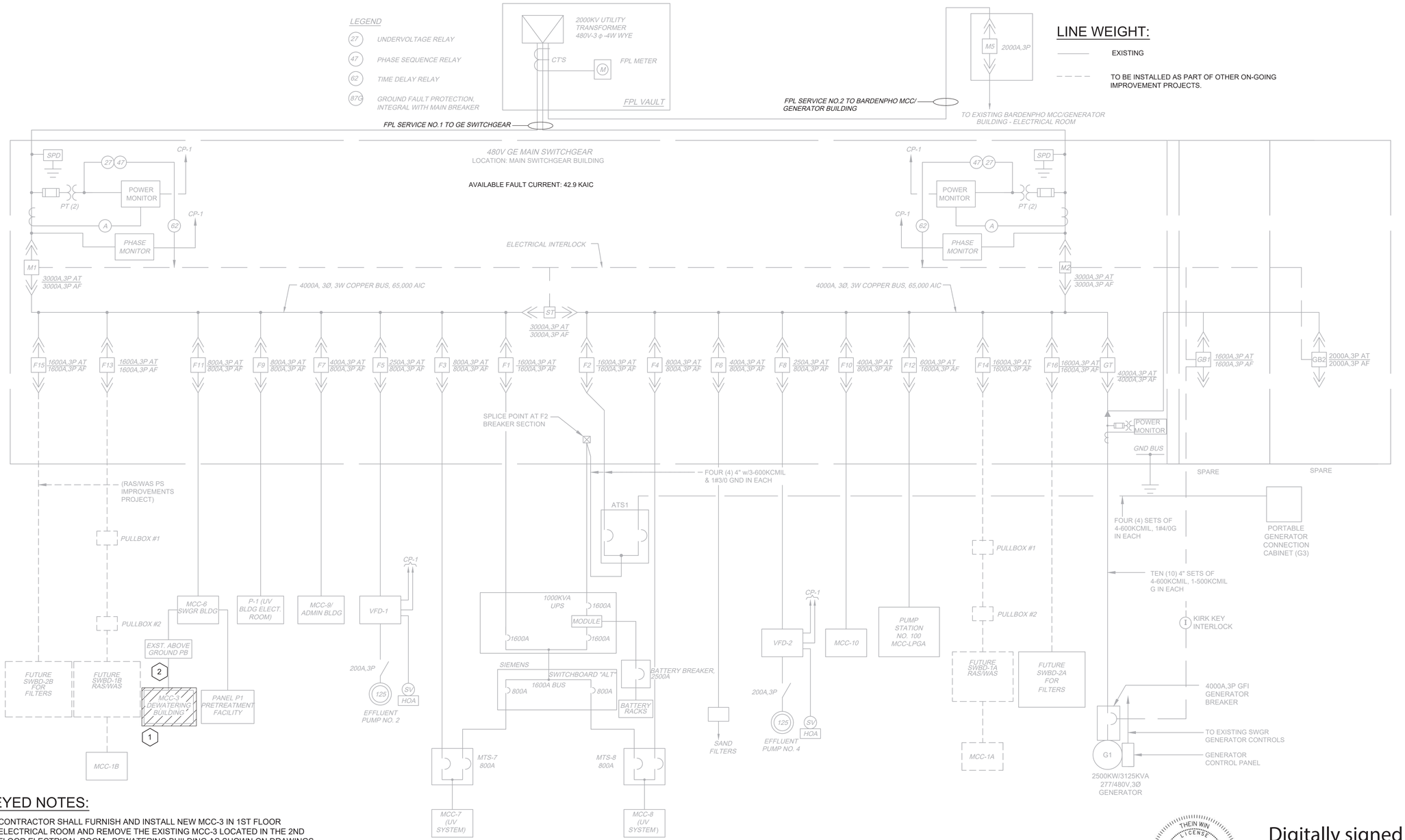
CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
ELECTRICAL
ELECTRICAL GENERAL NOTES

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 8290U.10
DRAWING NO. 00E02
SHEET NO.

LAST SAVED BY: twin

PROJECT NO.
FILE NAME: 8290U10_E02.dwg



KEYED NOTES:

1. CONTRACTOR SHALL FURNISH AND INSTALL NEW MCC-3 IN 1ST FLOOR ELECTRICAL ROOM AND REMOVE THE EXISTING MCC-3 LOCATED IN THE 2ND FLOOR ELECTRICAL ROOM - DEWATERING BUILDING AS SHOWN ON DRAWINGS.
2. CONTRACTOR SHALL FURNISH AND INSTALL NEW CONDUITS/WIRES FROM THE EXISTING ABOVE GROUND PULL BOX LOCATED WEST OF THE DEWATERING BUILDING TO NEW MCC-3 LOCATED IN 1ST FLOOR ELECTRICAL ROOM. PROVIDE AND INSTALL NEW WATERPROOF SPLICES WITH HEAT SHRINKS IN THE EXISTING ABOVE GROUND PULL BOX. WATERPROOF SPLICE KITS SHALL BE RAYCHEM OR ENGINEER/OWNER APPROVED EQUAL.

EXISTING MAIN SWITCHGEAR - ONE LINE DIAGRAM

NOT TO SCALE

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THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

ELECTRICAL

EXISTING SWGR ONE LINE DIAGRAM

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JOB NO. 8290U.10
DRAWING NO. 00E03
SHEET NO.

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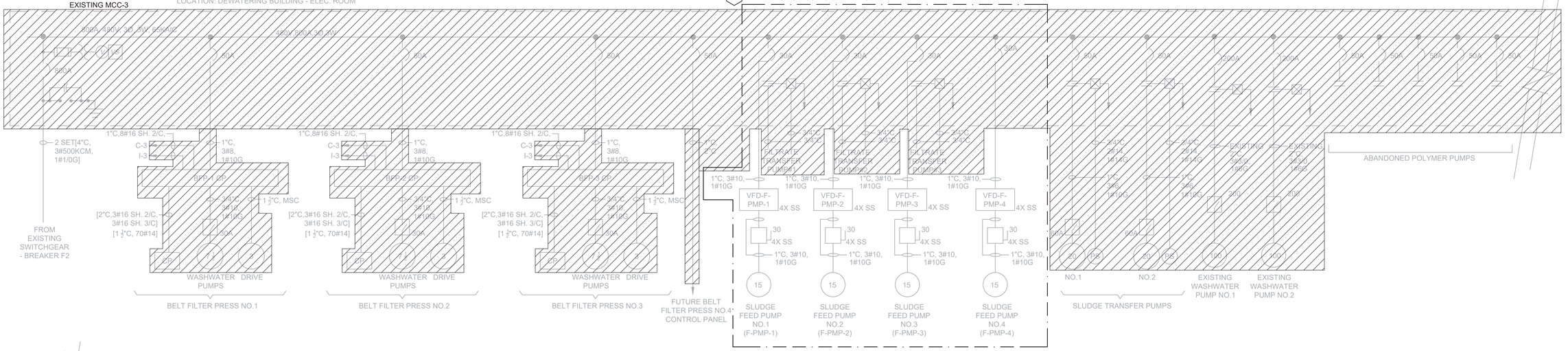
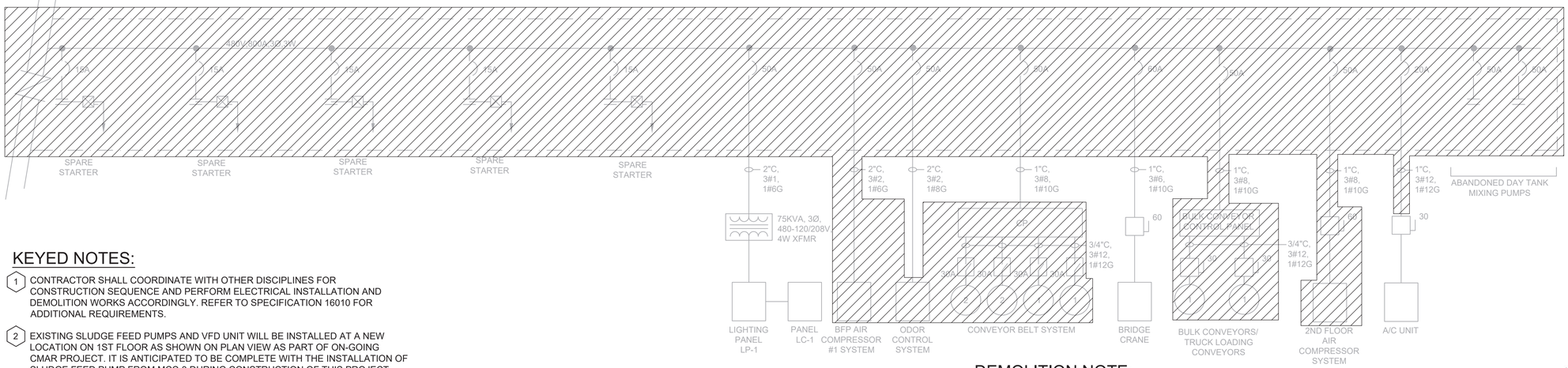
PROJECT NO. FILE NAME: 8290U10_E03.dwg

GE 8000 LINE MCC
CAT.#: 593X0777L09
HORIZONTAL BUS: 800A
VERTICAL BUS 1 AND 2: 600A
LOCATION: DEWATERING BUILDING - ELEC. ROOM

EXISTING MCC-3

2 AS PART OF ON-GOING CMAR PROJECT.





KEYED NOTES:

1. CONTRACTOR SHALL COORDINATE WITH OTHER DISCIPLINES FOR CONSTRUCTION SEQUENCE AND PERFORM ELECTRICAL INSTALLATION AND DEMOLITION WORKS ACCORDINGLY. REFER TO SPECIFICATION 16010 FOR ADDITIONAL REQUIREMENTS.
2. EXISTING SLUDGE FEED PUMPS AND VFD UNIT WILL BE INSTALLED AT A NEW LOCATION ON 1ST FLOOR AS SHOWN ON PLAN VIEW AS PART OF ON-GOING CMAR PROJECT. IT IS ANTICIPATED TO BE COMPLETE WITH THE INSTALLATION OF SLUDGE FEED PUMP FROM MCC-3 DURING CONSTRUCTION OF THIS PROJECT. CONTRACTOR SHALL COORDINATE WITH EXISTING CONDITIONS AND ASSISTS AS NEEDED FOR CONNECTING SLUDGE FEED PUMPS TO THE NEW MCC.
3. CONTRACTOR SHALL REMOVE ALL EXISTING WIRES AT MCC-3 COMPLETELY BACK TO SOURCE. FIELD DETERMINE AND VERIFY THE SOURCE AND DESTINATION AS NEEDED. REMOVE ALL EXISTING ABANDONED EXPOSED CONDUITS UNLESS THEY WILL BE REUSED.

EXISTING MCC-3 ONE LINE DIAGRAM - DEMOLITION (1) (3)

NOT TO SCALE

DEMOLITION NOTE:

1. CONTRACTOR SHALL COORDINATE WITH OWNER ON THE TIMING FOR DEMOLITION WORKS. THE EXISTING BELT FILTER PRESSES (BFP'S) ON THE 2ND FLOOR WILL NEED TO BE IN OPERATION UNTIL NEW CONVEYORS AND NEW PRESSES ARE INSTALLED AT 1ST FLOOR.
2. ALL EXISTING EXPOSED CONDUITS FROM 2ND FLOOR ELECTRICAL ROOM TO 2ND FLOOR BELT FILTER PRESSES ARE ROUTED THRU 1ST FLOOR CEILING AND MAY NEED TO BE DEMOLISHED TO MAKE ROOM FOR NEW BELT FILTER PRESSES AND PIPING. CONTRACTOR SHALL PROVIDE TEMPORARY POWER FOR 2ND FLOOR BFP UNITS TO KEEP THEM IN OPERATION. ALL COSTS ASSOCIATED WITH THE TEMPORARY POWER, TEMPORARY CABLES, LABOR, SUPPORTS, ETC. FOR THE PERIOD OF TEMPORARY POWER USAGE SHALL BE INCLUDED AS PART OF CONTRACTOR'S BID PRICE.

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THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
ELECTRICAL
EXISTING MCC-3 DEMOLITION ONE LINE DIAGRAM

VERIFY SCALES
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JOB NO. 8290U.10
DRAWING NO. 00E04
SHEET NO.

LAST SAVED BY: twin

PROJECT NO.
FILE NAME: 8290U10_E04.dwg

GE 8000 LINE MCC
CAT.# 593X0777L05
DIAG# 318B1696
HORIZONTAL BUS: 800A

EXISTING MCC-3

MAIN BREAKER	METER	SPARE (OFF)	SPARE (OFF)	SPARE (OFF)	POLYMER SYSTEM PUMP NO.2 (OFF)	POLYMER SYSTEM PUMP NO.3 (OFF)	POLYMER SYSTEM PUMP NO.4 (OFF)	WASHWATER PUMP NO.1
	ELR RELAYS							
	SLUDGE TRANSFER PUMP NO.1	SLUDGE FEED PUMP NO.1 BREAKER	SLUDGE FEED PUMP NO.3 BREAKER	SLUDGE FEED PUMP NO.5	FILTRATE TRANSFER PUMP NO.1 (OFF)	BRIDGE CRANE	BFP#1	
						BFP AIR COMPRESSOR#1	BFP#2	
						ODOR CONTROL SYSTEM	BFP#3	WASHWATER PUMP NO.2 (OFF)
		SPARE (OFF)	SPARE (OFF)	POLYMER SYSTEM PUMP NO.1 (OFF)	A/C UNIT	2ND FLOOR AIR COMP.	FUT. BFP#4	
					BULK CONVEYOR	DAY TANK MIXING BLOWER#1 (OFF)	SPACE	
INCOMING LINE TERMINALS	SLUDGE TRANSFER PUMP NO.2				SPARE BREAKER		SCREW CONVEYOR SYSTEM	
		SLUDGE FEED PUMP NO.2 BREAKER	SLUDGE FEED PUMP NO.4 BREAKER	SPACE	POLYMER PUMP (OFF)	DAY TANK MIXING BLOWER#2 (OFF)	PANEL LP-1 AND LC-1	SPACE

EXISTING MCC-3 ELEVATION DIAGRAM (TO BE DEMOLISHED)
NOT TO SCALE (1)

KEYED NOTES:

(1) EXISTING MCC-3 ELEVATION DIAGRAM IS TO ASSIST CONTRACTOR TO DETERMINE THE EXISTING MCC BUCKET LOCATION AND OBTAINED FROM FIELD OBSERVATION AND AS-BUILT DRAWINGS. MCC BUCKETS MAY BE MOVED DURING THE TEMPORARY FEEDERS FOR SLUDGE FEED PUMP INSTALLATION AS PART OF THE ON-GOING CMAR PROJECT.

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CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

ELECTRICAL

EXISTING MCC-3 ELEVATION DIAGRAM

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DRAWING NO. 00E05
SHEET NO.

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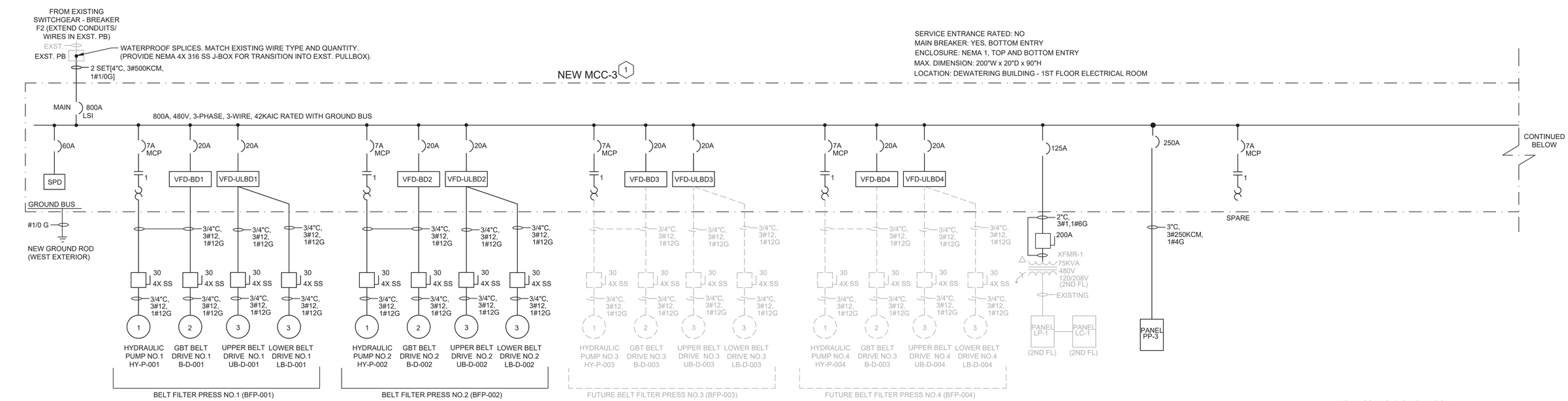
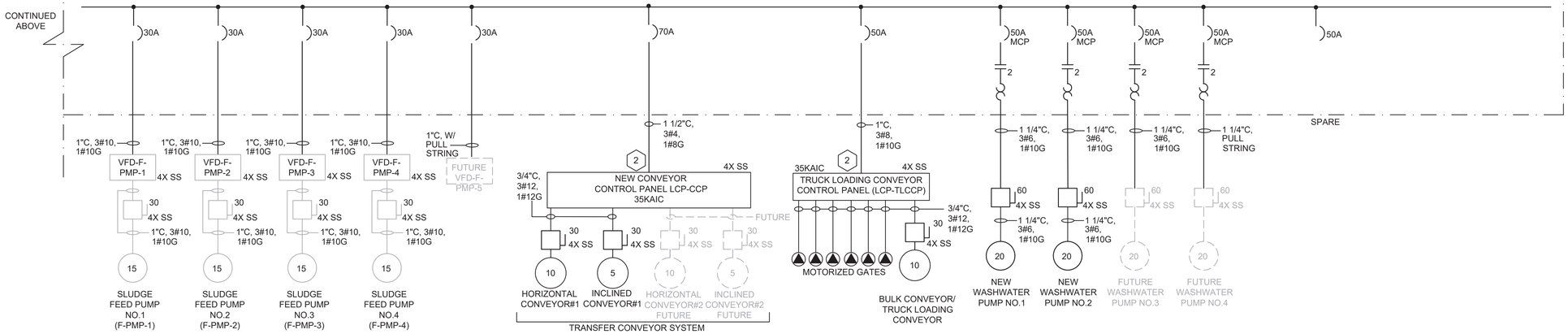
FILE NAME: 8290U10_E05.dwg



NEW MCC-3 ONE LINE DIAGRAM

NOT TO SCALE



NEW MCC-3 ONE LINE DIAGRAM

NOT TO SCALE

NEW MCC-3 LOAD CALCULATION

@480V, 3Ø

LOAD DESCRIPTION	CONNECTED	RUNNING
BFP NO.1 SYSTEM	15.1 A	13.1 A
BFP NO.2 SYSTEM	15.1 A	13.1 A
FUT. BFP NO.3 SYSTEM	15.1 A	13.1 A
FUT. BFP NO.4 SYSTEM	15.1 A	0.0 A
EXISTING PANEL LP-1, LC-1	60.0 A	54.0 A
PANEL PP-3	94.1 A	80.0 A
SLUDGE FEED PUMP#1	21.0 A	17.8 A
SLUDGE FEED PUMP#2	21.0 A	17.8 A
SLUDGE FEED PUMP#3	21.0 A	17.8 A
SLUDGE FEED PUMP#4	21.0 A	0.0 A
FUT. SLUDGE FEED PUMP#5	21.0 A	0.0 A
NEW CONVEYOR CONTROL PANEL	43.2 A	21.6 A
TRUCK LOADING CONVEYOR C.P.	28.0 A	23.8 A
WASHWATER PUMP NO.1	27.0 A	23.0 A
WASHWATER PUMP NO.2	27.0 A	23.0 A
FUTURE WASHWATER PUMP NO.3	27.0 A	0.0 A
FUTURE WASHWATER PUMP NO.4	27.0 A	0.0 A
TOTAL AMPS	498.7 A	318.1 A
TOTAL KVA	414.6 KVA	264.5 KVA

EACH BELT FILTER PRESS LOAD SUMMARY

DESCRIPTION	CONNECTED LOADS	RUNNING LOADS
HY-P-001	2.1 A	1.8 A
B-D-001	3.4 A	3.1 A
UB-D-001	4.8 A	4.1 A
LB-D-001	4.8 A	4.1 A
TOTAL AMPS	15.1 A	13.1 A

KEYED NOTES:

1. EXTEND CONDUIT/WIRES FOR EXISTING LOADS TO BE RECONNECTED THE NEW MCC-3 AS SHOWN. MATCH WIRE TYPE AND QUANTITY WITH EXISTING.
2. COORDINATE WITH CONVEYOR CONTROL PANEL SUPPLIER AND ADJUST CONDUITS/WIRES AS NEEDED.

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CA No. 8571

CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

ELECTRICAL

PROPOSED MCC-3 ONE LINE DIAGRAM (ALFA LAVAL SYSTEM)

VERIFY SCALES
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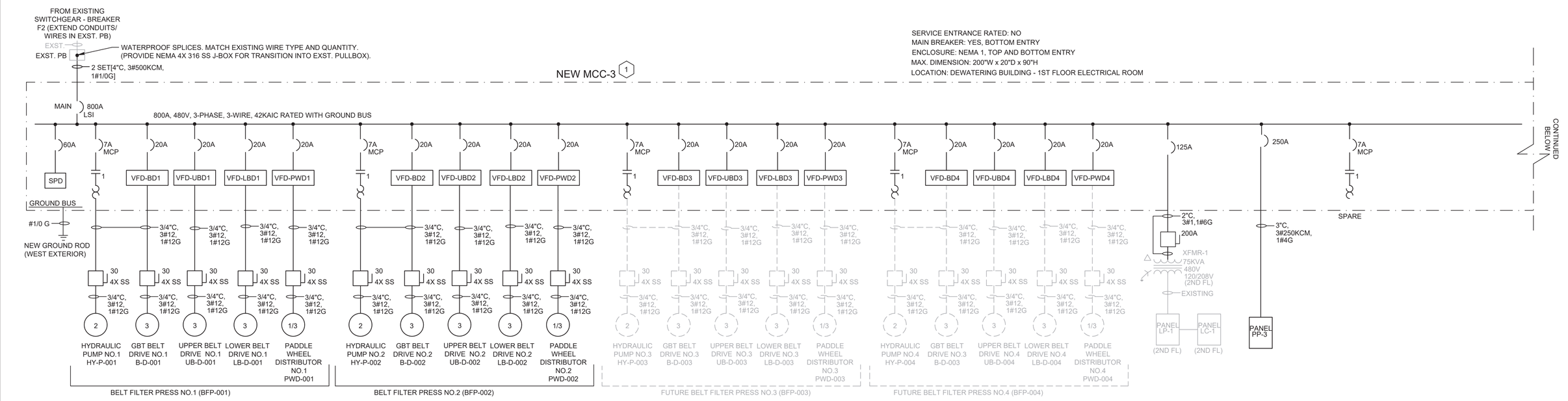
FILE NAME: 8290U10_E06.dwg



NEW MCC-3 ONE LINE DIAGRAM
NOT TO SCALE

KEYED NOTES:

1. EXTEND CONDUIT/WIRES FOR EXISTING LOADS TO BE RECONNECTED THE NEW MCC-3 AS SHOWN. MATCH WIRE TYPE AND QUANTITY WITH EXISTING.
2. COORDINATE WITH CONVEYOR CONTROL PANEL SUPPLIER AND ADJUST CONDUITS/WIRES AS NEEDED.

