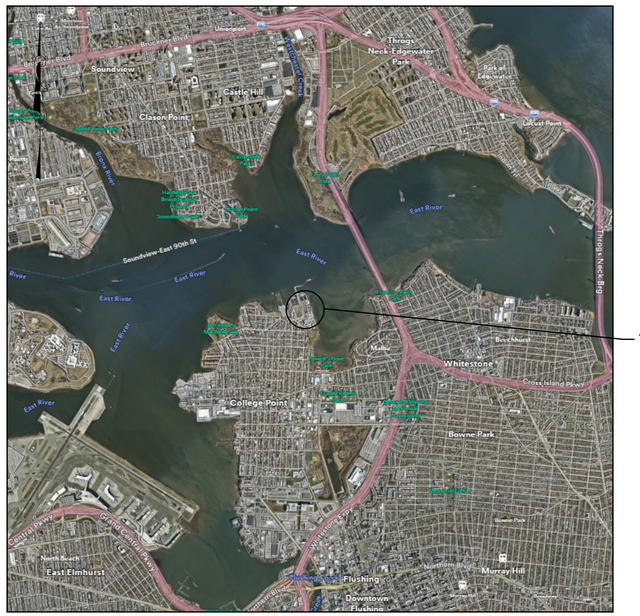
NEW YORK CITY
ENVIRONMENTAL PROTECTION
BUREAU OF WASTEWATER TREATMENT

TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION

QUEENS
OCTOBER 2026



TALLMAN ISLAND WRRF

IMAGE SOURCE NEARMAP, MARCH 8, 2024

KEY PLAN
SCALE: NTS

STATE OF NEW YORK
JOHN ALBERT CONWAY
LICENSED PROFESSIONAL ENGINEER
107281

JOB DESCRIPTION:

MULTI-RAKE SCREEN AND DEGRITTING SYSTEM REPLACEMENT; PIPING REPLACEMENT; CHANNEL IMPROVEMENTS; LIGHTING, HEATING AND VENTILATION UPGRADES.



PROJECT SITE

IMAGE SOURCE NEARMAP, MARCH 8, 2024

LOCATION PLAN
SCALE: NTS

ALEXANDER J. LOPEZ
DIVISION CHIEF, ENGINEERING DESIGN
BUREAU OF WASTEWATER TREATMENT

IAN ANDERSON
CHIEF, MECHANICAL ENGINEER SECTION
BUREAU OF WASTEWATER TREATMENT

Autodesk Docs://106463 - PW-119 Tallman Island Screening/PW119N_BC_TI-181_G_V24.rvt

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SHEET LIST		
SHEET NUMBER	DRAWING NUMBER	SHEET NAME
GENERAL		
1	G-000	COVER SHEET
2	G-001	INDEX OF DRAWINGS
3	G-002	GENERAL NOTES, LEGENDS AND SYMBOLS
4	G-003	NOTES AND HAZARDOUS AREA CLASSIFICATIONS
5	G-004	PROCESS FLOW DIAGRAM
6	G-005	MAIN SCREENING CHANNEL HYDRAULIC PROFILE
7	G-006	BYPASS SCREENING CHANNEL HYDRAULIC PROFILE
8	G-007	ENERGY CODE ANALYSIS - HVAC
9	G-008	FLOOD ZONE MAPS
STRUCTURAL		
10	S-001	GENERAL NOTES
11	S-002	TYPICAL DETAILS 1
12	S-003	TYPICAL DETAILS 2
13	S-004	TYPICAL DETAILS 3
14	DS-101	UPPER LEVELFLOOR DEMO PLAN
15	S-101	UPPER LEVEL FLOOR PLAN
16	S-301	SECTIONS
HVAC		
17	H-001	ABBREVIATIONS, SYMBOLS AND LEGEND
18	DH-101	LOWER LEVEL DEMOLITION PLAN
19	DH-102	UPPER LEVEL DEMOLITION PLAN
20	DH-103	ROOFLEVEL DEMOLITION PLAN
21	H-101	LOWER LEVEL FLOOR PLAN
22	H-102	UPPER LEVEL FLOOR PLAN
23	H-103	ROOF LEVEL PLAN
24	H-201	AIR FLOW DIAGRAM
25	H-301	SECTIONS
26	H-401	STANDARD DETAILS
27	H-501	SCHEDULES
28	H-502	SEQUENCE OF OPERATION
29	H-701	3D PLAN
PROCESS MECHANICAL		
30	M-001	NOTES, ABBREVATIONS AND SYMBOLS
31	DM-101	LOWER LEVEL EXISTING CONDITION AND DEMOLITION PLAN
32	DM-301	DEMOLITION SECTION - 1
33	DM-302	DEMOLITION SECTION - 2
34	DM-303	DEMOLITION SECTION - 3
35	DM-501	DEMOLITION DETAILS -1
36	M-101	UPPER LEVEL FLOOR PLAN
37	M-301	SECTION - 1
38	M-302	SECTION - 2
39	M-303	SECTION - 3
40	M-304	SECTION - 4
41	M-501	DETAILS
42	M-502	DETAILS
43	M-503	DETAILS - SLIDE GATE AND STOP LOGS

SHEET LIST		
SHEET NUMBER	DRAWING NUMBER	SHEET NAME
ELECTRICAL		
44	E-001	ELECTRICAL SYMBOL LIST AND NOTES
45	E-002	SITE PLAN
46	DE-101	UPPER LEVEL POWER DEMOLITION PLAN
47	DE-102	LOWER LEVEL HVAC POWER DEMOLITION PLAN
48	DE-103	UPPER LEVEL HVAC POWER DEMOLITION PLAN
49	DE-104	ROOF LEVEL HVAC POWER DEMOLITION PLAN
50	DE-105	LOWER LEVEL LIGHTING DEMOLITION PLAN
51	DE-106	UPPER LEVEL LIGHTING DEMOLITION PLAN
52	E-100	UPPER LEVEL MCC ROOM POWER PLAN
53	E-101	UPPER LEVEL POWER PLAN
54	E-102	LOWER LEVEL HVAC POWER PLAN
55	E-103	UPPER LEVEL HVAC POWER PLAN
56	E-104	ROOF LEVEL HVAC POWER PLAN
57	E-105	LOWER LEVEL LIGHTING PLAN
58	E-106	UPPER LEVEL LIGHTING PLAN
59	E-107	ELECTRICAL SINGLE LINE DIAGRAMS & PANEL SCHEDULE
60	E-108	ELECTRICAL SCHEMATIC DIAGRAMS
61	E-501	ELECTRICAL DETAILS
INSTRUMENTATION AND CONTROLS		
62	I-001	LEGEND, SYMBOLS, AND ABBREVIATIONS - 1
63	I-002	LEGEND, SYMBOLS, AND ABBREVIATIONS - 2
64	I-003	LEGEND, SYMBOLS, AND ABBREVIATIONS - 3
65	I-004	NETWORK DIAGRAM/CONTROL SYSTEM ARCHITECTURE
66	I-005	DETAILS
67	I-101	HYDROGRITTER/CLASSIFIER P&ID
68	I-102	SCREEN P&ID
69	I-103	HVAC MONITORING P&ID
70	I-501	PLC CONTROL PANEL LAYOUT

BID SET
DATE ISSUED: OCTOBER 2026

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NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.
0	11/25	90% DESIGN UPDATE - REVISION 1	

DESIGNED BY: J. CONWAY
DRAWN BY: T. DIMICELI
CHECKED BY: J. ARMSTRONG
DESIGN LEAD: J. CONWAY
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES
NEW YORK, NEW YORK

STATE OF NEW YORK · JOHN ALBERT CONWAY · 107281 · LICENSED PROFESSIONAL ENGINEER

Environmental Protection

ENGINEER
Y. LIN

CHIEF, MECHANICAL ENGINEER SECTION
I. ANDERSON

DIVISION CHIEF, ENGINEERING DESIGN
A. LOPEZ

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TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

GENERAL
INDEX OF DRAWINGS

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. G-001.00

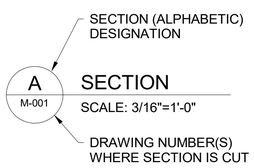
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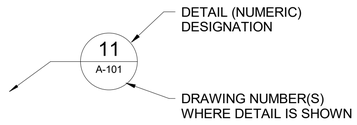
CROSS REFERENCING SYSTEM



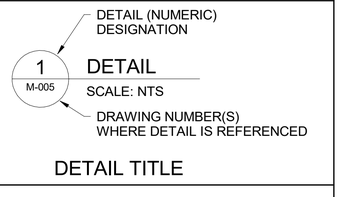
SECTION CUT



SECTION TITLE



DETAIL CALLOUT



DETAIL TITLE



KEY NOTE

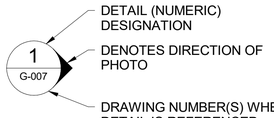


PHOTO CALLOUT



GRAPHIC SCALE



NORTH ARROW

GENERAL NOTES

VERTICAL DATUM

1. ALL ELEVATIONS ARE SHOWN IN QUEENS BOROUGH DATUM.
2. NAVD88 = QUEENS BOROUGH DATUM + 1.625 FT.

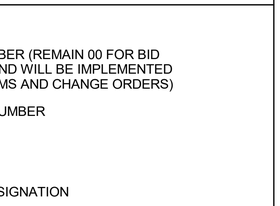
GENERAL NOTES

1. EXISTING STRUCTURES, DIMENSIONS, CALLOUTS, PIPING, EQUIPMENT, ELEVATIONS AND ANY OTHER EXISTING INFORMATION SHOWN ON THESE DRAWINGS ARE BASED ON AS-BUILT DRAWINGS FOR CONTRACTS: TI-1, TI-146, TI-168, TI-169 PROVIDED BY DEP, AND LIMITED LASER SCANNING OF THESE FACILITIES. ENGINEER ASSUMES NO RESPONSIBILITY FOR THE HORIZONTAL AND VERTICAL ACCURACY ON DRAWINGS. AS-BUILT INFORMATION IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR WHO SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING OF WORK. VERIFICATION INCLUDES ALL DIMENSIONS, ELEVATIONS AND DETAILS OF EXISTING STRUCTURES AND EQUIPMENT WHERE THEY AFFECT CONSTRUCTION OF THE PROJECT.
2. NO ON-SITE WORK SHALL BE INITIATED BY THE CONTRACTOR UNTIL ALL NECESSARY WORK PERMITS ARE OBTAINED AND A PROJECT SPECIFIC HEALTH AND SAFETY PLAN AS DETAILED IN SPECIFICATION SECTION 01 35 27 HAS BEEN SUBMITTED AND APPROVED.
3. AREAS OF WORK INCLUDED IN THIS CONTRACT ARE NFPA CLASSIFIED HAZARDOUS AREAS (CLASS 1, DIVISION 1 AND 2). THE CONTRACTOR SHALL NOT PERFORM WORK IN CLASSIFIED AREAS WITHOUT OBTAINING APPROPRIATE PERMITS AND OBTAINING ALL SPECIAL PERMITS THAT MAY BE REQUIRED FOR GRINDING AND WELDING. THE CONTRACTOR SHALL MAINTAIN CONTINUOUS EXPLOSIVE GAS MONITORING AND SUPPLEMENTAL VENTILATION WHILE WORKING IN CLASSIFIED AREAS. GAS MONITORING AND VENTILATION SHALL BE INCLUDED AS PART OF THE CONTRACTOR'S HEALTH AND SAFETY PLAN AS REQUIRED IN DETAILED SPECIFICATION SECTION 01 35 27.
4. MAINTAIN CONTINUOUS SITE ACCESS THROUGHOUT CONSTRUCTION TO EMERGENCY RESPONSE VEHICLES AND PROTECT AGAINST FIRE HAZARDS AS REQUIRED BY NFPA241.
5. THIS DRAWING IS GENERAL IN NATURE. SOME DESIGNATIONS SHOWN HEREON MAY NOT BE USED ON THE CONTRACT DRAWINGS.
6. EXISTING PIPING IS DESIGNATED BY SERVICE WITHOUT IMPLICATION AS TO PIPING MATERIAL. EXISTING PIPING MATERIAL, IF KNOWN, IS INDICATED SEPARATELY, AND MAY NOT BE THE SAME MATERIAL AS SPECIFIED FOR NEW PIPING FOR THE SAME SERVICE.
7. FOR PIPELINE DEVICE AND VALVE SYMBOLS SEE PROCESS MECHANICAL DRAWINGS.
8. THE PROJECT SITE IS APPROXIMATELY 8,000 FEET FROM LAGUARDIA AIRPORT RUNWAYS. CONTRACTOR IS ADVISED THAT NEW YORK CITY DEPARTMENT OF BUILDINGS (DOB) AND FEDERAL AVIATION ADMINISTRATION (FAA) LIMIT FLIGHT OBSTRUCTIONS WITHIN THE RADIUS OF RUNWAYS THAT MAY IMPACT HEIGHTS OF CONSTRUCTION EQUIPMENT. CONTRACTOR IS REQUIRED TO COMPLY WITH ALL NYCDOB AND FAA REQUIREMENTS.
9. CONTRACT HAS NEW YORK CITY PUBLIC DESIGN COMMISSION AND OTHER AGENCY APPROVALS. APPROVAL DOCUMENTS ARE AVAILABLE TO THE CONTRACTOR FOR INFORMATION PURPOSES. CONTRACTOR IS PRECLUDED FROM INSTALLING ANY PIPING, ELECTRICAL CONDUITS OR EQUIPMENT TO BUILDING EXTERIORS NOT CONFORMING WITH NEW YORK CITY PUBLIC DESIGN COMMISSION OR ANY OTHER AGENCY APPROVALS. PIPING AND CONDUIT SYSTEMS INCLUDED IN THE CONTRACT THAT ARE NOT SPECIFICALLY LAID OUT OR DETAILED ON CONTRACT DRAWINGS SHALL BE INSTALLED EITHER BELOW GROUND OR WITHIN BUILDING INTERIORS.
10. THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, UTILITIES, EQUIPMENT, AND FACILITIES ADJACENT TO OR AFFECTED BY THE WORK. THE CONTRACTOR SHALL SUPPORT, MAINTAIN, AND RELOCATE, AS NECESSARY, ALL EXPOSED OR IMPACTED PIPING, CONDUITS, WIRING, CABLES, DUCTWORK, AND ASSOCIATED APPURTENANCES. ANY DAMAGE CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE PROMPTLY REPAIRED AND RESTORED TO ITS ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE OWNER, UTILITY OWNER, AUTHORITY, OR ENGINEER.
11. THE CONTRACTOR SHALL RELOCATE, MODIFY, OR REROUTE EXISTING PIPING, DUCTWORK, CONDUITS, LIGHT FIXTURES, AND OTHER UTILITIES, WHETHER SHOWN ON THE DRAWINGS OR ENCOUNTERED IN THE FIELD, AS REQUIRED TO ACCOMMODATE THE INSTALLATION AND OPERATION OF THE NEW EQUIPMENT AND COMPLETION OF THE WORK. ALL RELOCATION WORK SHALL BE PERFORMED IN A MANNER THAT MAINTAINS CONTINUOUS OPERATION AND SERVICE, UNLESS OTHERWISE APPROVED BY THE OWNER.
12. THE FACILITY MUST REMAIN FULLY OPERATIONAL THROUGHOUT THE DURATION OF THIS CONTRACT. REFER TO SPECIFICATIONS SECTION 03 17 12 MAINTENANCE OF OPERATIONS AND CONSTRUCTION STAGING.

DEMOLITION GENERAL NOTES

1. THE DEMOLITION, MODIFICATION OR ALTERATION OF EXISTING BUILDINGS AND EQUIPMENT SHALL BE IN ACCORDANCE WITH LOCAL REGULATIONS AND STATE CODES. REFER TO SPECIFICATIONS, SECTIONS 02 41 10 AND 26 05 11.
2. SALVAGE OF EXISTING EQUIPMENT AND PIPING IS DEFINED IN SPECIFICATION SECTIONS 02 41 10 AND 26 05 11.
3. WHEN CONNECTING TO EXISTING PIPING, REPLACE PIPING BACK TO THE NEAREST JOINT.
4. WALLS AND SLABS SHALL BE CORE DRILLED. NO STRUCTURAL MEMBER SHALL BE CUT WITHOUT APPROVAL OF THE ENGINEER.
5. FOR MAINTENANCE OF EXISTING PLANT OPERATION AND FOR DEMOLITION SEQUENCING CONSTRAINTS, REFER TO SPECIFICATION SECTION 01 73 12. CONTRACTOR SHALL PROVIDE TEMPORARY FACILITIES WHERE NECESSARY.
6. WHEN DEMOLISHING EXISTING PIPING EXTENDING THROUGH EXISTING WALLS, REMOVE ALL ASSOCIATED PIPE CASTING AND SLEEVES AND PREPARE AND PATCH ALL OPENINGS AS DETAILED ON THE DRAWINGS.
7. REFERENCE SECTIONS 02 82 05, 02 83 05, 02 84 05 AND 02 84 10 FOR ASBESTOS, MERCURY, LEAD AND PCB MANAGEMENT.
8. REFER TO SECTION 01 74 20 - CONSTRUCTION WASTE MANAGMENT, FOR RECYCLING REQUIREMENTS.
9. REFER TO SECTION 02 41 10 FOR ITEMS TO BE SALVAGED AND TURNED OVER TO OWNER.

DRAWING NUMBERING SYSTEM



DISCIPLINE DESIGNATION

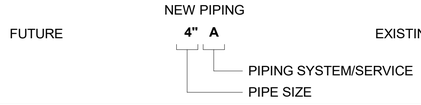
G	GENERAL
B	GEOTECHNICAL
C	CIVIL
S	STRUCTURAL
A	ARCHITECTURAL
M	PROCESS MECHANICAL
H	MECHANICAL/HVAC
P	PLUMBING
E	ELECTRICAL
I	INSTRUMENTATION
DX	DEMOLITION (X - DENOTES DISCIPLINE)

NOTE: DEMOLITION DRAWINGS ARE INCLUDED IN EACH DISCIPLINE AFTER THE GENERAL AND STANDARD DETAILS AND BEFORE THE NEW WORK

SHEET TYPE

0	GENERAL
1	PLANS
3	SECTIONS
5	DETAILS

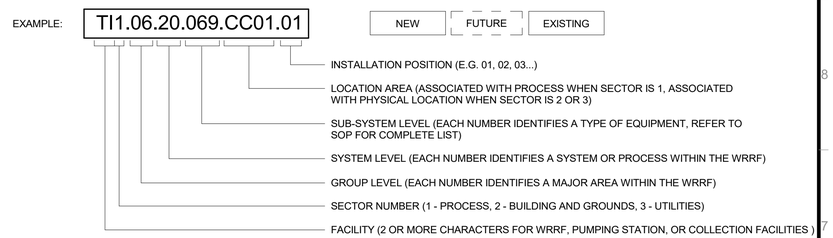
PIPING DESIGNATION



DESIGNATIONS

ASSET IDENTIFICATION

APPLIES TO ALL PROCESS EQUIPMENT, BUILDINGS, AND UTILITIES AT THE WRRF, BASED ON BWT'S CMMS ASSET PROFILE GUIDANCE: STANDARD OPERATING PROCEDURE (SOP)



FACILITY LOCATION / IDENTIFIERS:

26W	26TH WARD
BB	BOWERY BAY
CI	CONEY ISLAND
HP	HUNTS POINT
JA	JAMAICA
NC	NEWTOWN CREEK
NR	NORTH RIVER
OB	OAKWOOD BEACH
OH	OWLS HEAD
PR	PORT RICHMOND
RH	RED HOOK
RO	ROCKAWAY
WI	WARDS ISLAND
TI	TALLMAN ISLAND

GROUP LEVEL:

01	- HEADWORKS
02	- PRIMARY TREATMENT
03	- SECONDARY TREATMENT
04	- TERTIARY TREATMENT
05	- DISINFECTION, ADVANCED TREATMENT
06	- SLUDGE TREATEMENT & HANDLING
07	- SLUDGE THICKENING
08	- SLUDGE DIGESTION
09	- SLUDGE DEWATERING
10	- FLOW CONVEYANCE SYSTEMS
11	- POWER GENERATION
12	- ELECTRICAL DISTRIBUTION
13	- COMPUTER SYSTEMS
14	- WATER SYSTEMS
15	- HVAC
16	- CAMPUS INFRASTRUCTURE
17	- SHORELINE
18	- MARINE
19	- SAFETY
20	- MATERIAL HANDLING EQUIPMENT
21	- GAS HANDLING
22	- LABORATORY
99	- OTHER

SYSTEM LEVEL:

01	- FLOW REGULATOR
02	- INTERCEPTOR
03	- FORCE MAIN
04	- CATCH BASIN
05	- MAIN SEWAGE PUMPING SYSTEMS
06	- HYDRAULIC / PNEUMATIC SYSTEMS
07	- SCREENS AND SCREENING HANDLING SYSTEMS
08	- CONCRETE TANKS
09	- CHEMICAL BULK STORAGE TANKS
10	- PETROLEUM BULK STORAGE TANKS
11	- SOLIDS PUMPING SYSTEMS
12	- COLLECTOR SYSTEMS
13	- RAW SEWAGE WATER SYSTEMS
14	- SPRAY WATER SYSTEMS
15	- PROCESS AIR HANDLING SYSTEMS
16	- WASTE ACTIVATED SLUDGE (WAS) SYSTEMS
17	- RETURN ACTIVATED SLUDGE (RAS) SYSTEMS
18	- CHEMICAL SUPPLY SYSTEMS
19	- CHEMICAL FEEDING / DOSING SYSTEMS
20	- GRIT REMOVAL SYSTEMS
21	- SLUDGE THICKENING SYSTEMS
22	- SLUDGE FEED TO DEWATERING SYSTEMS
23	- DIGESTION SYSTEMS
24	- DIGESTER GAS SYSTEMS
25	- SLUDGE STORAGE
26	- SLUDGE DEWATERING SYSTEMS
27	- SLUDGE TRANSFER SYSTEMS
28	- POLYMER SYSTEMS
29	- INDUSTRIAL IT
30	- INSTRUMENTATION
31	- ENGINES
32	- LUBE OIL SYSTEMS
33	- FUEL OIL SYSTEMS
34	- STARTING AIR SYSTEMS
35	- BATTERY & ASSOCIATED
36	- POWER CONTROL - REMOTE
37	- POWER DELIVERY / DISTRIBUTION
38	- POWER GENERATOR
39	- POWER HANDLING
40	- POWER METER
41	- SPEED CONTROL
42	- MAIN PROPULSION
43	- BRIDGE EQUIPMENT / CONTROLS
44	- CONVEYORS
45	- STEERING GEAR
46	- BUILDINGS
47	- GROUNDS
48	- PIER / BULKHEADS
49	- BOILER SYSTEMS
50	- HVAC SYSTEMS
51	- PLANT AIR, AUXILIARY AIR, VACUUM SYSTEMS
52	- CITY WATER SYSTEMS
53	- DRAINAGE SYSTEMS
54	- VEHICLES
55	- ELEVATORS, HOISTS, AND CRANES
56	- COMMUNICATIONS
57	- FIRE PREVENTION SYSTEMS
58	- SERVICE WATER SYSTEMS
59	- SEAL WATER SYSTEMS
60	- EFFLUENT WATER SYSTEMS
61	- ODOR CONTROL SYSTEMS
62	- GAS DETECTION AND OXYGEN DEFICIENCY MONITORING SYSTEMS
63	- LAUNDRY EQUIPMENT
64	- ACCESS CONTROL SYSTEMS
65	- SURFACE WASTE ACTIVATED SLUDGE SYSTEMS
66	- HEAT EXCHANGER SYSTEM
67	- NATURAL GAS SYSTEMS
68	- RESCUE AND FIRST AID EQUIPMENT
69	- CENTRATE TREATMENT SYSTEMS
99	- OTHER

SUB-SYSTEM LEVEL:

FULL LIST OF SUB-SYSTEM EQUIPMENT IDENTIFIED IN SOP

LOCATION AREA:

AA01	- ADMINISTRATION AREA
AB01	- BOILER AREA
AC01	- CHEMICAL HANDLING AREA
AD01	- CHLORINE CONTACT TANKS
AE01	- DEWATERING AREA
AF01	- DIGESTER TANK AREA
AG01	- EFFLUENT TRANSFER STATION
AH01	
AI01	- ELECTRICAL DISTRIBUTION
AJ01	- FINAL SETTLING AREA
	- FIRE SUPPRESSION HANDLING AREA
AK01	
AL01	- FUEL OIL HANDLING AREA
AM01	- BIOGAS HANDLING AREA
AN01	- HVAC HANDLING AREA
AO01	- LABORATORY ROOM
AP01	- MAIN SEWAGE PUMP AREA
AQ01	- MACHINE SHOP AREA
AR01	- ODOR CONTROL AREA
AS01	- POTABLE WATER HANDLING
AT01	- POWER GENERATION - PRIMARY SETTLING AREA
AU01	- PROCESS AIR HANDLING AREA
AV01	- PROCESS HEATING DISTRIBUTION
AW01	- RESIDUALS HANDLING AREA
AX01	- SECONDARY TREATMENT AREA
AY01	- SLUDGE STORAGE AREA
AZ01	- SLUDGE TRANSFER AREA
BA01	- STORAGE AREA
BB01	- TERTIARY TREATMENT AREA
BC01	- THICKENER AREA
BD01	- SCREENING AREA
BE01	- DOCK AREA
BF01	- TUNNELS
BG01	- SUBSTATION AREA
BH01	- TOOL ROOM AREA
BI01	- ELECTRICAL SHOP AREA
BJ01	- BLOWER AREA
BK01	- BATTERY AREA
BL01	- BATHROOM AREA
BM01	- KITCHEN AREA
BN01	- CAKE HOPPER AREA
BO01	- CAKE LOADING AREA
BP01	- CAKE CONVEYOR AREA
BQ01	- HYPO PUMP AREA
BR01	- HEAT EXCHANGER AREA
BS01	- MAIN BUILDING AREA
BT01	- PUMP AND BLOWER AREA
BU01	- RETURN ACTIVATED SLUDGE AREA
BV01	- SCUM HANDLING AREA
BW01	- SERVICE AREA
BX01	- SLUDGE PROCESSING AREA
BY01	- WET WELL AREA
BZ01	- WASTE ACTIVATED SLUDGE AREA
CA01	- CENTRIFUGE AREA
CB01	- MCC AREA
CC01	- CYCLONE DEGRITTER AREA
CD01	- SWITCHBOARD AREA
CE01	- HEADWORKS AREA
CF01	- GRIT TANK AREA
CG01	- OUTFALL AREA
CH01	- SERVICE WATER AREA
CI01	- FLARE TOWER
CJ01	- LAUNDRY AREA
CK01	- LOCKER ROOM AREA
CL01	- ACCESS CONTROL / SECURITY AREA
CM01	- AERATION TANK AREA
CN01	- OILER AREA
CO01	- MATERIAL HANDLING AREA
ZZ01	- MISC. AREA

BID SET
DATE ISSUED: OCTOBER 2026

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DESIGNED BY: J. CONWAY
DRAWN BY: A. DIANAT
CHECKED BY: J. ARMSTRONG
DESIGN LEAD: J. CONWAY
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

JOHN ALBERT CONWAY — LICENSED PROFESSIONAL ENGINEER — STATE OF NEW YORK — 107281

Environmental Protection

ENGINEER: Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION: I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
GENERAL
GENERAL NOTES, LEGENDS AND SYMBOLS

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. G-002.00

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SUMMARY OF REQUIREMENTS OF NFPA 820 STANDARD FOR FIRE PROTECTION IN WASTEWATER TREATMENT AND COLLECTION FACILITIES																
STRUCTURE, ROOM OR AREA	INTERIOR/ EXTERIOR ENCLOSED/ UNCOVERED	NFPA 820 TABLE	VENTILATION TYPE	VENTILATION RATE ACH (NEW)	ELECTRICAL CODE		FIRE PROTECTION MEASURES									REMARKS
					CLASS	DIVISION	CGD	FAS	FDS	FE	FSS	H	LC	LFS	NC	
GRIT BUILDING LEVEL 1	INTERIOR	6.2.2.a, ROW 8, SLUDGE THICKENER, A	CONTINUOUS	12	1	2	X			X		X			X	
STAIRWAY BETWEEN LEVEL 1 AND 2	INTERIOR	6.2.2.a, ROW 8, SLUDGE THICKENER, A	CONTINUOUS	12	1	2	X			X		X			X	
GRIT BUILDING LEVEL 2	INTERIOR	6.2.2.a, ROW 8, SLUDGE THICKENER, A	CONTINUOUS	12	1	2	X			X		X			X	

LEGEND

CGD - COMBUSTIBLE GAS DETECTION SYSTEM
FAS - FIRE ALARM SYSTEM
FDS - FIRE DETECTION SYSTEM
FE - FIRE EXTINGUISHER
FSS - FIRE SUPPRESSION SYSTEM
H - HYDRANT PROTECTION
LC - LIMITED COMBUSTIBLE MATERIAL
LFS - LOW FLAME SPREAD MATERIAL
NC - NON-COMBUSTIBLE MATERIAL

NYC BUILDING CODE

ZONING DISTRICT: M2-1
ZONING MAP: 7b
BLOCK: 3925
LOT: 1
CONSTRUCTION CLASS: IIB
OCCUPANCY CLASSIFICATION: U9

BUILDING INFORMATION

BROUGH: QUEENS
BLOCK: 3925
LOT: 1
OWNER: DEP
ADDRESS: 127-11 POWELLS COVE BOULEVARD, QUEENS, NY 11356
LOT FRONTAGE: 999 FT
LOT DEPTH: 311 FT
ZONING: M2-1
ZONING MAP: 7b

SPECIAL INSPECTIONS

SPECIAL INSPECTIONS REQUIRED IN ACCORDANCE WITH SECTION BC1704 AND THE APPLICABLE SECTIONS OF THE BUILDING CODE ARE LISTED BELOW. SEE ALSO DIVISION 1 SECTION 01 43 05 CONTRACTOR'S WORK QUALITY.

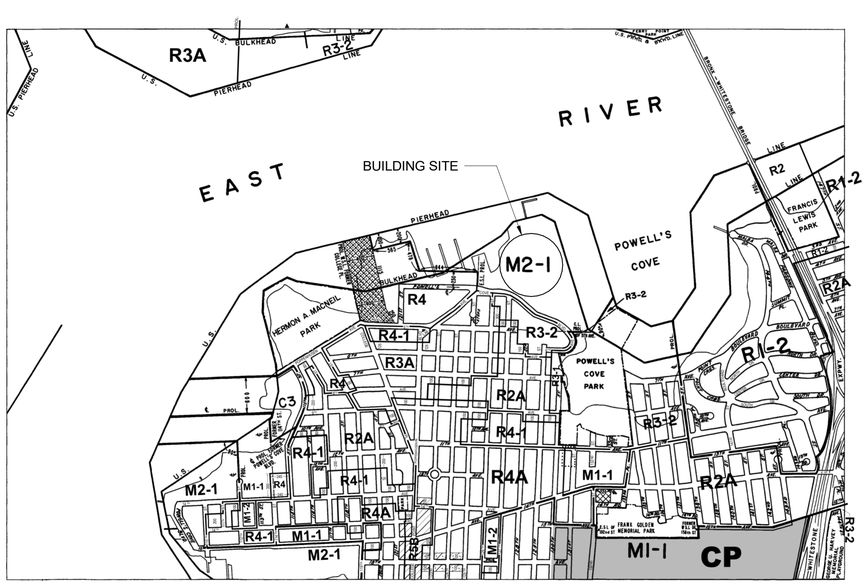
THE CONTRACTOR MUST NOTIFY ENGINEER AND OWNER FOR SPECIAL INSPECTIONS AT LEAST 72 HOURS BEFORE SPECIFIC WORK COMMENCES.

OWNER SHALL BE RESPONSIBLE FOR THE FOLLOWING SPECIAL INSPECTIONS; AND MUST BE ON SITE TO WITNESS AND COORDINATE ALL SPECIAL INSPECTIONS.

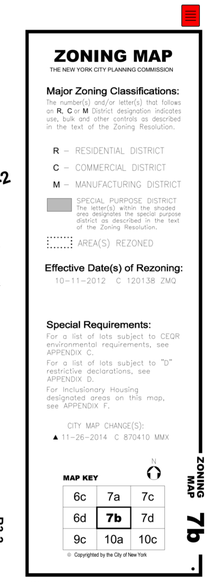
ITEM	BUILDING CODE SECTION
MECHANICAL	BC1704.16 (2014)
MECHANICAL SYSTEMS	BC1705.21 (2022)

SPECIAL INSPECTION FIRM(S) SHALL BE APPROVED BY OWNER PRIOR TO ANY WORK REQUIRING SPECIAL INSPECTION.

Item	Building Code Section
Structural Steel - Welding	BC 1704.3.1 (2014), BC 1705.2.1 (2022)
Structural Steel – Details	BC 1704.3.2 (2014), BC 1705.2.2 (2022)
Structural Steel – High Strength Bolting	BC 1704.3.3 (2014), BC 1705.2.3 (2022)
Concrete – Cast in place	BC 1704.4 (2014), BC 1705.3 (2022)
Mechanical Systems	BC 1704.16 (2014), BC 1705.21 (2022)
High Temperature Hot Water Piping (Welding)	BC 1704.18 (2014), BC 1705.23 (2022)
Heating Systems	BC 1704.25 (2014), BC 1705.31 (2022)
Post-installed Anchors	BC 1704.32 (2014), BC 1705.37 (2022)
Concrete Design Mix	BC 1905.3 (2022) BC1905.5 (2022)
Final	28-116.2.4.2, BC 1105, and 1 RCNY § 101-10



ZONING MAP



NOTE: Zoning information as shown on this map is subject to change. For the most up-to-date zoning information for this map, visit the Zoning section of the Department of City Planning website: www.nyc.gov/planning or contact the Zoning Information Desk at (212) 720-3291.

BID SET
DATE ISSUED: OCTOBER 2026

GRAPHIC SCALES CHECK BEFORE USE

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DESIGNED BY: J. CONWAY
DRAWN BY: A. DIANAT
CHECKED BY: J. ARMSTRONG
DESIGN LEAD: J. CONWAY
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK JOHN ALBERT CONWAY 107281 LICENSED PROFESSIONAL ENGINEER

Environmental Protection

ENGINEER: Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION: I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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BUREAU OF WASTEWATER TREATMENT
96-05 HORACE HARDING EXPRESSWAY 2nd FLOOR
CORONA, NEW YORK 11368
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TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
GENERAL
NOTES AND HAZARDOUS AREA CLASSIFICATIONS

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. G-003.00

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LEGEND

- SLIDE GATE
- STOP LOG
- PLUG VALVE (NORMALLY OPEN)
- PLUG VALVE (NORMALLY CLOSED)
- REDUCER

SLUDGE THICKENERS

10" PS

8" PS

8" PS

12"

DEGRITTED PRIMARY SLUDGE 12"

DEGRITTED PRIMARY SLUDGE 12"

24" HYDROGRITTER CLASSIFER

6" OF

6" D

4" D

6" D

D

GRIT

DUMPSTER

DUMPSTER

CHUTE

WASHED SCREENINGS

MULTI-RAKE BAR SCREEN

MAIN SCREENING CHANNEL

MIXED FLOW FROM PUMPING STATION

24" MF

8" PS

18" HYDROGRITTER CLASSIFER

10" DCS

10" DCS

12"

6" OF

6" D

4" D

6" D

D

DUMPSTER

10"

BYPASS SCREENING CHANNEL

DISTRIBUTION BOX

TO SLUDGE THICKENERS (TYP.)

EAST PRIMARY SETTLING TANKS

WEST PRIMARY SETTLING TANKS

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Environmental Protection

ENGINEER
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I. ANDERSON

DIVISION CHIEF, ENGINEERING DESIGN
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TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

GENERAL
PROCESS FLOW DIAGRAM

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. G-004.00

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GENERAL NOTES

MECHANICAL MULTI-RAKE BAR SCREEN

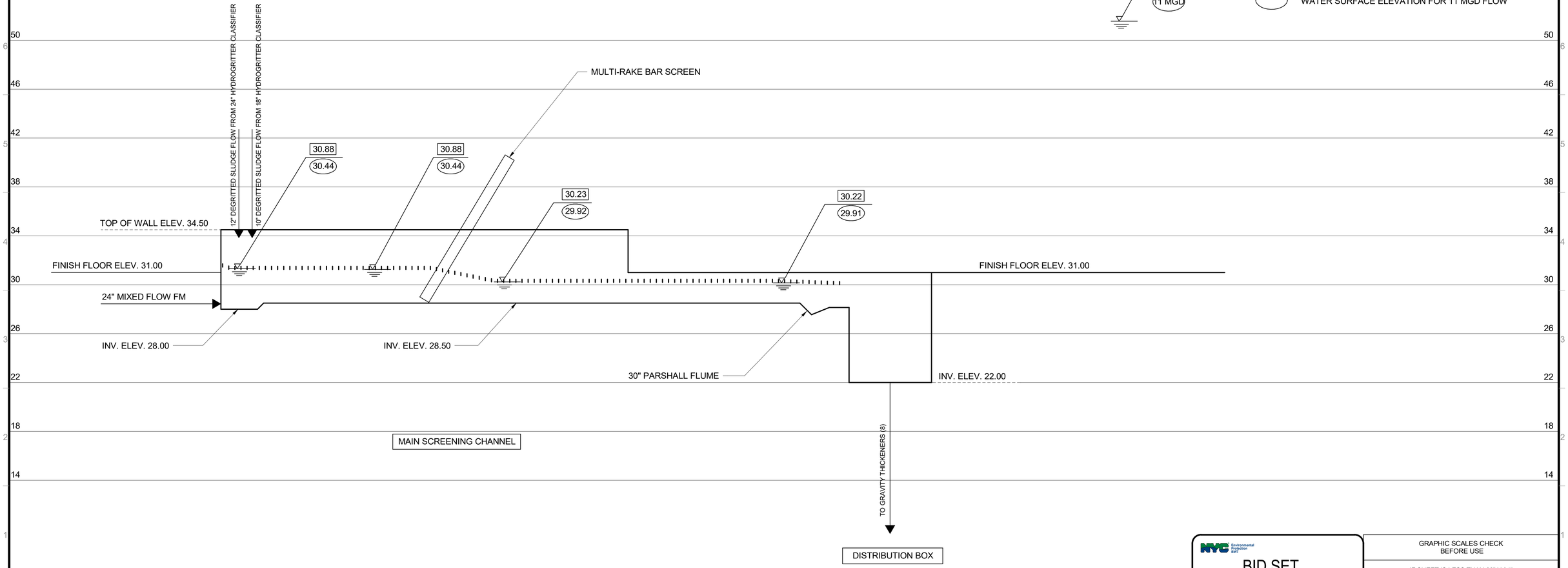
1. HYDRAULIC SCENARIOS WERE PERFORMED FOR ONE MECHANICAL SCREEN.
2. MECHANICAL SCREEN HEADLOSS CALCULATIONS AND WSL ELEVATION ARE CALCULATED AND SHOWN AT 40% SCREEN BLINDING FOR 11 MGD AND 15 MGD FLOW.
3. MAIN CHANNEL DIMENSIONS
   - A. CHANNEL WIDTH = 4.5 FT
   - B. BOTTOM OF CHANNEL ELEV. = 28.50 FT
   - C. TOP OF CONCRETE WALL ELEV. = 34.50 FT
   - D. FINISH FLOOR ELEVATIONS = 31.00 FT
4. NO. OF MULTI-RAKE BAR SCREENS = 1
5. SCREEN DESIGN CRITERIA
   - A. TOTAL SCREEN WIDTH = 4.08 FT
   - B. SCREENFIELD WIDTH = 3.53 FT
   - C. CLEAR BAR SPACING = 0.375 INCH
   - D. INCLINATION FROM HORIZONTAL = 60°

LEGEND

15 MGD
11 MGD

WATER SURFACE ELEVATION FOR 15 MGD FLOW

WATER SURFACE ELEVATION FOR 11 MGD FLOW



HYDRAULIC PROFILE THROUGH THE MAIN SCREENING CHANNEL

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DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
GENERAL
MAIN SCREENING CHANNEL HYDRAULIC PROFILE

DATE: OCTOBER 2026
SHEET NO:
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GENERAL NOTES

MANUAL BAR RACK

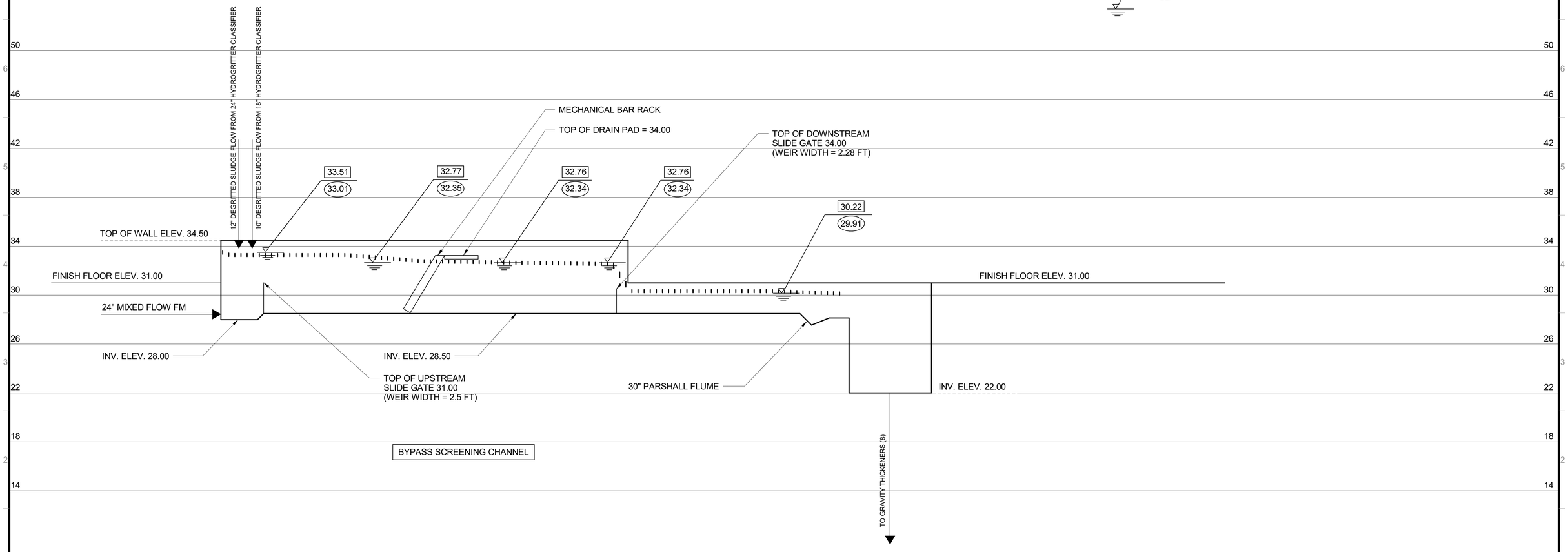
1. HYDRAULIC SCENARIOS FOR MANUAL BAR SCREEN PERFORMED FOR 11 AND 15 MGD FLOW.
2. BYPASS CHANNEL DIMENSIONS
   A. WIDTH = 3.68 FT
   B. BOTTOM OF CHANNEL ELEV. = 28.50 FT
   C. TOP OF CONCRETE WALL ELEV. = 34.50 FT
3. NO. OF MANUAL BAR SCREENS = 1
4. BAR THICKNESS = 1 INCH
   BAR SPACING = 1.25 INCH
   ANGLE OF INCLINATION = 60°

LEGEND

15 MGD
11 MGD

WATER SURFACE ELEVATION FOR 15 MGD FLOW

WATER SURFACE ELEVATION FOR 11 MGD FLOW



HYDRAULIC PROFILE THROUGH THE BYPASS SCREENING CHANNEL

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TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
GENERAL
BYPASS SCREENING CHANNEL HYDRAULIC PROFILE

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2020 NYCECC Commercial HVAC Tabular Analysis

NYCECC Citation	Provision	Item Description	Code Prescriptive Value (ECC)	Proposed Design Value	Supporting Documentation
C403.1.1	**Calculation of heating and cooling loads (Mandatory)**	Load calculations for HVAC systems	Sample text: Determined in accordance with ANSI/ASHRAE/ACCA Standard 183 HVAC Systems and Equipment Handbook	The space is unoccupied, so air-conditioning is not required. The ventilation rate is calculated based on C1D1 NFPA 820 standards, and heating is determined according to the DEP Design Guideline 2018.	NFPA-820 (2024) , NYDEP design guideline 2018
C403.2.1	**Zone isolation required (Mandatory)**	Sample text: Zone isolation	HVAC systems serving zones that are over 25,000 ft2 in floor area or that span more than one floor and are designed to operate or be occupied nonsimultaneously shall be controlled independently and divided into isolation areas where each area has isolation devices and controls configured to automatically shut off the supply of conditioned and outdoor air to and exhaust air from the isolation area.	due to floor hatches and lack of airlock room all the spaces considered as a single space without zone isolation requirment	See the mechanical drawings
C403.2.2	**Ventilation (Mandatory)**	Sample text: Ventilation cfm and Outdoor air control	Where mechanical ventilation is provided, systems shall be capable of reducing outdoor air to the minimum requirements from Chapter 4 of the NYC MC	The space is classified as C1D1, requiring a continuous and steady ventilation rate. However, all fans are two-speed fans, with the flow rate managed by a thermostat and fan speed adjustments.	See sequence of operation on H-502 sheet
C403.3.1	**Equipment sizing (Mandatory)**	HVAC systems sizing based on load calculations	Heating and cooling equipment shall not exceed calculated loads	there is no air-conditioning system, so no need to economizer accordingly.	See sheets H-101-00, H-102.00 Mechanical sheets
C403.4.1	**Thermostatic controls (Mandatory)**	Thermostats/humidistats for mechanical zones	Minimum one thermostat/humidistat required per zone	all the unit heaters and fans controle by dedicated and individual thermostat independently	Unit heaters equipped with integral thermostats and fans have indevidual thermostat
C403.4.2.1	**Thermostatic setback (Mandatory)**	Sample text: All zones	Controls shall have ability to setback temperatures down to 55 °F (13°C) , or up to 85 °F	All the unit heaters and fans controle by adjustable thermostat	See mechanical sequence of the operation
C403.4.2.2	**Automatic start (Mandatory)**	Sample text: All zones	Controls shall be provided for each HVAC system and automatically adjusting the daily start time of the HVAC in order to bring each space to the desired temperature.	The space is an unoccupieed space and no need to a programable thermostat.	The space is an unoccupied space and heating is provid to prevent equipmment from freezing.
C403.4.3	**Hydronic Systems Controls**	Sample text: Boilers B-1, B-2	Heating systems consisting of multiple packaged boilers delivering conditioned water or steam into a common distribution system shall have automatic controls capable of sequencing boilers. Systems comprised of a single boiler and greater than 500,000 Btu/h input design capacity shall include either a multistaged or modulating burner.	Boilers are not within the scope of the work for this project. All the unit heaters and fans controll by dedicated individual thermostats.	See the mechanical plans.
C403.4.3.3.1	**Temperature dead band**	Sample text: Temperature dead band	Minimum 20 F dead band between initiation of heat injection or heat rejection to water loop	The unit heaters will activate when the temperature drops below 55°F. The fans will then reduce ventilation to 50% of their nominal capacity.	See the sequence of operation in the mechanical drawings.
C403.7.7	**Shutoff dampers (Mandatory)**	Sample text: Outdoor air intake, exhaust openings, stairway and shaft vents	Each outdoor supply air and exhaust air ducts shall be provided with motorized dampers to shut off or open as required by this section. Class I motorized damper with a maximum air leakage rate of 4cfm/ft2 of damper surface area at 1.0 inch water gauge.	The space is a classified space and under constant ventilation, eliminating the need for any motorized dampers. Airflow rate will be controlled by adjusting fan speeds.	See sequence of the operation in mechanical and I&C sets.
C403.8.1, TABLES C403.8.1(1) & C403.8.1(2)	**Allowable Fan Horsepower (Mandatory)**	Sample text: Exhaust Fans, TX-1 through TX-5, KX-1 through KX-5	Total system fan hp shall not exceed limits in Table C403.8.1(1)	all the fans meet requirments mentioned in table C408.8.1(1)	See the fan schedule
C403.8.2	**Motor nameplate horsepower (Mandatory)**	Sample text: Exhaust Fans, TX-1 through TX-5, KX-1 through KX-5	Motor selection does not except 1.5xbhp for fans less than 6bhp	all the fans meet the C408.8.1 table	See the fan schedule
C403.8.3	**Fan Efficiency (Mandatory)**	Sample text: Fan efficiency for AHU-1, 2, 3	Minimum FEG = 67	all the man meet NEMA 12-12 table requirment regarding fan effeciency	See the fan schedule and fan cutsheets
C403.8.4	**Fractional hp fan motors (Mandatory)**	Sample text: Fractional hp fan motors	Motor fans 1/12 hp to 1 hp shall be electronically commutated motors or have a minimum efficiency of 70% and must have the means to adjust motor speed for either balancing or remote control. The use of belt-driven fans to sheave adjustments for airflow balancing instead of varying motor speed are permitted.	all the fans motor have effeciency heigher than 70%	See the fan schedule and fan cutsheets, hydronic unit heater fans (1/8 hp) are exceptions by code (C403.8.4)
C403.8.5.1	**Fan Airflow control**	Sample text: Fan controls for single-zone DX cooling system 135kBTU/h	Supply fans controlled by variable speed drives and configured to requirements in C403.8.5.1.	not applicable, fans are two speed fans	See sequence of operation in mechanical drawings.