NEW MCC-3 ONE LINE DIAGRAM
NOT TO SCALE

NEW MCC-3 LOAD CALCULATION

@480V, 3Ø

LOAD DESCRIPTION	CONNECTED	RUNNING
BFP NO.1 SYSTEM	18.8 A	16.2 A
BFP NO.2 SYSTEM	18.8 A	16.2 A
FUT. BFP NO.3 SYSTEM	18.8 A	16.2 A
FUT. BFP NO.4 SYSTEM	18.8 A	0.0 A
EXISTING PANEL LP-1, LC-1	90.0 A	54.0 A
PANEL PP-3	94.1 A	80.0 A
SLUDGE FEED PUMP#1	21.0 A	17.8 A
SLUDGE FEED PUMP#2	21.0 A	17.8 A
SLUDGE FEED PUMP#3	21.0 A	17.8 A
SLUDGE FEED PUMP#4	21.0 A	0.0 A
SLUDGE FEED PUMP#5	21.0 A	0.0 A
NEW CONVEYOR CONTROL PANEL	43.2 A	21.6 A
NEW BULK CONVEYOR CONTROL PANEL	28.0 A	23.8 A
WASHWATER PUMP NO.1	27.0 A	23.0 A
WASHWATER PUMP NO.2	27.0 A	23.0 A
FUTURE WASHWATER PUMP NO.3	27.0 A	0.0 A
FUTURE WASHWATER PUMP NO.4	27.0 A	0.0 A
TOTAL AMPS	543.5 A	327.4 A
TOTAL KVA	451.9 KVA	272.2 KVA

EACH BELT FILTER PRESS LOAD SUMMARY

DESCRIPTION	CONNECTED LOADS	RUNNING LOADS
HY-P-001	3.4 A	3.1 A
B-D-001	4.8 A	4.1 A
UB-D-001	4.8 A	4.1 A
LB-D-001	4.8 A	4.1 A
PWD-001	1.0 A	0.8 A
TOTAL AMPS	18.8 A	16.2 A

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CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
ELECTRICAL
PROPOSED MCC-3 ONE LINE DIAGRAM (BDP SYSTEM)

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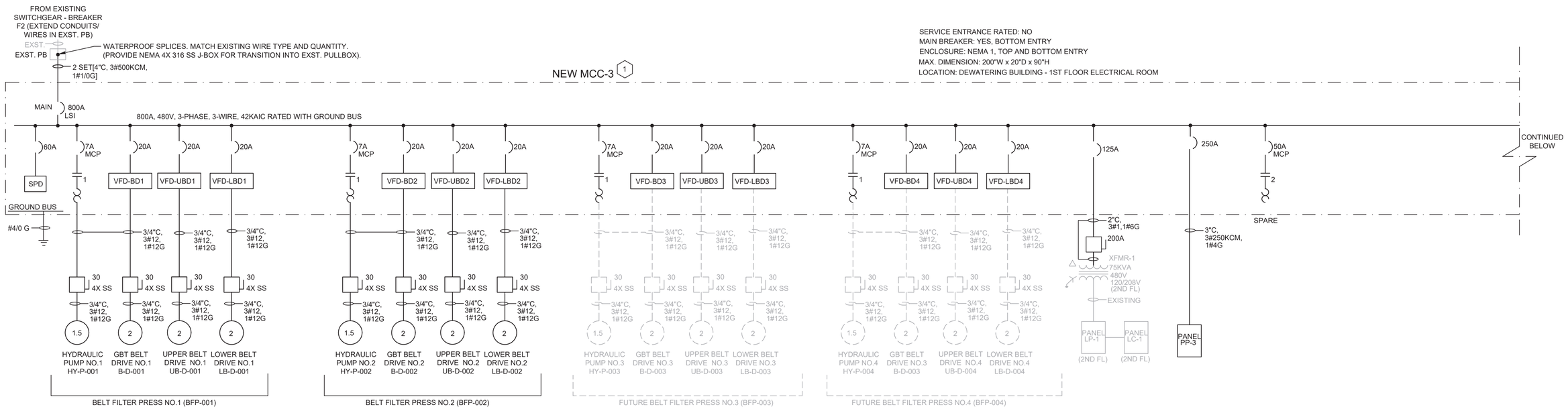
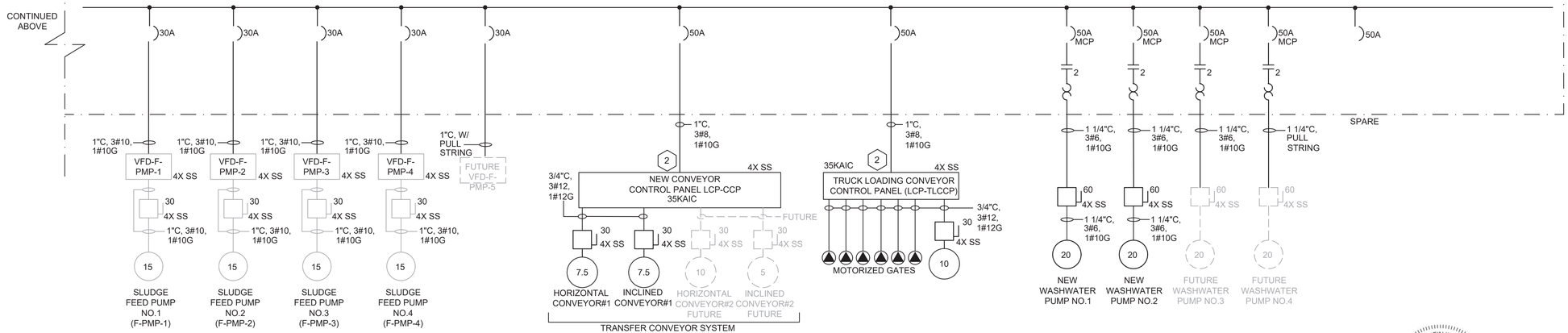
PROJECT NO.
FILE NAME: 8290U10_E07.dwg



NEW MCC-3 ONE LINE DIAGRAM

NOT TO SCALE



NEW MCC-3 ONE LINE DIAGRAM

NOT TO SCALE

NEW MCC-3 LOAD CALCULATION

@480V, 3Ø

LOAD DESCRIPTION	CONNECTED	RUNNING
BFP NO.1 SYSTEM	13.2 A	11.3 A
BFP NO.2 SYSTEM	13.2 A	11.3 A
FUT. BFP NO.3 SYSTEM	13.2 A	11.3 A
FUT. BFP NO.4 SYSTEM	13.2 A	0.0 A
EXISTING PANEL LP-1, LC-1	90.0 A	54.0 A
PANEL PP-3	94.1 A	80.0 A
SLUDGE FEED PUMP#1	21.0 A	17.8 A
SLUDGE FEED PUMP#2	21.0 A	17.8 A
SLUDGE FEED PUMP#3	21.0 A	17.8 A
SLUDGE FEED PUMP#4	21.0 A	0.0 A
SLUDGE FEED PUMP#5	21.0 A	0.0 A
NEW CONVEYOR CONTROL PANEL	43.2 A	21.6 A
NEW BULK CONVEYOR CONTROL PANEL	28.0 A	23.8 A
WASHWATER PUMP NO.1	27.0 A	23.0 A
WASHWATER PUMP NO.2	27.0 A	23.0 A
FUTURE WASHWATER PUMP NO.3	27.0 A	0.0 A
FUTURE WASHWATER PUMP NO.4	27.0 A	0.0 A
TOTAL AMPS	521.1 A	313.7 A
TOTAL KVA	433.2 KVA	260.8 KVA

EACH BELT FILTER PRESS LOAD SUMMARY

DESCRIPTION	CONNECTED LOADS	RUNNING LOADS
HY-P-001	3.0 A	2.6 A
B-D-001	3.4 A	2.9 A
UB-D-001	3.4 A	2.9 A
LB-D-001	3.4 A	2.9 A
TOTAL AMPS	13.2 A	11.3 A

KEYED NOTES:

1. EXTEND CONDUIT/WIRES FOR EXISTING LOADS TO BE RECONNECTED THE NEW MCC-3 AS SHOWN. MATCH WIRE TYPE AND QUANTITY WITH EXISTING.
2. COORDINATE WITH CONVEYOR CONTROL PANEL SUPPLIER AND ADJUST CONDUITS/WIRES AS NEEDED.

NEW MCC-3 ONE LINE DIAGRAM

NOT TO SCALE

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BOCA RATON, FLORIDA 33428
(561) 451-9165
(561) 451-4886 FAX
LICENSE NO: EB 0006877

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THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
ELECTRICAL
PROPOSED MCC-3 ONE LINE DIAGRAM (ANDRITZ SYSTEM)

VERIFY SCALES
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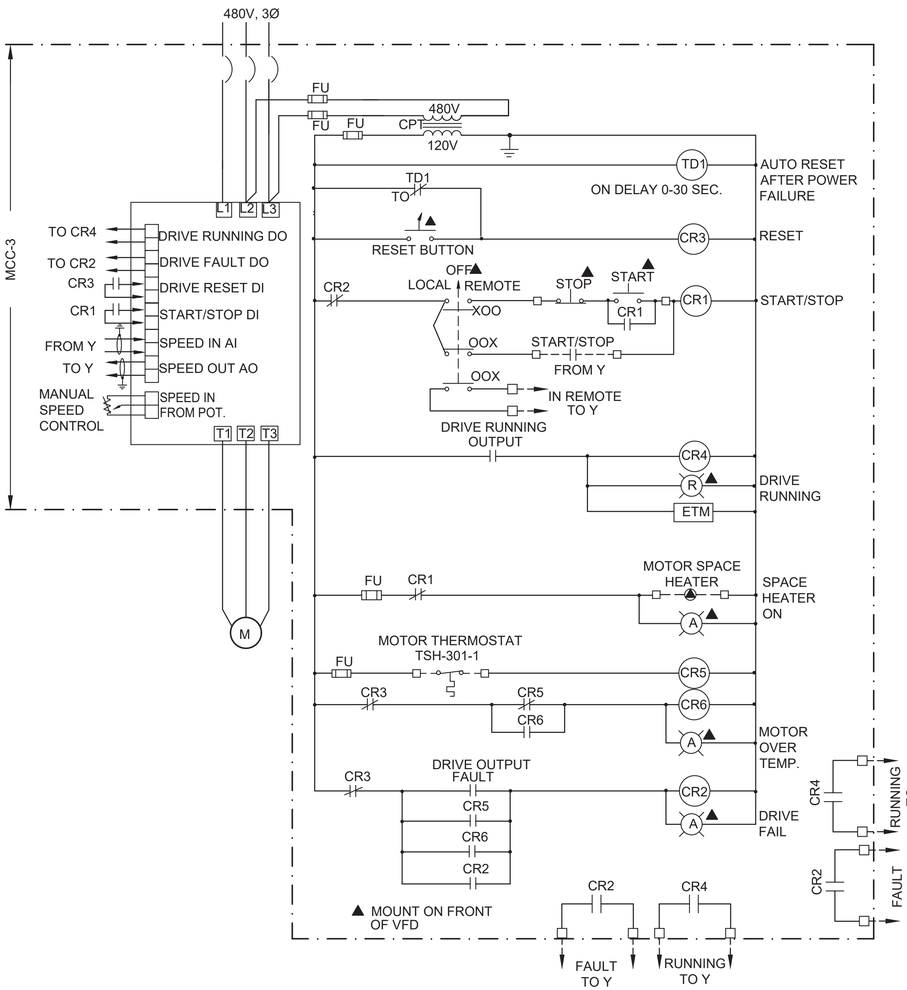
DRAWING NO. 00E08
SHEET NO.

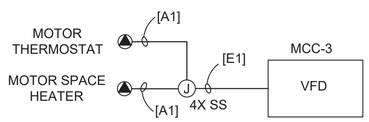
LAST SAVED BY: twin

PROJECT NO.
FILE NAME: 8290U10_E08.dwg



GBT BELT DRIVE NO.X VFD CONTROL SCHEMATIC

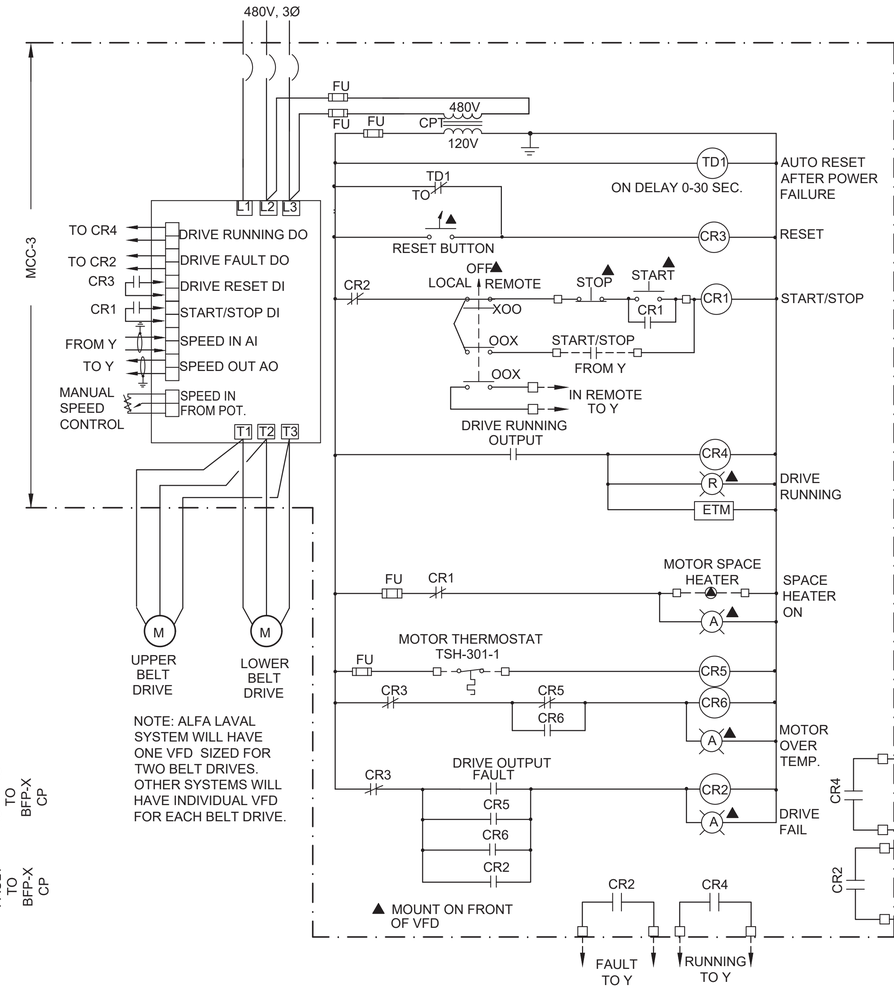
NOT TO SCALE
X = 1, 2, FUTURE 3, 4
Y = PCP-DW



GBT BELT DRIVE NO.X RISER

NOT TO SCALE
X = 1, 2, FUTURE 3, 4

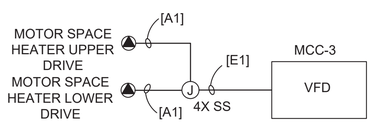
NOTE: CONTRACTOR SHALL COORDINATE WITH BFP SUPPLIER FOR THE CONTROL AND PUMP PROTECTION FUNCTION REQUIREMENTS AND ADJUST THE VFD OR STARTER WIRING DURING SHOP DRAWING PHASE WITHOUT ADDITIONAL COST TO THE OWNER.



NOTE: ALFA LAVAL SYSTEM WILL HAVE ONE VFD SIZED FOR TWO BELT DRIVES. OTHER SYSTEMS WILL HAVE INDIVIDUAL VFD FOR EACH BELT DRIVE.

BFP BELT DRIVE NO.X VFD CONTROL SCHEMATIC

NOT TO SCALE
X = 1, 2, FUTURE 3, 4
Y = PCP-DW



BFP BELT DRIVE NO.X RISER

NOT TO SCALE
X = 1, 2, FUTURE 3, 4

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CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
ELECTRICAL
SCHEMATIC DIAGRAMS - SHEET 1

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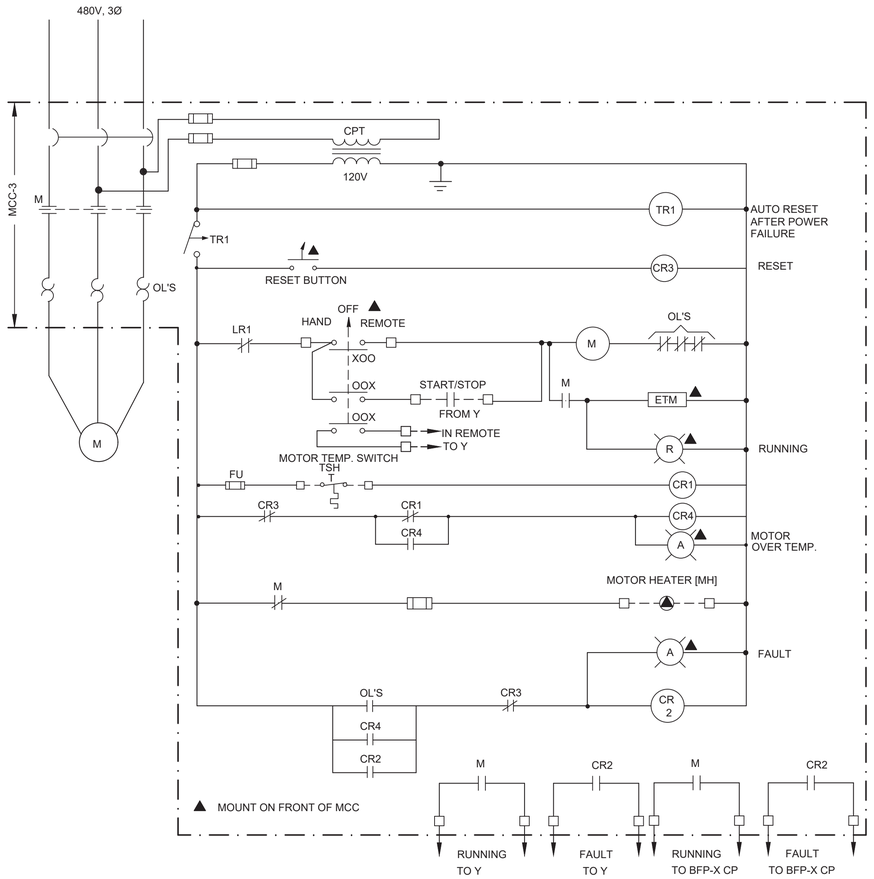

HYDRAULIC PUMP NO.X CONTROL SCHEMATIC

NOT TO SCALE
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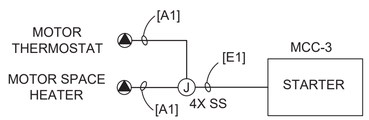

HYDRAULIC PUMP NO.X RISER

NOT TO SCALE
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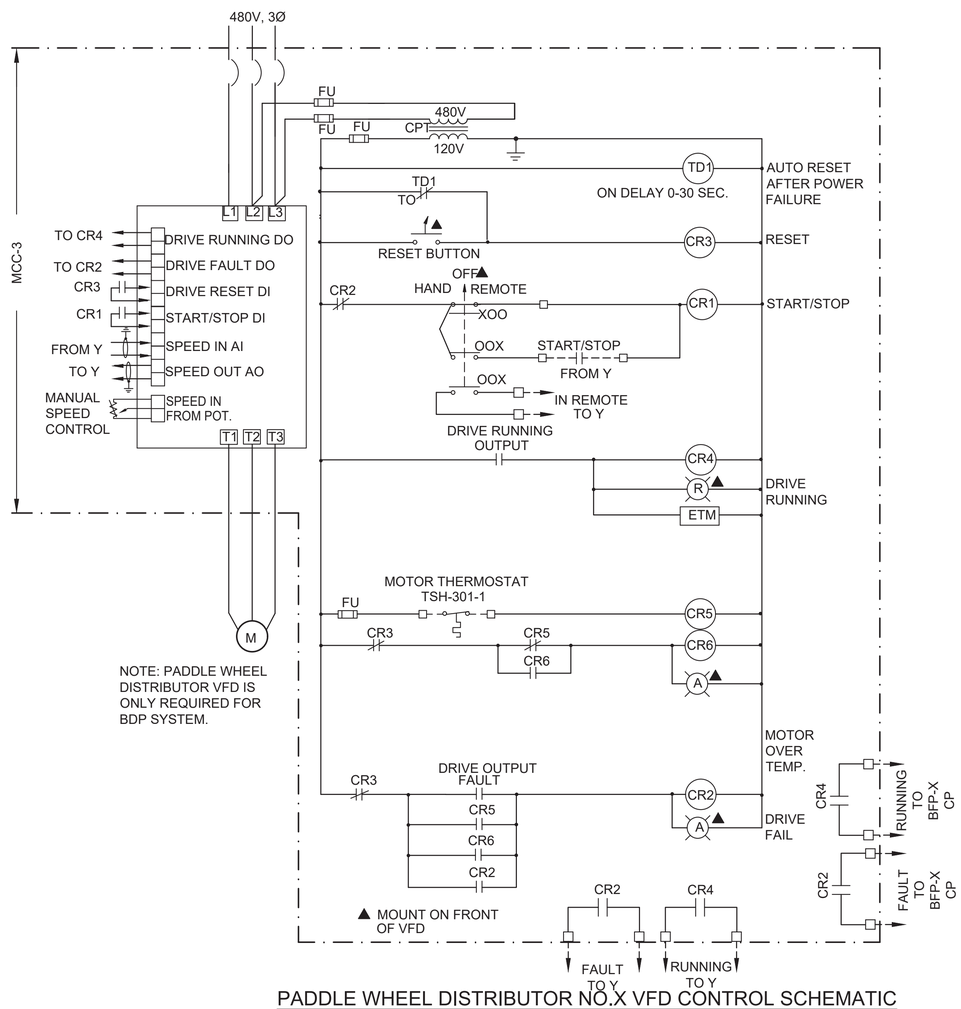
NOTE: CONTRACTOR SHALL COORDINATE WITH BFP SUPPLIER FOR THE CONTROL AND PUMP PROTECTION FUNCTION REQUIREMENTS AND ADJUST THE VFD OR STARTER WIRING DURING SHOP DRAWING PHASE WITHOUT ADDITIONAL COST TO THE OWNER.



PADDLE WHEEL DISTRIBUTOR NO.X VFD CONTROL SCHEMATIC

NOT TO SCALE
X = 1, 2, FUTURE 3, 4
Y = PCP-DW

PADDLE WHEEL DISTRIBUTOR NO.X RISER

NOT TO SCALE
X = 1, 2, FUTURE 3, 4

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THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
ELECTRICAL
SCHEMATIC DIAGRAMS - SHEET 2

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DRAWING NO. 00E10
SHEET NO.

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PROJECT NO.
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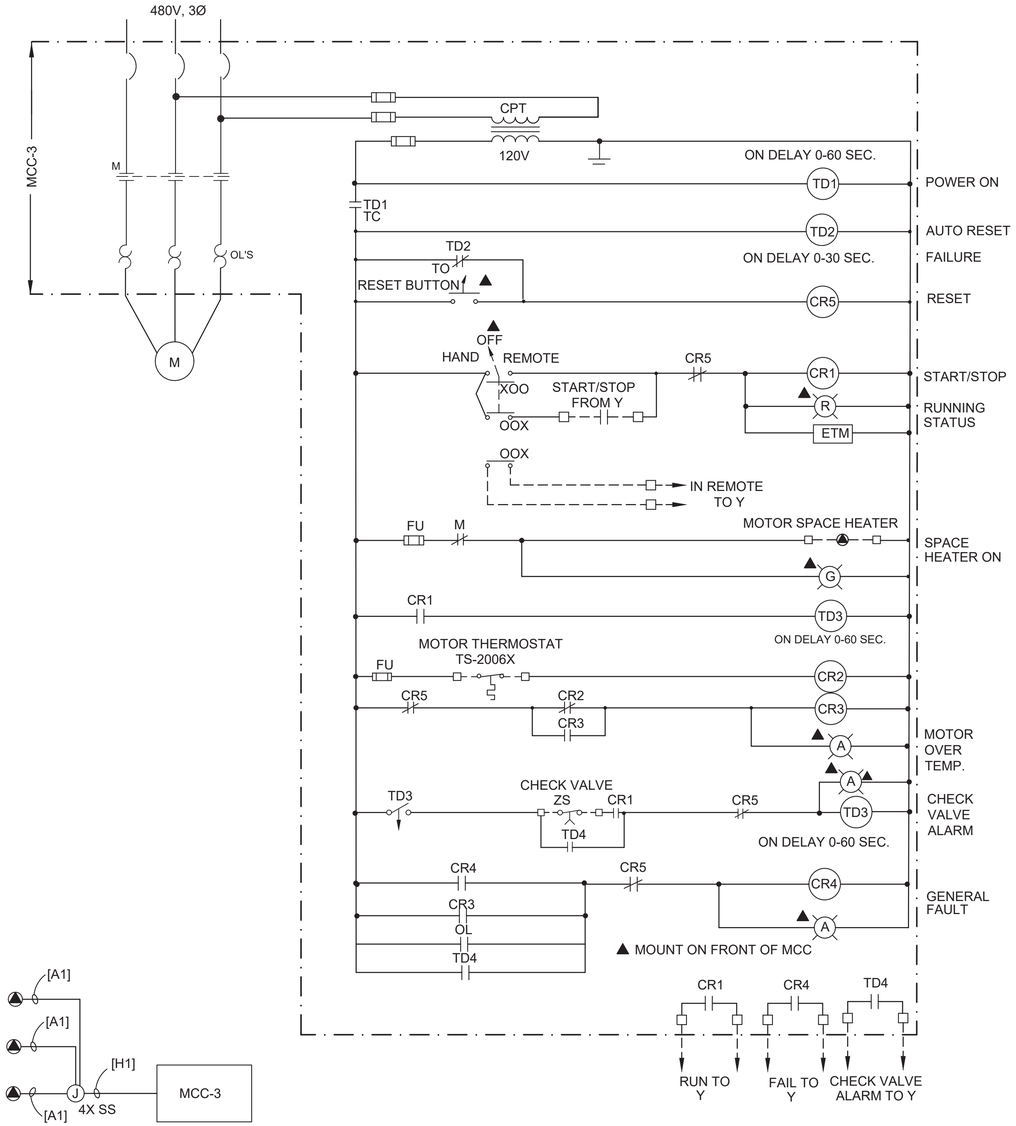

WASHWATER PUMP NO.X SSRVS RISER

NOT TO SCALE
X = 1, 2, FUTURE 3, 4

WASHWATER PUMP NO.X CONTROL SCHEMATIC

NOT TO SCALE
X = 1, 2, FUTURE 3, 4
Y = PCP-DW

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SCHEMATIC DIAGRAMS - SHEET 3

VERIFY SCALES
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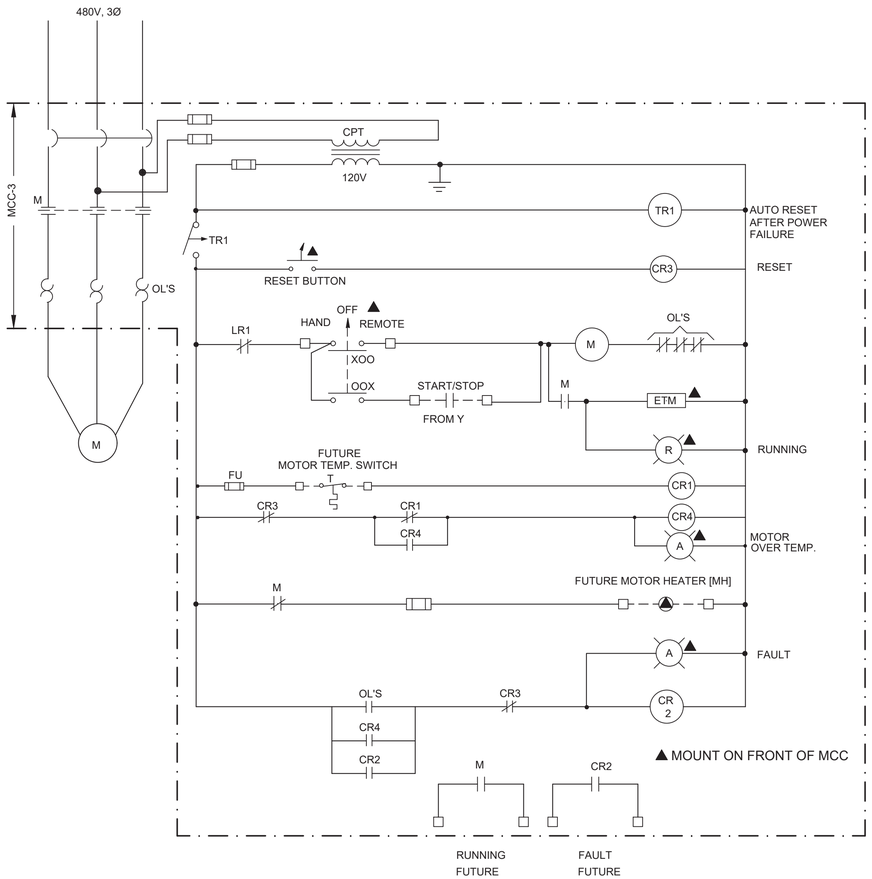
DRAWING NO. 00E11
SHEET NO.