ENERGY CODE COMPLIANCE NOTES

REFERENCED CODES:
- 2014 NEW YORK CITY BUILDING CODE (NYCBC)
- 2020 NEW YORK CITY ENERGY CONSERVATION CODE (NYCECC)

CLIMATE ZONE: 4A (NYCECC C301.1)

PROFESSIONAL STATEMENT:
TO THE BEST OF MY KNOWLEDGE, BELIEF, AND PROFESSIONAL JUDGEMENT, THE SUBMITTED PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2020 NEW YORK CITY ENERGY CONSERVATION CODE.

TO ALL PLANS, SPECIFICATIONS, AND REPORTS TO WHICH THE SEAL OF AN ARCHITECT HAS BEEN APPLIED, THERE SHALL ALSO BE APPLIED A STAMP WITH APPROPRIATE WORDING WARNING THAT IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT. TO ALTER AN ITEM IN ANY WAY, IF AN ITEM BEARING THE SEAL OF AN ARCHITECT IS ALTERED, THE ALTERING ARCHITECT SHALL AFFIX TO THEIR ITEM THE SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

COMMISSIONING PROFESSIONAL STATEMENT:
AS PER 2020 NYCECC SECTION C408.2, COMMISSIONING IS REQUIRED FOR MECHANICAL SYSTEMS WITH A TOTAL COOLING CAPACITY OF MORE THAT 480 kBTU AND A TOTAL COMBINED HEATING CAPACITY OF MORE THAN 600 kBTU.

TOTAL PROPOSED COOLING CAPACITY: 180 kBTU (<480 kBTU)
TOTAL PROPOSED COMBINED HEATING CAPACITY: 256 kBTU (<600 kBTU)

THE BUILDING'S MECHANICAL SYSTEMS ARE NOT REQUIRED TO BE COMMISSIONED.

ENERGY CODE REQUIRED INSPECTIONS & TESTING

GENERAL:
CONSTRUCTION IS SUBJECT TO INSPECTION BY CODE OFFICIAL OR AN INSPECTOR WHO IS QUALIFIED TO PERFORM THE INSPECTIONS AND APPROVED BY THE CODE OFFICIAL.

WORK SHALL NOT BE DONE BEYOND THE POINT INDICATED IN EACH SUCCESSIVE INSPECTION WITHOUT FIRST OBTAINING THE APPROVAL OF THE CODE OFFICIAL.

AIR LEAKAGE (NYCECC C402.5):
- AIR BARRIER VISUAL INSPECTION SHALL BE PROVIDED
- WHOLE BUILDING AIR LEAKAGE TESTING NOT REQUIRED AS CONDITIONED SPACE IS < 10,000 SF (NYCECC C402.5.1.3)

MECHANICAL (HVAC) PROGRESS INSPECTIONS FOR ENERGY CODE COMPLIANCE
IIB3 HVAC-R AND SERVICE WATER HEATING EQUIPMENT
IIB4 HVAC-R AND SERVICE WATER HEATING SYSTEM CONTROLS
IIB5 HVAC-R AND SERVICE WATER HEATING PIPING DESIGN AND INSULATION
IID1 MAINTENANCE INFORMATION

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TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
GENERAL
ENERGY CODE ANALYSIS - HVAC

DATE: OCTOBER 2026
SHEET NO:
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National Flood Hazard Layer FIRMette

73°50'44"W 40°47'52"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

73°50'7"W 40°47'25"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 — Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 2/24/2025 at 7:15 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

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CHECKED BY: J. ARMSTRONG
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STATE OF NEW YORK · JOHN ALBERT CONWAY · LICENSED PROFESSIONAL ENGINEER · 107281

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DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

GENERAL
FLOOD ZONE MAPS

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. G-008.00

All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Wastewater Treatment.

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GENERAL

G 1 SCOPE
THE GENERAL NOTES AND STANDARD DETAILS ARE GENERAL AND APPLY TO THE ENTIRE PROJECT EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY.

G 2 PRECEDENCE
IF THERE IS A CONFLICT BETWEEN PROJECT SPECIFICATIONS AND STRUCTURAL DRAWINGS, INCLUDING STRUCTURAL NOTES, CONTACT THE STRUCTURAL ENGINEER OF RECORD FOR CLARIFICATION. SPECIFIC NOTES AND DETAILS ON DRAWINGS TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.

G 3 DIMENSIONS
STRUCTURAL DIMENSIONS CONTROLLED BY OR RELATED TO THE MECHANICAL OR ELECTRICAL EQUIPMENT AND DIMENSIONS RELATED TO EXISTING FACILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL CONSTRUCTION DIMENSIONS AND NOTIFYING CONSTRUCTION MANAGER OF DISCREPANCIES IN A TIMELY FASHION.

G 4 PROVISIONS FOR EQUIPMENT
MECHANICAL AND ELECTRICAL EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS, RECESSES AND EMBEDMENTS NOT SPECIFIED ON THE STRUCTURAL DRAWINGS, BUT SPECIFIED ON OTHER CONTRACT DRAWINGS, SHALL BE PROVIDED PRIOR TO CASTING CONCRETE.

G 5 MEANS, METHODS & CONSTRUCTION LOADS
CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. CONTRACTOR IS RESPONSIBLE FOR MEANS, METHODS AND SEQUENCE OF CONSTRUCTION, AND SHALL MAKE ADEQUATE PROVISION TO MAINTAIN THE INTEGRITY OF ALL STRUCTURES AT ALL STAGES OF CONSTRUCTION. DETERMINATION OF AND PROVISIONS FOR CONSTRUCTION LOADING SHALL BE PROVIDED BY THE CONTRACTOR.

G 6 SAFETY
CONTRACTOR SHALL TAKE ADEQUATE PRECAUTIONS TO ENSURE THE SAFETY OF WORKERS AND VISITORS TO THE SITE, INCLUDING BUT NOT LIMITED TO SHORING, BRACING AND ACCESS RESTRICTION. COMPLY WITH ALL FEDERAL, STATE AND LOCAL SAFETY CODES AND STANDARDS.

G 7 DRAINAGE SURFACES
SLOPE DRAINAGE SURFACES UNIFORMLY TO DRAIN. SLOPE SHALL BE 1/8" TO 1/4" PER FOOT EXCEPT WHERE NOTED OTHERWISE ON THE PLANS.

G 8 OPENINGS
OPENINGS THROUGH NEW AND EXISTING WALLS AND SLABS FOR PIPES, DUCTS, CONDUITS, ETC., ARE NOT ALL SHOWN ON THE STRUCTURAL DRAWINGS. THE CONTRACTOR SHALL COORDINATE WITH OTHER DISCIPLINES AND PROVIDE THESE OPENINGS IN ACCORDANCE WITH THE OTHER CONTRACT DOCUMENTS.

DESIGN CRITERIA

D 1 GOVERNING BUILDING CODE
CONSTRUCTION AND DESIGN SHALL BE IN ACCORDANCE WITH NYCBC 2022 (BASED ON THE 2015 INTERNATIONAL BULDING CODE). THIS CODE SHALL GOVERN EXCEPT WHERE OTHER APPLICABLE CODES OR CONTRACT PROVISIONS ARE MORE RESTRICTIVE.

D 2 LIVE LOADS
1. ELECTRICAL/MECHANICAL ROOMS.....250 PSF
2. SCREENINGS ROOM .....250 PSF
3. WALKWAYS, AND PLATFORMS,.....250 PSF
4. FORKLIFT LOADS: USE WHEEL LOADS BASED ON MANUFACTURER'S DATA FOR THE MAXIMUM FORKLIFT CAPACITY DESIGNATED FOR EACH SPECIFIC LOCATION
5. ROOF LIVE LOAD ..... 30 PSF

D 3 SNOW LOADS
GROUND SNOW LOAD ..... p_g = 25 PSF
SNOW EXPOSURE FACTOR ..... C_e = 0.9
THERMAL FACTOR ..... C_t = 1.2
SNOW LOAD IMPORTANCE FACTOR ..... I_s = 1.1

D 4 WIND
BASIC WIND SPEED (ULTIMATE) ..... 127 MPH
RISK CATEGORY III
EXPOSURE CATEGORY C
TOPOGRAPHIC FACTOR ..... K_{ZT}= 1.0

D 5 SEISMIC
MCE ACCELERATION, SHORT PERIOD ..... S_S = 0.275 g
MCE ACCELERATION, 1-SEC PERIOD ..... S_1 = 0.060 g
SITE CLASS ..... D
DESIGN ACCEL, SHORT PERIOD ..... S_{DS} = 0.3 g
DESIGN ACCEL, 1-SEC PERIOD ..... S_{D1} = 0.060 g
RISK CATEGORY III
SEISMIC IMPORTANCE FACTOR ..... I_e = 1.25
EXCEPT FOR FIRE PROTECTION SYSTEM, EGRESS STAIRWAYS, AND COMPONENTS CONTAINING HAZARDOUS MATERIALS .....
SEISMIC DESIGN CATEGORY ..... B

CONCRETE

C 1 APPLICABLE CODES
ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE"
ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"
ACI 350 (FOR LIQUID CONTAINING STRUCTURES) - "CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES"

C 2 REINFORCING STEEL DETAILS
DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS IN ACCORDANCE WITH ACI DETAILING MANUAL (ACI SP-66), LATEST EDITION.

C 3 DESIGN STRENGTH
1. STRUCTURAL CAST-IN-PLACE CONCRETE ..... f'c = 4,500 PSI
2. MASS CONCRETE (SEE SPECIFICATION FOR DEFINITION) ..... f'c = 4,000 PSI
3. REINFORCED STEEL ..... ASTM A615, GRADE 60 DEFORMED BARS

C 4 CONCRETE COVER
1. CONCRETE CAST AGAINST EARTH .....3"
2. CONCRETE EXPOSED TO EARTH, WASTEWATER, CHEMICALS OR WEATHER .....2"
3. CONCRETE NOT EXPOSED TO EARTH, WASTEWATER, CHEMICALS OR WEATHER .....1-1/2"

C 5 BAR DEVELOPMENT AND LAP SPLICE LENGTH
SEE TABLE AT THE END OF THESE STRUCTURAL NOTES. IN SLABS, BEAMS, GIRDERS AND HORIZONTAL REINFORCING AT WALLS, SPLICES OF ADJACENT REINFORCING STEEL BARS SHALL BE STAGGERED AT LEAST ONE SPLICE LENGTH.

C 6 WELDING REINFORCING BARS
NOT ALLOWED.

C 7 STANDARD HOOKS
BARS ENDING IN RIGHT ANGLE BENDS OR HOOKS SHALL CONFORM TO REQUIREMENTS OF ACI 318. PROVIDE STANDARD HOOK IN BARS WHICH TERMINATE AT WALL OR SLAB EDGES / INTERSECTIONS THAT PROVIDE LESS THAN THE SPECIFIED DEVELOPMENT LENGTH.

C 8 CHAMFERS
EXPOSED CONCRETE CORNERS AND EDGES SHALL HAVE 3/4" CHAMFERS. RE-ENTRANT CORNERS SHALL NOT HAVE FILLETS.

C 9 ANCHOR BOLTS
STAINLESS STEEL TYPE 316 MATERIAL UNLESS OTHERWISE NOTED (SEE SPECIFICATIONS).

C 10 INSERTS
PROVIDE ANCHORAGE INSERTS ON CONCRETE WALLS AND CONCRETE CEILINGS IN GALLERIES, PIPE CHASES, TUNNELS AS REQUIRED BY MECHANICAL AND ELECTRICAL INSTALLATIONS. USE UNISTRUT P3200 SERIES HOT DIP GALVANIZED OR EQUAL UNLESS OTHERWISE SPECIFIED.

C 11 COMPATIBLE FINISHES
CURING COMPOUNDS AND OTHER SURFACE TREATMENTS, CONCRETE ADMIXTURES AND SUB-SLAB DRAINAGE SHALL BE REVIEWED BY CONTRACTOR AND CERTIFIED COMPATIBLE WITH FINISHES TO BE APPLIED LATER IN THE CONSTRUCTION SEQUENCE.

C 12 EXPOSED ENDS OF REINFORCING BARS AT SAWCUT OPENINGS IN EXISTING CONCRETE
DEMOLISH REINFORCING BARS 1 1/2 INCHES BACK FROM FACE OF OPENING BY FLAME GOUGING. FILL HOLE AND REPAIR SURFACE WITH CONCRETE REPAIR MORTAR.

GROUT

GR 1 EQUIPMENT GROUTING
SEE MECHANICAL SPECIFICATIONS AND SPECIFICATION SECTION 03 60 00, GROUT.

GR 2 EPOXY ADHESIVE GROUT AT ANCHORS INTO CONCRETE: HILTI HIT-RE 500v3
EPOXY ADHESIVE ANCHOR SYSTEM BY HILTI INC. OR EQUAL APPROVED BY ENGINEER OF RECORD. INSTALLERS OF HORIZONTAL OR UPWARDLY INCLINED ADHESIVE ANCHORS SHALL BE CERTIFIED IN ACCORDANCE WITH THE ACI / CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM.

DOWELS

DL 1 LOCATE HOLES IN EXISTING CONCRETE TO MISS MAIN REINFORCING BARS, STIRRUPS, AND EMBEDMENTS. THIS MAY INVOLVE RELOCATING DOWELS FROM POSITIONS SHOWN. NOTIFY THE OWNER OF ANY DOWEL RELOCATIONS. PRIOR TO DRILLING HOLES, FIELD VERIFY AND MARK THE LOCATION OF NEARBY EXISTING REINFORCING BARS, STIRRUPS AND EMBEDMENTS USING A PACHOMETER. IF THEY ARE HIT DURING DRILLING, NOTIFY THE OWNER.

DL 2 CLEAN AND PREPARE HOLES IN ACCORDANCE WITH THE EPOXY MANUFACTURER'S RECOMMENDATIONS. AS A MINIMUM, BLOW COMPRESSED OIL-FREE AIR FROM THE BOTTOM OF HOLE TOWARDS THE SURFACE. DRY AND CLEAN HOLE OF CONTAMINANTS.

DL 3 PRESSURE GROUT ALL HOLES DEEPER THAN TWO FEET. SUBMIT PROCEDURE AND TECHNIQUE FOR PRESSURE GROUTING TO OWNER FOR APPROVAL PRIOR TO PLACING EPOXY.

DL 4 FILL EACH HOLE WITH A SUFFICIENT AMOUNT OF EPOXY TO COMPLETELY SURROUND THE DOWEL. INSERT THE DOWEL AFTER THE EPOXY IS PLACED IN THE HOLE.

STAINLESS STEEL GRATING

SG 1 BAR GRATING WITH NON-SLIP SERRATED TOP SURFACE, ALLOY 316L CONFORMING TO ASTM A167 OR A666. MINIMUM BEARING BAR 3/16". BEARING BAR CLEAR SPACING SHALL NOT EXCEED 1" AND CROSSBAR SPACING 4" CENTER TO CENTER.

SG 2 ANCHOR GRATING PANELS TO SUPPORT STEEL WITH 1/4" DIAMETER SELF-TAPPING STAINLESS STEEL SCREWS PLACED THROUGH STAINLESS STEEL U-SHAPED CLIPS ENGAGING TWO MAIN BEARING BARS. MINIMUM FOUR CLIPS PER GRATING PANEL. MAXIMUM DISTANCE BETWEEN CLIPS SHALL BE THREE FEET.

STEEL

ST 1 ALL STRUCTURAL STEEL WORK SHALL BE IN ACCORDANCE WITH THE AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" (AISC 360-10) AND AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" (AISC 303-10). IN SEISMIC DESIGN CATEGORIES D, E AND F, THE PROVISIONS OF AISC 341-10, "SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS", SHALL ALSO APPLY.

ST 2 MATERIALS
1. STEEL WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A992. OTHER STEEL SHAPES AND PLATES SHALL CONFORM TO ASTM A36.
2. STRUCTURAL STEEL PIPE SHALL CONFORM TO ASTM A53 TYPES E OR S, GRADE B. STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A500 GRADE B (Fy = 46 KSI).
3. ALL STAINLESS STEEL SHALL BE TYPE 316 MEETING ASTM A276 FOR BARS AND SHAPES, AND ASTM A240 FOR PLATES, UNLESS OTHERWISE SPECIFIED. ALL STAINLESS STEEL SHALL BE PASSIVATED PER ASTM A380.

ST 3 WELDING
1. WELDING SHALL CONFORM TO AWS D1.1-1 AND AISC 341-10.
2. ELECTRODES FOR SHOP AND FIELD WELDS SHALL CONFORM TO AWS A5.1 OR A5.5, CLASS E70XX.
3. STAINLESS STEEL WELDING SHALL CONFORM TO AWS D1.6 WITH A5.4 OR A5.9 ELECTRODES.

ST 4 BOLTS
STRUCTURAL BOLTS AT STEEL FRAMING SHALL BE GALVANIZED AND CONFORM TO ASTM A325N (TYPE 1) FOR CONNECTION OF GALVANIZED OR PAINTED FRAMING. HIGH STRENGTH BOLTS SHALL BE FULLY TENSIONED UNLESS CONNECTING HSS SHAPES OR OTHERWISE NOTED. STAINLESS STEEL TYPE 316 BOLTS SHALL BE USED FOR CONNECTION OF STAINLESS STEEL AND ALUMINUM FRAMING.

ST 5 EXPANSION ANCHORS SHALL BE STAINLESS STEEL "KWIK BOLT TZ" BY HILTI INC. OR EQUAL APPROVED BY OWNER.

ST 6 ENCASED STEEL
STEEL COMPLETELY ENCASED IN CONCRETE SHALL NOT BE GALVANIZED OR PAINTED AND SHALL HAVE A CLEAN SURFACE FOR BONDING TO CONCRETE UNLESS OTHERWISE NOTED ON THE DRAWINGS.

ST 7 PAINTING
STRUCTURAL STEEL SHALL BE PAINTED IN ACCORDANCE WITH SPECIFICATION. SHOP PRIMER SHALL BE COMPATIBLE WITH FINISH COATINGS. MONORAIL CAPACITIES SHALL BE PAINTED ON THE SIDE OF MONORAIL BEAMS.

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DRAWN BY: R. BARKER
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STATE OF NEW YORK KEVIN M GANGADHAR LICENSED PROFESSIONAL ENGINEER 103378 10-15-2026

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PW-119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

STRUCTURAL
GENERAL NOTES

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. S-001.00

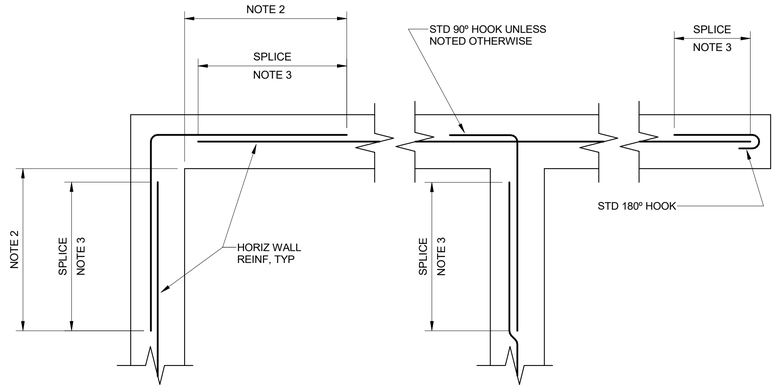
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TENSION DEVELOPMENT AND LAP SPLICE LENGTHS (IN INCHES)

BAR SIZE	APPLICATION	CONCRETE COVER = 0.75 IN.			CONCRETE COVER = 1.00 IN.			CONCRETE COVER = 1.50 IN.			CONCRETE COVER = 2.00 IN.			CONCRETE COVER = 3.00 IN.		
		TOP	OTHER	MIN C/C SPACING	TOP	OTHER	MIN C/C SPACING	TOP	OTHER	MIN C/C SPACING	TOP	OTHER	MIN C/C SPACING	TOP	OTHER	MIN C/C SPACING
#3	DEVELOPMENT LAP SPLICE	12 16	12 16	2.00 2.25	12 16	12 16	2.50 2.75	12 16	12 16	3.50 3.75	12 16	12 16	4.50 4.75	12 16	12 16	6.50 6.75
#4	DEVELOPMENT LAP SPLICE	19 24	15 19	2.00 2.50	15 20	12 16	2.50 3.00	15 20	12 16	3.50 4.00	15 20	12 16	4.50 5.00	15 20	12 16	6.50 7.00
#5	DEVELOPMENT LAP SPLICE	28 37	21 28	2.25 2.75	22 29	17 22	2.75 3.25	19 24	15 19	3.75 4.25	19 24	15 19	4.75 5.25	19 24	15 19	6.75 7.25
#6	DEVELOPMENT LAP SPLICE	37 48	29 37	2.25 3.00	31 40	24 31	2.75 3.50	22 29	17 22	3.75 4.50	22 29	17 22	4.75 5.50	22 29	17 22	6.75 7.50
#7	DEVELOPMENT LAP SPLICE	60 78	46 60	2.50 3.25	50 64	38 50	3.00 3.75	37 48	28 37	4.00 4.75	33 42	25 33	5.00 5.75	33 42	25 33	7.00 7.75
#8	DEVELOPMENT LAP SPLICE	74 96	57 74	2.50 3.50	62 80	48 62	3.00 4.00	47 60	36 47	4.00 5.00	37 48	29 37	5.00 6.00	37 48	29 37	7.00 8.00
#9	DEVELOPMENT LAP SPLICE	90 117	69 90	2.75 3.75	76 98	58 76	3.25 4.25	57 74	44 57	3.25 4.25	46 60	36 46	5.25 6.25	42 55	32 42	7.25 8.25
#10	DEVELOPMENT LAP SPLICE	108 142	83 109	2.75 4.00	92 120	70 92	3.25 4.50	70 91	54 70	4.25 5.50	57 74	44 57	5.25 6.50	47 61	36 47	7.25 8.50
#11	DEVELOPMENT LAP SPLICE	127 168	98 130	3.00 4.25	108 144	83 111	3.50 4.75	84 110	64 85	4.50 5.75	68 90	53 69	5.50 6.75	52 68	40 52	7.50 8.75

NOTES:
1. TABULATED VALUES ARE BASED ON UNCOATED GRADE 60 REINFORCING BARS AND NORMAL-WEIGHT CONCRETE MINIMUM f'c = 4,000 PSI.
2. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 IN. OF FRESH CONCRETE CAST BELOW THE BARS.
3. LAP SPLICE LENGTHS ARE LAP CLASS B = 1.3 l_d.
4. TENSION DEVELOPMENT LENGTHS AND TENSION LAP SPLICE LENGTHS ARE CALCULATED PER ACI 318, SECTIONS 12.2.3 AND 12.15, RESPECTIVELY.
5. LENGTHS ABOVE THE HEAVY LINE DO NOT CHANGE BASE ON COVER THICKNESS. LENGTHS BELOW THE HEAVY LINE ARE DIFFERENT AT EACH COVER THICKNESS.