LAST SAVED BY: twin

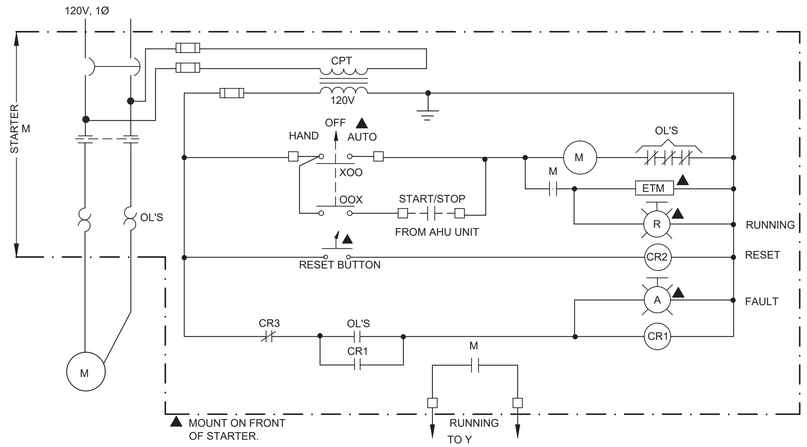
PROJECT NO.
FILE NAME: 8290U10_E11.dwg



SPARE STARTER CONTROL SCHEMATIC

NOT TO SCALE

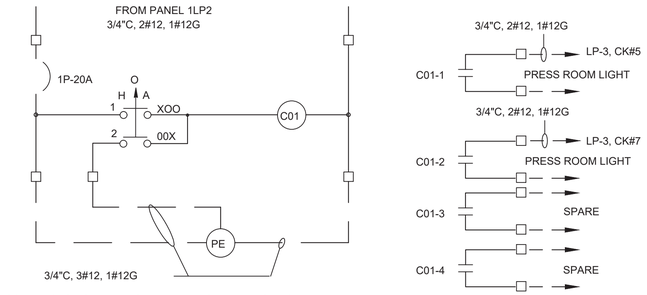
Y = PCP-DW



SUPPLY FAN (SF-1) STARTER CONTROL WIRING

NOT TO SCALE

Y = PCP-DW



CONTRACTOR SHALL PROVIDE AND INSTALL ELECTRICALLY HELD LIGHTING CONTACTOR, 120V, 1P COIL, 30A 277V RATED CONTACTS IN NEMA 4X SS ENCLOSURE. MAKE ALL NECESSARY CONNECTIONS FOR A COMPLETE WORKING SYSTEM IN PLACE.

LIGHTING CONTROL SCHEMATIC

SCALE: NONE

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CA No. 8571

CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

ELECTRICAL

SCHEMATIC DIAGRAMS - SHEET 4

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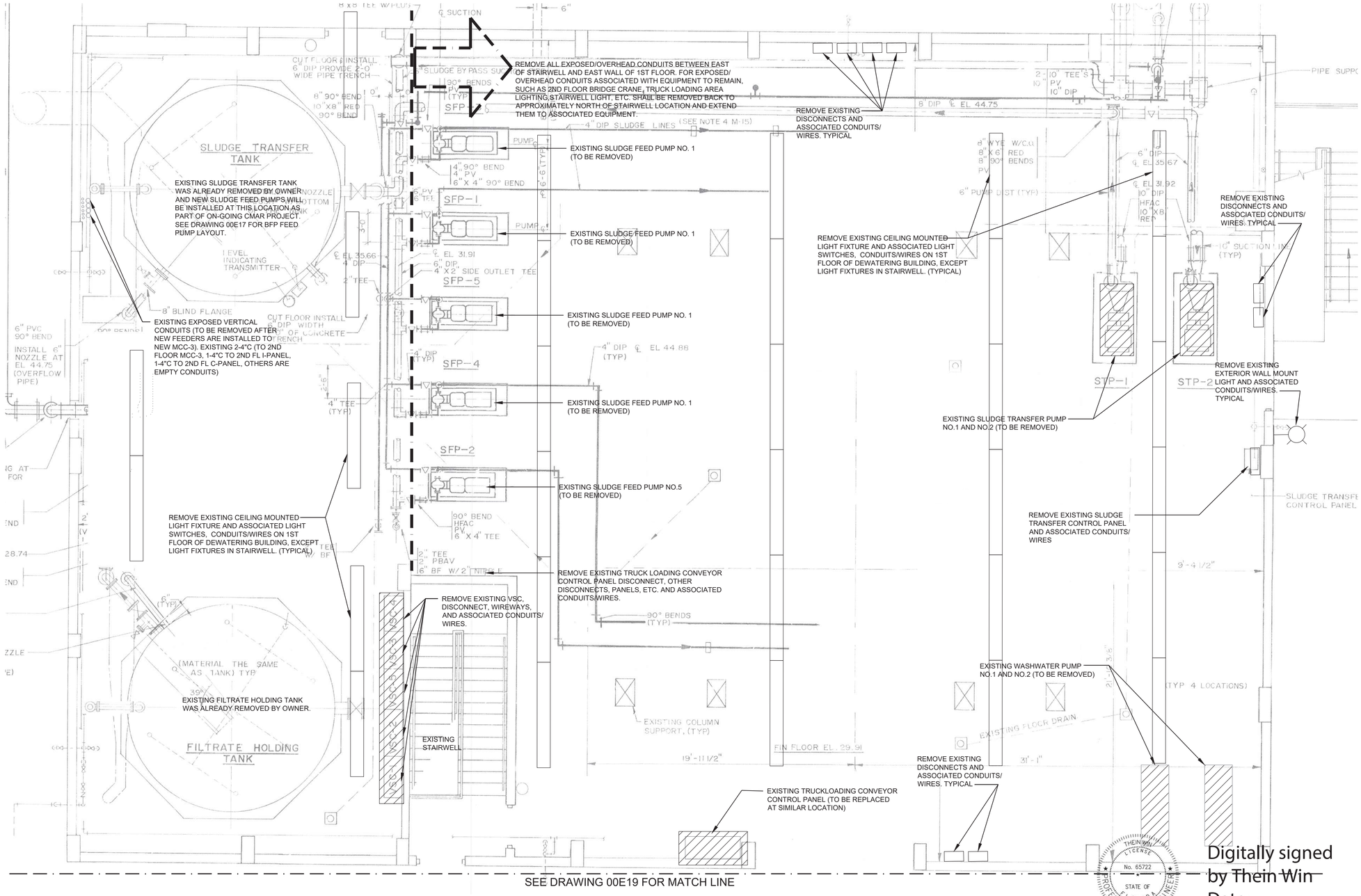
JOB NO. 8290U.10
DRAWING NO. 00E12
SHEET NO.

LAST SAVED BY: fchamness

PROJECT NO.

FILE NAME: 8290U10_E12.dwg



DEMOLITION NOTES (DWG E-13 THRU E-15):

1. CONTRACTOR SHALL COORDINATE WITH ALL OTHER DISCIPLINES FOR DEMOLITION OF 1ST FLOOR EQUIPMENT, PUMPS, AND CONTROL PANEL, ETC. AND DISCONNECT POWER BEFORE DEMOLITION BEGINS. REMOVE WIRE BACK TO SOURCE. REMOVE ALL EXPOSED CONDUITS COMPLETELY IF EXISTING CONDUITS ARE NOT TO BE REUSED.
2. ALL EXISTING INTERIOR LIGHT FIXTURES, EMERGENCY LIGHTS, LIGHT SWITCHES, RECEPTACLES, AND ASSOCIATED CONDUITS/WIRES SHALL BE REMOVED BACK TO SOURCE. REFER TO DRAWING 00E18 FOR 1ST FLOOR PROPOSED LIGHTING PLAN.
3. REFER TO SPECIFICATION 01014 FOR CONSTRUCTION SEQUENCE AND SPECIFICATION 16010 FOR CONSTRUCTION CONSTRAINTS AND PERFORM DEMOLITION ACCORDINGLY. CONTRACTOR SHALL REPLACE EXISTING TRUCK LOADING CONVEYOR CONTROL PANEL WITH NEW TRUCK LOADING CONVEYOR CONTROL PANEL AT SIMILAR OR THE SAME LOCATION. REMOVE EXISTING WIRES BACK TO SOURCE AND PROVIDE AND INSTALL NEW CONDUITS/WIRES AS SHOWN ON DRAWINGS.
4. REFER TO DRAWING 00E19 FOR TRUCK LOADING CONVEYOR AND REMOTE CONTROL PANEL LOCATION.
5. ALL EXISTING EXPOSED/OVERHEAD CONDUITS LOCATED ON 1ST FLOOR BETWEEN EAST OF STAIRWAY AND EAST WALL OF 1ST FLOOR SHALL BE COMPLETELY REMOVED. CONTRACTOR SHALL FIELD IDENTIFY ALL EXISTING EXPOSED/OVERHEAD CONDUITS BEFORE REMOVAL. REMOVE ALL EXISTING CONDUITS ASSOCIATED WITH ALL REMOVED OR ABANDONED EQUIPMENT, PANEL, PUMPS, ETC. BACK TO SOURCE COMPLETELY. FOR EXPOSED/ OVERHEAD CONDUITS ASSOCIATED WITH EQUIPMENT TO REMAIN, SUCH AS 2ND FLOOR BRIDGE CRANE, TRUCK LOADING AREA LIGHTING, STAIRWELL LIGHTING, ETC. SHALL BE REMOVED BACK TO APPROXIMATELY NORTH OF STAIRWELL AND EXTEND/REROUTE CONDUIT/WIRES TO ASSOCIATED EQUIPMENT BY NORTH OR SOUTH WALL DIRECTION. FURNISH AND INSTALL NEW CONDUITS/WIRES TO EXTEND EXISTING CIRCUITS AND MATCH SIZE AND QUANTITY. NEW CONDUITS SHALL ROUTED ON SOUTH OR NORTH WALL AND AVOID ROUTING NEAR PROPOSED BFP AREA.
6. CONTRACTOR SHALL REMOVE ALL UNUSED EXPOSED CONDUITS BACK TO SOURCE. CUT UNUSED UNDERGROUND CONDUITS FLUSH WITH FLOOR OR WALL AND CAP. REMOVE ALL JUNCTION BOX ASSOCIATED WITH REMOVED CONDUITS.
7. CONTRACTOR SHALL PATCH CEILING OPENING AS NEEDED AFTER REMOVAL OF CONDUITS.
8. CONTRACTOR SHALL COORDINATE WITH OWNER ON THE TIMING FOR DEMOLITION WORKS. THE EXISTING BELT FILTER PRESSES (BFP'S) ON THE 2ND FLOOR WILL NEED TO BE IN OPERATION UNTIL NEW CONVEYORS AND NEW PRESSES ARE INSTALLED AT 1ST FLOOR.
9. ALL EXISTING EXPOSED CONDUITS FROM 2ND FLOOR ELECTRICAL ROOM TO 2ND FLOOR BELT FILTER PRESSES ARE ROUTED THRU 1ST FLOOR CEILING AND MAY NEED TO BE DEMOLISHED TO MAKE ROOM FOR NEW BELT FILTER PRESSES AND PIPING. CONTRACTOR SHALL PROVIDE TEMPORARY POWER FOR 2ND FLOOR BFP UNITS TO KEEP THEM IN OPERATION. ALL COST ASSOCIATED WITH THE TEMPORARY POWER, TEMPORARY CABLES, LABOR, SUPPORTS, ETC. FOR THE PERIOD OF TEMPORARY POWER USAGE SHALL BE INCLUDED AS PART OF CONTRACTOR'S BID PRICE.

TEMPORARY LIGHTING:

1. CONTRACTOR SHALL PROVIDE TEMPORARY LIGHTING SYSTEM, INCLUDING TEMPORARY LIGHT FIXTURES, WIRES, ETC. AT BOTH 1ST FLOOR AND 2ND FLOOR OF DEWATERING BUILDING UNTIL NEW LIGHTING SYSTEM IS OPERATIONAL.

EXISTING DEWATERING BUILDING - 1ST FLOOR - ELECTRICAL DEMOLITION PLAN

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

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CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
ELECTRICAL
DEWATERING BUILDING - 1ST FLOOR ELECTRICAL DEMOLITION PLAN

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DRAWING NO. 00E13
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FILE NAME: 8290U10_E13.dwg

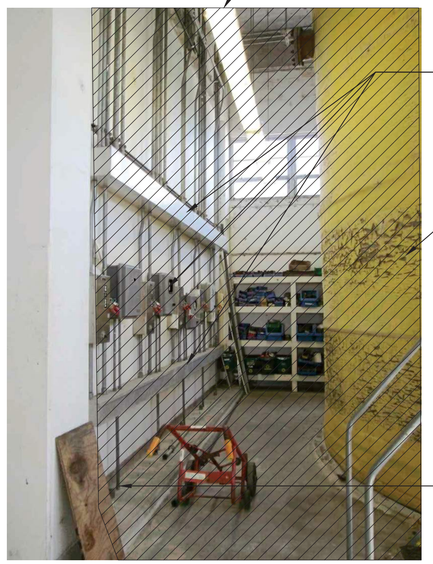


PHOTO A: SLUDGE FEED VFD AREA

NOT TO SCALE

PHOTO B: EXISTING DISCONNECT BEHIND STAIRWAY

NOT TO SCALE

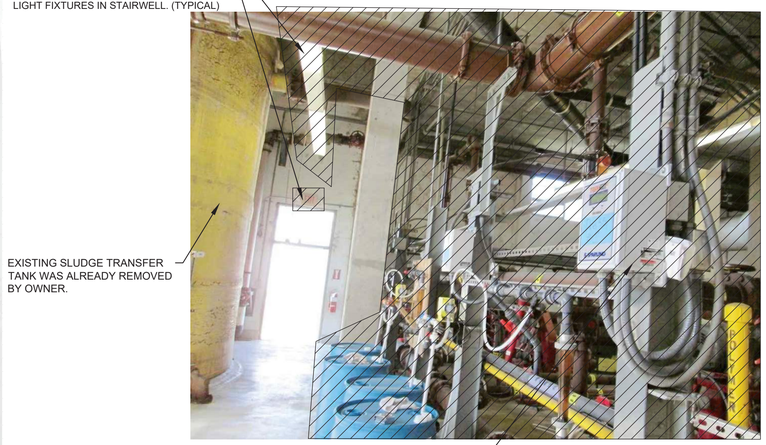


PHOTO C: EXISTING POLYMER FEED PUMPS AREA

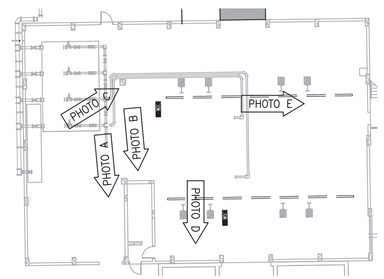
NOT TO SCALE

PHOTO D: EXISTING TRUCK LOADING CONVEYOR PANEL AREA

NOT TO SCALE

PHOTO E: TYPICAL EXISTING LIGHTING AND OVERHEAD CONDUITS

NOT TO SCALE



OVERVIEW FLOOR PLAN WITH PHOTO LOCATION

NOT TO SCALE

LEGEND

PHOTO X — ARROW INDICATES DIRECTION AND POINT OF VIEW OF PHOTO

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CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

ELECTRICAL

DEWATERING BUILDING - 1ST FLOOR
DEMOLITION PHOTOS - SHEET 1

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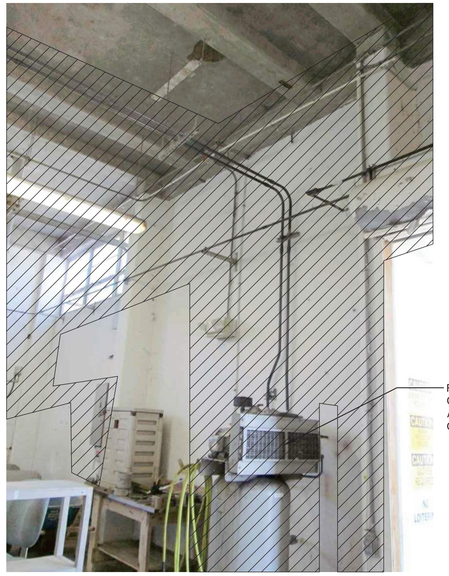


REMOVE EXISTING DISCONNECT, J-BOX, PUSHBUTTON STATIONS, ETC. AND ASSOCIATED CONDUITS/ WIRES. TYPICAL

REPLACE AIR COMPRESSOR AS SHOWN ON OTHER DRAWINGS.

PHOTO F: 1ST FLOOR EXPOSED CONDUITS AND EQUIPMENT

NOT TO SCALE

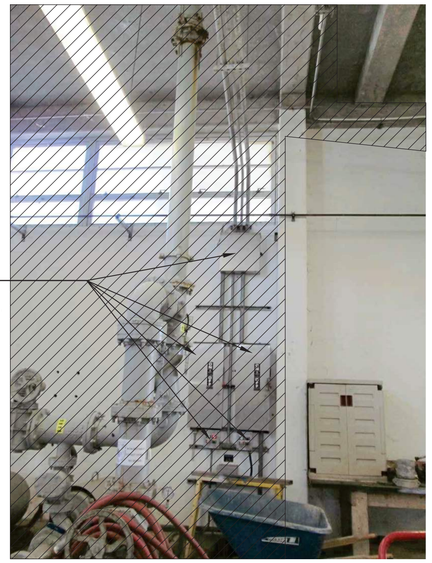


PHOTO G: 1ST FLOOR EXPOSED CONDUITS AND EQUIPMENT

NOT TO SCALE

REMOVE EXISTING CEILING MOUNTED LIGHT FIXTURE AND ASSOCIATED LIGHT SWITCHES, CONDUITS/WIRES ON 1ST FLOOR OF DEWATERING BUILDING, EXCEPT LIGHT FIXTURES IN STAIRWELL. (TYPICAL)

BFP FEED PUMPS (TO BE RELOCATED)

PHOTO H: 1ST FLOOR EXPOSED CONDUITS AND EQUIPMENT

NOT TO SCALE

REMOVE EXISTING DISCONNECT AND ASSOCIATED CONDUITS/ WIRES. TYPICAL

REPLACE EXISTING LIGHT SWITCH AS PER DRAWING 00E17. TYPICAL

REPLACE RECEPTACLE AS SHOWN ON DRAWING 00E17

PHOTO I: 1ST FLOOR EXPOSED CONDUITS AND EQUIPMENT

NOT TO SCALE

REMOVE EXISTING SLUDGE TRANSFER CONTROL PANEL, INSTRUMENT, AND ASSOCIATED CONDUITS/WIRES.

PHOTO J: 1ST FLOOR EXPOSED CONDUITS AND EQUIPMENT

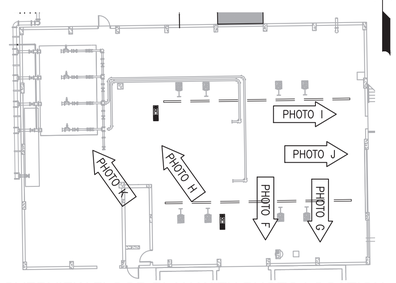
NOT TO SCALE

REMOVE UNUSED CONDUITS BACK TO SOURCE. ADD SUPPORTS FOR REMAINING CONDUITS AS NEEDED. TYPICAL.

REMOVE ALL EXPOSED/OVERHEAD CONDUITS BETWEEN EAST OF STAIRWELL AND EAST WALL OF 1ST FLOOR. FOR EXPOSED/ OVERHEAD CONDUITS ASSOCIATED WITH EQUIPMENT TO REMAIN, SUCH AS 2ND FLOOR BRIDGE CRANE, TRUCK LOADING AREA LIGHTING,STAIRWELL LIGHT, ETC. SHALL BE REMOVED BACK TO APPROXIMATELY NORTH OF STAIRWELL LOCATION AND EXTEND THEM TO ASSOCIATED EQUIPMENT.

PHOTO K: 1ST FLOOR EXPOSED CONDUITS AND EQUIPMENT

NOT TO SCALE



OVERVIEW FLOOR PLAN WITH PHOTO LOCATION

NOT TO SCALE

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LEGEND

PHOTO X — ARROW INDICATES DIRECTION AND POINT OF VIEW OF PHOTO

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CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

ELECTRICAL

DEWATERING BUILDING - 1ST FLOOR DEMOLITION PHOTOS - SHEET 2

VERIFY SCALES
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0 1"
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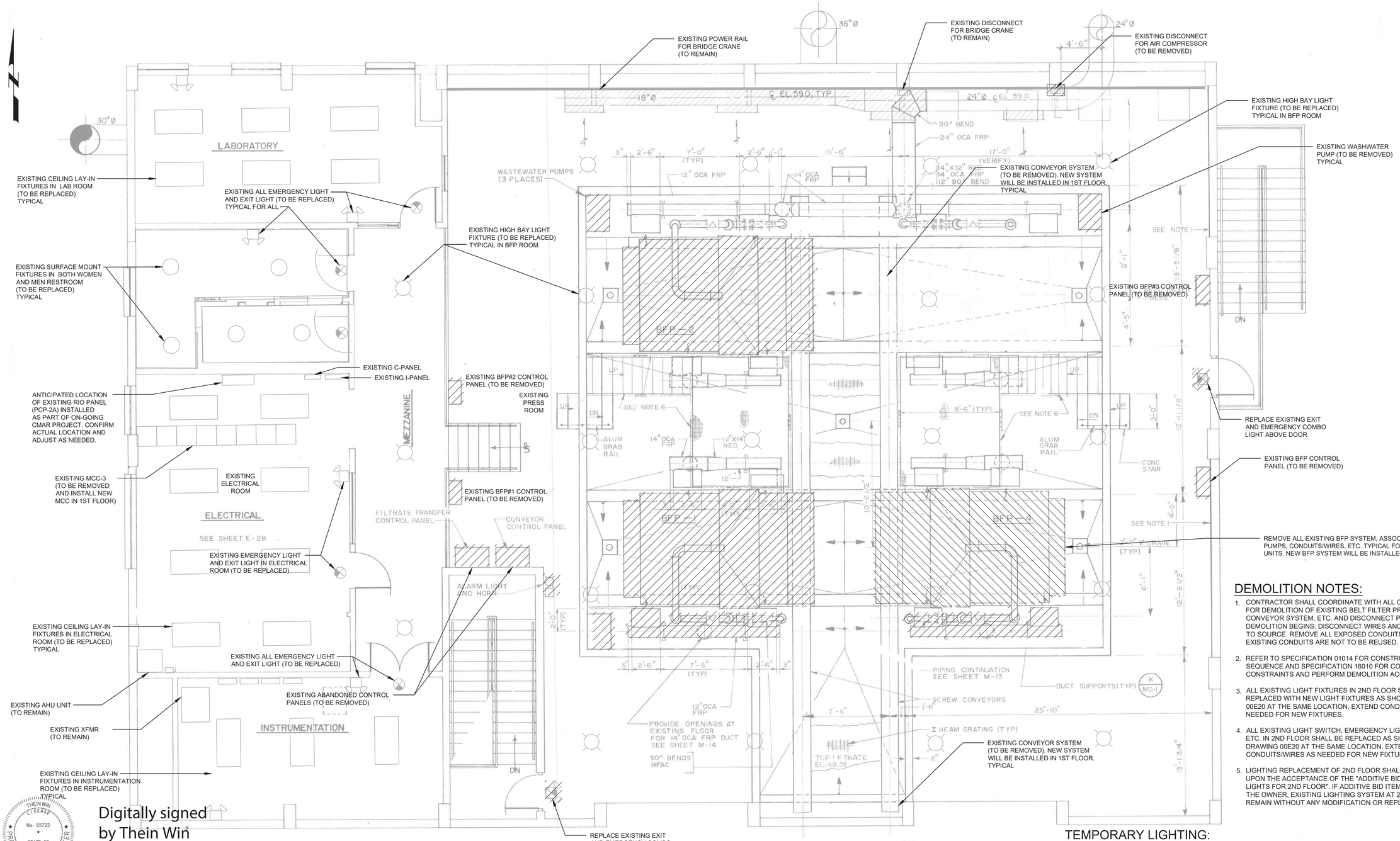
JOB NO. 8290U.10
DRAWING NO. 00E15
SHEET NO.

LAST SAVED BY: twin

PROJECT NO.

FILE NAME: 8290U10_E15.dwg



EXISTING DEWATERING BUILDING - 2ND FLOOR - ELECTRICAL DEMOLITION PLAN

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

DEMOLITION NOTES:

1. CONTRACTOR SHALL COORDINATE WITH ALL OTHER DISCIPLINES FOR DEMOLITION OF EXISTING BELT FILTER PRESSES, CONVEYOR SYSTEM, ETC. AND DISCONNECT POWER BEFORE DEMOLITION BEGINS. DISCONNECT WIRES AND REMOVE BACK TO SOURCE. REMOVE ALL EXPOSED CONDUITS COMPLETELY IF EXISTING CONDUITS ARE NOT TO BE REUSED.
2. REFER TO SPECIFICATION 01014 FOR CONSTRUCTION SEQUENCE AND SPECIFICATION 16010 FOR CONSTRUCTION CONSTRAINTS AND PERFORM DEMOLITION ACCORDINGLY.
3. ALL EXISTING LIGHT FIXTURES IN 2ND FLOOR SHALL BE REPLACED WITH NEW LIGHT FIXTURES AS SHOWN ON DRAWING 00E20 AT THE SAME LOCATION. EXTEND CONDUITS/WIRES AS NEEDED FOR NEW FIXTURES.
4. ALL EXISTING LIGHT SWITCH, EMERGENCY LIGHTS, EXIT LIGHTS, ETC. IN 2ND FLOOR SHALL BE REPLACED AS SHOWN ON DRAWING 00E20 AT THE SAME LOCATION. EXTEND CONDUITS/WIRES AS NEEDED FOR NEW FIXTURES.
5. LIGHTING REPLACEMENT OF 2ND FLOOR SHALL BE CONTINGENT UPON THE ACCEPTANCE OF THE "ADDITIVE BID ITEM - NEW LIGHTS FOR 2ND FLOOR". IF ADDITIVE BID ITEM IS REJECTED BY THE OWNER, EXISTING LIGHTING SYSTEM AT 2ND FLOOR SHALL REMAIN WITHOUT ANY MODIFICATION OR REPLACEMENT.

TEMPORARY LIGHTING:

1. CONTRACTOR SHALL PROVIDE TEMPORARY LIGHTING SYSTEM, INCLUDING TEMPORARY LIGHT FIXTURES, WIRES, ETC. AT BOTH 1ST FLOOR AND 2ND FLOOR OF DEWATERING BUILDING UNTIL NEW LIGHTING SYSTEM IS OPERATIONAL.

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DEWATERING BUILDING - 2ND FLOOR ELECTRICAL DEMOLITION PLAN

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DRAWING NO. 00E16
SHEET NO.

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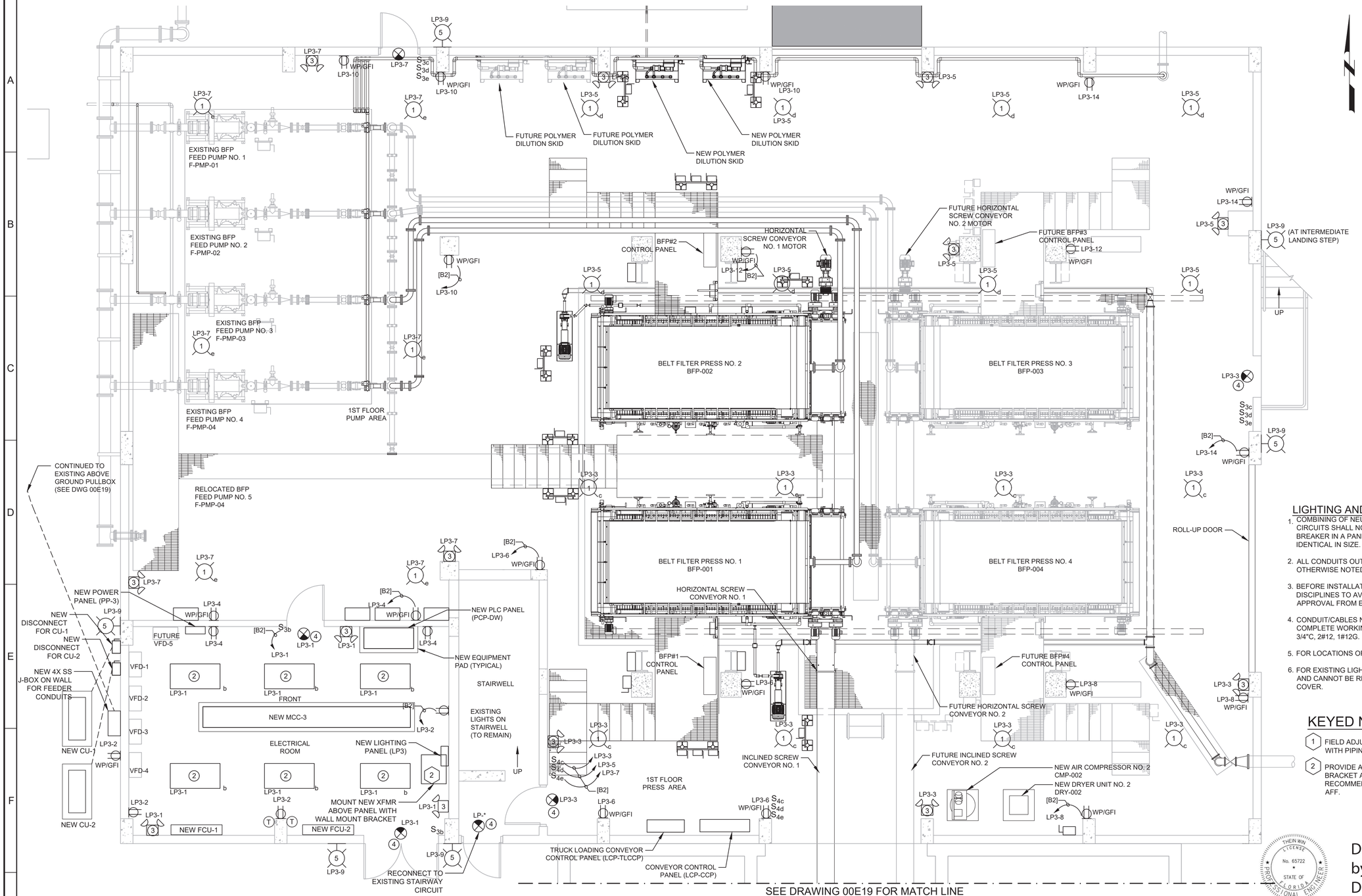
PROJECT NO. FILE NAME: 8290U10_E16.dwg



EXISTING DEWATERING BUILDING - 1ST FLOOR - LIGHTING PLAN (1)

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

LIGHTING AND RECEPTACLE NOTES

1. COMBINING OF NEUTRAL CONDUCTORS FOR LIGHTING AND RECEPTACLE CIRCUITS SHALL NOT BE ALLOWED. ALL CONDUCTORS LEAVING A CIRCUIT BREAKER IN A PANELBOARD SHALL CARRY A SEPARATE NEUTRAL CONDUCTOR IDENTICAL IN SIZE.
2. ALL CONDUITS OUTSIDE THE BUILDING SHALL BE RECESSED, UNLESS OTHERWISE NOTED.
3. BEFORE INSTALLATION, COORDINATE LOCATION OF FIXTURES WITH ALL DISCIPLINES TO AVOID CONFLICTS AND MOVE FIXTURES IF NECESSARY AFTER APPROVAL FROM ENGINEER.
4. CONDUIT/CABLES NOT SHOWN ON FACILITY PLAN FOR CLARITY. PROVIDE COMPLETE WORKING LIGHTING, RECEPTACLE, ETC. SYSTEM. PROVIDE MINIMUM 3/4"C, 2#12, 1#12G.
5. FOR LOCATIONS OF AHU'S AND CU'S, SEE HVAC DRAWINGS.
6. FOR EXISTING LIGHT SWITCH AND RECEPTACLE BOXES LOCATED IN THE WALL AND CANNOT BE REUSED, CONTRACTOR SHALL PROVIDE AND INSTALL BLANK COVER.

KEYED NOTES:

(1) FIELD ADJUST LIGHT FIXTURE LOCATION TO AVOID CONFLICTS WITH PIPING AND EXISTING CONDITIONS.

(2) PROVIDE AND INSTALL TRANSFORMER WALL MOUNTED BRACKET AND ATTACH TO WALL AS PER MANUFACTURER'S RECOMMENDATION. MOUNT TRANSFORMER A MINIMUM OF 7' AFF.

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THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
ELECTRICAL
DEWATERING BUILDING - 1ST FLOOR LIGHTING PLAN

VERIFY SCALES
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JOB NO. 8290U.10
DRAWING NO. 00E17
SHEET NO.

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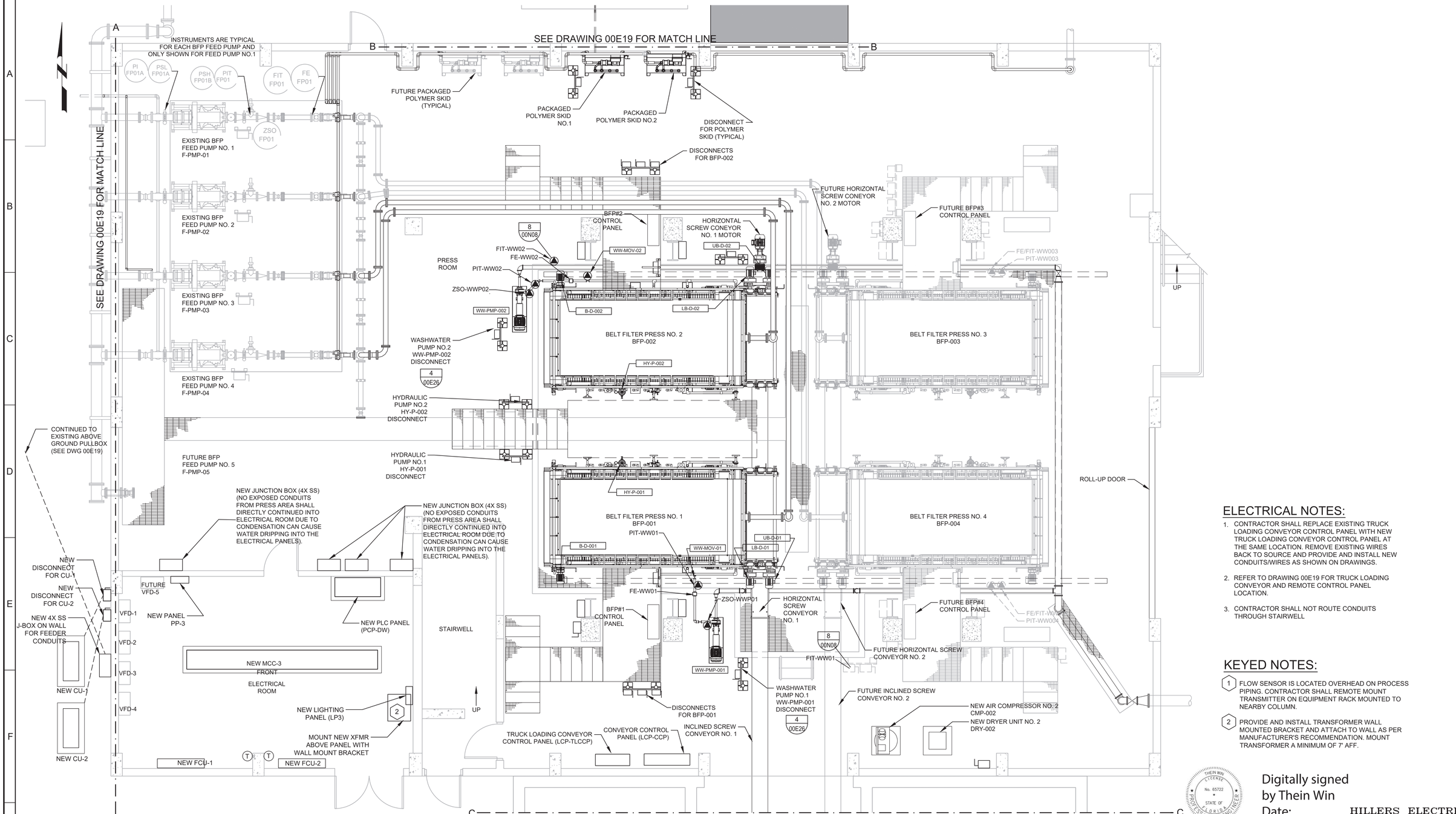
PROJECT NO. FILE NAME: 8290U10_E17.dwg



ELECTRICAL NOTES:

1. CONTRACTOR SHALL REPLACE EXISTING TRUCK LOADING CONVEYOR CONTROL PANEL WITH NEW TRUCK LOADING CONVEYOR CONTROL PANEL AT THE SAME LOCATION. REMOVE EXISTING WIRES BACK TO SOURCE AND PROVIDE AND INSTALL NEW CONDUITS/WIRES AS SHOWN ON DRAWINGS.
2. REFER TO DRAWING 00E19 FOR TRUCK LOADING CONVEYOR AND REMOTE CONTROL PANEL LOCATION.
3. CONTRACTOR SHALL NOT ROUTE CONDUITS THROUGH STAIRWELL

KEYED NOTES:

1. FLOW SENSOR IS LOCATED OVERHEAD ON PROCESS PIPING. CONTRACTOR SHALL REMOTE MOUNT TRANSMITTER ON EQUIPMENT RACK MOUNTED TO NEARBY COLUMN.
2. PROVIDE AND INSTALL TRANSFORMER WALL MOUNTED BRACKET AND ATTACH TO WALL AS PER MANUFACTURER'S RECOMMENDATION. MOUNT TRANSFORMER A MINIMUM OF 7' AFF.

EXISTING DEWATERING BUILDING - 1ST FLOOR - ELECTRICAL PLAN

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

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CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

ELECTRICAL

DEWATERING 1ST FLOOR - ELECTRICAL PLAN (ALFA LAVAL)

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SHEET NO.

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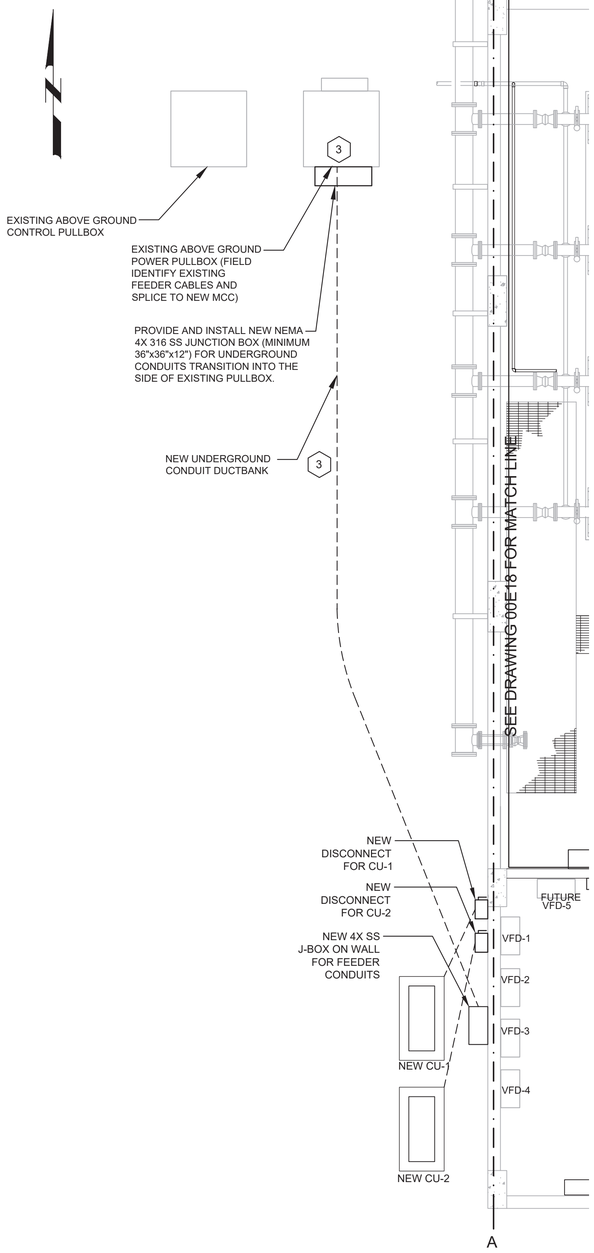
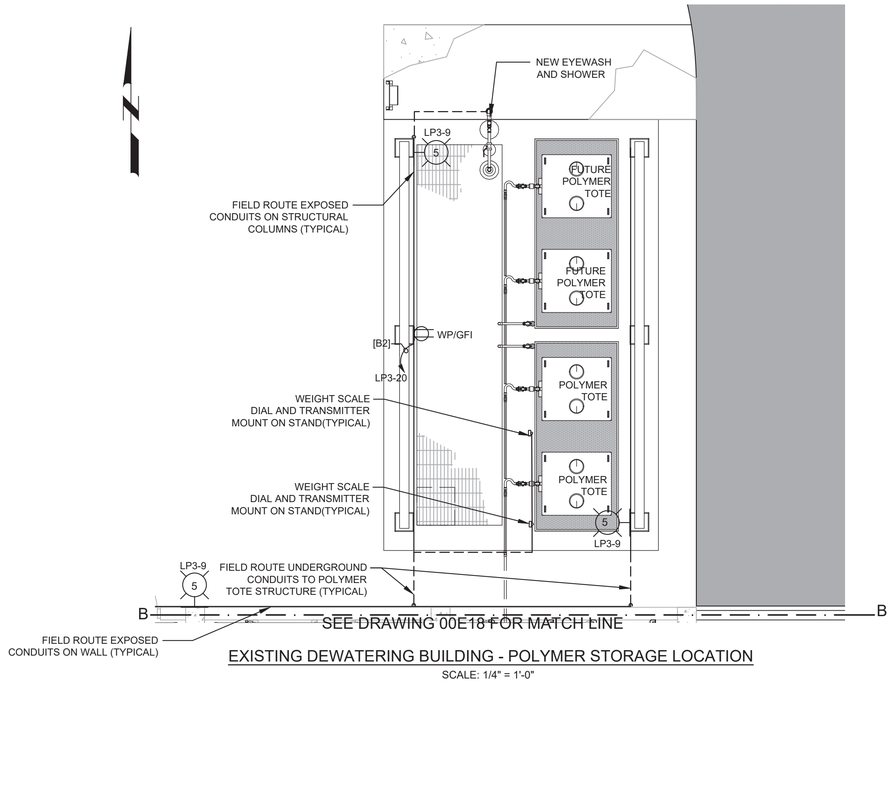


EXISTING EXTERIOR ABOVE GROUND PULL BOX WEST OF DEWATERING BUILDING

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

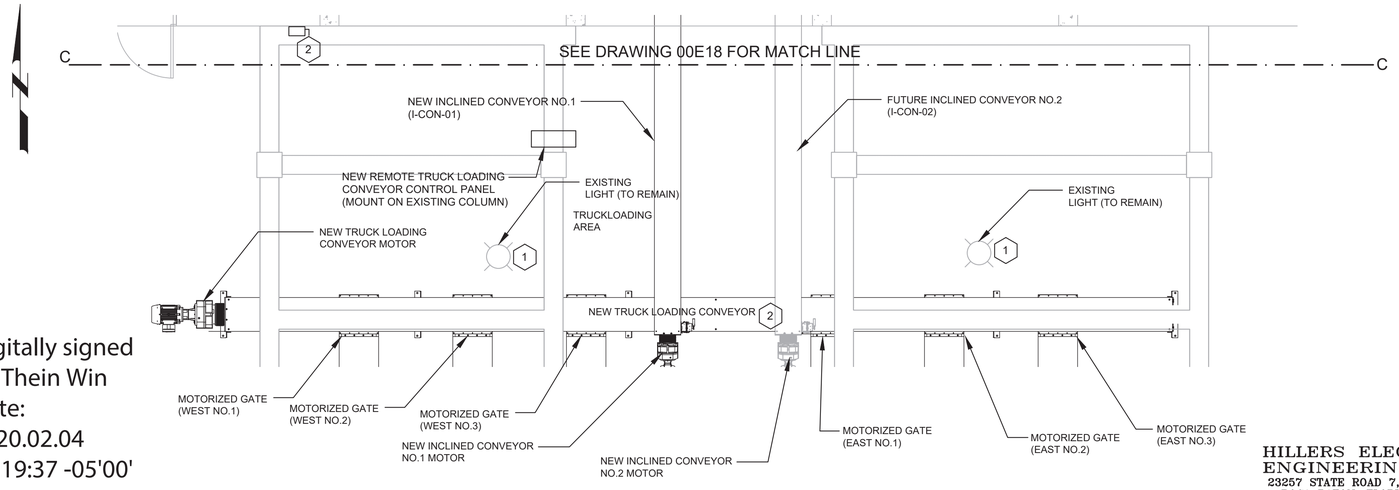


EXISTING DEWATERING BUILDING - POLYMER STORAGE LOCATION

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

KEYED NOTES:

1. EXISTING LIGHT FIXTURES AT TRUCK LOADING AREA SHALL REMAIN. IF EXISTING CONDUIT FOR THESE LIGHTS IS NOT ROUTED THRU THE PRESS AREA AND DOES NOT NEED TO BE REMOVED, CONTRACTOR SHALL KEEP THE EXISTING CIRCUIT AND MODIFY AS NEEDED TO CONNECT TO LIGHT FIXTURES AT TRUCK LOADING AREA. FOR BIDDING PURPOSE, CONTRACTOR SHALL INCLUDE 3/4"C, 2#12, 1#12G FROM NEW LP-3 PANEL TO EXISTING LIGHT FIXTURES AT TRUCK LOADING AREA.
2. CONTRACTOR SHALL FIELD ROUTE NEW EXPOSED CONDUITS FOR TRUCK LOADING CONVEYOR AND MOTORIZED GATES TO AVOID CONFLICTS WITH EXISTING CONDITIONS. FIELD LOCATE DISCONNECT FOR TRUCK LOADING CONVEYOR AND MOUNT 5' AFG ON THE EXISTING COLUMN NEAR CONVEYOR MOTOR.
3. EXISTING POWER AND CONTROL ABOVE GROUND PULLBOX LOCATIONS ARE FROM THE RECORD DRAWING AND SHOWN FOR APPROXIMATE LOCATION ONLY. CONTRACTOR SHALL FIELD LOCATE AND IDENTIFY/CONFIRM POWER AND CONTROL PULLBOX LOCATION. PROVIDE AND INSTALL NEW UNDERGROUND CONDUITS/WIRES FROM NEW MCC-3 TO THE EXISTING POWER ABOVE GROUND PULLBOX. PERFORM WATERPROOF SPLICING IN THE EXISTING ABOVE GROUND PULLBOX.



EXISTING TRUCK LOADING STATION - ELECTRICAL PLAN

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

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CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

ELECTRICAL

TRUCK LOADING STATION (ALFA LAVAL)

VERIFY SCALES	
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DRAWING NO.	00E19
SHEET NO.	

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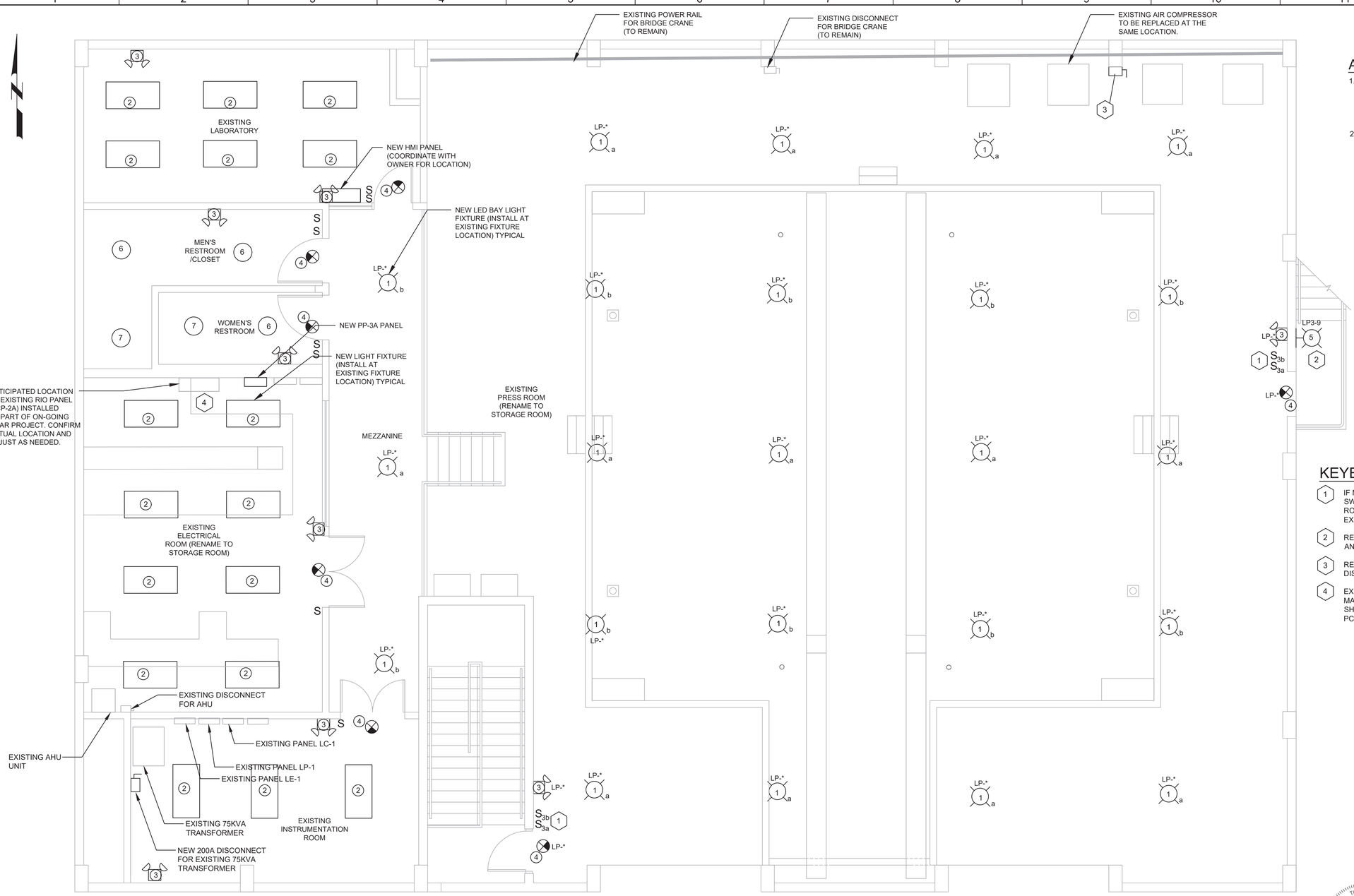

ADDITIVE BID ITEM (2ND FLOOR LIGHTING):

1. ALL LIGHTING SYSTEM REPLACEMENT OF 2ND FLOOR LEVEL SHALL BE AN ADDITIVE BID ITEM. IF ADDITIVE BID ITEM IS REJECTED BY THE OWNER, EXISTING LIGHTING SYSTEM AT 2ND FLOOR SHALL REMAIN WITHOUT ANY MODIFICATION OR REPLACEMENT.
2. LIGHTING SYSTEM REPLACEMENT OF 2ND FLOOR LEVEL INCLUDES LIGHT FIXTURES, LIGHT SWITCHES, EMERGENCY LIGHTS, EXIT LIGHTS, AND ASSOCIATED CONDUITS/WIRES. LIGHT SWITCH SHALL BE REPLACED WITH NEW AND COORDINATE WITH OWNER FOR FACE PLATE COLOR AND PROVIDE ACCORDINGLY. EXISTING LIGHTING CIRCUIT SHALL REUSE AND EXTEND CONDUITS/WIRES AS NEEDED. PROVIDE 3/4"C, 2#12, 1#12G WHERE NEEDED.