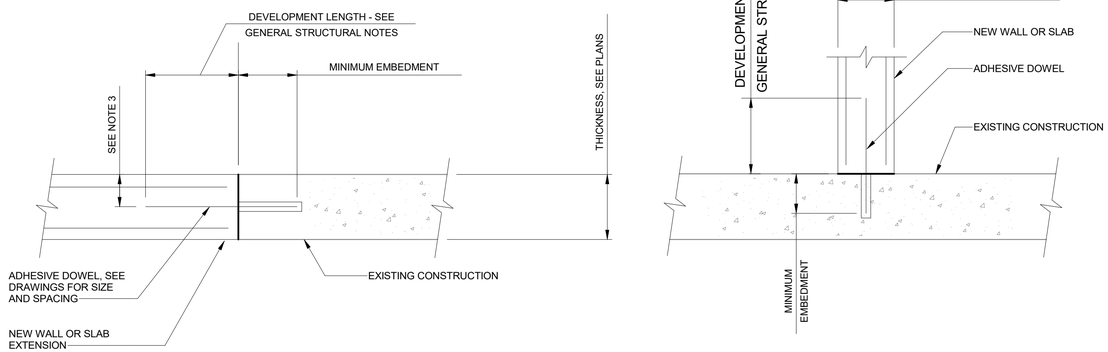


SINGLE MAT REINFORCING

NOTES:
1. UNLESS NOTED OTHERWISE, SIZE AND SPACING OF CORNER OR INTERSECTION REINFORCING SHALL MATCH HORIZONTAL REINFORCING SHOWN IN SPECIFIC SECTIONS OR DETAILS. VERTICAL REINFORCING NOT SHOWN FOR CLARITY.
2. UNLESS NOTED OTHERWISE, BAR SPLICE SHALL BE LOCATED OUTSIDE OF CORNER OR INTERSECTION AREA TO AVOID CONGESTION. CONTRACTORS OPTION TO PROVIDE SINGLE BENT BAR IN LIEU OF SPLICE CONFIGURATION AT ONE END ONLY.
3. SEE TABLE ON THIS SHEET FOR SPLICE LENGTH. HORIZONTAL WALL BARS SHALL BE CONSIDERED TOP BARS FOR DEVELOPMENT AND SPLICE LENGTHS.

CONCRETE - TYPICAL HORIZONTAL WALL REINFORCING

SCALE: NTS



DOWEL SIZE	MINIMUM EMBEDMENT
#3	5"
#4	7"
#5	8"
#6	10"
#7	12"
#8	14"
#9	16"

NOTES:
1. EMBEDMENT LENGTH IS BASED ON DOWELS SET WITH HILTI HIT-RE 500 V3 ADHESIVE ANCHOR SYSTEM. SUBMIT ICC EVALUATION SERVICE REPORT (ES REPORT) FOR ALTERNATE PRODUCTS.
2. INSTALL DOWELS IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND ICC ES REPORT ESR-3814.
3. LOCATE DOWELS CENTERED IN WALL OR SLAB UNLESS NOTED OTHERWISE ON DRAWINGS. WHERE 2 ROWS OF DOWELS ARE INDICATED, STAGGER SPACING AND LOCATE ALTERNATING DOWELS AT MINIMUM EDGE DISTANCE FROM OPPOSITE FACES.
4. SPECIAL INSPECTION IS REQUIRED FOR ADHESIVE DOWEL INSTALLATION.

CONCRETE - REBAR DOWELS SET WITH ADHESIVE

SCALE: NTS

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NEW YORK, NEW YORK

STATE OF NEW YORK · KEVIN M GANGADHAR · 103378 · LICENSED PROFESSIONAL ENGINEER · 10-15-2026

Environmental Protection

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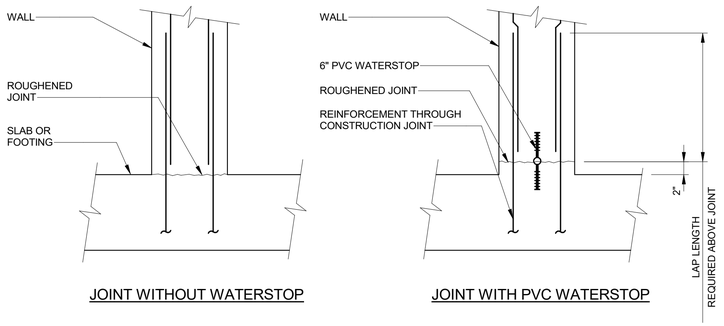
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PW-119-N-TI-181
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STRUCTURAL
TYPICAL DETAILS 1

DATE: OCTOBER 2026
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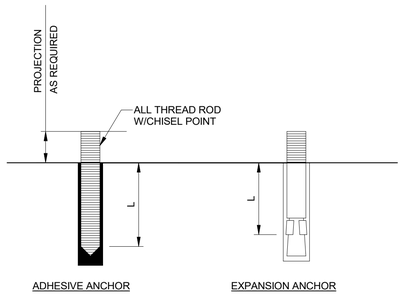


JOINT WITHOUT WATERSTOP

JOINT WITH PVC WATERSTOP

CONCRETE - TYPICAL HORIZONTAL CONSTRUCTION JOINT

SCALE: NTS



ADHESIVE ANCHOR

EXPANSION ANCHOR

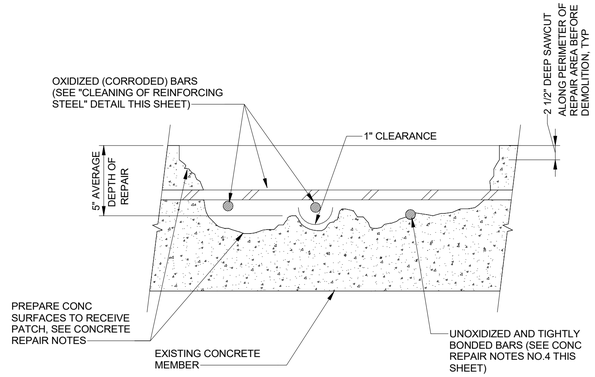
MINIMUM EMBEDMENT LENGTH, L		
DIAMETER	ADHESIVE ANCHOR	EXPANSION ANCHOR
3/8"	4 1/2"	3 1/2"
1/2"	6"	4 3/4"
5/8"	7 1/2"	5 1/2"
3/4"	9"	6 1/2"
7/8"	10 1/2"	-
1"	12"	-

CONCRETE - CONCRETE ANCHORS1

SCALE: NTS

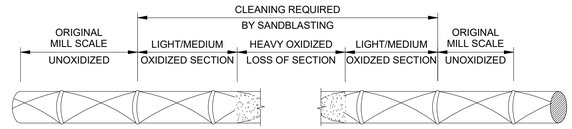
NOTES:

1. CONFORM TO ICC EVALUATION SERVICE REPORT (ES REPORT REQUIREMENTS AND MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION.
2. PROVIDE TYPE 316 STAINLESS STEEL ALL-THREAD ROD MATERIAL.
3. PROVIDE HOLE DIAMETER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
4. EXPANSION ANCHOR EMBEDMENT LENGTHS ARE BASED ON HILTI KWIK BOLT TZ STAINLESS STEEL ANCHORS IN 4000 PSI NORMAL WEIGHT CONCRETE, SUBMIT ICC EVALUATION SERVICE REPORT (ES REPORT) FOR ALTERNATE PRODUCTS.
5. ADHESIVE ANCHOR EMBEDMENT LENGTHS ARE BASED ON HILTI HIT-RE 500-SD ADHESIVE IN 4000 PSI CONCRETE. SUBMIT ICC ES REPORT FOR ALTERNATE PRODUCTS.



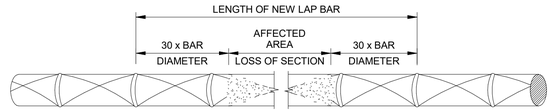
EXPOSING, UNDERCUTTING REINFORCING STEEL AND CONDITIONING CONCRETE FOR PATCHING

NOT TO SCALE

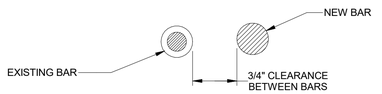


CLEANING OF REINFORCING STEEL

NOT TO SCALE

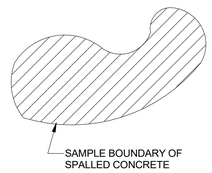


IF REBAR HAS LOST MORE THAN 25% OF ORIGINAL CROSS SECTION, PROVIDE NEW LAP BAR AS SHOWN



REPAIR OF REINFORCING STEEL DUE TO LOSS OF SECTION

NOT TO SCALE

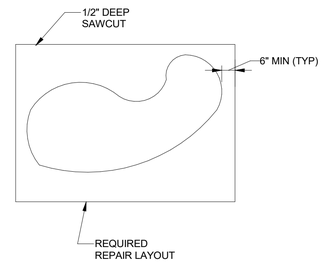


CONCRETE - CONCRETE SPALL REPAIR1

SCALE: NTS

CONCRETE REPAIR NOTES

1. LOCATE AREAS OF CONCRETE WITH DELAMINATIONS, SPALLS, SCALING, AND UNSOUND CONCRETE. MARK ON SURFACE OF CONCRETE THE AREA TO BE REPAIRED AS SPECIFIED. PRIOR TO THE DEMOLITION OF ANY CONCRETE, PROVIDE 24 HOURS NOTICE TO THE ENGINEER IN ORDER FOR THE ENGINEER AND CONTRACTOR TO VERIFY REPAIR LIMITS. SEE ALSO SECTION 03 01 71.
2. SAWCUT PERIMETER OF AREA TO BE REPAIRED TO DEPTH OF 1/2" AS SHOWN. THE REPAIRED AREAS SHALL BE IN A RECTANGULAR SHAPE, WITH SAW CUTS AT RIGHT ANGLES.
3. DEMOLISH LOOSE OR DELAMINATED CONCRETE ABOVE OXIDIZED REINFORCING STEEL. ONCE INITIAL DEMOLITIONS ARE MADE, PROCEED WITH THE UNDERCUTTING OF ALL EXPOSED OXIDIZED (CORRODED) BARS. PROVIDE A MINIMUM OF 1" CLEARANCE BETWEEN EXPOSED REBARS AND SURROUNDING CONCRETE
4. IF UNOXIDIZED REINFORCING BARS ARE EXPOSED DURING THE UNDERCUTTING PROCESS, CARE SHALL BE TAKEN NOT TO DAMAGE THE BARS BOND TO SURROUNDING CONCRETE. IF BOND BETWEEN BAR AND CONCRETE IS BROKEN, UNDERCUTTING OF THE BAR SHALL BE REQUIRED.
5. INSTALL NEW REINFORCING BARS TO SUPPLEMENT EXISTING BARS WHICH HAVE LOST MORE THAN 25% OF THEIR CROSS SECTIONAL AREA. THE NEW REINFORCING BARS SHALL BE THE SAME DIAMETER AS THE EXISTING BAR, AND SHALL EXTEND A DISTANCE OF 30 TIMES THE BAR DIAMETER BEYOND BOTH SIDES OF THE AFFECTED AREA (SEE "REPAIR OF REINFORCING STEEL" DETAIL THIS SHEET).
6. DEMOLISH ALL RUST AND LAITANCE FROM EXPOSED REINFORCING STEEL TO EXPOSED BARE METAL BY SANDBLASTING AS SPECIFIED. (SEE "CLEANING OF REINFORCING STEEL" DETAIL FOR EXTENT OF CLEANING REQUIRED). COAT REINFORCING WITH CORROSION INHIBITOR.
7. DEMOLISH ALL BOND INHIBITING MATERIALS FROM CONCRETE INCLUDING, BUT NOT LIMITED TO, DIRT, CONCRETE SLURRY, AND LOOSELY BONDED AGGREGATE, BY ABRASIVE BLASTING OR HIGH PRESSURE WATERBLASTING. CHECK THE SURFACE AFTER CLEANING TO ENSURE THAT SURFACE IS FREE FROM ADDITIONAL LOOSE AGGREGATE AND THAT ADDITIONAL DELAMINATIONS ARE NOT PRESENT.
8. PRIOR TO ANY PATCHING OF CONCRETE, PROVIDE 24 HOUR NOTICE TO THE MANUFACTURER AND ENGINEER FOR INSPECTION OF THE REPAIRED LIMITS AND TO QUANTIFY REPAIR AREAS WITH THE CONTRACTOR FOR PAYMENT.
9. CONCRETE REPAIR MORTAR SHALL BE AS SPECIFIED IN SPECIFICATION SECTION 03 01 30.71.
10. THESE DETAILS APPLY TO THE CONCRETE REPAIRS THROUGHOUT THE FACILITY. THESE MISCELLANEOUS AREAS SHALL BE ASSUMED TO BE IN SPACES THAT MAY OFTEN REQUIRE CONFINED SPACE ENTRY.



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DRAWN BY: R. BARKER
CHECKED BY: J. MINADEO
DESIGN LEAD: J. MINADEO
SECTION MANAGER: J. GRUMAN

BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK KEVIN N. GANGADHAR 103378 PROFESSIONAL ENGINEER 10-15-2026

Environmental Protection

ENGINEER: Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION: I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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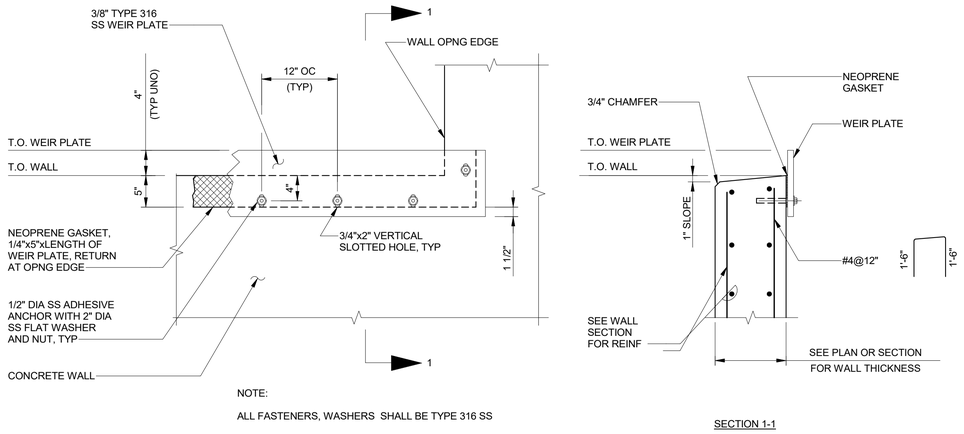
PW-119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

STRUCTURAL
TYPICAL DETAILS 2

DATE: OCTOBER 2026
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DRAWING NO. S-003.00

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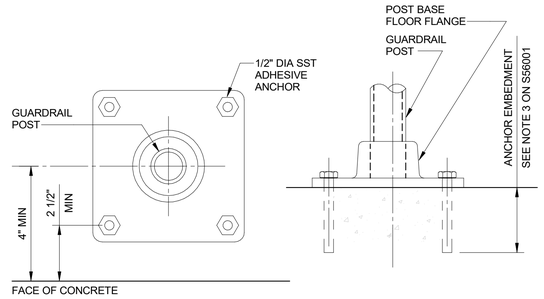
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SECTION 1-1

CONCRETE - WEIR DETAIL

SCALE: NTS



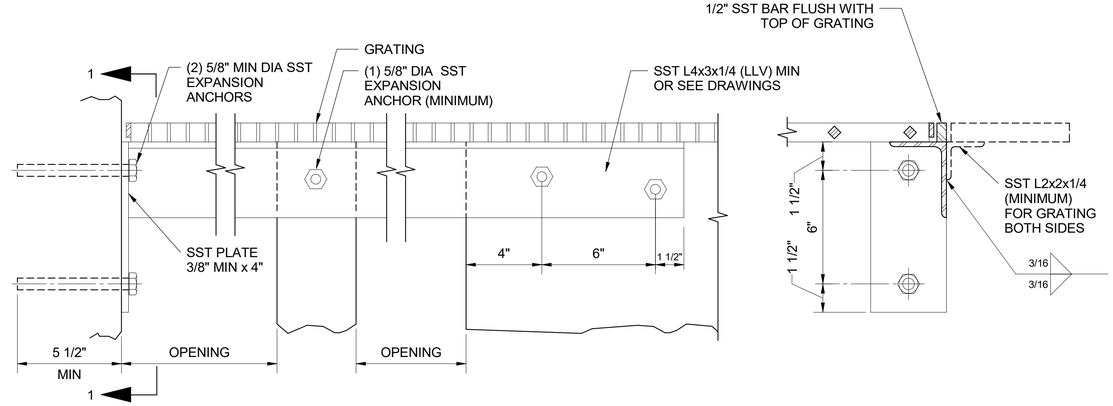
PLAN ELEVATION

BASE FLANGE MOUNT

SCALE: NTS

HANDRAIL/GUARDRAIL NOTES:

1. UNLESS NOTED OTHERWISE, HANDRAIL, GUARDRAIL, AND MOUNTING APPURTENANCES SHALL BE ANODIZED ALUMINUM.
2. ALL FASTENERS SHALL BE STAINLESS STEEL, TYPE 316.
3. NUMBER OF ANCHORS AND SIZE OF ANCHORS ARE MINIMUM. PROVIDE LARGER ANCHOR SIZE IF NECESSARY TO MEET LOAD REQUIREMENTS. CONTRACTOR'S SUPPLIER AND ENGINEER ARE RESPONSIBLE FOR DESIGNING BASE BRACKET AND STAINLESS STEEL ANCHOR BOLT SIZE AND EMBEDMENT DEPTH INTO CONCRETE TO RESIST LOADS TAKING INTO ACCOUNT ANCHOR EDGE DISTANCES AND CONCRETE STRENGTHS AT THE POINT OF ATTACHMENT.
4. UNLESS SPECIFICALLY INDICATED OTHERWISE, GUARDRAIL MOUNTING MAY BE BY ANY SHOWN METHOD AS APPLICABLE.
5. RAILING POST LOCATION SHALL BE FIELD MEASURED AND RAILING FABRICATED TO FIT.
6. TOP AND MIDDLE RAILS SHALL BE CONTINUOUS EXCEPT AT GUARDRAIL SECTIONS SPECIFICALLY CALLED OUT ON DRAWINGS AS REMOVABLE GUARDRAIL.
7. THE SPACING OF EXPANSION JOINTS IN GUARDRAILS AND TOEBOARDS SHALL NOT EXCEED 24 FEET.
8. ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE, GROUT, OR DISSIMILAR METALS SHALL HAVE CONTACT SURFACE PROTECTED IN ACCORDANCE WITH SPECIFICATIONS.
9. SEE BASE FLANGE MOUNT DETAIL ON THIS SHEET FOR ADDITIONAL INFORMATION.
10. WHERE BOLTED BASE PLATE EXTENDS ABOVE WALKWAY SURFACE NOTCH TOEBOARD TO FIT AROUND BASE PLATE WITH MAXIMUM OF 1/4" GAP.

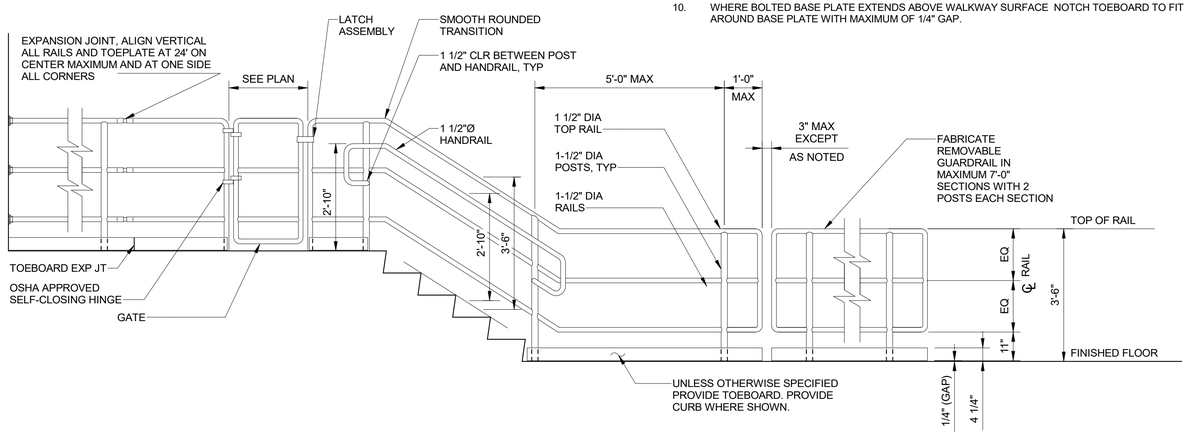


END RETURN WALL INTERMEDIATE WALL END FLUSH WALL SECTION 1 - 1

NOTES:
1. STRUCTURAL MEMBERS AND HARDWARE SHALL BE STAINLESS STEEL AT ALUMINUM GRATING AND GALVANIZED STEEL AT STEEL GRATING. GALVANIZED STEEL MEMBERS SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.