KEYED NOTES:

1. IF NEW EXPOSED CONDUITS ARE NEEDED FOR LIGHTING SYSTEM AND NEW LIGHT SWITCHES AT 2ND FLOOR, CONTRACTOR SHALL PROVIDE 3/4"C, 2#12, 1#12G AND FIELD ROUTE EXPOSED CONDUITS ALONG THE WALL AND AVOID INTERFERING WITH THE EXISTING CRANE MOVEMENT.
2. REMOVE EXISTING EXTERIOR WALL MOUNTED LIGHT AT OUTSIDE STAIRWAY. PROVIDE AND INSTALL NEW LIGHT FIXTURE AND WIRE TO THE CIRCUIT AS SHOWN ON PLAN.
3. REMOVE EXISTING AIR COMPRESSOR DISCONNECT AND REPLACE WITH NEW DISCONNECT IN THE SAME LOCATION.
4. EXISTING PCP-2A PANEL WILL BE INSTALLED AS PART OF ON-GOING CMAR PROJECT AND MAY MOVE TO A DIFFERENT LOCATION IN 2ND FLOOR ELECTRICAL ROOM. CONTRACTOR SHALL CONFIRM LOCATION BEFORE INSTALLING OF NEW CONDUITS/WIRES FROM NEW PCP-DW PANEL AS SHOWN ON RISER DIAGRAM AND ADJUST ACCORDINGLY.

SEE DRAWING 00E19 FOR MATCH LINE

EXISTING DEWATERING BUILDING - 2ND FLOOR - ELECTRICAL PLAN (ALFA LAVAL)

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

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DEWATERING BUILDING - 2ND FLOOR LIGHTING PLAN

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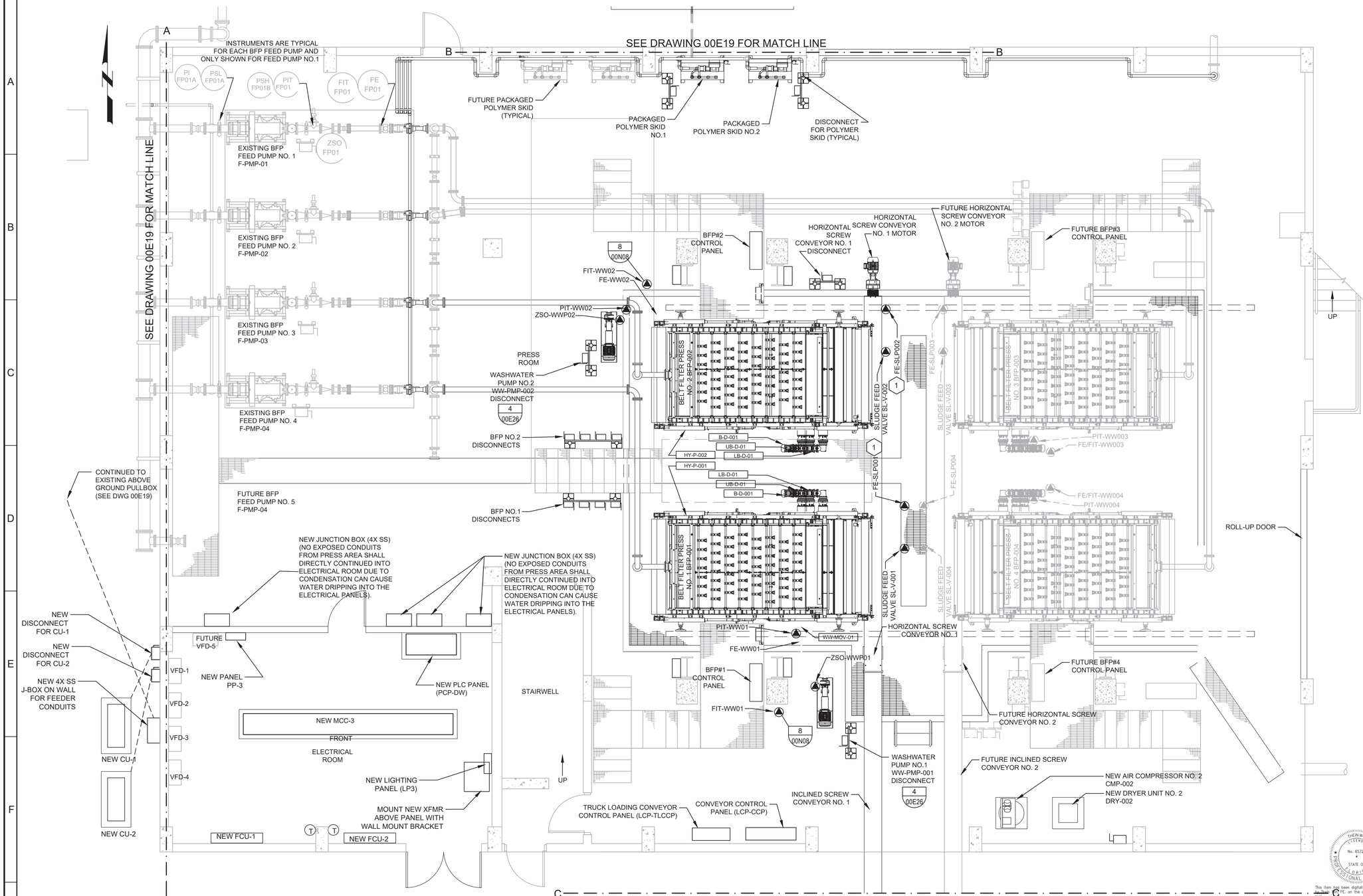

ELECTRICAL NOTES:

1. CONTRACTOR SHALL REPLACE EXISTING TRUCK LOADING CONVEYOR CONTROL PANEL WITH NEW TRUCK LOADING CONVEYOR CONTROL PANEL AT THE SAME LOCATION. REMOVE EXISTING WIRES BACK TO SOURCE AND PROVIDE AND INSTALL NEW CONDUITS/WIRES AS SHOWN ON DRAWINGS.
2. REFER TO DRAWING 00E19 FOR TRUCK LOADING CONVEYOR AND REMOTE CONTROL PANEL LOCATION.
3. CONTRACTOR SHALL NOT ROUTE CONDUITS THROUGH STAIRWELL

KEYED NOTES:

(1) FLOW SENSOR IS LOCATED OVERHEAD ON PROCESS PIPING. CONTRACTOR SHALL REMOTE MOUNT TRANSMITTER ON EQUIPMENT RACK MOUNTED TO NEARBY COLUMN.

EXISTING DEWATERING BUILDING - 1ST FLOOR - ELECTRICAL PLAN

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

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CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

ELECTRICAL

DEWATERING 1ST FLOOR - ELECTRICAL PLAN (ANDRITZ)

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DRAWING NO. 00E21
SHEET NO.

LAST SAVED BY: twin

PROJECT NO.

FILE NAME: 8290U10_E21.dwg

SEE DRAWING 00E19 FOR MATCH LINE

INSTRUMENTS ARE TYPICAL FOR EACH BFP FEED PUMP AND ONLY SHOWN FOR FEED PUMP NO.1

PI FP01A | PSL FP01A | PSH FP01B | PIT FP01 | FIT FP01 | FE FP01 | ZSO FP01

FUTURE PACKAGED POLYMER SKID (TYPICAL)

PACKAGED POLYMER SKID NO.2

PACKAGED POLYMER SKID NO.1

DISCONNECT FOR POLYMER SKID (TYPICAL)

SEE DRAWING 00E19 FOR MATCH LINE

EXISTING BFP FEED PUMP NO. 1 F-PMP-01

EXISTING BFP FEED PUMP NO. 2 F-PMP-02

EXISTING BFP FEED PUMP NO. 3 F-PMP-03

EXISTING BFP FEED PUMP NO. 4 F-PMP-04

FUTRURE BFP FEED PUMP NO. 5 F-PMP-04

CONTINUED TO EXISTING ABOVE GROUND PULLBOX (SEE DWG 00E19)

NEW JUNCTION BOX (4X SS) (NO EXPOSED CONDUITS FROM PRESS AREA SHALL DIRECTLY CONTINUED INTO ELECTRICAL ROOM DUE TO CONDENSATION CAN CAUSE WATER DRIPPING INTO THE ELECTRICAL PANELS).

NEW DISCONNECT FOR CU-1

NEW DISCONNECT FOR CU-2

NEW 4X SS J-BOX ON WALL FOR FEEDER CONDUITS

NEW CU-1

NEW CU-2

FUTURE VFD-5

NEW PANEL PP-3

VFD-1

VFD-2

VFD-3

VFD-4

NEW PLC PANEL (PCP-DW)

NEW MCC-3 FRONT

ELECTRICAL ROOM

NEW LIGHTING PANEL (LP3)

MOUNT NEW XFMR ABOVE PANEL WITH WALL MOUNT BRACKET

NEW FCU-1

NEW FCU-2

BFP#2 CONTROL PANEL

WASHWATER PUMP NO.2 WW-PMP-002 DISCONNECT

4 00E26

FE-WW02

FIT-WW02

8 00N08

ZSO-WWP02

PDW-002

PIT-WW02

SLUDGE FEED VALVE SL-V-002

PRESS ROOM

UB-D-01

LB-D-01

B-D-001

BELT FILTER PRESS NO. 2 BFP-002

BELT FILTER PRESS NO. 3 BFP-003

DISCONNECTS FOR BFP-002

HORIZONTAL SCREW CONVEYOR DISCONNECT

HORIZONTAL SCREW CONVEYOR NO. 1 MOTOR

FUTURE HORIZONTAL SCREW CONVEYOR NO. 2 MOTOR

FUTURE BFP#3 CONTROL PANEL

UP

SLUDGE FEED VALVE SL-V-003

SLUDGE FEED VALVE SL-V-001

PDW-001

LB-D-01

UB-D-01

B-D-001

BELT FILTER PRESS NO. 1 BFP-001

HORIZONTAL SCREW CONVEYOR NO. 1

BELT FILTER PRESS NO. 4 BFP-004

SLUDGE FEED VALVE SL-V-004

ROLL-UP DOOR

PIT-WW01

FE-WW01

WW-MOV-01

ZSO-WWP01

8 00N08

FIT-WW01

STAIRWELL

WASHWATER PUMP NO.1 WW-PMP-001 DISCONNECT

4 00E26

UP

BFP#1 CONTROL PANEL

CONVEYOR CONTROL PANEL (LCP-CCP)

DISCONNECTS FOR BFP-001

INCLINED SCREW CONVEYOR NO. 1

FUTURE HORIZONTAL SCREW CONVEYOR NO. 2

FUTURE BFP#4 CONTROL PANEL

FUTURE INCLINED SCREW CONVEYOR NO. 2

NEW AIR COMPRESSOR NO. 2 CMP-002

NEW DRYER UNIT NO. 2 DRY-002

HY-P-001 DISCONNECT

HY-P-002 DISCONNECT

TRUCK LOADING CONVEYOR CONTROL PANEL (LCP-TLCCP)

HY-P-002

HY-P-001

SEE DRAWING 00E19 FOR MATCH LINE

ELECTRICAL NOTES:

1. CONTRACTOR SHALL REPLACE EXISTING TRUCK LOADING CONVEYOR CONTROL PANEL WITH NEW TRUCK LOADING CONVEYOR CONTROL PANEL AT THE SAME LOCATION. REMOVE EXISTING WIRES BACK TO SOURCE AND PROVIDE AND INSTALL NEW CONDUITS/WIRES AS SHOWN ON DRAWINGS.
2. REFER TO DRAWING 00E19 FOR TRUCK LOADING CONVEYOR AND REMOTE CONTROL PANEL LOCATION.
3. CONTRACTOR SHALL NOT ROUTE CONDUITS THROUGH STAIRWELL

EXISTING DEWATERING BUILDING - 1ST FLOOR - ELECTRICAL PLAN

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

THEIN WIN LICENSE No. 65722 STATE OF FLORIDA PROFESSIONAL ENGINEER

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HILLERS ELECTRICAL ENGINEERING, INC.
23257 STATE ROAD 7, SUITE 100
BOCA RATON, FLORIDA 33428
(561) 451-9165
(561) 451-4886 FAX
LICENSE NO: EB 0006877

100% SUBMITTAL
ISSUE FOR BID

REV	DATE	BY	DESCRIPTION

DESIGNED TW
DRAWN TW
CHECKED SP
DATE FEBRAURY 2020

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carollo
200 East Robinson Street, Suite1400
Orlando, FL 32801
Phone (407) 478-4642
CA No. 8571

CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

ELECTRICAL

DEWATERING 1ST FLOOR - ELECTRICAL PLAN (BDP)

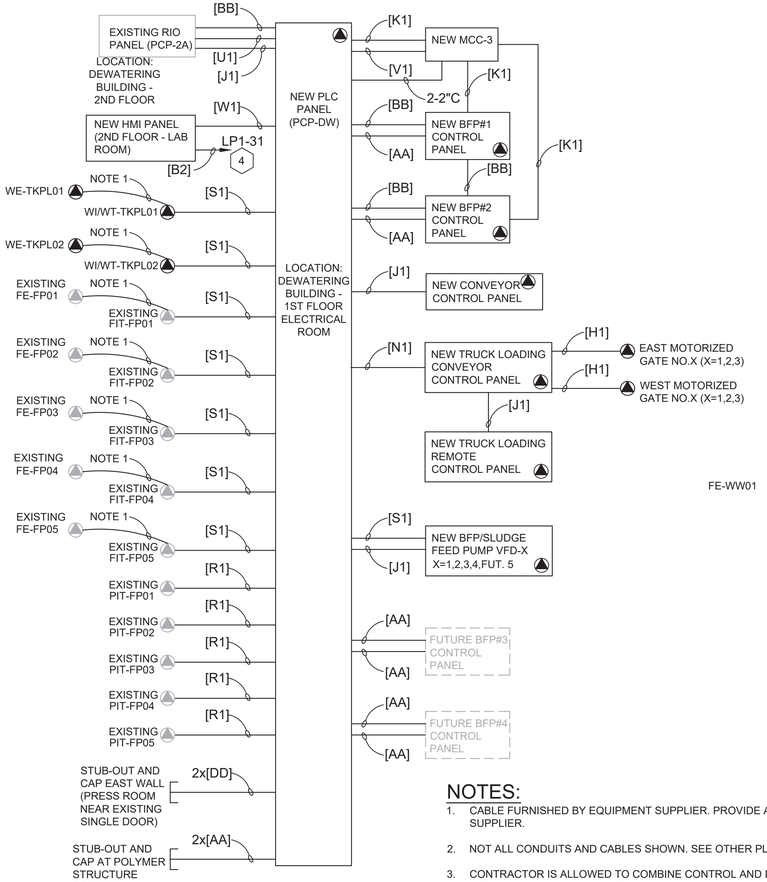
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 8290U.10
DRAWING NO. 00E22
SHEET NO.

LAST SAVED BY: twin

PROJECT NO.

FILE NAME: 8290U10_E22.dwg

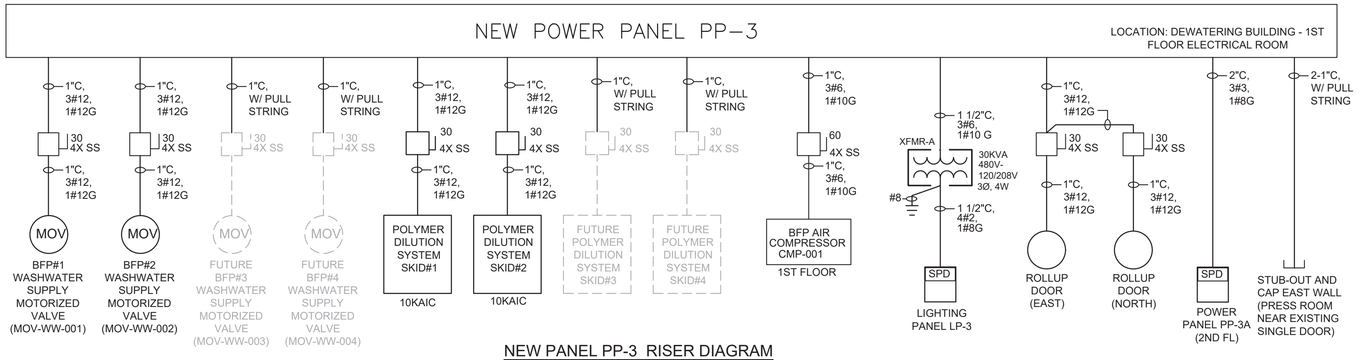


NEW PLC PCP-DW PANEL RISER

NOT TO SCALE

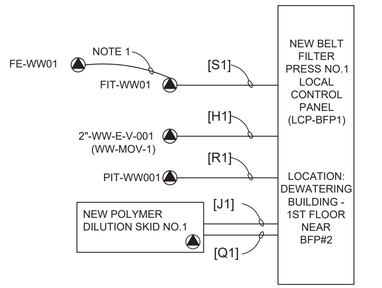
NOTES:

1. CABLE FURNISHED BY EQUIPMENT SUPPLIER. PROVIDE AND INSTALL 3/4"C. VERIFY CONDUIT SIZE WITH EQUIPMENT SUPPLIER.
2. NOT ALL CONDUITS AND CABLES SHOWN. SEE OTHER PLAN DRAWINGS FOR ADDITIONAL CONDUITS AND CABLES.
3. CONTRACTOR IS ALLOWED TO COMBINE CONTROL AND INSTRUMENTATION WIRE AS LONG AS WORK IS ACCOMPLISHED IN ACCORDANCE WITH THE NEC.
4. PROVIDE CONDUIT WITH PULL STRING FOR FUTURE EQUIPMQNT. STUB-OUT AND CAP CONDUITS FOR FUTURE EQUIPMENT NEAR FUTURE EQUIPMENT LOCATION SHOWN ON DRAWINGS. COORDINATE WITH FIELD ENGINEER FOR EXACT LOCATION.
5. CONTRACTOR SHALL FIELD LOCATE JUNCTION BOXES NEAR EQUIPMENT SHOWN ON RISER DIAGRAMS. IF NO DIMENSION IS SHOWN ON RISER FOR JUNCTION BOX, PROVIDE A MINIMUM OF 8"x8"x6" JUNCTION BOX AND UPSIZE AS NEEDED PER NEC AND ACTUAL CONDUIT ENTRY AND EXIT CONFIGURATION (ANGLE OR U-PULL).



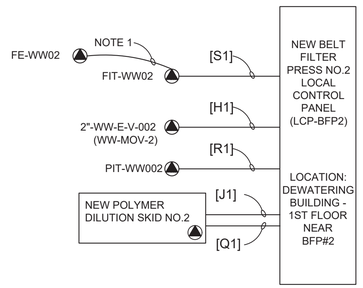
NEW PANEL PP-3 RISER DIAGRAM

NOT TO SCALE



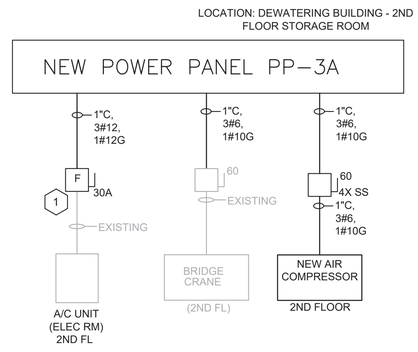
NEW LCP-BFP1 PANEL RISER

NOT TO SCALE



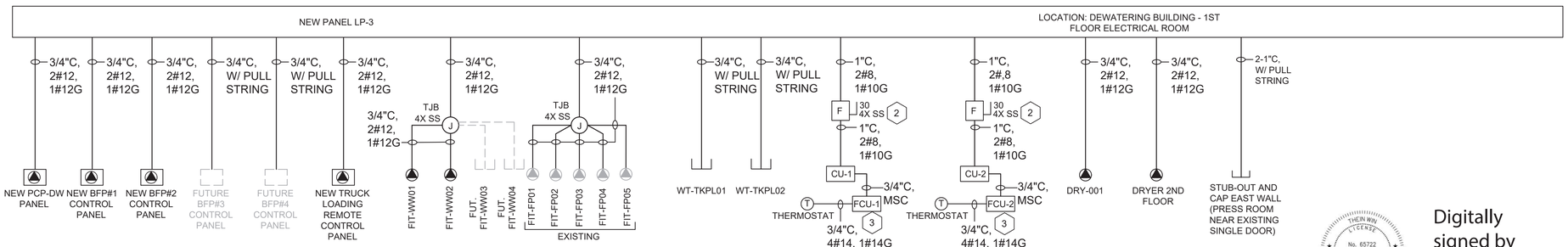
NEW LCP-BFP2 PANEL RISER

NOT TO SCALE



NEW PANEL PP-3A RISER DIAGRAM

NOT TO SCALE



PANEL LP-3 RISER

NOT TO SCALE

KEYED NOTES:

1. COORDINATE WITH EXISTING HVAC FLA FOR FUSE SIZE REQUIREMENTS AND PROVIDE ACCORDINGLY.
2. COORDINATE WITH HVAC MANUFACTURER FOR FUSE SIZE REQUIREMENTS AND PROVIDE ACCORDINGLY.
3. COORDINATE WITH HVAC MANUFACTURER FOR WIRE REQUIRED BETWEEN COMPRESSOR UNIT AND FAN CONTROL UNIT (FCU) AND THERMOSTAT AND FCU AND PROVIDE ACCORDINGLY.
4. FIELD VERIFY THE 120V CIRCUIT OF EXISTING PANEL LP-1 (INSTRUMENTATION ROOM) AND PROVIDE/INSTALL NEW BREAKER (20A, 1P, 120V) FOR NEW HMI PANEL. PROVIDE RECEPTACLE IF HMI PANEL IS PROVIDED WITH 120V CORD PLUG.

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carollo
200 East Robinson Street, Suite1400
Orlando, FL 32801
Phone (407) 478-4642
CA No. 8571

THE CITY OF DAYTONA BEACH INCORPORATED JULY 1, 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
ELECTRICAL
RISER DIAGRAMS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 8290U.10
DRAWING NO. 00E23
SHEET NO.

LAST SAVED BY: twin

PROJECT NO.

FILE NAME: 8290U10_E23.dwg

EXISTING PANELBOARD SCHEDULE "LP–1"

BUS AMPS A	B	C	LOAD	POLES	AMPS	BUS A B C	AMPS	POLES	LOAD	BUS AMPS A	B	C
9.1			FTCP PANEL	1	20	1 – 2	20	1	DOWNSTAIRS FLUORESCENT LIGHTS	3.0		
	9.1		COMMON ALARM	1	20	3 – 4	20	1	DOWNSTAIRS FLUORESCENT LIGHTS		6.0	
		3.0	MCC–3 ELR RELAY	1	20	5 – 6	20	1	DOWNSTAIRS FLUORESCENT LIGHTS			4.5
–			FIT NO.2 TIGER MAG	1	20	7 – 8	20	1	DOWNSTAIRS EMERGENCY LIGHTS	6.0		
	–		FIT NO.1 TIGER MAG	1	20	9 – 10	20	1	DOWNSTAIRS EMERGENCY LIGHTS		–	
		6.0	USED LC CIRCUIT	1	20	11 – 12	20	1	STCP			0.5
–			EMERGENCY LIGHTS UPSTAIR	1	20	13 – 14	20	1	DOUBLE DUPLEX RECEPTACLE			
	–		USED LC CIRCUIT	1	20	15 – 16	20	1	DOWNTAIRS SO. WALL			
		4.4	USED LC CIRCUIT	1	20	17 – 18	20	1	FTP PRESS SW CONTROL			
			USED LC CIRCUIT	1	20	19 – 20	20	1	WEATHERPROOF RECEPT. SO. WALL			
			FIT NO.3 TIGER MAG	1	20	21 – 22	20	1	EQUIPMENT CONTROL CIRCUIT			
		–	AHU CONTROL ROOM	2	20	23 – 24	20	1	SPARE			
						25 – 26	20	1	DOWNSTAIRS RECEPTACLES			
			FIT NO.4 TIGER MAG	1	20	27 – 28	20	2	POLYMER MIXERS			
		4.0	SF–1 (SEE NOTE BELOW)	1	20	29 – 30	20	1	POLYMER MIXERS			
1.0			HMI PANEL	1	20	31 – 32	20	2	SPARE			
	1.5		AIR DRYER 2ND FLOOR (SEE NOTE BELOW)	1	20	33 – 34						
			SPARE	2	20	35 – 36	20	2	A/C			
						37 – 38						
			SPARE	2	20	39 – 40	20	2	SPARE			
						41 – 42						

TOTAL AMPS: BUS A 19.1 BUS B 16.6 BUS C 22.4 CONNECTED Kva 6.9

RATED VOLTAGE: ■ 120/208 □ 480 3 PHASE, 4 WIRE | BRANCH POLES □ 12 □ 20 □ 30 ■ 42

RATED AMPS: ■ 100 □ 225 □ 400 □ _____ | CABINET: ■ SURFACE □ FLUSH

NEUTRAL BUS □ 100% ■ 150% □ 200% | ■ GROUND BUS | ■ HINGED DOOR | ■ KEYED DOOR LATCH | LOCATION: INSTRUMENTATION ROOM

■ CIRCUIT BREAKER (BOLT–IN) BRANCH DEVICES | ■ SPD | ENCLOSURE TYPE ■ NEMA 1 □ NEMA 3R □ NEMA 4X □ _____

□ MAIN LUGS ONLY | MAIN 70A AMPS ■ BREAKER | □ _____ TO BE GFI BREAKERS

PANELBOARD MUST BE RATED TO INTERRUPT A SHORT CIRCUIT ISC OF ____10,000 AMPS SYMMETRICAL.

SQUARE D | COPPER BUSSES | MAIN LUGS _____ SETS SIZE: _____

NOTE: PROVIDE AND INSTALL NEW 20A, 1–POLE CIRCUIT BREAKER. MATCH MAKE, MODEL, AND AIC RATING WITH EXISTING.