GRATING - GRATING SUPPORT AT OPENINGS

SCALE: NTS



HANDRAIL/GUARDRAIL - 3 RAIL

SCALE: NTS

NYC Environmental Protection DWT

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CHECKED BY: J. MINADEO
DESIGN LEAD: J. MINADEO
SECTION MANAGER: J. GRUMAN

BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK · KEVIN M GANGADHAR · 103378 · LICENSED PROFESSIONAL ENGINEER · 10-15-2026

Environmental Protection

ENGINEER
Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION
I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN
A. LOPEZ

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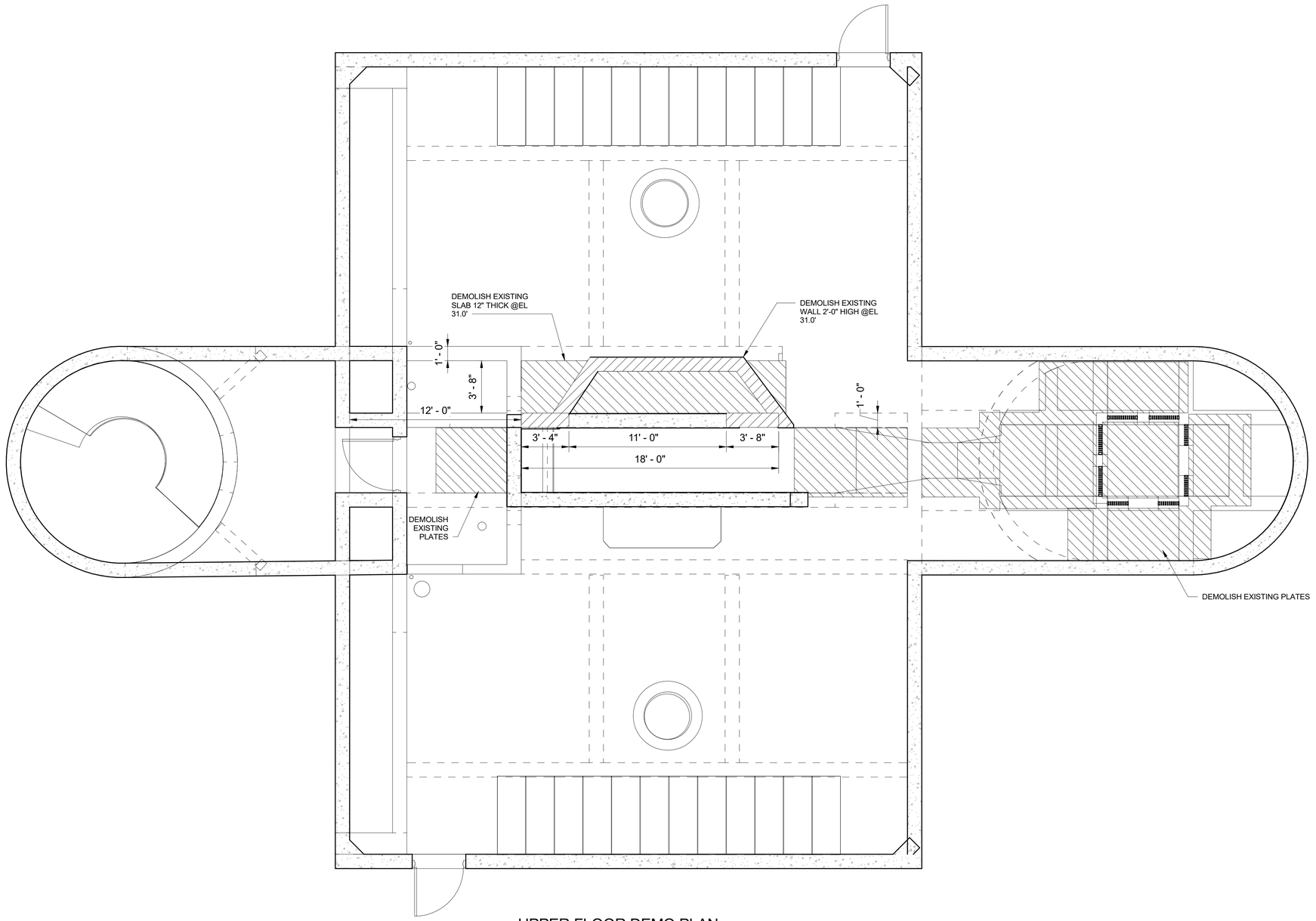
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PW-119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

STRUCTURAL
TYPICAL DETAILS 3

DATE: OCTOBER 2026
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UPPER FLOOR DEMO PLAN
- EL 31.00

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

NYC Environmental Protection DWT

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DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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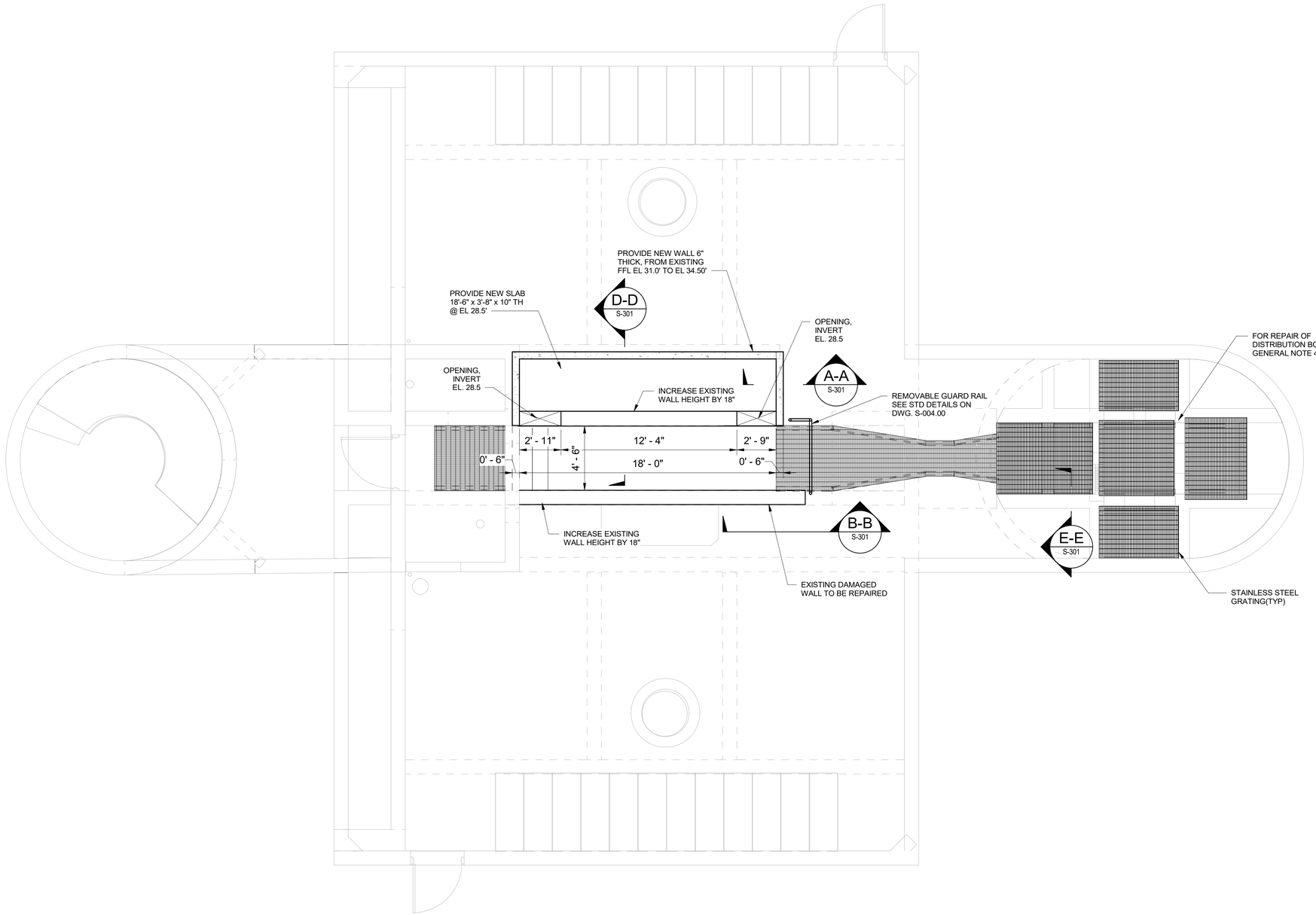
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MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

STRUCTURAL
UPPER LEVEL FLOOR DEMO PLAN

DATE: OCTOBER 2026
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GENERAL NOTES:

1. CONTRACTOR SHALL CONFIRM THAT THE FINAL SHOP SUBMITTAL HAVE BEEN REVIEWED BY THE ENGINEER-OF-RECORD PRIOR TO PROCEEDING WITH CONCRETE WORK.

2. CONTRACTOR SHALL PERFORM NONDESTRUCTIVE TESTING TO LOCATE EXISTING REBAR IN CONCRETE WHERE THE EQUIPMENT IS PROPOSED TO BE ANCHORED. IF THE ANCHOR ROD IS FOUND TO BE INTERFERING WITH REBAR, BRING IT TO THE ATTENTION OF EOR AND OBTAIN APPROVAL BEFORE CORE CUTTING THE REBAR TO INSTALL THE ANCHOR BOLT.

3. THE EXPOSED SURFACE OF REBARS AT THE CUT CONCRETE SHALL BE PROTECTED BY EPOXY CORROSION INHIBITOR APPLIED TO EXPOSED REBAR SURFACE.

4. AT THE DISTRIBUTION BOX, THE CONTRACTOR SHALL DEMOLISH THE EXISTING CHECKERED PLATES, AND INVESTIGATE THE EXISTING CONDITION OF THE CONCRETE STRUCTURE AND PREPARE PHOTO DOCUMENTATION. CONTRACTOR SHALL THEN PROVIDE THE RESULTS OF FINDINGS TO ENGINEER OF RECORD (EOR). THE EOR WILL THEN PROVIDE A METHODOLOGY OF REPAIR TO RESTORE THE STRUCTURE TO PROPERLY PERFORM ITS FUNCTION. PAYMENT TO THE CONTRACTOR FOR THE REPAIR WORK SHALL BE PER SPECIFICATION SECTION 01 27 00 AS A UNIT PRICE ITEM UP-1.

UPPER LEVEL PLAN - EL 31.00

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

NOTES:
1. ABOUT 2'-0" WIDE CONCRETE WALL IS DAMAGED, CONTRACTOR SHALL DEMOLISH THE DAMAGED WALL TO THE BOTTOM OF WALL (TOP OF SLAB) AND REBUILD AS SHOWN IN SECTION B-B ON DRAWING S-301.

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ENGINEER
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I. ANDERSON
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A. LOPEZ

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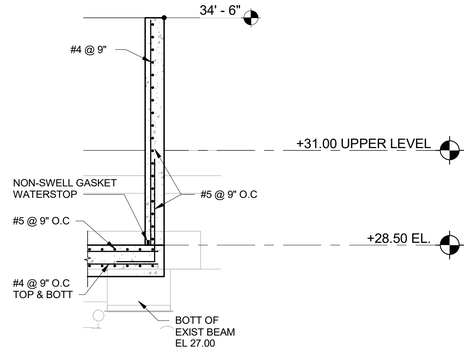
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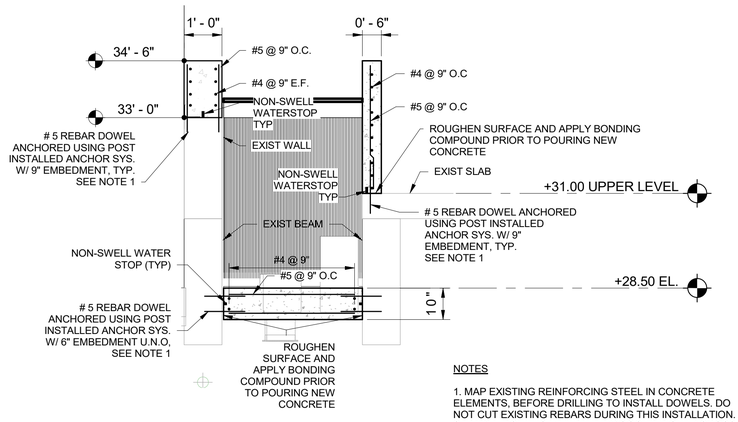
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UPPER LEVEL FLOOR PLAN

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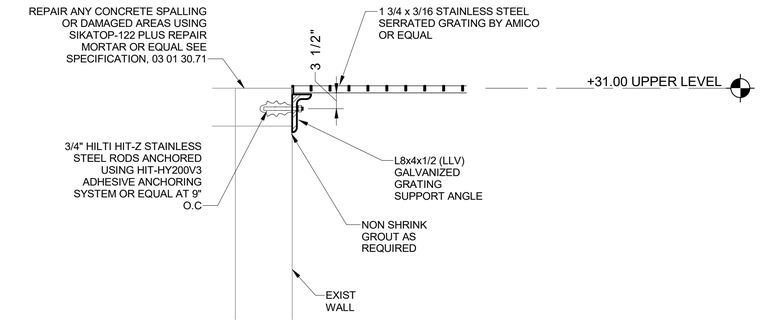
A-A SECTION A
S-101
SCALE: 1/2" = 1'-0"



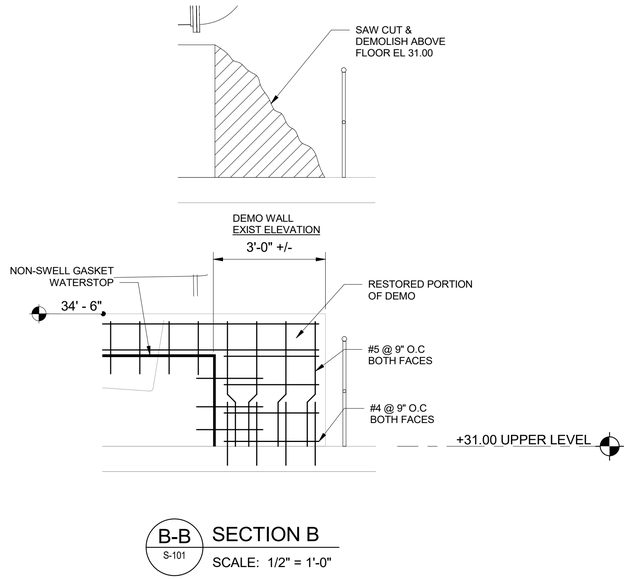
D-D SECTION D
S-101
SCALE: 1/2" = 1'-0"

NOTES

1. MAP EXISTING REINFORCING STEEL IN CONCRETE ELEMENTS, BEFORE DRILLING TO INSTALL DOWELS. DO NOT CUT EXISTING REBARS DURING THIS INSTALLATION. STRADLE DOWELS WHERE THEY OCCUR RIGHT ACROSS FROM EACH OTHER. ALSO, SEE CONCRETE NOTE DL 1 ON DRAWING S-001.00



E-E SECTION E
S-101
SCALE: 3/4" = 1'-0"



B-B SECTION B
S-101
SCALE: 1/2" = 1'-0"

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STRUCTURAL
SECTIONS

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DUCTWORK FITTINGS

12x24 — AIR DUCT DIMENSIONS IN INCHES (FIRST DIMENSION DUCT SIDE SHOWN. SECOND DIMENSION SIDE NOT SHOWN)

ACOUSTICALLY LINED DUCT (SIZES SHOWN ARE NET INSIDE)

RECTANGULAR SUPPLY DUCT ELBOW TURNED TOWARD

RECTANGULAR RETURN/EXHAUST DUCT ELBOW TURNED TOWARD

ROUND SUPPLY DUCT ELBOW TURNED AWAY

ROUND SUPPLY DUCT ELBOW TURNED TOWARD

RECTANGULAR MAIN WITH ROUND BRANCH

RECTANGULAR MAIN WITH RECTANGULAR BRANCH

CONCENTRIC SQUARE TO ROUND

CONCENTRIC TRANSITION, RECTANGLE OR ROUND

ECCENTRIC TRANSITION, RECTANGLE OR ROUND

SYMMETRICAL WYE

REDUCING WYE

MITERED ELBOW WITH TURNING VANES

PLAN SYMBOLS

CONNECT TO EXISTING

END OF DEMOLITION

DIFFUSERS, GRILLS AND REGISTERS

X SIZE CFM — WALL OR DUCT EXHAUST OR RETURN GRILLE OR REGISTER X = DESIGNATION, IF ANY

X SIZE CFM — WALL OR DUCT SUPPLY GRILLE OR DIFFUSER X = DESIGNATION, IF ANY

X SIZE CFM — CEILING SUPPLY DIFFUSER X = DESIGNATION, IF ANY

X SIZE CFM — CEILING EXHAUST OR RETURN GRILLE OR REGISTER X = DESIGNATION, IF ANY

DAMPERS

BD — MANUAL BALANCING DAMPER

DFD, SD, OR FSD — DUCT FIRE DAMPER, SMOKE DAMPER, OR FIRE/SMOKE DAMPER

CONTROLS

T — THERMOSTAT

TS — TEMPERATURE SWITCH

TE — TEMPERATURE SENSOR

PS — PRESSURE SWITCH

PE — PRESSURE SENSOR

SD — SMOKE DETECTOR

CO — CARBON DIOXIDE SENSOR

FS — FLOW SWITCH

HS — HAND SWITCH

M — MOTORIZED

HVAC EQUIPMENT

AXIAL FAN

CONDENSING UNIT

115V AC — ELECTRIC FINNED TUBE HEATER

AIRFLOW SCHEMATIC SYMBOLS

CENTRIFUGAL FAN

PROPELLER FAN

AIR FLOW — BACKDRAFT DAMPER

PARTICULATE FILTER

CHEMICAL FILTER

AIR FLOW — PARALLEL BLADE DAMPER

AIR FLOW — OPPOSED BLADE DAMPER

M — AIR FLOW — MOTORIZED DAMPER

LOUVER

ROOF EXHAUST FAN, PROPELLER OR CENTRIFUGAL TYPE

HC — HOT WATER HEATING COIL

X / C — DIRECT EXPANSION COIL

H / C — ELECTRIC UNIT HEATER

IN-LINE FAN

XX XXXX CFM — AIR FLOW

DUCT ACCESSORIES SYMBOLS

? ? ? ? — MARK, SIZE, FLOW IN CFM, TYPE

MARK DESIGNATION	DESCRIPTION
SR	SUPPLY REGISTER
SD	SUPPLY DIFFUSER
EG	EXHAUST GRILLE

? ? — MARK, TYPE

MARK DESIGNATION	DESCRIPTION
BDD	BACKDRAFT DAMPER
BD	BALANCING DAMPER
MD	MOTORIZED DAMPER
FD	FIRE DAMPER
FSD	FIRE SMOKE DAMPER

? ? — EQUIPMENT NAME, EQUIPMENT NUMBER

DAMPER, MANUAL VOLUME

FIRE / SMOKE DAMPER

FAN, EXHAUST ROOF VENT

DUCT, FLEXIBLE

DUCT SECTION, EXHAUST AIR

DUCT SECTION, RETURN AIR

DUCT SECTION, SUPPLY AIR DOWN

DUCT SECTION, STANDARD BRANCH FOR SUPPLY AND RETURN

AIR DISTRIBUTION, TURNING VANE IN DUCTWORK

REGISTER GRILLE, CEILING SUPPLY

CD — DIFFUSER, CEILING, THREE-WAY, RECTANGLE OR SQUARE

CD — DIFFUSER, CEILING, TWO-WAY, RECTANGLE OR SQUARE

12x4 — AIR DUCT, FIRST DIMENSION DUCT SIDE SHOWN, SECOND DIMENSION NOT SHOWN, (FOR ACOUSTICAL LINING OR INTERNAL INSULATION, SEE SPECIFICATIONS)

TURNING VANES IN DUCT

HVAC DESIGNATIONS

A/C	AIR CONDITIONING
AFF	ABOVE FINISHED FLOOR
BD	BALANCING DAMPER
BDD	BACKDRAFT DAMPER
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
CAP	CAPACITY
CC	COOLING COIL
CF	CUBIC FEET
CFM	CUBIC FEET PER MINUTE
D	DEGREE
DIA	DIAMETER
DN	DOWN
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EL	ELEVATION
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
F	FAHRENHEIT
FD	FIRE DAMPER
FF	FINISHED FLOOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FSD	COMBINATION FIRE/SMOKE DAMPER
FT	FEET
GA	GAUGE
GAL	GALLONS
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
HOA	HAND-OFF-AUTO
HP	HORSEPOWER
HR	HOUR
HVAC	HEATING, VENTILATING AND AIR COND
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
ID	INSIDE DIAMETER
IN	INCHES
INFIL	INFILTRATION
INSUL	INSULATE, INSULATION
I/O	INPUT/OUTPUT
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LTW	LOW TEMPERATURE WATER
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	THOUSANDS BTU PER HOUR
MIN	MINIMUM, MINUTE
OA	OUTSIDE AIR
OD	OUTSIDE DIAMETER
ODP	OPEN DRIP PROOF
PH	PHASE
PI	PRESSURE INDICATOR
PRES	PRESSURE
PS	PRESSURE SWITCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAGE
QTY	QUANTITY
RA	RETURN AIR
RG	RETURN GRILLE
RH	RELATIVE HUMIDITY
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SCFM	STANDARD CUBIC FEET PER MINUTE
SD	SMOKE DETECTOR, SMOKE DAMPER
SF	SQUARE FEET, SUPPLY FILTER
SP	SET POINT, STATIC PRESSURE
SST	STAINLESS STEEL
T	THERMOSTAT, THERMOMETER
TD	TEMPERATURE DIFFERENCE
TDH	TOTAL DYNAMIC HEAD
TEAO	TOTALLY ENCLOSED AIR OVER
TEFC	TOTALLY ENCLOSED FAN COOLED
TEMP	TEMPERATURE
TS	TEMPERATURE SWITCH
TW	THERMOWELL
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY
VTR	VENT THROUGH ROOF
W/	WITH
W/O	WITHOUT
WB	WET BULB
WC	WATER COLUMN
XP	EXPLOSION PROOF

GENERAL NOTES

1. GENERAL HVAC NOTES APPLY TO ALL HVAC DRAWINGS.
2. ALL SHEET METAL FLASHING REFERENCED IN DETAILS SHALL BE ALUMINUM.
3. CONTRACTOR SHALL BE AWARE THAT SOME HVAC EQUIPMENT MAY NEED TO BE INSTALLED BEFORE BUILDING ROOFS ARE PLACED.
4. CONTRACTOR SHALL SCHEDULE SUBMITTALS AND CONSTRUCTION ACCORDINGLY.
5. THIS DRAWING IS GENERAL IN NATURE. SOME DESIGNATIONS AND SYMBOLS MAY NOT BE USED ON THE CONTRACT DRAWINGS.
6. INSTALL HEATING, VENTILATING AND AIR CONDITIONING EQUIPMENT AND DUCTWORK TO AVOID INTERFERENCES WITH STRUCTURE, PIPING, EQUIPMENT, CONDUIT, LIGHTING, ETC. DUCTWORK AND ASSOCIATED ACCESSORIES MAY REQUIRE REROUTING TO FACILITATE THE PIPING, LIGHTING, AND EQUIPMENT INSTALLATION. CONTRACTOR SHALL SUBMIT THE PLAN AND DETAIL FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
7. OVERALL PHYSICAL SIZE OF THE EQUIPMENT SELECTED BY THE CONTRACTOR SHALL NOT EXCEED THE SIZE SHOWN ON THE DRAWINGS. CLEARANCES, DIMENSIONS OR SCALED DISTANCES SHOWN ON THE DRAWINGS SHALL BE MAINTAINED. ALL PROPOSED CHANGES AND ADDITIONS SHALL BE SUBMITTED FOR CONSTRUCTION MANAGER'S REVIEW AND SHALL BE DONE ONLY IF APPROVED BY THE CONSTRUCTION MANAGER AND AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL BEAR ALL COSTS OF ASSOCIATED CHANGES AND ADDITIONS.
8. DUCT CONNECTIONS TO EQUIPMENT, AND EQUIPMENT SUPPORTS SHALL BE VERIFIED AND ADJUSTED TO MATCH ACTUAL EQUIPMENT FURNISHED AT NO ADDITIONAL COST TO THE OWNER.
9. NOT ALL THE FITTINGS ARE SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL PROVIDE THE FITTINGS SHOWN ON THE DRAWINGS AND ADDITIONAL FITTINGS AS REQUIRED FOR THE DUCTWORK ARRANGEMENT SHOWN ON THE DRAWINGS AND FOR EQUIPMENT FURNISHED.
10. NOT ALL THE ITEMS ARE SHOWN IN PLANS, SECTIONS DETAILS, SCHEMATICS, AND P&ID DRAWINGS. THE CONTRACTOR SHALL PROVIDE ALL ITEMS EVEN IF THEY ARE SHOWN AT ONLY ONE LOCATION ON THE DRAWINGS. IN ADDITION, THE CONTRACTOR SHALL PROVIDE ALL ITEMS REQUIRED PER SPECIFICATION WHETHER OR NOT THEY ARE SHOWN ON THE DRAWINGS.
11. NOT ALL HANGERS, BRACKETS, SUPPORTS OR BRACES FOR DUCTWORK ARE INDICATED ON THE DRAWINGS. REFER TO THE SPECIFICATIONS FOR SUPPORT REQUIREMENTS IN ADDITION TO THOSE SHOWN ON THE DRAWINGS.
12. IN CASE OF CONFLICT BETWEEN THE DRAWINGS, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN UNLESS SPECIFICALLY APPROVED OTHERWISE BY THE ENGINEER.
13. DUCT SIZES INDICATED ARE CLEAR DIMENSIONS INSIDE THE DUCT OR THE DUCT LINING.
14. AIRTIGHT ACCESS DOORS OF NOT LESS THAN 12" X 12" SIZE SHALL BE PROVIDED TO ALLOW INSPECTION OF ALL DAMPERS AND FILTERS.
15. THE LOCATION OF PIPING TO THE AIR HANDLING UNITS SHALL NOT INTERFERE WITH FILTER DEMOLITION OR SERVICING THE EQUIPMENT.
16. ROOF FANS, VENTS AND HOODS SHALL BE PROVIDED WITH ½" MESH STAINLESS STEEL BIRD SCREEN OVER ALL OPENINGS.
17. ALL STAINLESS STEEL SHALL BE TYPE 316 OR 316L UNLESS SPECIFICALLY NOTED.