EXISTING PANELBOARD SCHEDULE "LC–1"

BUS AMPS A	B	C	LOAD	POLES	AMPS	BUS A B C	AMPS	POLES	LOAD	BUS AMPS A	B	C
9.1			LIGHT – INTERIOR LAB RECEPT.	1	20	1 – 2	20	1	RECEPT. – INTERIOR (SE CORNER)	3.0		
	9.1		LIGHT – INTERIOR	1	20	3 – 4	20	1	RECEPT. – ELEC. ROOM		6.0	
		3.0	LIGHT – EXTERIOR LAB.	1	20	5 – 6	20	1	RECEPT. – ELEC. ROOM			4.5
–			USED	1	20	7 – 8	20	1	RECEPT. – EXTERIOR	6.0		
	–		USED	1	20	9 – 10	20	1	2ND FL SOUTH HIGH BAY RECEPT.		–	
		6.0	RECEPT – INTERIOR (COLUMNS)	1	20	11 – 12	20	1	2ND FL NORTH HIGH BAY RECEPT.			0.5
–			USED	1	20	13 – 14	20	1	LIGHTING CONTACTOR CO11			
	–		N. WALL LAB RECEPT.			15 – 16	20	1	SPARE			
		4.4	USED	1	20	17 – 18	20	1	ROW 2 LITE 2ND FL			
			USED	1	20	19 – 20	20	1	SPARE			
			USED	1	20	21 – 22	20	1	FIRST FLOOR RECEPT FILTRATE AREA			
		–	SECOND FLOOR LTS	1	20	23 – 24	20	1	BAD BREAKER (OFF)			
			POLE LITE + OUTLET	1	20	25 – 26	20	1	SECOND FLOOR LTS (LAST ROW)			
			USED	1	20	27 – 28	20	1	BAD BREAKER (OFF)			
		–	OUTLETS	1	20	29 – 30	40	2	SPARE			
			SPARE	2	30	31 – 32						
						33 – 34	20	1	AIR DRYER			
			SPARE	2	40	35 – 36			SPACE			
						37 – 38			SPACE			
						39 – 40			SPACE			
			SPACE	1	20	41 – 42			SPACE			

SUB–FEED BREAKERS AT CIRCUIT NO.34 (175A) AND CIRCUIT NO.35 (125A FOR LC2)

TOTAL AMPS: BUS A 18.1 BUS B 15.1 BUS C 18.4 CONNECTED Kva 6.2

RATED VOLTAGE: ■ 120/208 □ 480 3 PHASE, 4 WIRE | BRANCH POLES □ 12 □ 20 □ 30 ■ 42

RATED AMPS: ■ 100 □ 225 □ 400 □ _____ | CABINET: ■ SURFACE □ FLUSH

NEUTRAL BUS □ 100% ■ 150% □ 200% | ■ GROUND BUS | ■ HINGED DOOR | ■ KEYED DOOR LATCH | LOCATION: INSTRUMENTATION ROOM

■ CIRCUIT BREAKER (BOLT–IN) BRANCH DEVICES | ■ SPD | ENCLOSURE TYPE ■ NEMA 1 □ NEMA 3R □ NEMA 4X □ _____

□ MAIN LUGS ONLY | MAIN 225 AMPS ■ BREAKER | □ _____ TO BE GFI BREAKERS

PANELBOARD MUST BE RATED TO INTERRUPT A SHORT CIRCUIT ISC OF ____10,000 AMPS SYMMETRICAL.

SQUARE D | COPPER BUSSES | MAIN LUGS _____ SETS SIZE: _____

NEW PANELBOARD SCHEDULE "PP-3"

BUS AMPS A	B	C	LOAD	POLES	AMPS	BUS A B C	AMPS	POLES	LOAD	BUS AMPS A	B	C
1.1			BFP#1 WASHWATER SUPPLY MOV	3	20	1 – 2	20	3	BFP#2 WASHWATER SUPPLY MOV	1.1		
	1.1					3 – 4					1.1	
		1.1				5 – 6						1.1
-			FUT. BFP#3 WASHWATER SUPPLY MOV	3	20	7 – 8	20	3	FUT. BFP#4 WASHWATER SUPPLY MOV	-		
	-					9 – 10					-	
		-				11 – 12						-
3.4			POLYMER DILUTION SYSTEM SKID#1	3	20	13 – 14	20	3	POLYMER DILUTION SYSTEM SKID#2	3.4		
	3.4					15 – 16					3.4	
		3.4				17 – 18						3.4
-			FUT. POLYMER DILUTION SYSTEM SKID#3	3	20	19 – 20	20	3	FUT. POLYMER DILUTION SYSTEM SKID#4	-		
	-					21 – 22					-	
		-				23 – 24						-
21.6			TRANSFORMER XFMR-3/PANEL LP-3	3	50	25 – 26	100	3	NEW PANEL PP-3A (2ND FLOOR)	47.4		
	21.6					27 – 28					47.4	
		21.6				29 – 30						47.4
2.1			ROLL-UP DOOR EAST	3	20	31 – 32	50	3	1ST FL AIR COMPRESSOR	14.0		
	2.1					33 – 34					14.0	
		2.1				35 – 36						14.0
-			SPARE	3	30	37 – 38	30	3	SPD			
	-					39 – 40						
		-				41 – 42						

TOTAL AMPS: BUS A 94.1 BUS B 94.1 BUS C 94.1 CONNECTED Kva 78.3 RUNNING Kva 66.6

RATED VOLTAGE: □ 120/208 ■ 480 3 PHASE, 3 WIRE | BRANCH POLES □ 12 □ 20 □ 30 ■ 42

RATED AMPS: □ 100 ■ 250 □ 400 □ _____ | CABINET: ■ SURFACE □ FLUSH

NEUTRAL BUS □ 100% □ 150% □ 200% | ■ GROUND BUS | ■ HINGED DOOR | ■ KEYED DOOR LATCH | LOCATION: DEWATERING - 1ST FL. ELEC

■ CIRCUIT BREAKER (BOLT-IN) BRANCH DEVICES | ■ SPD | ENCLOSURE TYPE ■ NEMA 1 □ NEMA 3R □ NEMA 4X SS

□ MAIN LUGS ONLY | MAIN 250 AMPS ■ BREAKER | □ _____ TO BE GFI BREAKERS

PANELBOARD MUST BE RATED TO INTERRUPT A SHORT CIRCUIT ISC OF ____35,000 AMPS SYMMETRICAL.

APPROVED MF'RS. SEE SPECIFICATION 16050. | COPPER BUSSES

NEW PANELBOARD SCHEDULE "LP-3"

BUS AMPS A	B	C	LOAD	POLES	AMPS	BUS A B C	AMPS	POLES	LOAD	BUS AMPS A	B	C
9.1			LIGHT – 1ST FL ELEC. ROOM	1	20	1 – 2	20	1	RECEPT. – INTERIOR (ELEC. ROOM)	4.5		
	9.1		LIGHT – 1ST FL FEED PUMP AREA	1	20	3 – 4	20	1	RECEPT. – FEED PUMP AREA SOUTH		4.5	
		6.0	LIGHT – 1ST FL PRESS AREA SOUTH	1	20	5 – 6	20	1	RECEPT. – PRESS AREA SOUTH			7.5
3.0			LIGHT – 1ST FL PRESS AREA NORTH	1	20	7 – 8	20	1	RECEPT. – PRESS AREA SOUTH–EAST	6.0		
	2.0		LIGHT – EXTERIOR WALL	1	20	9 – 10	20	1	RECEPT. – FEED PUMP AREA NORTH		3.0	
		6.0	RECEPT – INTERIOR (COLUMNS)	1	20	11 – 12	20	1	RECEPT. – PRESS AREA BFP#2, 3			4.5
25.0			CU–1 (SUB–FEED TO FCU–1)	2	40	13 – 14	20	1	DRY–001 (DRYER UNIT NO.1)	0.2		
	25.0					15 – 16	20	1	SPARE		–	
		4.4	EXHAUST FAN (EF–1)	1	20	17 – 18	20	1	DRY–002 (DRYER UNIT NO.2)			0.2
4.0			EXST LIGHT – TRUCK LOADING AREA	1	20	19 – 20	20	1	RECEPT – POLYMER TOTE AREA	1.5		
	25.0		CU–2 (SUB–FEED TO FCU–2)	2	40	21 – 22	20	1	SPARE			
		25.0				23 – 24	20	1	SPARE			–
4.0			NEW PCP–DW PANEL	1	20	25 – 26	20	1	SPARE			
	–		SPARE	1	20	27 – 28	20	1	SPARE			
		2.0	NEW BFP#1 CONTROL PANEL	1	20	29 – 30	20	1	SPARE			
2.0			NEW BFP#2 CONTROL PANEL	1	20	31 – 32	20	1	SPARE			
	–		SPARE	1	20	33 – 34	20	1	SPARE			
		–	FUTURE BFP#3 CONTROL PANEL	1	20	35 – 36	20	1	SPARE			
–			FUTURE BFP#4 CONTROL PANEL	1	20	37 – 38	30	3	SPD			
	–		SPARE	1	20	39 – 40						
		1.0	TRUCK LOADING REMOTE C. PANEL	1	20	41 – 42						

TOTAL AMPS: BUS A 59.3 BUS B 70.1 BUS C 55.1 CONNECTED Kva 25.3

RATED VOLTAGE: ■ 120/208 □ 480 3 PHASE, 4 WIRE | BRANCH POLES □ 12 □ 20 □ 30 ■ 42

RATED AMPS: ■ 100 □ 225 □ 400 □ _____ | CABINET: ■ SURFACE □ FLUSH

NEUTRAL BUS □ 100% ■ 150% □ 200% | ■ GROUND BUS | ■ HINGED DOOR | ■ KEYED DOOR LATCH | LOCATION: DEWATERING – 1ST FL. ELEC

■ CIRCUIT BREAKER (BOLT–IN) BRANCH DEVICES | ■ SPD | ENCLOSURE TYPE ■ NEMA 1 □ NEMA 3R □ NEMA 4X □ _____

□ MAIN LUGS ONLY | MAIN 90A AMPS ■ BREAKER | □ _____ TO BE GFI BREAKERS

PANELBOARD MUST BE RATED TO INTERRUPT A SHORT CIRCUIT ISC OF ____10,000 AMPS SYMMETRICAL.

APPROVED MF'RS. SEE SPECIFICATION 16050. | COPPER BUSSES | MAIN LUGS _____ SETS SIZE: _____

THEIN WIN LICENSE No. 65722 STATE OF FLORIDA PROFESSIONAL ENGINEER

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HILLERS ELECTRICAL ENGINEERING, INC.
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200 East Robinson Street, Suite1400
Orlando, FL 32801
Phone (407) 478-4642
CA No. 8571

THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

ELECTRICAL

PANELBOARD SCHEDULES

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 8290U.10
DRAWING NO. 00E24
SHEET NO.

LAST SAVED BY: twin

PROJECT NO.

FILE NAME: 8290U10_E24.dwg

LUMINAIRE SCHEDULE

TYPE	VOLTS	DESCRIPTION	MANUFACTURER	CATALOG NO	LAMPS	MOUNTING	REMARKS
1	120	JHBL 12000 LM WIDE DISTRIBUTION ACRYLIC LENSED 70 CRI 3500K CCT HBL SERIES (COMMERCIAL INDOOR/INDUSTRIAL/ WAREHOUSE APPLICATION) – 13,472 LUMENS	LITHONIA LIGHTING (OR) HUBBELL LIGHTING	JHBL–12000LM–ACL–WD 35K–70CRI–XX HBL–60LU–5K–W–070–WH	LED 146 WATTS LED 141 WATTS	SURFACE/ SUSPENDED	MOUNT 20' AFF. INTEGRAL OCCUPANCY SENSOR TO REDUCE OUTPUT TO 50% IF NO OCCUPANCY.
2	120	RECESSED 2X4 EDGE–TO–EDGE ILLUMINATION, LED LIGHT FIXTURE, UNIFORM BRIGHTNESS, 5–YEAR WARRANTY	LITHONIA LIGHTING (OR) HUBBELL LIGHTING	EPANL LED FLAT PANEL 2X4 –4000LM–35K–MVOLT CFP24–4135	39 WATTS 4039 LUMENS 40 WATTS 4307 LUMENS	CEILING	MOUNT AT EXISTING LIGHT LOCATION.
3	120	EMERGENCY LIGHTING UNIT, NI–CAD BATTERY TEST SWITCH, ADJUSTABLE HEAD	LITHONIA LIGHTING (OR APPROVED EQUAL)	WLTU LED, 1.9W TWIN HEAD	2–1.9W LED	SURFACE	MOUNT 8' AFF, DAMP LOCATION RATED
4	120	EXIT LIGHT,LED SERIES, SELF–TESTING THERMOPLASTIC CONSTRUCTION, NI–CAD BATTERY	LITHONIA LIGHTING (OR APPROVED EQUAL)	WLTE–W2–R–SD	LED LAMPS	SURFACE/ SUSPENDED	SINGLE FACE, SEE DRAWING. MOUNT ABOVE DOOR.
5	120	ARCHITECTURAL WALLPACK, FULL CUT–OFF, TYPE III, AERIS SERIES	LITHONIA LIGHTING (OR) HUBBELL LIGHTING	ASW1 LED–1–49B350/40K–SR3–120–PE LMC–30LU–4K–3–PC1	49 LEDS 58 WATTS 30 LEDS 71 WATTS	WALL	MOUNT 10' AFF
6	120	SURFACE MOUNT LED DECOR ROUND (FLUSH MOUNT), 14" ROUND, 5–YEAR WARRANTY	LITHONIA LIGHTING (OR APPROVED EQUAL)	FMDECL 14–30–WH	30 WATTS 1465 LUMENS	SURFACE	MOUNT ON CEILING SURFACE.
7	120	LED WET LOCATION (SHOWER LOCATION) SURFACE MOUNT DOWNLIGHT (4" OR 6" DIAMETER, MATCH EXISTING)	LITHONIA LIGHTING (OR APPROVED EQUAL)	4RLS–3000K, ROUND	LED 700 LUMENS	SURFACE	MOUNT ON SHOWER CEILING.

NOTE:

1. FOR MOUNTING OF SUSPENDED FIXTURES, DO NOT USE CHAIN FOR MOUNTING. PROVIDE AND INSTALL 316 STAINLESS STEEL UNISTRUT OR STEM AS NEEDED FOR MOUNTING.
2. IF CONTRACTOR DESIRES TO SUBSTITUTE AN EQUAL LED LIGHT FIXTURE, CONTRACTOR SHALL PROVIDE A PHOTOMETRIC CALCULATION PLAN AND COMPARISON BETWEEN THE PROPOSED LED PHOTOMETRIC PLAN AND SUBSTITUTED LED PLAN. CONTRACTOR SHALL SUBMIT A GUARANTEE LETTER STATING THE SUBSTITUTE LIGHT WILL PERFORM AS THE DESIGNED LED LIGHT FIXTURES.
3. PROVIDE ONE SPARE LED LIGHT FIXTURE FOR EACH TYPE INSTALLED. (TYPE 1 THRU TYPE 7).

CIRCUIT SCHEDULE
CONTROL, INSTRUMENTATION

CKT I.D.	CONDUIT AND CONDUCTOR SIZE
[A1]	[3/4 "C, 2#14, 1#14G]
[B1]	[3/4 "C, 3#14, 1#14G]
[C1]	[3/4 "C, 4#14, 1#14G]
[D1]	[3/4 "C, 5#14, 1#14G]
[E1]	[3/4 "C, 6#14, 1#14G]
[F1]	[3/4 "C, 7#14, 1#14G]
[G1]	[3/4 "C, 9#14, 1#14G]
[H1]	[1"C, 11#14, 1#14G]
[J1]	[1"C, 20#14, 1#14G]
[K1]	[1 1/4"C, 30#14, 1#14G]
[L1]	[1 1/4"C, 12/C TYPE 1]
[M1]	[1 1/2 "C, 19/C TYPE 1]
[N1]	[2"C, 25/C TYPE 1]
[P1]	[3"C, 2 – 37/C TYPE 1]
[Q1]	[2"C, 6 – TYPE B, TW SHLD PR]
[R1]	[3/4 "C, 1–TYPE B, TW SHLD PR]
[S1]	[3/4 "C, 2–TYPE B, TW SHLD PR]
[T1]	[1"C, 3– TYPE B TW SHLD PR]
[U1]	[1 1/4 "C, 4–TYPE B, TW SHLD PR]
[V1]	[1 1/2 "C, 8–TYPE B, TW SHLD PR]
[W1]	[1"C, CAT 6 CABLE]
[X1]	[1 1/2 "C, 5–TYPE B1]
[Y1]	[3/4 "C, 1 TYPE JX SHLD EXTENSION CABLE]
[Z1]	[2 "C, 15–TYPE B, TW SHLD PR]

CIRCUIT SCHEDULE
1PH, 2W

CKT I.D.	CONDUIT AND CONDUCTOR SIZE	CKT AMPS
[A2]	[3/4 "C, 2#14, 1#14G]	15
[B2]	[3/4 "C, 2#12, 1#12G]	20
[C2]	[3/4 "C, 2#10, 1#10G]	30
[D2]	[3/4 "C, 2#8, 1#10G]	40
[E2]	[3/4 "C, 2#6, 1#10G]	50
[F2]	[1"C, 2#4, 1#10G]	60
[G2]	[1"C, 2#4, 1#8G]	70
[H2]	[1 1/4 "C, 2#3, 1#8G]	80
[J2]	[1 1/4 "C, 2#2, 1#8G]	90
[K2]	[1 1/4 "C, 2#1, 1#8G]	100
[L2]	[1 1/2 "C, 2#1/0, 1#6G]	150
[M2]	[1 1/2 "C, 2#2/0, 1#6G]	175
[N2]	[2"C, 2#3/0, 1#6G]	200
[P2]	[2"C, 2#4/0, 1#4G]	225
[Q2]	[2 1/2 "C, 2–250KCMIL, 1#4G]	250
[R2]	[2 1/2 "C, 2–350KCMIL, 1#4G]	300
[S2]		
[T2]		
[U2]		
[V2]		
[W2]		
[X2]		
[Y2]		
[Z2]		

TW SHLD PR – TWISTED SHEILDED PAIR
JX – TYPE J THERMOCOUPLE

[AA] [1"C W/ PULL STRINGS]
[BB] [2"C, 1#14G, FOR FIBER OPTIC CABLE] COORDINATE MINIMUM BENDING RADIUS WITH MANUFACTURER. FIBER OPTIC CABLE FURNISHED UNDER SPECIFICATION 17000, INSTALLED BY ELECTRICAL CONTRACTOR AND TESTED BY I&C CONTRACTOR.
[CC] [3/4"C, MSC], MSC = MANUFACTURER SUPPLIED CABLE
[DD] [2"C W/ PULL STRINGS]

NEW PANELBOARD SCHEDULE "PP-3A"

BUS AMPS A	BUS AMPS B	BUS AMPS C	LOAD	POLES	AMPS	BUS A B C	AMPS	POLES	LOAD	BUS AMPS A	BUS AMPS B	BUS AMPS C
3.4			2ND FLOOR AC UNIT (FORMER ELEC. RM)	3	20	1 2	50	3	NEW AIR COMPRESSOR (2ND FL)	14.0		
	3.4					3 4					14.0	
		3.4				5 6						14.0
30.0			BRIDGE CRANE	3	60	7 8	20	3	SPARE	-		
	30.0					9 10					-	
		30.0				11 12						-
-			SPARE	3	20	13 14	20	3	SPARE	-		
	-					15 16					-	
		-				17 18						-
-			SPARE	3	20	19 20	20	3	SPARE	-		
	-					21 22					-	
		-				23 24						-
-			SPARE	3	20	25 26	30	3	SPD	-		
	-					27 28					-	
		-				29 30						-

TOTAL AMPS: BUS A 47.4 BUS B 47.4 BUS C 47.4 CONNECTED Kva 39.4 RUNNING Kva 33.5

RATED VOLTAGE: ☐ 120/208 ■ 480 3 PHASE, 3 WIRE | BRANCH POLES ☐ 12 ☐ 20 ■ 30 ☐ 42
RATED AMPS: ■100 ☐ 250 ☐ 400 ☐ _____ | CABINET: ■ SURFACE ☐ FLUSH
NEUTRAL BUS ☐ 100% ☐ 150% ☐ 200% | ■ GROUND BUS | ■ HINGED DOOR | ■ KEYED DOOR LATCH | LOCATION: DEWATERING - 2ND FL. STR. RM
■ CIRCUIT BREAKER (BOLT-IN) BRANCH DEVICES | ■ SPD | ENCLOSURE TYPE ■ NEMA 1 ☐ NEMA 3R ☐ NEMA 4X SS
☐ MAIN LUGS ONLY | MAIN 100 AMPS ■ BREAKER | ☐ _____ TO BE GFI BREAKERS
PANELBOARD MUST BE RATED TO INTERRUPT A SHORT CIRCUIT ISC OF ____18,000 AMPS SYMMETRICAL.
APPROVED MF'RS. SEE SPECIFICATION 16050. | COPPER BUSSES

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BOCA RATON, FLORIDA 33428
(561) 451–9165
(561) 451–4886 FAX
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CA No. 8571

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
ELECTRICAL
SCHEDULES

VERIFY SCALES
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JOB NO. 8290U.10
DRAWING NO. 00E25
SHEET NO.

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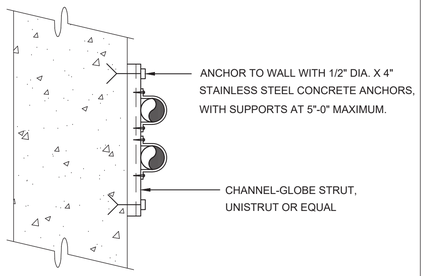
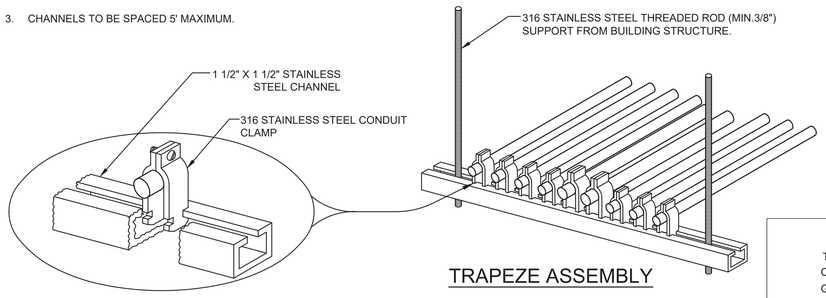
PROJECT NO. FILE NAME: 8290U10_E25.dwg



1 TYP CONDUIT SUPPORT FROM WALL
NOT TO SCALE

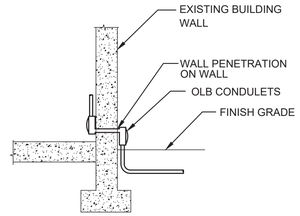
NOTES:

1. THIS DETAIL TYPICAL FOR BOTH VERTICAL AND HORIZONTAL MOUNTING
2. CHANNEL AND ALL SUPPORT DEVICES TO BE 316 STAINLESS STEEL.
3. CHANNELS TO BE SPACED 5' MAXIMUM.

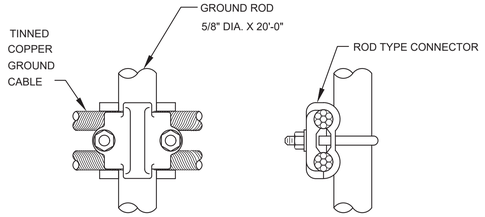


TRAPEZE ASSEMBLY

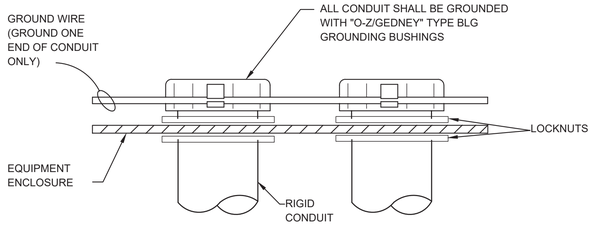
2 TYP CONDUIT PIPE STRAP MOUNTING DETAILS



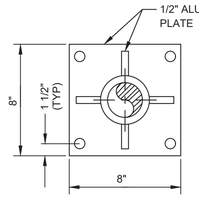
3 TYP CONDUIT PENETRATION TO WALL
NOT TO SCALE



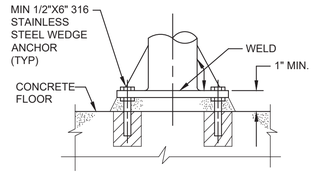
6 TYP CABLE TO ROD CONNECTION
NOT TO SCALE



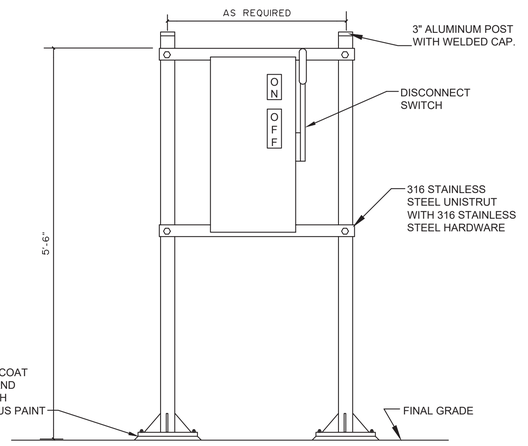
7 TYP CONDUIT GROUNDING
NOT TO SCALE



PLAN

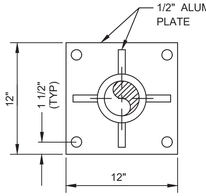


DETAIL

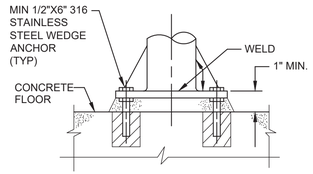


ELEVATION

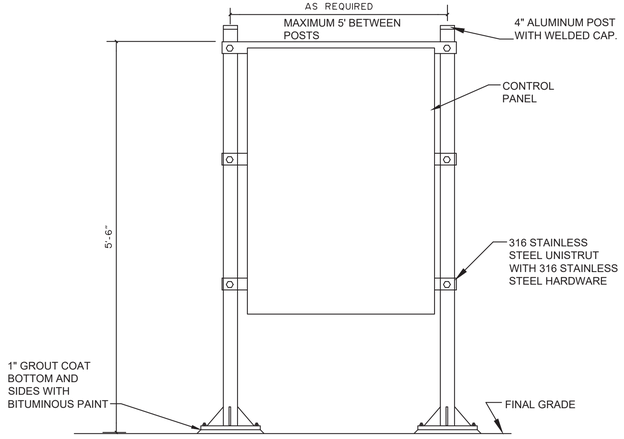
4 TYP DISCONNECT SWITCH PEDESTAL ON SLAB
NOT TO SCALE



PLAN

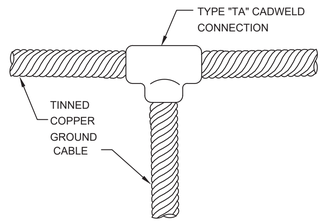


DETAIL



ELEVATION

5 TYP CONTROL PANEL PEDESTAL ON SLAB
NOT TO SCALE



8 TYP GROUND CABLE CONNECTION
NOT TO SCALE

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23257 STATE ROAD 7, SUITE 100
BOCA RATON, FLORIDA 33428
(561) 451-9165
(561) 451-4886 FAX
LICENSE NO: EB 0006877

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CA No. 8571

THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
ELECTRICAL
ELECTRICAL DETAILS - SHEET 1

VERIFY SCALES
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JOB NO. 8290U.10
DRAWING NO. 00E26
SHEET NO.