DESIGN SUMMARY

THE FOLLOWING DRAWINGS PRESENT THE HVAC DESIGN AND DEMOLITION PLAN FOR THE MULTI RAKE SCREEN AND DEGRITTING BUILDING AT TALLMAN ISLAND, NY. THE SCOPE OF WORK INCLUDES,

- THE DEMOLITION OF 7 HYDRONIC UNIT HEATERS (1ST LEVEL) ALONG WITH ALL THE ASSOCIATES EQUIPMENT AND PIPES.
- THE DEMOLITION OF 4 HYDRONIC UNIT HEATERS (2ND LEVEL) ALONG WITH ALL THE ASSOCIATES EQUIPMENT AND PIPES.
- THE DEMOLITION OF ONE (1) WALL MOUNTED SUPPLY FAN. (1ST LEVEL)
- THE DEMOLITION OF TWO (2) WALL MOUNTED SUPPLY FANS. (2ND LEVEL)
- THE DEMOLITION OF ONE (1) FAN COIL WITHIN STAIRCASE.
- THE DEMOLITION OF ONE (1) HYDRONIC UNIT HEATER WITHIN THE FAN ROOM.
- THE DEMOLITION OF ONE (1) IN-LINE EXHAUST FAN WITHIN THE FAN ROOM.
- PROVIDE AND INSTALL SIX (6) EXPLOSION PROOF HYDRONIC UNIT HEATERS (1ST LEVEL) AND ALL THE ACCESSORIES, MIXING VALVES, THERMOSTAT, ETC.
- PROVIDE AND INSTALL SIX (6) EXPLOSION PROOF HYDRONIC UNIT HEATERS (2ND LEVEL) AND ALL THE ACCESSORIES, MIXING VALVES, THERMOSTAT, ETC.
- PROVIDE AND INSTALL ONE (1) EXPLOSION PROOF HYDRONIC UNIT HEATER, (STAIRCASE)
- PROVIDE AND INSTALL ONE (1) EXPLOSION PROOF HYDRONIC UNIT HEATERS (FAN ROOM) AND ALL THE ACCESSORIES, MIXING VALVES, THERMOSTAT, ETC.
- PROVIDE AND INSTALL ONE (1) TWO SPEED WALL MOUNTED EXPLOSION PROOF SUPPLY FAN TO PROVIDE 12 ACH FOR THE 1ST LEVEL.
- PROVIDE AND INSTALL TWO (2) TWO SPEED WALL MOUNTED EXPLOSION PROOF SUPPLY FANS TO PROVIDE 12 ACH FOR THE 2ND LEVEL.
- PROVIDE AND INSTALL ONE (1) TWO SPEED IN-LINE EXPLOSION PROOF EXHAUST FAN TO PROVIDE 12 ACH FOR THE 1ST AND 2ND LEVELS.
- PROVIDE AND INSTALL ONE (1) TWO SPEED IN-LINE EXPLOSION PROOF EXHAUST FAN TO PROVIDE 12 ACH FOR THE STAIRCASE. (ONLY FAN) DUCTS SHALL REMAIN.
- PROVIDE A TEMPORARY VENTILATION SYSTEM DURING CONSTRUCTION TO MEET CLASS 1 DIV 1 BASED ON NFPA 820.

NYC Environmental Protection DWT

BID SET

DATE ISSUED: OCTOBER 2026

GRAPHIC SCALES CHECK BEFORE USE

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DESIGNED BY: D. STEWART
DRAWN BY: M. FULK
CHECKED BY: D. STEWART
DESIGN LEAD: J. ARMSTRONG
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK — WILLIAM D. STEWART — LICENSED PROFESSIONAL ENGINEER — 123030 — 10/15/26

Environmental Protection

ENGINEER: Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION: I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

HVAC
ABBREVIATIONS, SYMBOLS AND LEGEND

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. H-001.00

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GENERAL NOTES:

1. WALL MOUNTED FANS ARE CONTAMINATED WITH ASBESTOS. CONTRACTOR SHALL PROVIDE PERSONAL PROTECTION EQUIPMENT DURING DEMOLITION AND STORAGE.
2. ALL THE PIPING AND EQUIPMENT LOCATIONS ARE APPROXIMATE. FIELD VERIFY ALL PIPING AND EQUIPMENT SIZES AND LOCATIONS.

KEYNOTE LEGEND

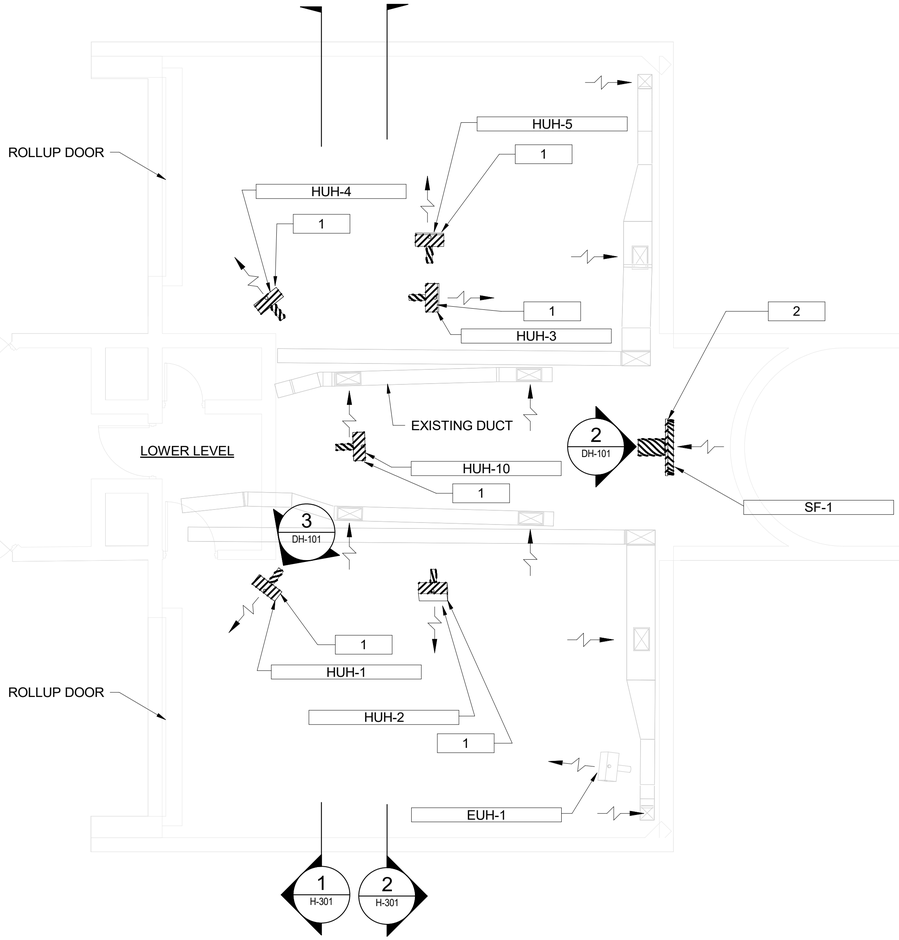
KEYNOTE NUMBER	KEYNOTES
1	DEMOLISH HYDRONIC UNIT HEATER, PIPING, VALVES, AND ASSOCIATED EQUIPMENT.
2	DEMOLISH WALL MOUNTED FAN, DUCTWORK, FAN GUARD, AND ASSOCIATED EQUIPMENT INCLUDED.



2 DH-101 PHOTO
SCALE: 1" = 1'-0"



3 DH-101 PHOTO
SCALE: 1" = 1'-0"



LOWER LEVEL PLAN - EL. 13.00

SCALE: 3/16" = 1'-0"

NYC Environmental Protection DWT

BID SET
DATE ISSUED: OCTOBER 2026

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DESIGNED BY: D. STEWART
DRAWN BY: M. FULK
CHECKED BY: D. STEWART
DESIGN LEAD: J. ARMSTRONG
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK — WILLIAM D. STEWART — 103090 — LICENSED PROFESSIONAL ENGINEER — 10/15/26

Environmental Protection

ENGINEER: Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION: I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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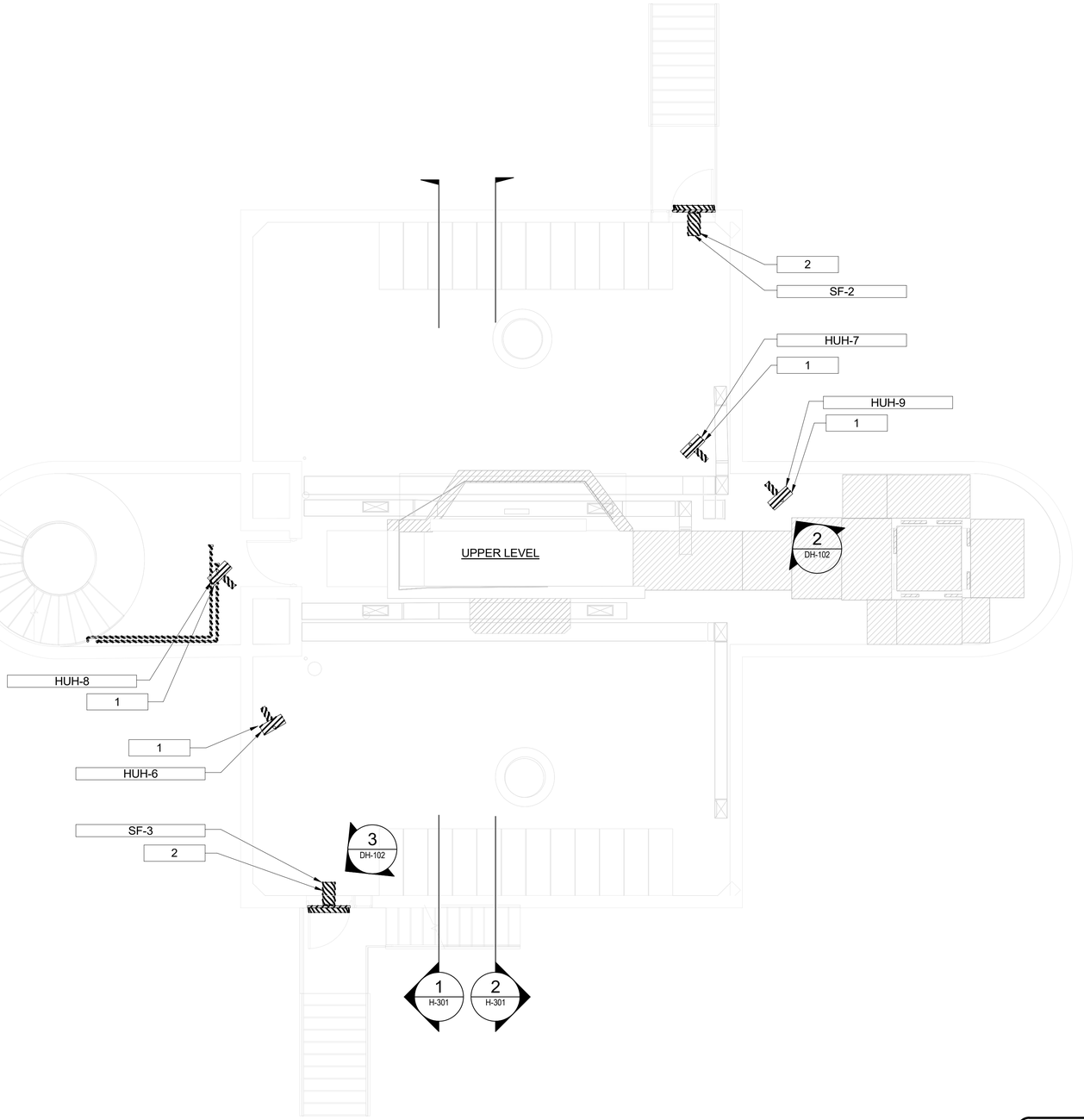
PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

HVAC
LOWER LEVEL DEMOLITION PLAN

DATE: OCTOBER 2026
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UPPER LEVEL PLAN - EL. 31.00

SCALE: 3/16" = 1'-0"

GENERAL NOTES:

1. WALL MOUNTED FANS ARE CONTAMINATED WITH ASBESTOS. CONTRACTOR SHALL PROVIDE PERSONAL PROTECTION EQUIPMENT DURING DEMOLITION AND STORAGE.
2. ALL THE PIPING AND EQUIPMENT LOCATIONS AND ROUTINGS ARE APPROXIMATE. FIELD VERIFY ALL PIPING AND EQUIPMENT SIZES AND LOCATIONS BEFORE BIDDING.

KEYNOTE LEGEND

KEYNOTE NUMBER	KEYNOTES
1	DEMOLISH HYDRONIC UNIT HEATER, PIPING, VALVES, AND ASSOCIATED EQUIPMENT.
2	DEMOLISH WALL MOUNTED FAN, DUCTWORK, FAN GUARD, AND ASSOCIATED EQUIPMENT INCLUDED.



2 DH-102 PHOTO

SCALE: 1" = 1'-0"



3 DH-102 PHOTO

SCALE: 1" = 1'-0"

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DRAWN BY: M. FULK
CHECKED BY: D. STEWART
DESIGN LEAD: J. ARMSTRONG
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK WILLIAM D. STEWART 103090 REGISTERED PROFESSIONAL ENGINEER 10/15/16

NYC Environmental Protection

ENGINEER: Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION: I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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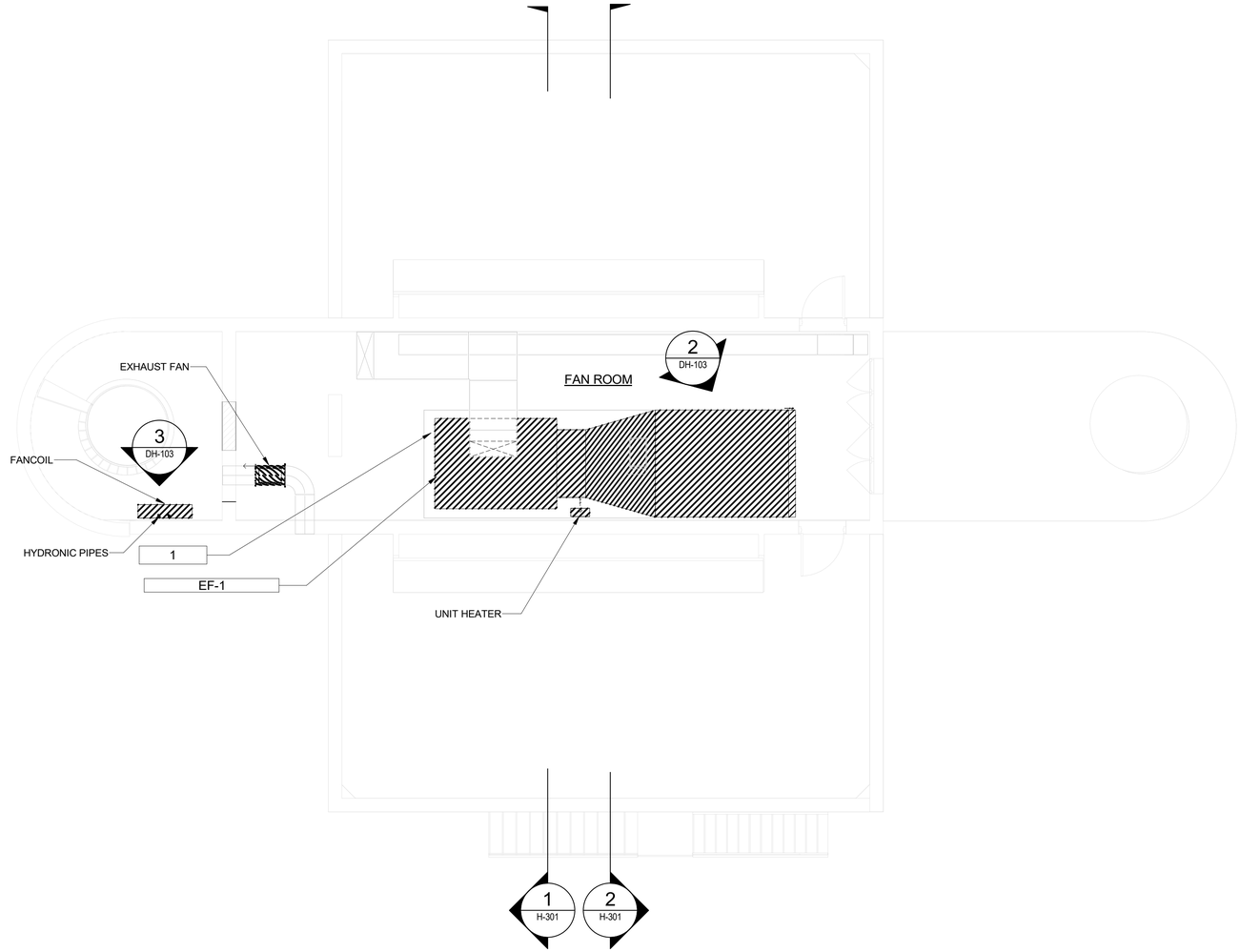
PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

HVAC
UPPER LEVEL DEMOLITION PLAN

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. DH-102.00

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ROOF LEVEL PLAN - EL. 46.33

SCALE: 3/16" = 1'-0"

GENERAL NOTES:

1. ALL THE EQUIPMENT AND FIXTURES SHALL BE SALVAGED UNTIL OWNER DECIDES OTHERWISE.
2. REPLACE EXISTING EXHAUST FAN-16 WITH NEW.
3. ALL THE DUCT SHALL BE REMAIN.
4. USE ADAPTOR TO CONNECT DUCTS TO THE NEW IN-LINE FAN.
5. REPLACE EXIST FANCOIL WITH NEW HYDRONIC UNIT HEATER.
6. EXISTING UNIT HEATER WITHIN THE FAN ROOM SHALL BE REPLACE WITH NEW.
7. ALL THE PIPING AND EQUIPMENT LOCTIONS ARE APPROXIMATE. FIELD VERIFY ALL PIPING AND EQUIPMENT SIZES AND LOCATIONS.

KEYNOTE LEGEND

KEYNOTE NUMBER	KEYNOTES
1	DEMOLISH FAN AND ALL DUCTING INDICATED.



2 DH-103 PHOTO

SCALE: 1" = 1'-0"



3 DH-103 PHOTO

SCALE: 1" = 1'-0"

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DRAWN BY: M. FULK
CHECKED BY: D. STEWART
DESIGN LEAD: J. ARMSTRONG
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

BENJAMIN D. STEWART, STATE OF NEW YORK, 103090, LICENSED PROFESSIONAL ENGINEER, 10/15/26

Environmental Protection

ENGINEER: Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION: I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

HVAC
ROOF LEVEL DEMOLITION PLAN

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. DH-103.00

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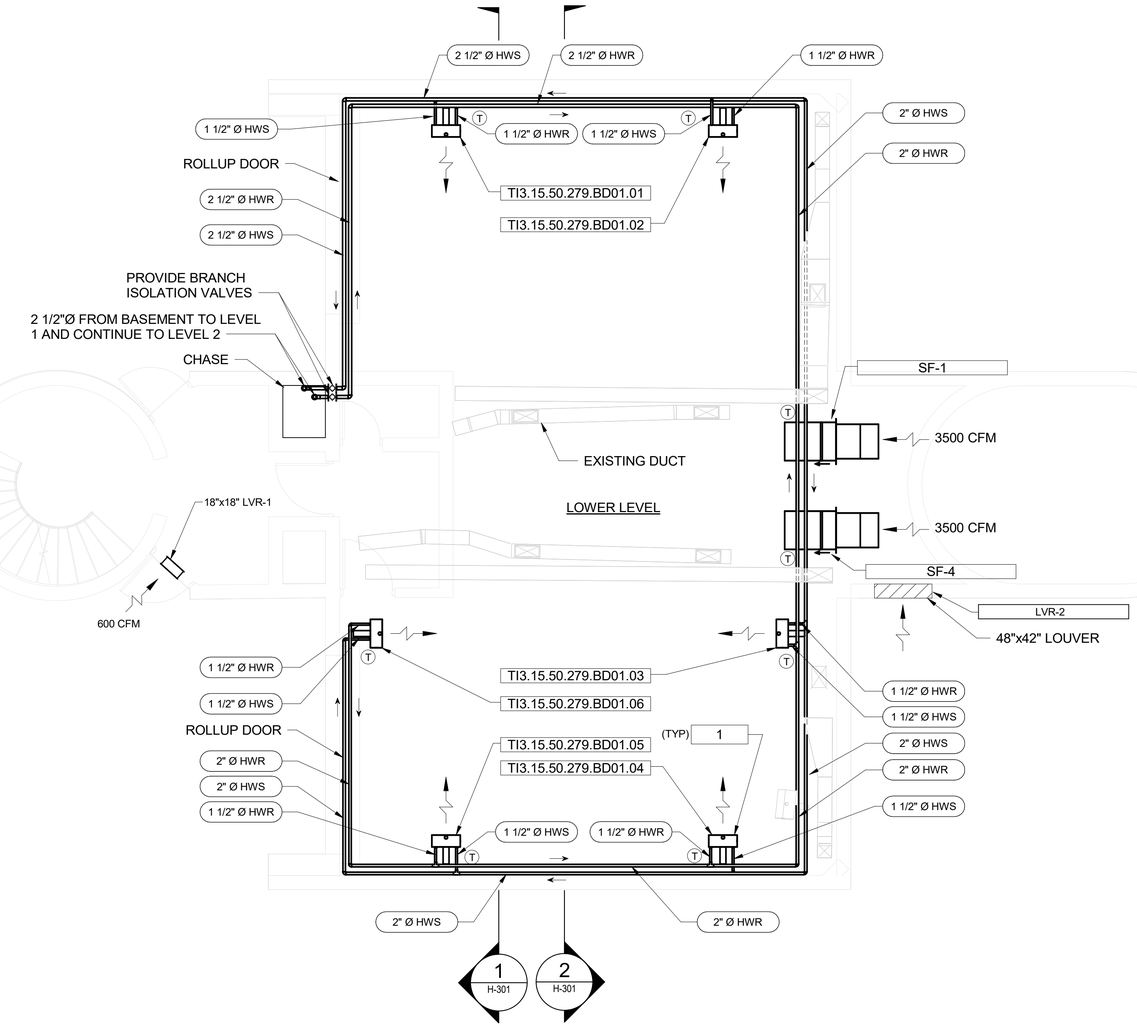
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GENERAL NOTES:

1. THE CONTRACTOR SHALL CONDUCT A SITE VISIT BEFORE BIDDING. DUE TO THE ABSENCE OF AS-BUILT PLANS, FIELD VERIFICATION IS REQUIRED FOR THE DESIGN.
2. ALL THE HYDRONIC UNITS SCHALL BE WRAPPED WITH MINIMUM R-6 INSULATION.

KEYNOTE LEGEND

KEYNOTE NUMBER	KEYNOTES
1	ALL THE HYDRONIC UNIT HEATERS AND ASSOCIATED EQUIPMENT INCLUDED VALVES SHALL BE REPLACED WITH NEW AS SHOWN.