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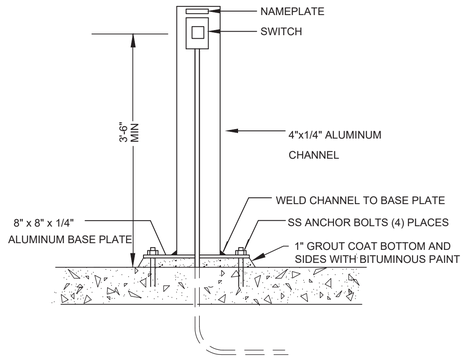
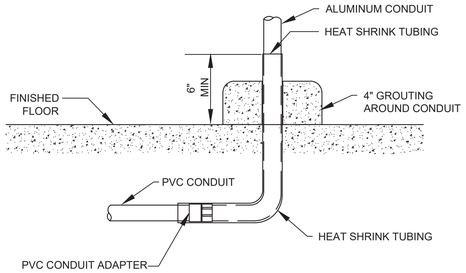
PROJECT NO.
FILE NAME: 8290U10_E26.dwg

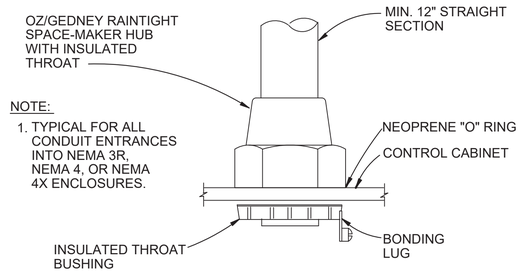


9 TYP — SWITCH PEDESTAL
NOT TO SCALE

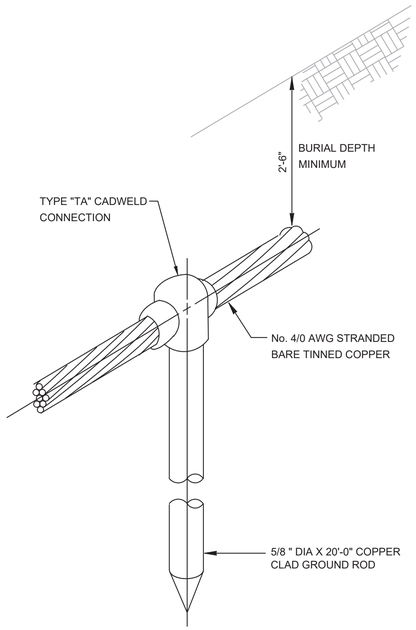


10 TYP — CONDUIT FLOOR ENTRANCE GROUT DETAIL
NOT TO SCALE

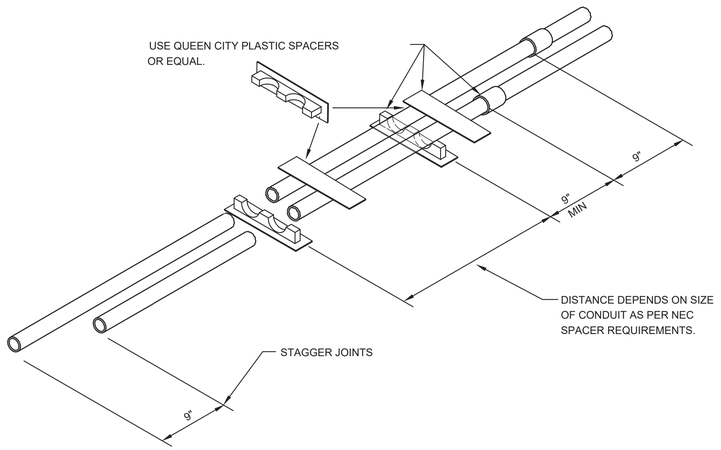
NOTE:
1. HEAT SHRINK TUBING SHALL COVER UNDERGROUND CONDUIT ADAPTER



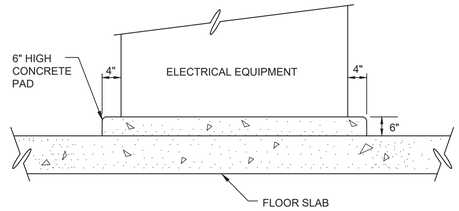
11 TYP — CONDUIT HUB
NOT TO SCALE



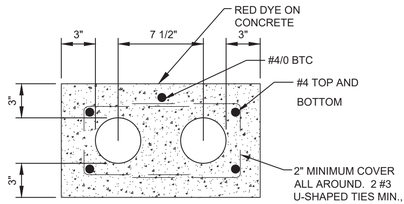
12 TYP — GROUND ROD DETAIL
NOT TO SCALE



13 TYP — HORIZONTAL STAGGERING OF SPACERS AND JOINTS
NOT TO SCALE



14 TYP — EQUIPMENT HOUSE KEEPING PAD
NOT TO SCALE



15 TYP — 2-WAY DUCTBANK
NOT TO SCALE

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CITY OF DAYTONA BEACH
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ELECTRICAL DETAILS - SHEET 2

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JOB NO. 8290U.10
DRAWING NO. 00E27
SHEET NO.

LAST SAVED BY: fchamness

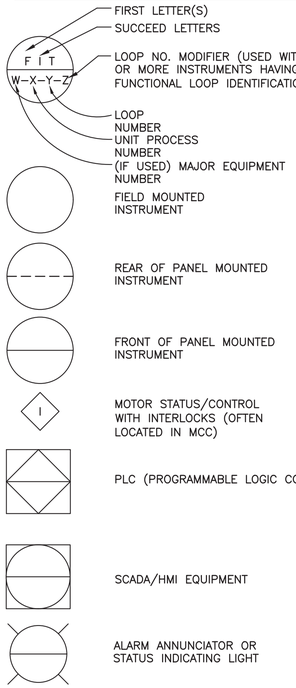
PROJECT NO.
FILE NAME: 8290U10_E27.dwg

INSTRUMENT SOCIETY OF AMERICA TABLE

LETTER	FIRST LETTER: PROCESS OR INITIATING VARIABLE	FIRST LETTER: MODIFIER	SUCCEEDING LETTERS: READOUT OR PASSIVE FUNCTION	SUCCEEDING LETTERS: OUTPUT FUNCTION	SUCCEEDING LETTERS: MODIFIER
A	ANALYSIS (*)		ALARM		USERS CHOICE (*)
B	BURNER FLAME		USERS CHOICE (*)	USERS CHOICE (*)	
C	CONDUCTIVITY			CONTROL	CLOSE
D	DENSITY (S.G.)	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT		
F	FLOW RATE	RATIO			
G	GAUGE		GLASS	GATE	
H	HAND (MANUAL)				HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME OR SCHEDULE			CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOTION				MIDDLE
N	STROKE		USERS CHOICE (*)	USERS CHOICE (*)	NORMAL
O	LOOP VEH. DETECTOR		OFFICE		OPEN
P	PRESSURE OR VACUUM		POINT (TEST CONNECTION)		
Q	QUANTITY OR EVENT		INTEGRATE		
R	RATIO		RECORD OR PRINT		
S	SPEED OR FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE (*)		MULTIFUNCTION (*)		
V	VIBRATION			VALVE	
W	WEIGHT OR FORCE		WELL		
X	UNCLASSIFIED (*)		UNCLASSIFIED (*)	UNCLASSIFIED (*)	UNCLASSIFIED (*)
Y	PHOTO CELL		LIGHT SOURCE	RELAY OR COMPUTE (*)	
Z	POSITION			DRIVE, ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT	

(*) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL

INSTRUMENT IDENTIFICATION



NOTES FOR INSTRUMENTATION DRAWINGS:

1. COMPONENTS AND PANELS SHOWN WITH A DIAMOND (◆) ARE TO BE PROVIDED UNDER SECTION "INSTRUMENTATION & CONTROLS".
2. COMPONENTS AND PANELS SHOWN WITH A DOUBLE ASTERISK (**) ARE TO BE PROVIDED AS PART OF A PACKAGED OR MECHANICAL SYSTEM.
3. COMPONENTS AND PANELS SHOWN WITH A TRIANGLE (▲) ARE EXISTING. COMPONENTS AND PANELS WHICH HAVE NO SYMBOL ATTACHED TO IT ARE EXISTING.
4. COMPONENTS AND PANELS SHOWN WITH A HEXAGON (⬣) ARE EXISTING TO BE MODIFIED AND/OR RELOCATED.
5. COMPONENTS AND PANELS SHOWN WITH A SQUARE (■) ARE FUTURE. DURING SHOP DRAWING PREPARATION, THE CONTRACTOR SHALL FIELD VERIFY ALL THE EXISTING ANALOG AND DISCRETE POINTS FOR DETAILED INTERFACE AND INCLUDE IT AS PART OF SUBMITTAL.
6. THE SINGLE INSTRUMENT & CONTROL SUPPLIER SHALL HAVE A U.L. APPROVED SHOP.
7. ALL PROCESS TUBING AND ISOLATION VALVES SHALL BE 1/4"- 316 S.S., UNLESS OTHERWISE NOTED.
8. ALL CONTROL PANELS SHALL BE FURNISHED AND INSTALLED WITH A 1P-15A CIRCUIT BREAKER, UNLESS OTHERWISE NOTED.
9. SEE MECHANICAL PLANS AND SPECIFICATIONS FOR EQUIPMENT NUMBERS.

INSTRUMENT LINE SYMBOLS

- PRIMARY PROCESS FLOW
- FUTURE PRIMARY PROCESS FLOW
- SECONDARY PROCESS FLOW, CONNECTION TO PROCESS FLOW, MECHANICAL LINK OR INSTRUMENT SUPPLY
- ELECTRICAL SIGNAL (DISCRETE)
- ELECTRICAL SIGNAL (ANALOG) (A)
- PNEUMATIC SIGNAL
- FIBER OPTIC
- PROCESS OR SIGNAL CONTINUED SOMEWHERE ELSE (X=1,2,3,...) (X)
- ETHERNET — COMMUNICATION PROTOCOL (ETHERNET, UNLESS OTHERWISE NOTED AS PROFINET, PROFIBUS DP, MODBUS, ETC.)

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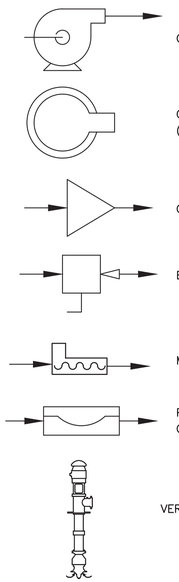
INSTRUMENT ABBREVIATION

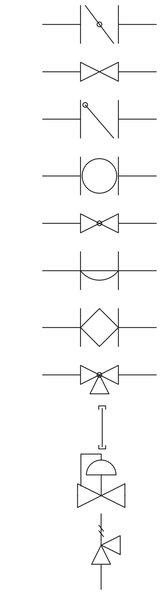
ACC	ACCELATOR
BFP	BELT FILTER PRESS
CL2	CHLORINE
CLW	CLEARWELL
COM	COMMON
COND	CONDUCTIVITY
CP	CONTROL PANEL
DI, AI	DISCRETE INPUT, ANALOG INPUT
DO, AO	DISCRETE OUTPUT, ANALOG OUTPUT
D.O.	DISSOLVED OXYGEN
DR	DISTANCE RELAY
EFFL	EFFLUENT
EP	ELECTRICAL PANEL
ES	EMERGENCY STOP
ETM	ELAPSED TIME METER
FD	CHEMICAL FEEDER
FIL	FILTER
GEN	GENERATOR
HLO	HIGH–LOW–OFF
HLOR	HIGH–LOW–OFF–REMOTE
HOA	HAND–OFF–AUTO
HOR	HAND–OFF–REMOTE
HOTC	HAND–OFF–TIMER–COMPUTER
H/L	HIGH/LOW
HSP	HIGH SERVICE PUMP
INFL	INFLUENT
JP	JOCKEY PUMP
LOS	LOCK–OUT–STOP
LPU	LINE PROTECTION UNIT
MCC	MOTOR CONTROL CENTER
MCP	MAIN CONTROL PANEL
ME	MISCELLANEOUS EQUIPMENT
M.G.	MILLION GALLON
MOD.	MODULATING VALVE
MOV	MOTOR OPERATED VALVE
OCA	OPEN–CLOSE–AUTO
OC, O/C	OPEN–CLOSE
OO	ON–OFF
ORP	OXIDATION REDUCTION POTENTIAL
OSC	OPEN–STOP–CLOSE
OSCR	OPEN–STOP–CLOSE–REMOTE
PH	HYDROGEN ION CONCENTRATION
PRES	PRESSURE
RES	RESTORE
RF	RF (ADMITTANCE) LEVEL MONITOR
RIP, RIO	REMOTE I/O PANEL
R/L	REMOTE/LOCAL
RSP	REMOTE SETPOINT
SA	SURGE ARRESTER
SEC	SECONDARY
SL	SLAKER
SF	SONIC FLOWMETER
SP	SETPOINT
SS	START/STOP
ST	STEP
STOR	STORAGE
SUS	SUSPENDED SOLIDS
SSRVS	SOLID STATE REDUCED VOLTAGE STARTER
TD	THERMAL DISPERSION
TP	TRANSFER PUMP
TURB	TURBIDITY
VFD	VARIABLE FREQUENCY DRIVE

INSTRUMENTATION LEGEND

PUMPS & COMPRESSORS

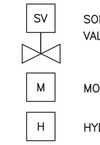


VALVES & GATES

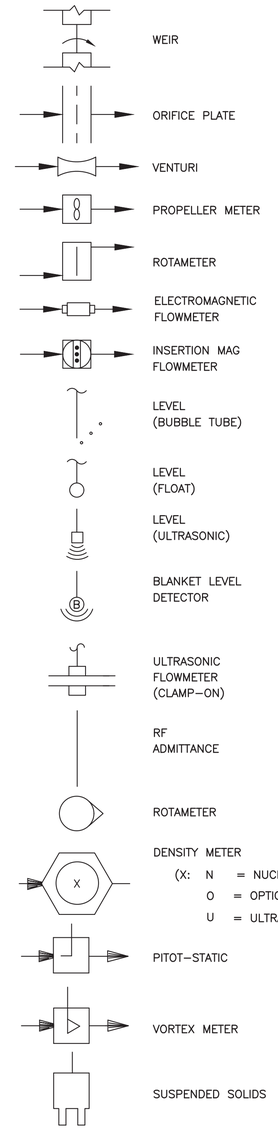


PRESSURE ELEMENT

ACTUATOR OR OPERATORS



PRIMARY ELEMENTS



HILLERS ELECTRICAL ENGINEERING, INC.
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LICENSE NO: EB 0006877

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200 East Robinson Street, Suite1400
Orlando, FL 32801
Phone (407) 478-4642
CA No. 8571

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
INSTRUMENTATION
INSTRUMENTATION LEGEND AND SYMBOLS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

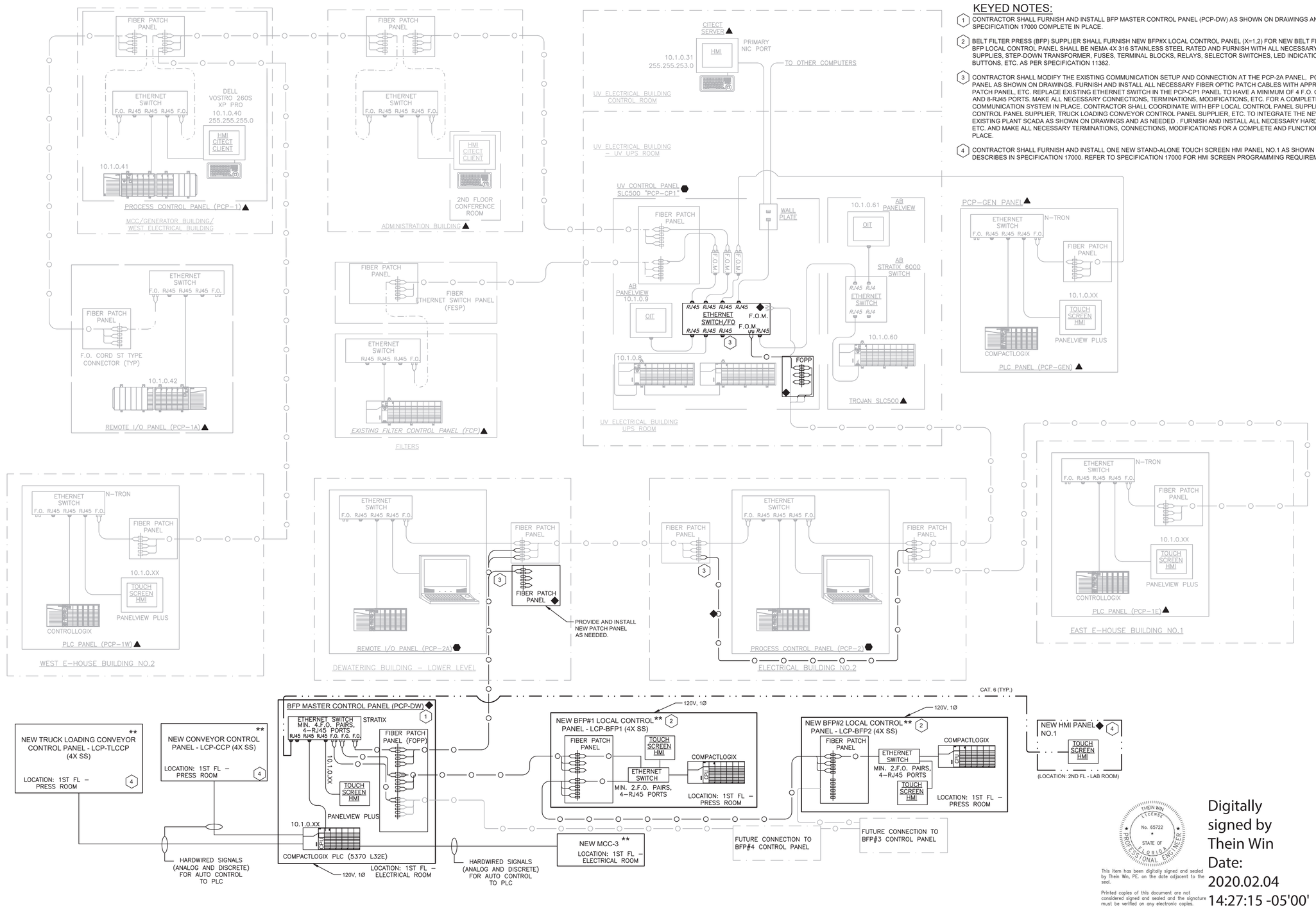
JOB NO. 8290U.10
DRAWING NO. 00N01
SHEET NO.

LAST SAVED BY: twin

PROJECT NO.
FILE NAME: 8290U10_N01.dwg

KEYED NOTES:

1. CONTRACTOR SHALL FURNISH AND INSTALL BFP MASTER CONTROL PANEL (PCP-DW) AS SHOWN ON DRAWINGS AND AS SPECIFIED IN SPECIFICATION 17000 COMPLETE IN PLACE.
2. BELT FILTER PRESS (BFP) SUPPLIER SHALL FURNISH NEW BFP#X LOCAL CONTROL PANEL (X=1,2) FOR NEW BELT FILTER PRESSES. NEW BFP LOCAL CONTROL PANEL SHALL BE NEMA 4X 316 STAINLESS STEEL RATED AND FURNISH WITH ALL NECESSARY BREAKERS, POWER SUPPLIES, STEP-DOWN TRANSFORMER, FUSES, TERMINAL BLOCKS, RELAYS, SELECTOR SWITCHES, LED INDICATION LIGHTS, PUSH BUTTONS, ETC. AS PER SPECIFICATION 11362.
3. CONTRACTOR SHALL MODIFY THE EXISTING COMMUNICATION SETUP AND CONNECTION AT THE PCP-2A PANEL. PCP-CP1, AND PCP-2 PANEL AS SHOWN ON DRAWINGS. FURNISH AND INSTALL ALL NECESSARY FIBER OPTIC PATCH CABLES WITH APPROPRIATE CONNECTORS, PATCH PANEL, ETC. REPLACE EXISTING ETHERNET SWITCH IN THE PCP-CP1 PANEL TO HAVE A MINIMUM OF 4 F.O. CONNECTIONS (4-PAIRS) AND 8-RJ45 PORTS. MAKE ALL NECESSARY CONNECTIONS, TERMINATIONS, MODIFICATIONS, ETC. FOR A COMPLETE AND WORKING COMMUNICATION SYSTEM IN PLACE. CONTRACTOR SHALL COORDINATE WITH BFP LOCAL CONTROL PANEL SUPPLIER, CONVEYOR CONTROL PANEL SUPPLIER, TRUCK LOADING CONVEYOR CONTROL PANEL SUPPLIER, ETC. TO INTEGRATE THE NEW PANELS INTO THE EXISTING PLANT SCADA AS SHOWN ON DRAWINGS AND AS NEEDED . FURNISH AND INSTALL ALL NECESSARY HARDWARE, PATCH CABLES, ETC. AND MAKE ALL NECESSARY TERMINATIONS, CONNECTIONS, MODIFICATIONS FOR A COMPLETE AND FUNCTION PLC/SCADA SYSTEM IN PLACE.
4. CONTRACTOR SHALL FURNISH AND INSTALL ONE NEW STAND-ALONE TOUCH SCREEN HMI PANEL NO.1 AS SHOWN ON DRAWINGS AND AS DESCRIBES IN SPECIFICATION 17000. REFER TO SPECIFICATION 17000 FOR HMI SCREEN PROGRAMMING REQUIREMENTS.



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THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

INSTRUMENTATION

COMMUNICATION BLOCK DIAGRAM

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SHEET NO.

LAST SAVED BY: twin

PROJECT NO.
FILE NAME: 8290U10_N02.dwg

EXISTING PLANT SCADA SYSTEM

NEW HMI TOUCHSCREEN ◆

NEW PCP-DW PANEL (PLC) ◆
LOCATION: DEWATERING BLDG

POLY TOTE NO.1 WEIGHT	POLY TOTE NO.2 WEIGHT	FUTURE POLY TOTE NO.3 WEIGHT	FUTURE POLY TOTE NO.4 WEIGHT
WI TKPL01	WI TKPL02	WI TKPL03	WI TKPL04
WI TKPL01	WI TKPL02	WI TKPL03	WI TKPL04

NOTE: PROVIDE AND INSTALL MOUNTING AND SUNSHIELD FOR ALL OUTDOOR INSTRUMENTS.

EXISTING PLANT SCADA SYSTEM

NEW HMI TOUCHSCREEN **

NEW BFP NO.X LOCAL CONTROL PANEL (LCP-BFPX) **
LOCATION: DEWATERING BLDG - PRESS AREA

X = 1, 2, FUTURE 3, 4

START/ STOP	RUNNING	FAIL	IN AUTO	SPEED COMMAND	SPEED INDICATION	POLYMER DILUTION SYSTEM X WATER FLOW	POLYMER DILUTION SYSTEM X CALCULATED PUMP FLOW	POLYMER SOLUTION CONCENTRATION SETPOINT
HS PDS0X	QI PDS0X	QA PDS0X	QI PDS0XA	SC PDS0X	SI PDS0X	FI PDS0XA	FI PDS0XB	SP PDS0X

PACKED POLYMER DILUTION SYSTEM-X (X=1,2, FUTURE 3,4)

HS PDS0X	QI PDS0X	QA PDS0X	QI PDS0XA	SC PDS0X	SI PDS0X	FI PDS0XA	FI PDS0XB	SP PDS0X

TYPICAL FOR 2 + (FUTURE 2)

PACKAGED POLYMER ** DILUTION VENDOR CONTROL PANEL NO.X VCP-PDS0X (X=1,2,FUTURE 3,4) (1)

480V, 3Ø

SIMILAR CONNECTION FOR POLYMER SKID NO.2 (PDS02)

NEAT POLYMER STORAGE TOTE TK-PL01 — WI/WT TK-PL01

NEAT POLYMER STORAGE TOTE TK-PL02 — WI/WT TK-PL02

NEAT POLYMER STORAGE TOTE (FUTURE) TK-PL03 — WI/WT TK-PL03

NEAT POLYMER STORAGE TOTE (FUTURE) TK-PL04 — WI/WT TK-PL04

CONTAINMENT

POLYMER

WATER

SKID MOUNTED POLYMER DILUTION SYSTEM No. 3 (FUTURE)

TO FUTURE LCP-PDS03

PRIMARY DILUTION WATER

SECONDARY (POST) DILUTION WATER

FE/FIT PDS03A

PI PDS03

CV PDS03A

CV PDS03B

FS PDS03B

FI PDS03A

FI PDS03B

SKID MOUNTED POLYMER DILUTION SYSTEM No. 4 (FUTURE)

TO FUTURE LCP-PDS04

FE/FIT PDS04A

PI PDS04

CV PDS04A

CV PDS04B

FS PDS04B

FI PDS04A

FI PDS04B

CONNECTION TO LCP-PDS02

SKID MOUNTED POLYMER DILUTION SYSTEM No. 2 (PDS-02)**

FE/FIT PDS02A

PI PDS02

CV PDS02A

CV PDS02B

FS PDS02B

FI PDS02A

FI PDS02B

SKID MOUNTED POLYMER DILUTION SYSTEM No. 1 (PDS-01) **

FE/FIT PDS01A

PI PDS01

CV PDS01A

CV PDS01B

FS PDS01B

FI PDS01A

FI PDS01B

PACKAGED POLYMER BLENDING UNIT (TYPICAL)

PLANT SERVICE WATER
(FOR POLYMER DILUTION)

TO POLYMER INJECTION BFP FEED PUMP NO. 4
SEE DWG 00N04

TO POLYMER INJECTION BFP FEED PUMP NO. 3
SEE DWG 00N04

POLYMER SYSTEM BYPASS MANIFOLD

TO POLYMER INJECTION BFP FEED PUMP NO. 5
SEE DWG 00N04

TO POLYMER INJECTION BFP FEED PUMP NO. 2
SEE DWG 00N04

TO POLYMER INJECTION BFP FEED PUMP NO. 1
SEE DWG 00N04

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CA No. 8571

CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

INSTRUMENTATION

P&ID - DEWATERING SYSTEM DIAGRAM SHEET 1

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
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JOB NO. 8290U.10
DRAWING NO. 00N03
SHEET NO.