LOWER LEVEL PLAN - EL. 13.00

SCALE: 3/16" = 1'-0"

NYC Environmental Protection SWT

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CHECKED BY: D. STEWART
DESIGN LEAD: J. ARMSTRONG
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

WILLIAM D. STEWART 039090 REGISTERED PROFESSIONAL ENGINEER 10/16/26

Environmental Protection

ENGINEER
Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION
I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN
A. LOPEZ

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PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
HVAC
LOWER LEVEL FLOOR PLAN

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. H-101.00

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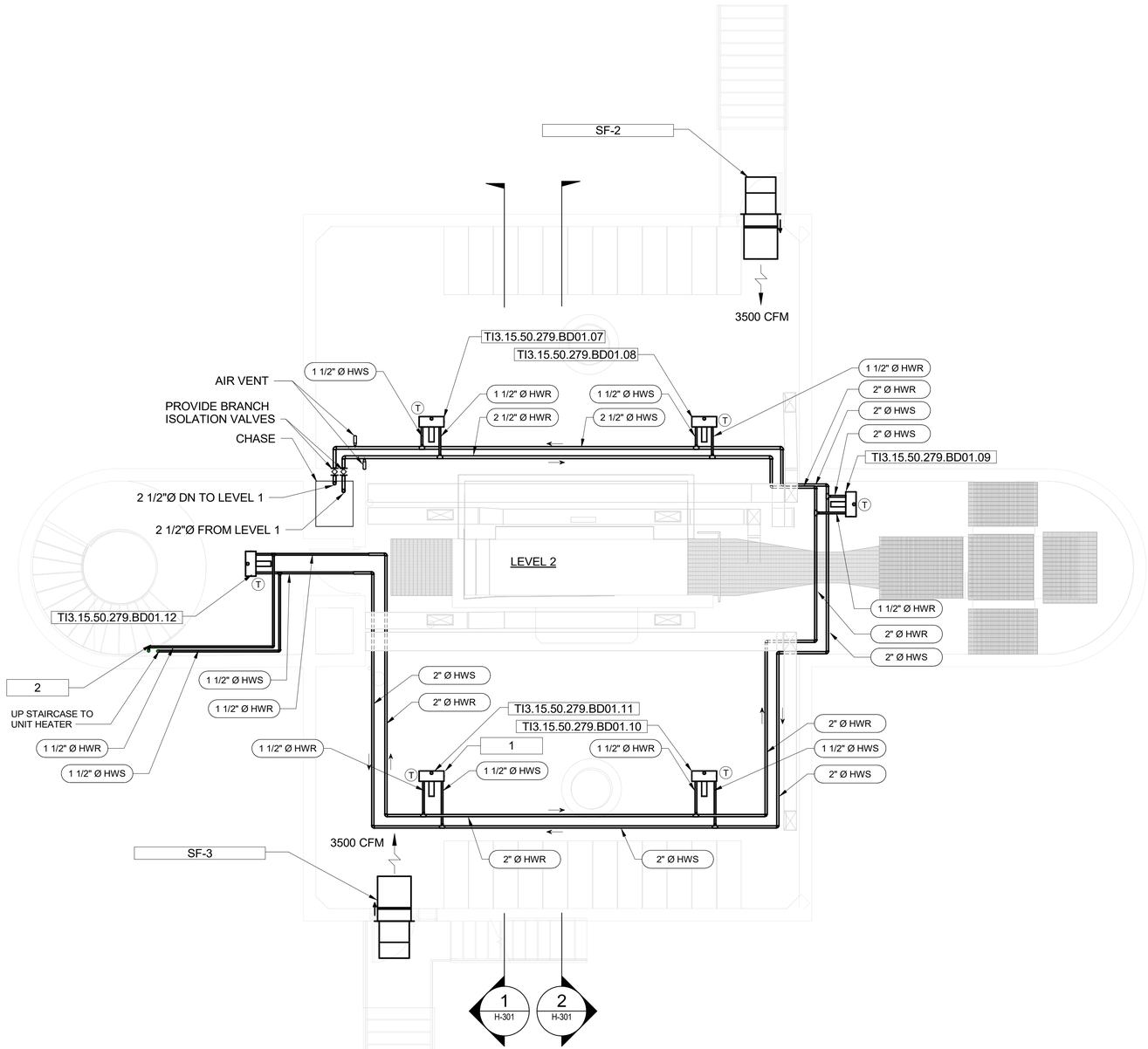
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GENEARL NOTES:

1. THE CONTRACTOR SHALL CONDUCT A SITE VISIT BEFORE BIDDING. DUE TO THE ABSENCE OF AS-BUILT PLANS, FIELD VERIFICATION IS REQUIRED FOR THE DESIGN.
2. ALL THE HYDRONIC UNITS SCHALL BE WRAPPED WITH MINIMUM R-6 INSULATION.

KEYNOTE LEGEND

KEYNOTE NUMBER	KEYNOTES
1	ALL THE HYDRONIC UNIT HEATERS AND ASSOCIATED EQUIPMENT INCLUDED VALVES SHALL BE REPLACED WITH NEW AS SHOWN.
2	PIPES EXTENDED UP TO ROOF LEVEL STAIRCASE.



UPPER LEVEL PLAN - EL. 31.00

SCALE: 3/16" = 1'-0"

BID SET
DATE ISSUED: OCTOBER 2026

GRAPHIC SCALES CHECK BEFORE USE

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DRAWN BY: M. FULK
CHECKED BY: D. STEWART
DESIGN LEAD: J. ARMSTRONG
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

WILLIAM D. STEWART 103030 LICENSED PROFESSIONAL ENGINEER 10/16/26

Environmental Protection

ENGINEER: Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION: I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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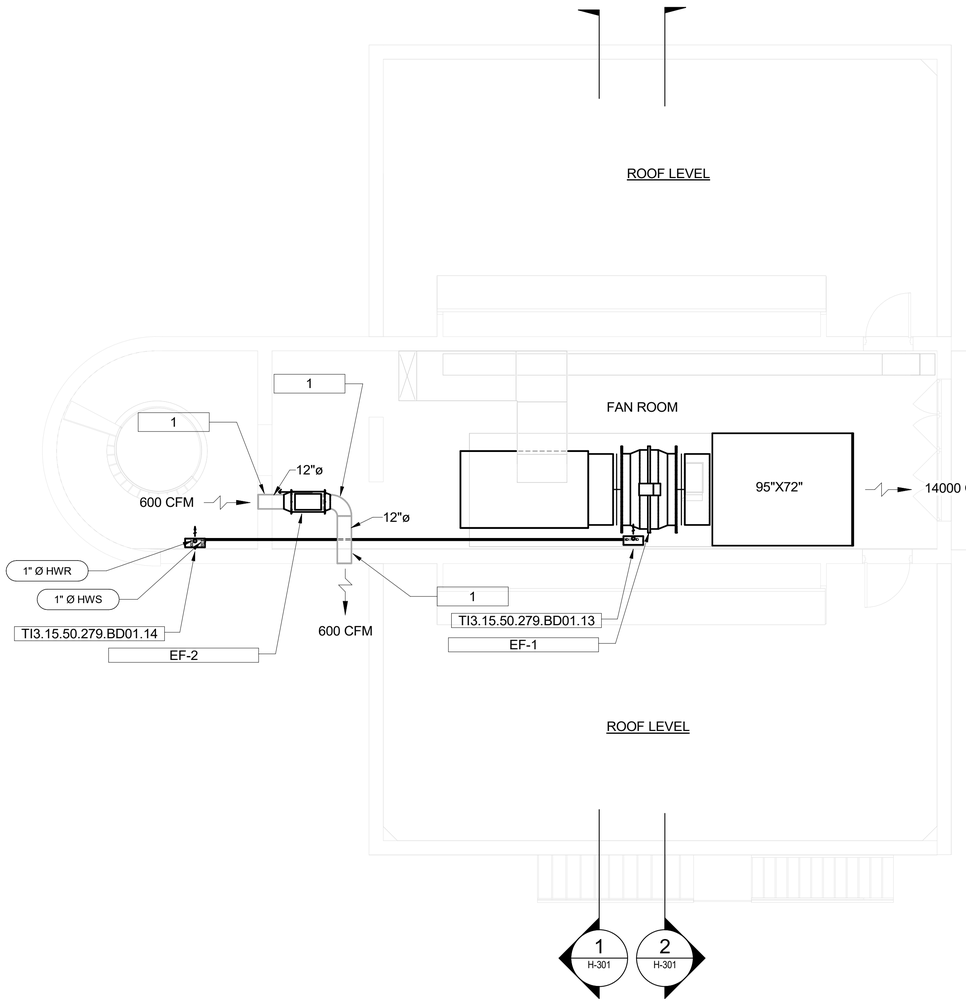
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BUREAU OF WASTEWATER TREATMENT
96-05 HORACE HARDING EXPRESSWAY 2nd FLOOR
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PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
HVAC
UPPER LEVEL FLOOR PLAN

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. H-102.00

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GENERAL NOTES:

1. THE CONTRACTOR SHALL CONDUCT A SITE VISIT BEFORE BIDDING. DUE TO THE ABSENCE OF AS-BUILT PLANS, FIELD VERIFICATION IS REQUIRED FOR THE DESIGN.
2. INSTALL A NEW HYDRONIC UNIT HEATER ON THE WALL, MAINTAINING A MINIMUM CLEARANCE OF 5 INCHES FROM THE WALL. REPLACE THE EXISTING UNIT WITH THE NEW ONE AT THE SAME LOCATION.
3. INSTALL A NEW IN-LINE EXHAUST FAN.
4. RETAIN THE EXISTING DUCTS CONNECTED TO THE CURRENT IN-LINE FAN AND CONNECT THE NEW IN-LINE FAN TO THE EXISTING DUCTWORK.
5. THE UNIT HEATER SHALL BE EQUIPPED WITH AN INTEGRAL THERMOSTAT. IF NOT, PROVIDE A SEPARATE THERMOSTAT AND INSTALL IT ON THE WALL AT 48 INCHES AFF (ABOVE FINISHED FLOOR).
6. PROVIDE NEW PIPING FOR THE HYDRONIC UNIT HEATERS, ENSURING THE ROUTING FOLLOWS THE EXISTING PIPE LAYOUT. ALL HYDRONIC PIPES INSULATED. MINIMUM R6.
7. ALL NEW PIPING SHALL BE PROPERLY INSULATED WITH MINIMUM R-6 INSULATION.
8. ALL THE HYDRONIC UNITS SCHALL BE WRAPPED WITH MINIMUM R-6 INSULATION.

KEYNOTE LEGEND

KEYNOTE NUMBER	KEYNOTES
1	EXISTING DUCT TO REMAIN. CONTRACTOR SHALL USE ADAPTOR TO CONNECT EXISTING DUCT TO THE NEW IN-LINE FAN.

ROOF LEVEL PLAN - EL. 46.33

SCALE: 3/16" = 1'-0"

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SECTION MANAGER: J. GRUMAN

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BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK · WILLIAM D. STEWART · 039090 · LICENSED PROFESSIONAL ENGINEER · 12/16/26

Environmental Protection

ENGINEER: Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION: I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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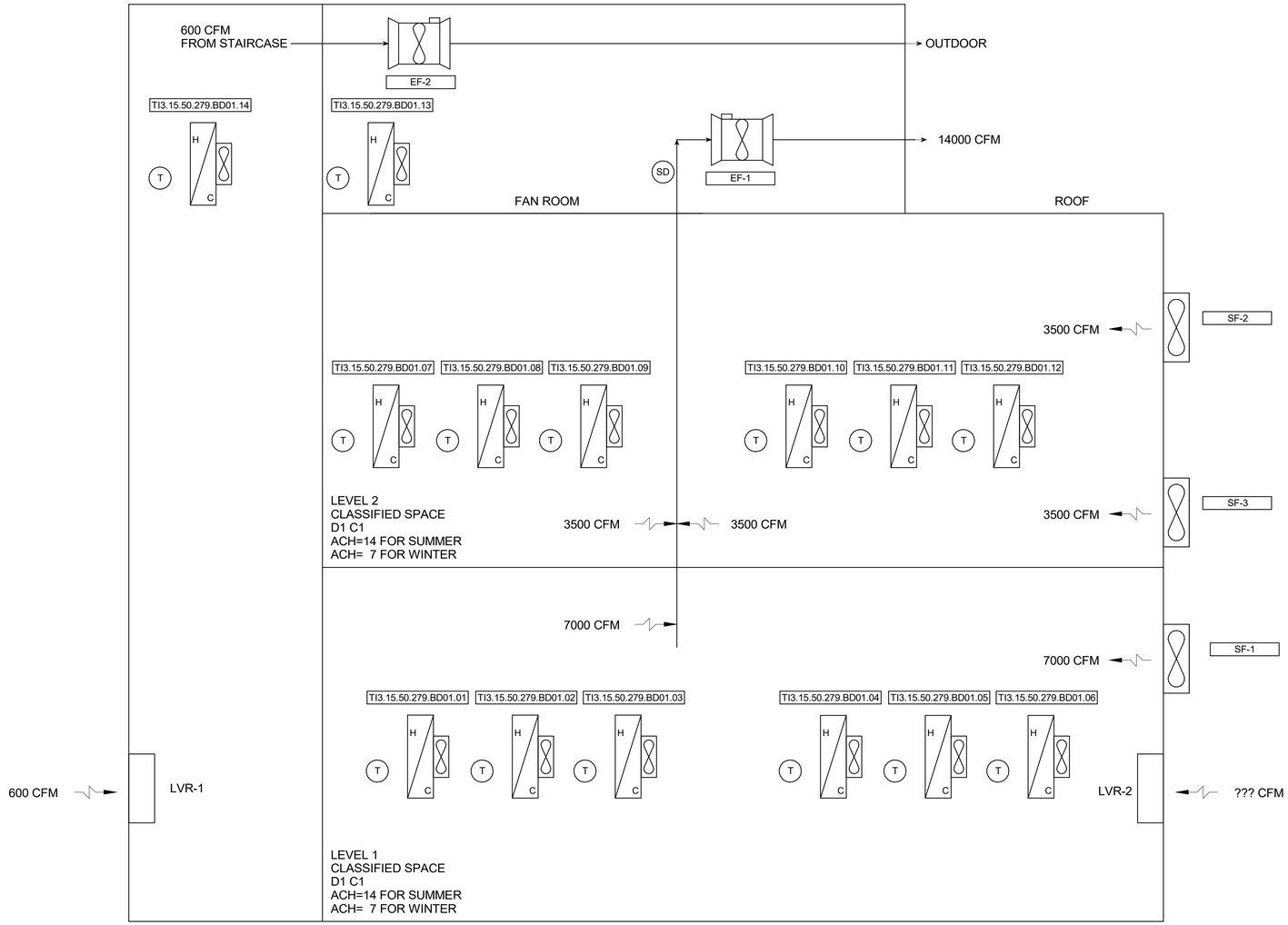
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PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
HVAC
ROOF LEVEL PLAN

DATE: OCTOBER 2026
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AIR FLOW DIAGRAM

SCALE: N.T.S.

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BROWN AND CALDWELL ASSOCIATES
NEW YORK, NEW YORK

WILLIAM D. STEWART — 123030 — LICENSED PROFESSIONAL ENGINEER — STATE OF NEW YORK — 10/15/26

Environmental Protection

ENGINEER: Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION: I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

HVAC
AIR FLOW DIAGRAM

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. H-201.00

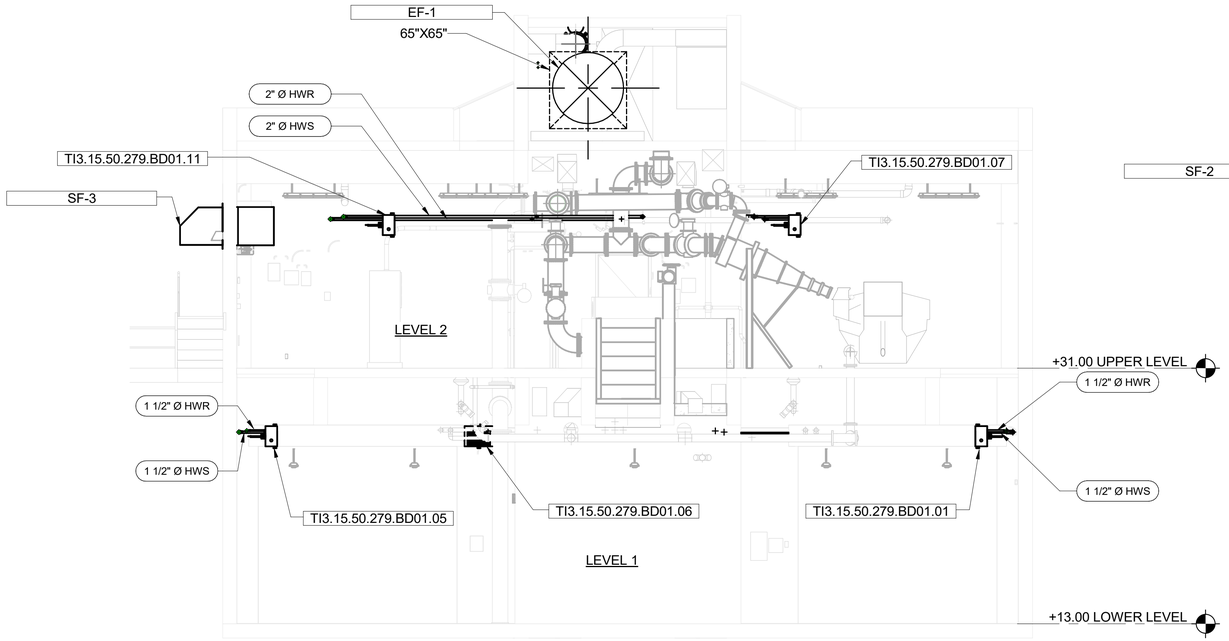
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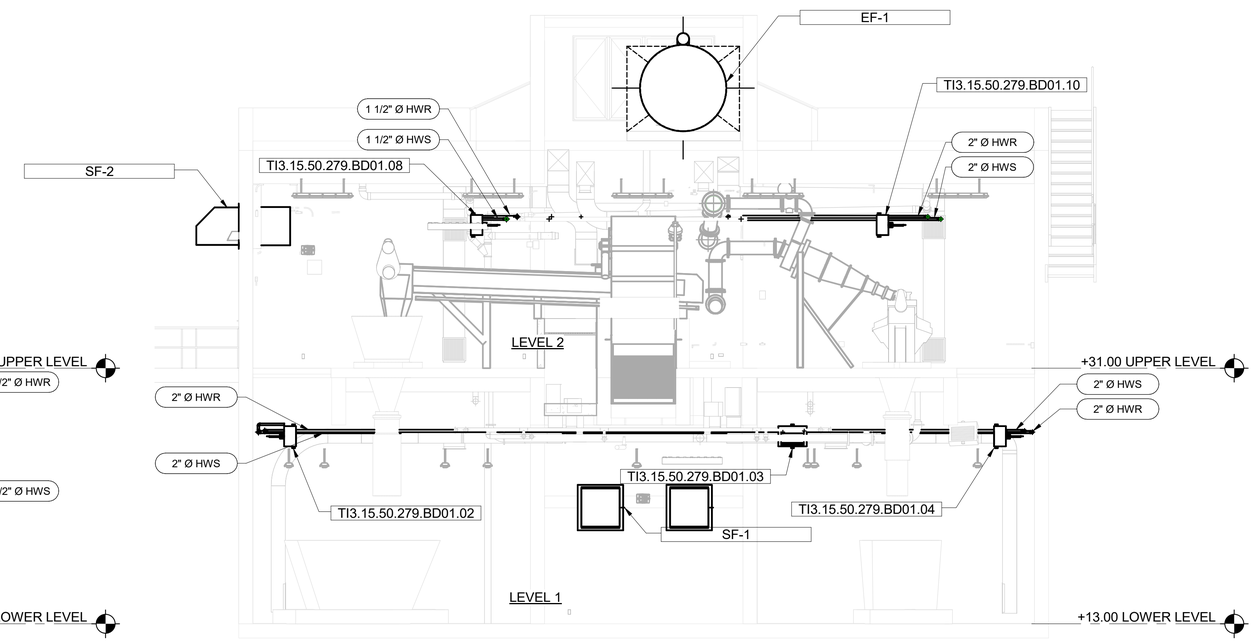
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1 DH-101 SECTION

SCALE: 3/16" = 1'-0"



2 DH-101 SECTION

SCALE: 3/16" = 1'-0"

NYC Environmental Protection DWT

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CHECKED BY: D. STEWART
DESIGN LEAD: J. ARMSTRONG
SECTION MANAGER: J. GRUMAN

BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

BENJAMIN D. STEWART — LICENSED PROFESSIONAL ENGINEER — STATE OF NEW YORK — 103030 — 10/15/26

Environmental Protection

ENGINEER: Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION: I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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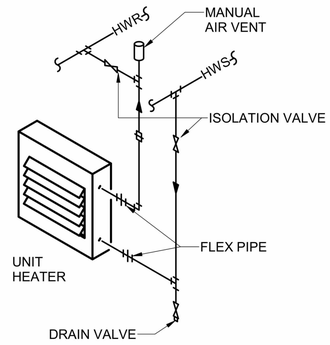
PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

HVAC
SECTIONS

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. H-301.00

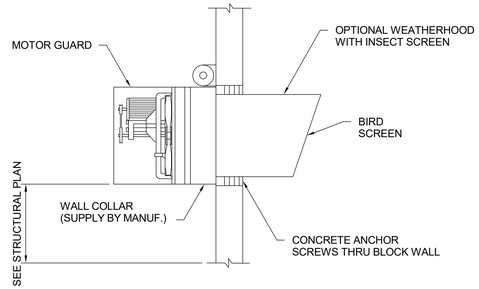
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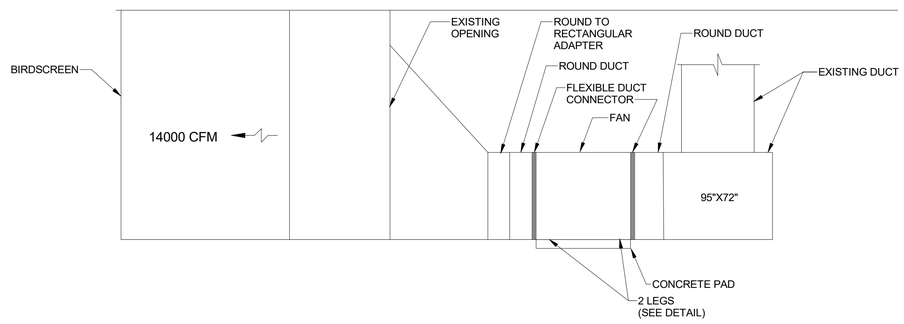
1 TYPICAL HEATING-HOT WATER UNIT HEATER PIPING

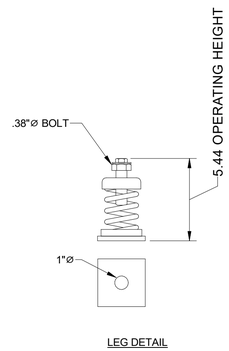
SCALE: N.T.S.



2 WALL MOUNTED SUPPLY FAN

SCALE: N.T.S.





3 IN-LINE FAN INSTALLATION

SCALE: N.T.S.