LAST SAVED BY: twin

PROJECT NO.

FILE NAME: 8290U10_N03.dwg

EXISTING PLANT SCADA SYSTEM

NEW HMI TOUCHSCREEN

NEW PCP-DW PANEL (PLC)
LOCATION: DEWATERING BLDG

AUTO/MANUAL HS FP0XA
START/STOP HS FP0X
RUNNING QI FP0X
FAIL QA FP0XA
IN REMOTE QI FP0XA
SPEED COMMAND SC FP0X
SPEED INDICATION SI FP0X
LOW SUCTION PRESSURE PSL FP0XA
HIGH DISCHARGE PRESSURE PSH FP0XA
CHECK VALVE ALARM ZSO FP0XA
DISCHARGE PRESSURE INDICATION PI FP0X
BFP FEED PUMP-X (X=1,2,3,4,FUTURE 5)
(X=1,2,3,4,FUTURE 5)

BFP NO.1 SLUDGE FEED FLOW FI FP01
BFP NO.2 SLUDGE FEED FLOW FI FP02
BFP NO.3 SLUDGE FEED FLOW FI FP03
BFP NO.4 SLUDGE FEED FLOW FI FP04

DISTRIBUTION BOX NO.2 TSS AI 4138
DISTRIBUTION BOX NO.3 TSS AI 4139

EXISTING TSS SIGNALS FROM PCP-2 PANEL

KEY TAGS:

1	NOT USED
2	4"-BFP-M-PV-002
3	4"-BFP-M-PV-003
4	4"-BFP-M-PV-004
5	4"-BFP-M-PV-005
6	4"-BFP-M-PV-006
7	4"-BFP-M-PV-007
8	4"-BFP-M-PV-008
9	4"-BFP-M-PV-009
10	4"-BFP-M-PV-010
11	4"-BFP-M-PV-011
12	4"-BFP-M-CV-001
13	4"-BFP-M-CV-002
14	4"-BFP-M-CV-003
15	4"-BFP-M-CV-004
16	4"-BFP-M-CV-005
17	X"xX"-CK-E-SG-004
18	X"xX"-CK-E-SG-005
19	X"xX"-CK-E-SG-006
20	4"-BFP-E-PV-020
21	4"-BFP-E-PV-021
22	4"-BFP-E-PV-022
23	4"-BFP-E-PV-023
24	4"-BFP-M-PV-024
25	4"-BFP-M-PV-025
26	4"-BFP-M-PV-026
27	4"-BFP-M-PV-027
28	2"-WW-E-V-001
29	2"-WW-E-V-002
30	2"-WW-E-V-003
31	2"-WW-E-V-004
32	X"xX"-CK-E-SG-001
33	X"xX"-CK-E-SG-002
34	X"xX"-CK-E-SG-003
35	4"-BFP-M-PV-012
36	4"-BFP-M-PV-013
37	4"-BFP-M-PV-014
38	4"-BFP-M-PV-015
39	4"-BFP-M-PV-016

HARD-WIRED INPUTS/ OUTPUTS TO PLC PANEL

EXISTING VFD-X X=1,2,3,4,5

TYPICAL FOR EACH PUMP

120V

FIT FP01 / FIT FP02 / FIT FP03 / FIT FP04

PLANT SERVICE WATER (FOR FLUSHING PUMPS)

EXISTING SIGNALS TO PCP-2A PANEL

LIT 7011 / LSHH 7011 / LSH 7011 / LSLL 7011
LIT 7012 / LSHH 7012 / LSH 7012 / LSLL 7012

FROM RAS/WAS PUMPS

DEWATERING FEED BOX

PI FP03A / PSL / PSL FP03A
PI FP02A / PSL / PSL FP02A
PI FP04A / PSL / PSL FP04A
PI FP01A / PSL / PSL FP01A

ISOLATION RING

F-PMP-03 EXST. BFP FEED PUMP No. 3
F-PMP-02 EXST. BFP FEED PUMP No. 2
F-PMP-04 EXST. BFP FEED PUMP No. 4
F-PMP-01 EXST. BFP FEED PUMP No. 1
F-PMP-05 FUTURE BFP FEED PUMP No. 5

PSH FP03B / PSH / PIT FP03
PSH FP02B / PSH / PIT FP02
PSH FP04B / PSH / PIT FP04
PSH FP01B / PSH / PIT FP01

ISOLATION RING

ZSO FP03 / ZSO FP02 / ZSO FP04 / ZSO FP01

FE FP03 / FE FP02 / FE FP04 / FE FP01

POLYMER INJECTION RING

TO FUT. BELT FILTER PRESS NO.4 (BFP-4) SEE DWG 00N05

TO BELT FILTER PRESS NO.2 (BFP-2) SEE DWG 00N05

TO FUT. BELT FILTER PRESS NO.4 (BFP-4) SEE DWG 00N05

TO BELT FILTER PRESS NO.1 (BFP-1) SEE DWG 00N05

FROM POLYMER DILUTION SYSTEM NO.3 (DWG 00N03)
FROM POLYMER DILUTION SYSTEM NO.2 (DWG 00N03)
FROM POLYMER DILUTION SYSTEM NO.4 (DWG 00N03)
FROM POLYMER DILUTION SYSTEM NO.1 (DWG 00N03)
FROM POLYMER BYPASS MANIFOLD (DWG 00N03)

KEYED NOTES:

1. EXISTING PIT-FP0X (X=1,2,3,4) ARE INSTALLED BY THE ON-GOING CMAR PROJECT BUT SIGNALS ARE NOT CONNECTED TO THE PLC PANEL. CONTRACTOR SHALL CONNECT SIGNALS TO NEW PCP-DW PANEL INCLUDING LOOP-POWER AND SETUP THE PRESSURE TRANSMITTER FOR EACH BFP FEED PUMP.
2. EXISTING FE-FP0X AND FIT-FP0X (X=1,2,3,4) ARE INSTALLED BY THE ON-GOING CMAR PROJECT BUT SIGNALS ARE NOT CONNECTED TO THE PLC PANEL. CONTRACTOR SHALL CONNECT SIGNALS TO NEW PCP-DW PANEL AND SETUP THE FLOW TRANSMITTER FOR EACH BFP FEED PUMP.

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Orlando, FL 32801
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CA No. 8571

CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

INSTRUMENTATION

P&ID - DEWATERING SYSTEM DIAGRAM SHEET 2

VERIFY SCALES
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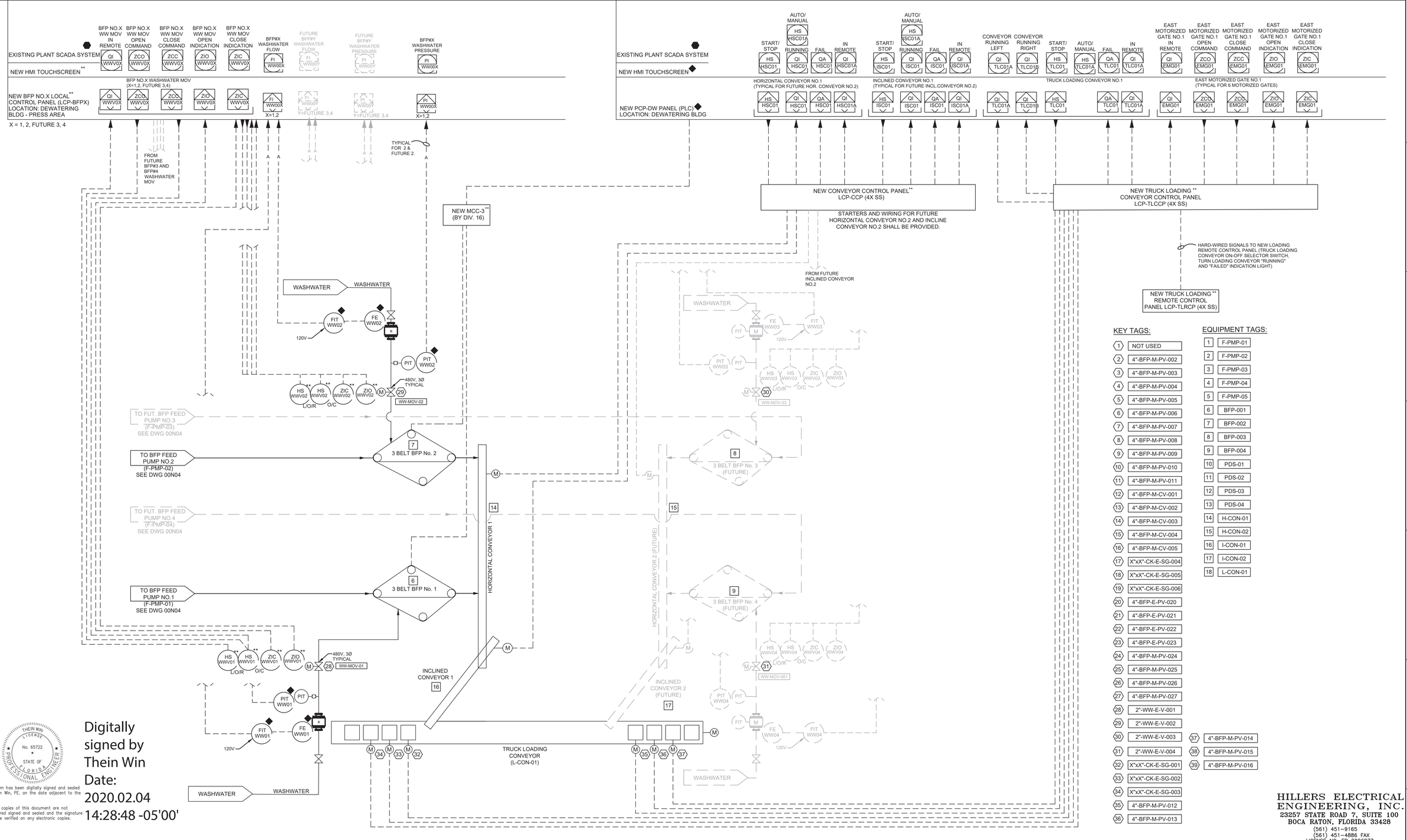
DRAWING NO. 00N04
SHEET NO.

LAST SAVED BY: twin

PROJECT NO.

FILE NAME: 8290U10_N04.dwg



KEY TAGS:

1	NOT USED
2	4"-BFP-M-PV-002
3	4"-BFP-M-PV-003
4	4"-BFP-M-PV-004
5	4"-BFP-M-PV-005
6	4"-BFP-M-PV-006
7	4"-BFP-M-PV-007
8	4"-BFP-M-PV-008
9	4"-BFP-M-PV-009
10	4"-BFP-M-PV-010
11	4"-BFP-M-PV-011
12	4"-BFP-M-CV-001
13	4"-BFP-M-CV-002
14	4"-BFP-M-CV-003
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16	4"-BFP-M-CV-005
17	X"xX"-CK-E-SG-004
18	X"xX"-CK-E-SG-005
19	X"xX"-CK-E-SG-006
20	4"-BFP-E-PV-020
21	4"-BFP-E-PV-021
22	4"-BFP-E-PV-022
23	4"-BFP-E-PV-023
24	4"-BFP-M-PV-024
25	4"-BFP-M-PV-025
26	4"-BFP-M-PV-026
27	4"-BFP-M-PV-027
28	2"-WW-E-V-001
29	2"-WW-E-V-002
30	2"-WW-E-V-003
31	2"-WW-E-V-004
32	X"xX"-CK-E-SG-001
33	X"xX"-CK-E-SG-002
34	X"xX"-CK-E-SG-003
35	4"-BFP-M-PV-012
36	4"-BFP-M-PV-013
37	4"-BFP-M-PV-014
38	4"-BFP-M-PV-015
39	4"-BFP-M-PV-016

EQUIPMENT TAGS:

1	F-PMP-01
2	F-PMP-02
3	F-PMP-03
4	F-PMP-04
5	F-PMP-05
6	BFP-001
7	BFP-002
8	BFP-003
9	BFP-004
10	PDS-01
11	PDS-02
12	PDS-03
13	PDS-04
14	H-CON-01
15	H-CON-02
16	I-CON-01
17	I-CON-02
18	L-CON-01

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CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

INSTRUMENTATION

P&ID - DEWATERING SYSTEM DIAGRAM SHEET 3

VERIFY SCALES
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JOB NO. 8290U.10
DRAWING NO. 00N05
SHEET NO.

LAST SAVED BY: twin

PROJECT NO.

FILE NAME: 8290U10_N05.dwg

** = PROVIDED BY PACKAGED SYSTEM SUPPLIER.

DEVICE LOCATED ON DOOR OF BFP-X LOCAL CONTROL PANEL
(X=1,2,3, 4)

CONTROL POWER ON — QAL .BFP00X
AUTO/ MANUAL — HS .BFP00XA
E-STOP (PULL TO RESET) — HS .BFP00XB
SLUDGE PUMP RUNNING — QAL .SLP00X
HYDRAULIC PUMP RUNNING — QAL .HYP00X
UPPER BELT DRIVE RUNNING — QAL .UBD00X
LOWER BELT DRIVE RUNNING — QAL .LUB00X
BFP BELT DRIVE RUNNING — QAL .DRV00X
BFP SYSTEM READY — QIL .BFP00XA
AUTO START — HS .BFP00XB
AUTO STOP — HS .BFP00XC
BFP IN START-UP MODE — QIL .BFP00XB
BFP IN WASHDOWN MODE — QIL .BFP00XC
BFP IN SHUTDOWN MODE — QIL .BFP00XD
LOCAL HMI TOUCH SCREEN

FROM SLUDGE FEED
FROM POLYMER SYSTEM
FOUL AIR TO EXHAUST
** LSH .BFP00X — J.B. — LAH .BFP00X HIGH SLUDGE

GRAVITY BELT (UPPER BELT)

TO DEWATERING BUILDING - PLANT PLC CONTROL PANEL — PROFINET

MCC-3 **
E-STOP RELAYS IN MCC
S/S
HS .HYP00X
QIL .HYP00X

MCC **
THICKENER BELT DRIVE
** M .UBD00X
HIK .LBD00X
SI .LBD00X
SC .LBD00X
S/S
HS .BD00X
SC .UBD00X
SI .UBD00X
QIL .LBD00X
QIL .UBD00X
HIK .UBD00X
** M .LBD00X
PRESS BELT DRIVE

** ZS .BFP00XB
** ZS .BFP00XA
BROKEN ZA .BFP00XA
J.B. JUNCTION BOX

BELT FILTER PRESS

TO HORIZONTAL CONVEYOR SYSTEM (SEE DWG I-07)

** ZS .BFP00XC
** ZS .BFP00XD
J.B. JUNCTION BOX
ZA .BFP00XB MISALIGNED

** PSL .BFP00XB
PAL .BFP00XB
POWER J-BOX
** M .HYP00X
HYDRAULIC PUMP

JUNCTION BOX
** PSL .WW00XA
J.B.
PAL .WW00XB

FROM REUSE WATER
PROVIDED BY BELT FILTER PRESS SUPPLIER **

THEIN WIN LICENSE No. 65722 STATE OF FLORIDA PROFESSIONAL ENGINEER

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HILLERS ELECTRICAL ENGINEERING, INC.
23257 STATE ROAD 7, SUITE 100
BOCA RATON, FLORIDA 33428
(561) 451-9165
(561) 451-4886 FAX
LICENSE NO: EB 0006877

REV	DATE	BY	DESCRIPTION
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DESIGNED TW
DRAWN TW
CHECKED SP
DATE FEBRAURY 2020

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carollo
200 East Robinson Street, Suite1400
Orlando, FL 32801
Phone (407) 478-4642
CA No. 8571

THE CITY OF DAYTONA BEACH INCORPORATED JULY 1926

CITY OF DAYTONA BEACH
WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
INSTRUMENTATION
P&ID - TYPICAL ALFA LAVAL BFP

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
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JOB NO. 8290U.10
DRAWING NO. 00N06
SHEET NO.

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PROJECT NO.
FILE NAME: 8290U10_N06.dwg

EXISTING PLANT SCADA SYSTEM

NEW HMI TOUCHSCREEN

NEW PCP-DW PANEL (PLC)
LOCATION: DEWATERING BLDG

AUTO/ MANUAL HS WWP0XA

START/ STOP HS WWP0X

RUNNING QI WWP0X

FAIL QA WWP0X

IN REMOTE QI WWP0XA

CHECK VALVE ALARM ZSO WWP0XA

TYPICAL FOR WASHWATER PUMP (X=1,2,FUTURE 3, FUTURE 4)

HS WWP0X | QI WWP0X | QA WWP0X | QI WWP0XA | ZSO WWP0XA

NEW MCC-3 **

FROM EXISTING VERTICAL CHLORINE CONTACT CHAMBER

WASHWATER PUMP No. 1

PI WWP01 **

ZSO WWP01 **

WASHWATER TO BELT FILTER NO.1 (BFP#1)

WASHWATER PUMP No. 2

PI WWP02 **

ZSO WWP02 **

WASHWATER TO BELT FILTER NO.2 (BFP#2)

FUTURE WASHWATER PUMP No. 3

PI WWP03 **

ZSO WWP03 **

WASHWATER TO BELT FILTER NO.3 (BFP#3)

FUTURE WASHWATER PUMP No. 4

PI WWP04 **

ZSO WWP04 **

WASHWATER TO BELT FILTER NO.4 (BFP#4)

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CITY OF DAYTONA BEACH

WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS

INSTRUMENTATION

P&ID - WASHWATER PUMPS

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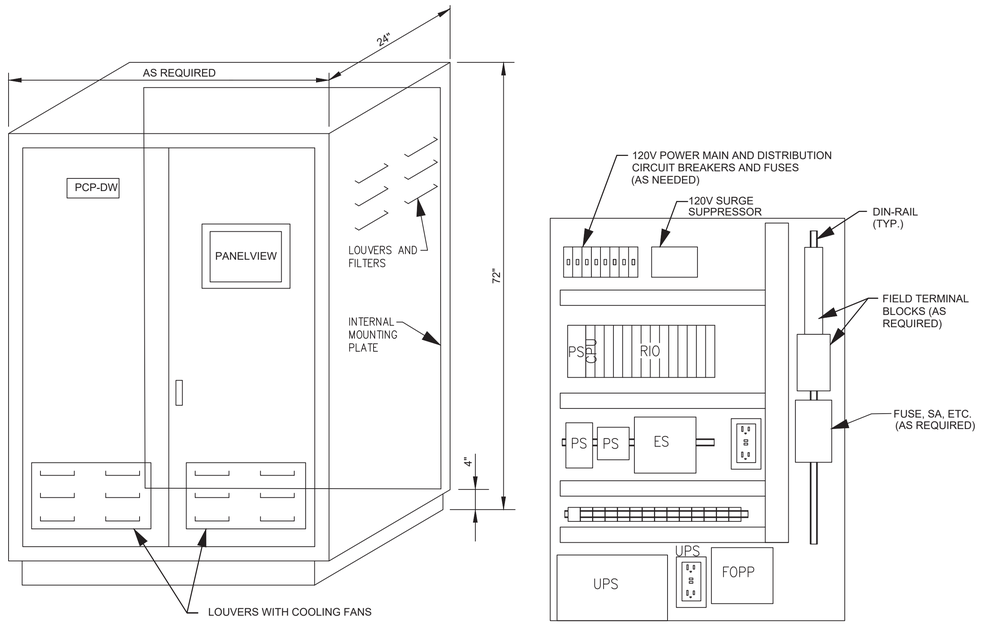
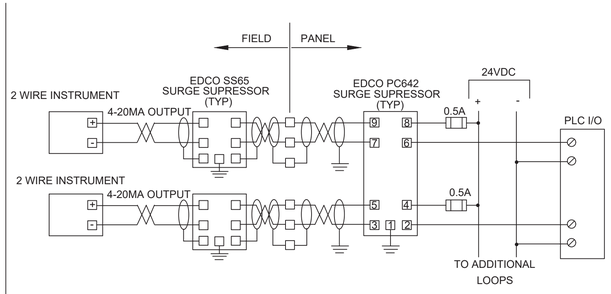


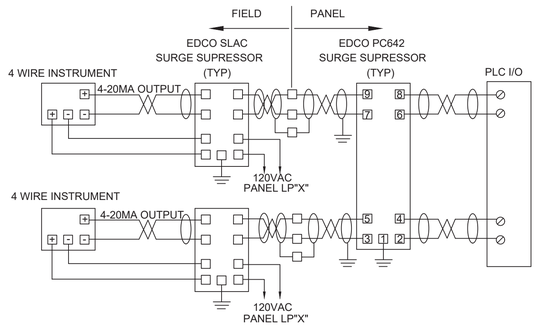
1 TYP **TYPICAL PLC PANEL DETAILS**

NOT TO SCALE



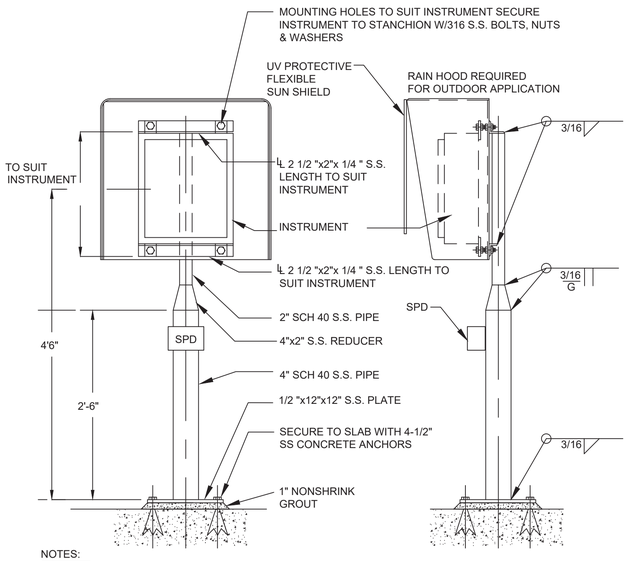
2 TYP **TYPICAL 2 WIRE INSTRUMENT ISOLATOR**

NOT TO SCALE



6 TYP **TYPICAL 4 WIRE INSTRUMENT ISOLATOR**

NOT TO SCALE

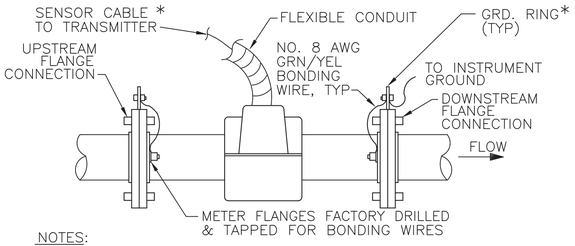


NOTES:

1. ROUND OFF ALL EXPOSED EDGES AND CORNERS. ALL S.S. SHALL BE 316 STAINLESS STEEL.
2. SEE SPECIFICATIONS FOR SPD INFORMATION
3. INSTRUMENTS STANDS INSTALLED INDOORS DO NOT REQUIRE A SUN SHIELD.

8 TYP **STANCHION SUPPORT FOR CASE MOUNTED INSTRUMENTS**

NOT TO SCALE

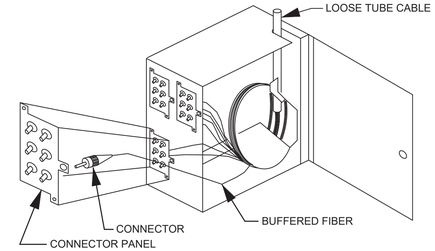


NOTES:

1. COMPONENTS DESIGNATED BY * ARE SUPPLIED BY INSTRUMENT MANUFACTURER.
2. IF PIPE IS NON-CONDUCTIVE BOND MAGMETER TO ONE OF THE FOLLOWING ACCEPTABLE GROUNDS:
   A) METALLIC WATER PIPE IF BURIED PORTION IS MORE THAN 10'.
   B) STRUCTURAL STEEL.

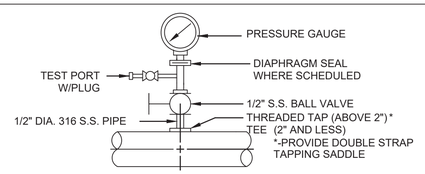
3 TYP **MAGNETIC FLOWMETER INSTALLATION DETAIL**

NOT TO SCALE



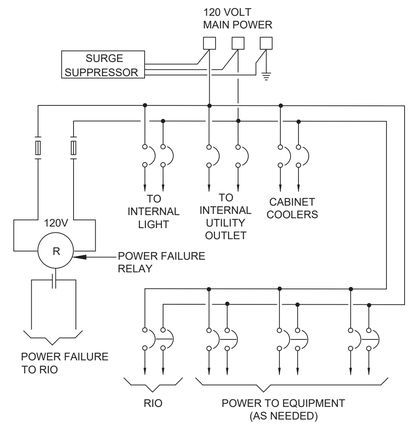
4 TYP **FIBER OPTIC PATCH PANEL DETAILS**

NOT TO SCALE



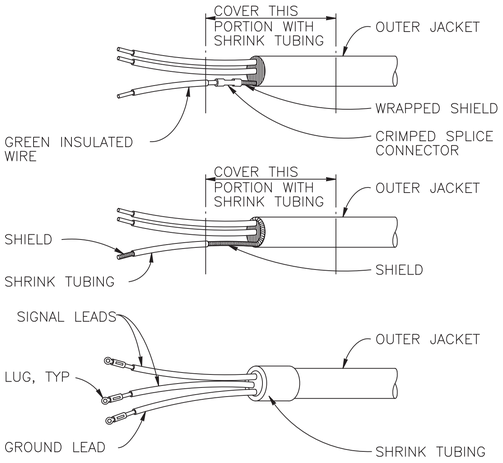
5 TYP **PRESSURE GAUGE, INSTRUMENT OR SWITCH**

NOT TO SCALE



7 TYP **RIO ENCLOSURE POWER DISTRIBUTION**

NOT TO SCALE



NOTE:
SHIELD GROUNDED AT TERMINATION.

9 TYP **TERMINATION OF SHIELDED CONTROL CABLE**

NOT TO SCALE

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THE CITY OF DAYTONA BEACH INCORPORATED JULY 1876

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WRWRF BIOSOLIDS DEWATERING IMPROVEMENTS
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INSTRUMENTATION DETAILS

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