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NEW YORK, NEW YORK

STATE OF NEW YORK — WILLIAM D. STEWART — 123030 — LICENSED PROFESSIONAL ENGINEER — 10/15/26

Environmental Protection

ENGINEER: Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION: I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

HVAC
STANDARD DETAILS

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. H-401.00

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FAN SCHEDULE

EQUIPMENT TAG	MANUFACTURER	MODEL NUMBER	TYPE	SERVICE AREA	CFM	STATIC PRESSURE W.C.	ELECTRICAL V/PH	dBA	MOTOR HP	BHP	DIMENSION D X H (IN)/ L X W X H	WEIGHT LBS	NOTES
SF-1	GREENHECK	AER-24	WALL MOUNTED	LEVEL 1	7000	0.75	460/3	85	2	1.85	-/ 73 X 30 X 32	294	3,4,5,7
SF-2	GREENHECK	AER-20	WALL MOUNTED	LEVEL 2	3500	0.5	460/3	79	0.75	0.62	-/ 31 X 33 X 31	237	3,4,5,7
SF-3	GREENHECK	AER-20	WALL MOUNTED	LEVEL 2	3500	0.5	460/3	79	0.75	0.62	-/ 31 X 33 X 31	237	3,4,5,7
EF-1	GREENHECK	QEI-30	FLOOR MOUNTED	ROOF LEVEL	14000	1.5	460/3	5	7.5	6	45.5 X 52 /-	591	1,7
EF-2	GREENHECK	QEID FJ-12-100	WALL MOUNTED	FAN ROOM	600	0.25	115/1	60	0.5	0.13	17" X 20"	62	5

NOTES:

1 - ROOF CURB
2 - DAMPER
3 - WALL HOUSING
4 - GUARD
5 - SPARK RESISTANT
6 - BACKDRAFT DAMPER
7 - BIRD SCREEN

HYDRONIC UNIT HEATER SCHEDULE

EQUIPMENT TAG	MANUFACTURER	MODEL NUMBER	TYPE	HEATING CAPACITY MBTU	GPM	PRESSURE DROP FT OF WATER	HEAT THROW	ENTERING AIR (T)	ENTERING WATER (T)	HUHS LWT	CFM	FINAL AIR TEMP.	HP	RPM	ELECTRICAL		
															V	F	PH
TI3.15.5.279.BD01.01	HSB	HC-108	HORIZONTAL	83.7	8.7	2.8	33	60	200	180	2010	98	1/8	1625	115	60	1
TI3.15.5.279.BD01.02	HSB	HC-108	HORIZONTAL	83.7	8.7	2.8	33	60	200	180	2010	98	1/8	1625	115	60	1
TI3.15.5.279.BD01.03	HSB	HC-108	HORIZONTAL	83.7	8.7	2.8	33	60	200	180	2010	98	1/8	1625	115	60	1
TI3.15.5.279.BD01.04	HSB	HC-108	HORIZONTAL	83.7	8.7	2.8	33	60	200	180	2010	98	1/8	1625	115	60	1
TI3.15.5.279.BD01.05	HSB	HC-108	HORIZONTAL	83.7	8.7	2.8	33	60	200	180	2010	98	1/8	1625	115	60	1
TI3.15.5.279.BD01.06	HSB	HC-108	HORIZONTAL	83.7	8.7	2.8	33	60	200	180	2010	98	1/8	1625	115	60	1
TI3.15.5.279.BD01.07	HSB	HC-108	HORIZONTAL	83.7	8.7	2.8	33	60	200	180	2010	98	1/8	1625	115	60	1
TI3.15.5.279.BD01.08	HSB	HC-108	HORIZONTAL	83.7	8.7	2.8	33	60	200	180	2010	98	1/8	1625	115	60	1
TI3.15.5.279.BD01.09	HSB	HC-108	HORIZONTAL	83.7	8.7	2.8	33	60	200	180	2010	98	1/8	1625	115	60	1
TI3.15.5.279.BD01.10	HSB	HC-108	HORIZONTAL	83.7	8.7	2.8	33	60	200	180	2010	98	1/8	1625	115	60	1
TI3.15.5.279.BD01.11	HSB	HC-108	HORIZONTAL	83.7	8.7	2.8	33	60	200	180	2010	98	1/8	1625	115	60	1
TI3.15.5.279.BD01.12	HSB	HC-108	HORIZONTAL	83.7	8.7	2.8	33	60	200	180	2010	98	1/8	1625	115	60	1
TI3.15.5.279.BD01.13	HSB	HC-18	HORIZONTAL	12.6	1.3	0.5	18	60	200	180	340	98	1/60	1550	115	60	1
TI3.15.5.279.BD01.14	HSB	HC-18	HORIZONTAL	12.6	1.3	0.5	18	60	200	180	340	98	1/60	1550	115	60	1

NOTES:

1 ALL THE UNIT HEATERS ARE EXPLOSION PROOF.

LOUVER SCHEDULE

EQUIPMENT TAG	NAME	LOCATION	TYPE	AIRFLOW CFM	DIMENSION WxH (IN)	FREE AREA (SF)	FREE AREA VELOCITY (FPM)	NOTES
LVR-1	STAIRCASE	LEVEL 1	DB	600	18x18	0.57	468	1,2
LVR-2	??	LEVEL 1	??	???	48X42	??	??	1,2

NOTES:

1 COLOR TO BE SELECTED DURING SUBMITTAL PROCESS BY ARCHITECT.
2 RUSKIN ELF6375DX STATIONARY LOUVER.

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DATE ISSUED: OCTOBER 2026

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Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK WILLIAM D. STEWART 123030 LICENSED PROFESSIONAL ENGINEER 10/15/26

Environmental Protection

ENGINEER
Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION
I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN
A. LOPEZ

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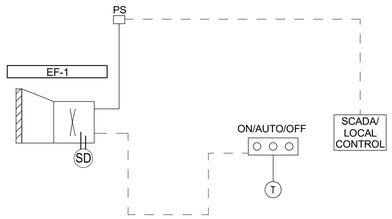
PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

HVAC SCHEDULES

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. H-501.00

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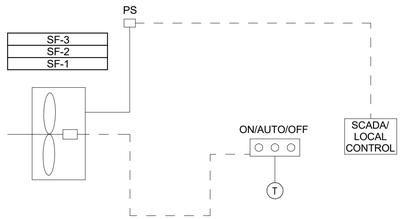
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1. THE EXHAUST FAN CONDUCT AIR TO OUTSIDE FOR VENTILATION FOR BOTH THE FIRST AND SECOND LEVELS.
2. FAN WILL BE CONTROLLED WITH AN ON/AUTO/OFF SWITCH.
3. WHEN IN "ON" MODE, FANS WILL OPERATE CONTINUOUSLY.
4. WHEN IN "OFF" MODE NEITHER OF THE FANS WILL OPERATE.
5. WHEN IN "AUTO" MODE, THE FANS WILL BE CONTROLLED BY AN ADJUSTABLE THERMOSTAT. THE FAN WILL OPERATE AT 50% OF ITS NOMINAL CAPACITY WHEN THE TEMPERATURE IS BELOW 55°F, AND AT FULL CAPACITY WHEN THE TEMPERATURE IS ABOVE 55°F. (THE SETPOINT IS ADJUSTABLE.)
6. THE FAN SHALL BE EQUIPPED WITH AN INDIVIDUAL DISCONNECT SWITCH TO FACILITATE MAINTENANCE.
7. THE EXHAUST FANS SHALL START 30 SECONDS AFTER TO SUPPLY FANS TO PREVENT NEGATIVE PRESSURE.

EXHAUST FAN SEQUENCE OF OPERATIONS

SCALE: N.T.S.

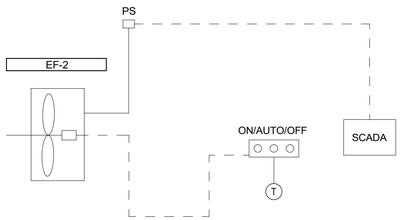


LEVEL 1 AND 2 CONTROL DIAGRAM

1. THE SUPPLY FANS PROVIDE OUTSIDE AIR FOR VENTILATION ON BOTH THE FIRST AND SECOND LEVELS.
2. FANS WILL BE CONTROLLED WITH AN ON/AUTO/OFF SWITCH.
3. WHEN IN "ON" MODE, FANS WILL OPERATE CONTINUOUSLY.
4. WHEN IN "OFF" MODE NEITHER OF THE FANS WILL OPERATE.
5. WHEN IN "AUTO" MODE, THE FANS WILL BE CONTROLLED BY AN ADJUSTABLE THERMOSTAT. THE FAN WILL OPERATE AT 50% OF ITS NOMINAL CAPACITY WHEN THE TEMPERATURE IS BELOW 55°F, AND AT FULL CAPACITY WHEN THE TEMPERATURE IS ABOVE 55°F. (THE SETPOINT IS ADJUSTABLE.)
6. THE FAN SHALL BE EQUIPPED WITH AN INDIVIDUAL DISCONNECT SWITCH TO FACILITATE MAINTENANCE.
7. THE SUPPLY FANS SHALL START 30 SECONDS PRIOR TO EXHAUST FAN TO PROVIDE POSITIVE PRESSURE.

SUPPLY FAN SEQUENCE OF OPERATIONS

SCALE: N.T.S.



LEVEL 1 AND 2 CONTROL DIAGRAM

THE EXHAUST FAN CONDUCTS AIR FROM STAIRCASE TO OUTSIDE FOR VENTILATION.

1. FANS WILL BE CONTROLLED WITH AN ON/AUTO/OFF SWITCH.
2. WHEN IN "ON" MODE, FANS WILL OPERATE CONTINUOUSLY.
3. WHEN IN "OFF" MODE NEITHER OF THE FANS WILL OPERATE.
4. WHEN IN "AUTO" MODE, THE FANS WILL BE CONTROLLED BY AN ADJUSTABLE THERMOSTAT. THE FAN WILL OPERATE AT 50% OF ITS NOMINAL CAPACITY WHEN THE TEMPERATURE IS BELOW 55°F, AND AT FULL CAPACITY WHEN THE TEMPERATURE IS ABOVE 55°F. (THE SETPOINT IS ADJUSTABLE.)
5. THE FAN SHALL BE EQUIPPED WITH AN INDIVIDUAL DISCONNECT SWITCH TO FACILITATE MAINTENANCE.

STAIRCASE VENTILATION SEQUENCE OF OPERATIONS

SCALE: N.T.S.

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DATE ISSUED: OCTOBER 2026

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DRAWN BY: M. FULK
CHECKED BY: D. STEWART
DESIGN LEAD: J. ARMSTRONG
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES
NEW YORK, NEW YORK

STATE OF NEW YORK · WILLIAM D. STEWART · 1039090 · LICENSED PROFESSIONAL ENGINEER · 10/15/26

Environmental Protection

ENGINEER
Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION
I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN
A. LOPEZ

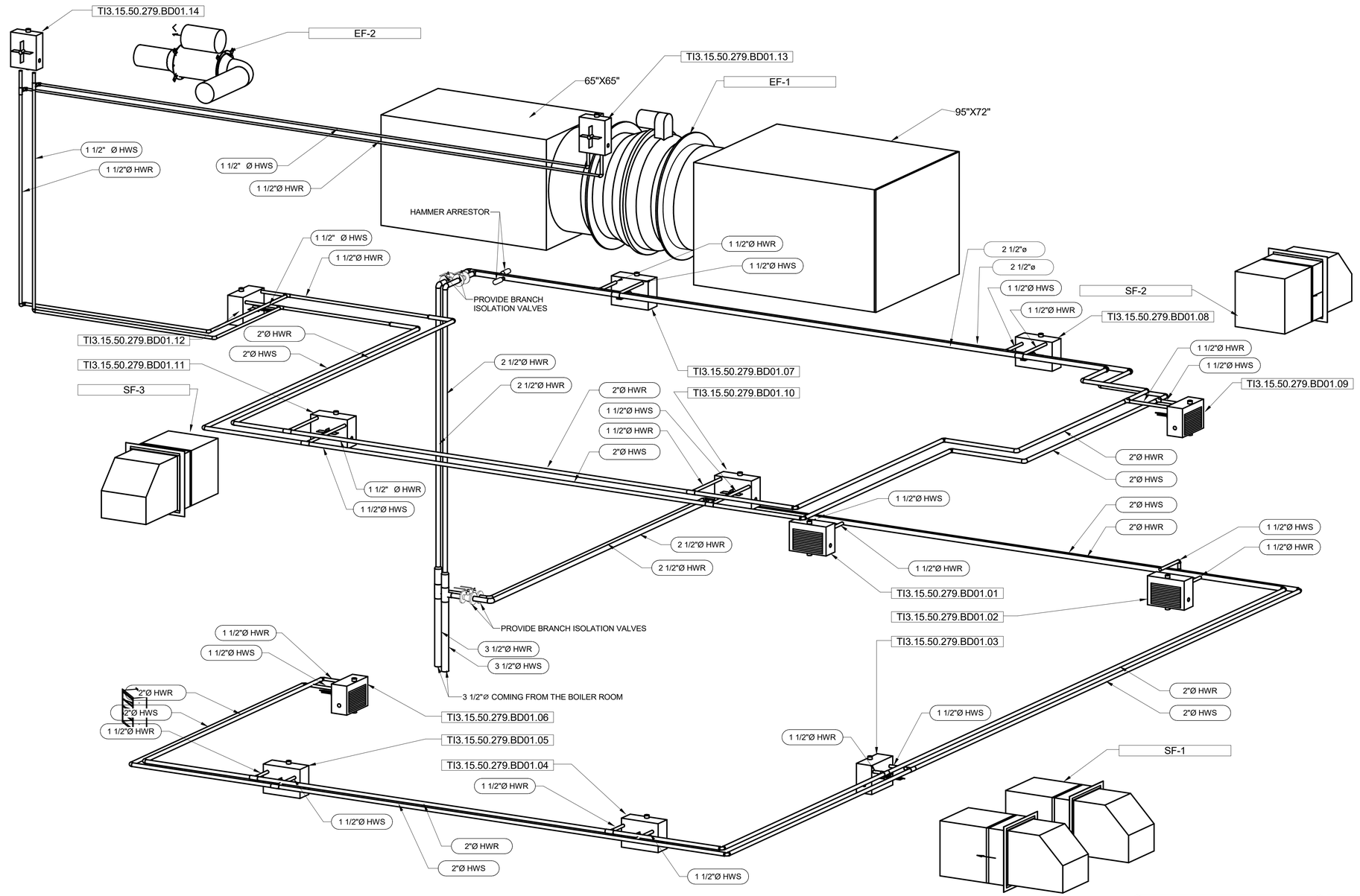
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96-05 HORACE HARDING EXPRESSWAY 2nd FLOOR
CORONA, NEW YORK 11368
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PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
HVAC
SEQUENCE OF OPERATIONS

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. H-502.00

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Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK — WILLIAM D. STEWART — 103090 — LICENSED PROFESSIONAL ENGINEER — 01/15/26

Environmental Protection

ENGINEER: Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION: I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

HVAC
3D PLAN

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. H-701.00

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VALVES

SCHEMATIC OR 2D	VALVE TYPE
	THREE WAY VALVE
	GATE VALVE
	PLUG VALVE
	BALL VALVE (THREADED)
	BALL VALVE (FLANGED)
	BUTTERFLY VALVE (AWWA W/ HANDWHEEL ACTUATOR)
	GLOBE VALVE (FLANGED)
	PUMP DISCHARGE VALVE
	SLUICE GATE

SCHEMATIC OR 2D	VALVE TYPE
	KNIFE GATE VALVE
	FLAP GATE
	CIRCUIT SETTER
	THERMOSTATICALLY CONTROLLED VALVE
	PRESSURE AND VACUUM RELIEF VALVE
	PRESSURE RELIEF VALVE
S	SOLENOID VALVE
M	MOTOR OPERATED VALVE
	MUD VALVE
	WALL HYDRANT
	TELESCOPING VALVE
	OPERATOR

MECHANICAL PIPES AND FITTINGS

2D SINGLE LINE	2D DOUBLE LINE	
		FLANGED JOINT
		PLAIN OR GROOVED END MECHANICAL COUPLING
		PUSH ON OR BALL AND SOCKET JOINT
		MECHANICAL JOINT
		WELDED JOINT
		GROOVED END ADAPTER FLANGE x FLANGE
		UNION
		SLEEVE TYPE MECHANICAL COUPLING
		RESTRAINED SLEEVE TYPE MECHANICAL COUPLING
		FLANGED COUPLING ADAPTER
		RESTRAINED FLANGED COUPLING ADAPTER
		RESTRAINED ELASTOMER AND FABRIC EXPANSION JOINT
		RESTRAINED EXPANSION JOINT (SEE SPECS FOR TYPE)
		FLEXIBLE METAL HOSE

2D SINGLE LINE	2D DOUBLE LINE	
		ELBOW UP
		ELBOW DOWN
		TEE (PLAN)
		TEE UP
		TEE DOWN
		LATERAL (PLAN)
		LATERAL UP
		LATERAL DOWN
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		EQUIPMENT CONNECTION FITTING
		BLIND FLANGE OR CAP
		ELBOW (PLAN)

EQUIPMENT

	MULTI-RAKE SCREEN
	MECHANICAL CLASSIFIER
	CONVEYOR
	HYDROCYCLONE
	WASHER COMPACTOR

MISCELLANEOUS DEVICES

A	UTILITY STATION (LETTER, IF ANY, DESIGNATES TYPE)
	HOSE RACK
	FLOOR DRAIN
XCO	CLEANOUT; X=DESIGNATION IF ANY
XKIP	RECOMMENDED MAIN ANCHOR POINT WITH ALLOWABLE FORCE ON STRUCTURE
	PIPE ANCHOR
W	SEAL WATER CONTROL UNIT
	QUICK COUPLING

XX	INSTRUMENT
DE	DENSITY ELEMENT
FE	FLOW ELEMENT
LE	LEVEL ELEMENT
PE	PRESSURE ELEMENT
PI	PRESSURE INDICATOR (GAUGE)
TE	TEMPERATURE ELEMENT
TI	TEMPERATURE INDICATOR

CALIBRATION TUBE

PULSATION DAMPENER

IN LINE PRESSURE SENSOR

PIPING SYSTEM

D	DRAIN
NPW	NON-POTABLE WATER
PW	POTABLE WATER
RS	RAW WASTE WATER/SEWAGE
SS	STORM SEWER
V	VENT
W	WATER (CITY WATER)
DCS	DEGRITTED COMBINED SLUDGE
DGS	DEGRITTED SLUDGE
MS	MIXED SLUDGE
EFF	EFFLUENT
DPS	DEGRITTED PRIMARY SLUDGE
PS	PRIMARY SLUDGE
RW	RAW WATER
SC	SCREENINGS
SCS	SCREENED COMBINED SEWAGE

DEMOLITION SYMBOLS

ITEMS SHADED SHALL BE DEMOLISHED FROM THE SITE UNLESS OTHERWISE NOTED OR DIRECTED BY THE ENGINEER

BID SET
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DRAWN BY: A. DIANAT
CHECKED BY: J. ARMSTRONG
DESIGN LEAD: J. CONWAY
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK · JOHN ALBERT CONWAY · 107281 · LICENSED PROFESSIONAL ENGINEER

Environmental Protection

ENGINEER: Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION: I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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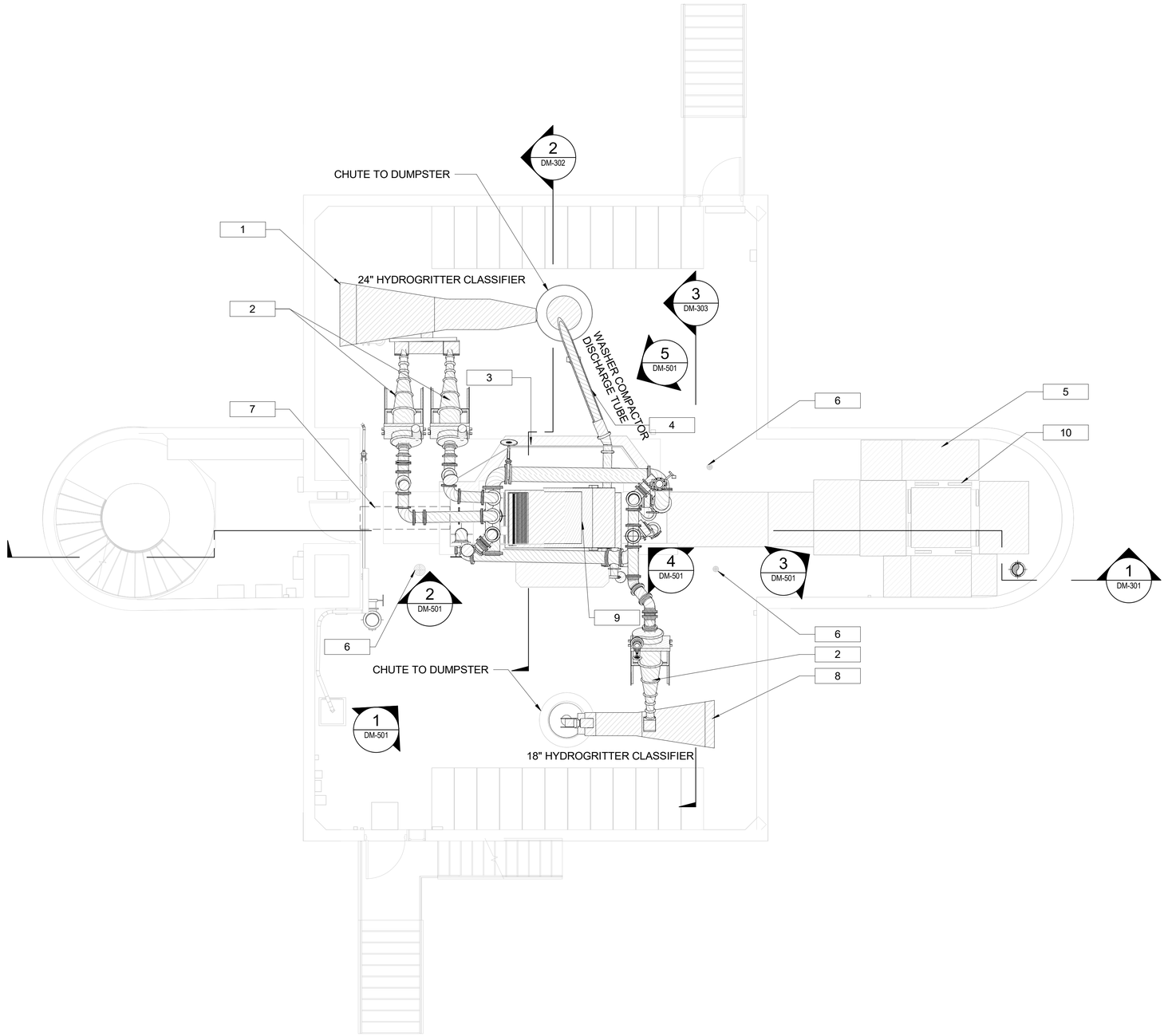
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PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
PROCESS MECHANICAL
NOTES, ABBREVIATIONS AND SYMBOLS

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. M-001.00

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UPPER LEVEL PLAN - EL 31.00

SCALE: 3/16" = 1'-0"

GENERAL NOTES:

1. CONTRACTOR SHALL COMPLETE THE WORK IN A MANNER THAT IT KEEPS THE EXISTING FACILITY IN CONTINUOUS OPERATION. REFER SECTION 01 73 12 - MAINTENANCE OF OPERATION AND CONSTRUCTION STAGING.
2. CONTRACTOR TO PRESSURE WASH OPERATING FLOOR BEFORE PATCH REPAIRING THE CONCRETE FLOOR.

KEYNOTE LEGEND

KEYNOTE NUMBER	KEYNOTES
1	DEMOLISH EXISTING 24" - HYDROGRITTER CLASSIFIER
2	DEMOLISH EXISTING HYDROCYCLONE
3	DEMOLISH EXISTING STEEL PLATE FROM THE MAIN AND BYPASS SCREENING CHANNEL
4	DEMOLISH EXISTING SCREENING WASHER COMPACTOR AND DISCHARGE TUBE
5	DEMOLISH THE STEEL FLOOR PLATE AND INSTALL SS GRATING OVER THE FLOW CHANNEL. SEE STRUCTURAL DRAWING FOR MORE DETAIL
6	FLOOR DRAIN
7	EXISTING 24" MIXED FLOW PIPE
8	DEMOLISH EXISTING 18" - HYDROGRITTER CLASSIFIER
9	DEMOLISH EXISTING CLIMBER SCREEN
10	REPLACE EXISTING MANUAL BAR RAKES AT THE DISTRIBUTION BOX (TYPICAL OF 8)

3/16"=1'-0" 0 5 10 FT.

BID SET
DATE ISSUED: OCTOBER 2026

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SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK · JOHN ALBERT CONWAY · 107281 · LICENSED PROFESSIONAL ENGINEER

Environmental Protection

ENGINEER
Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION
I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN
A. LOPEZ

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PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
PROCESS MECHANICAL
UPPER LEVEL EXISTING CONDITION AND DEMOLITION PLAN

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. DM-101.00

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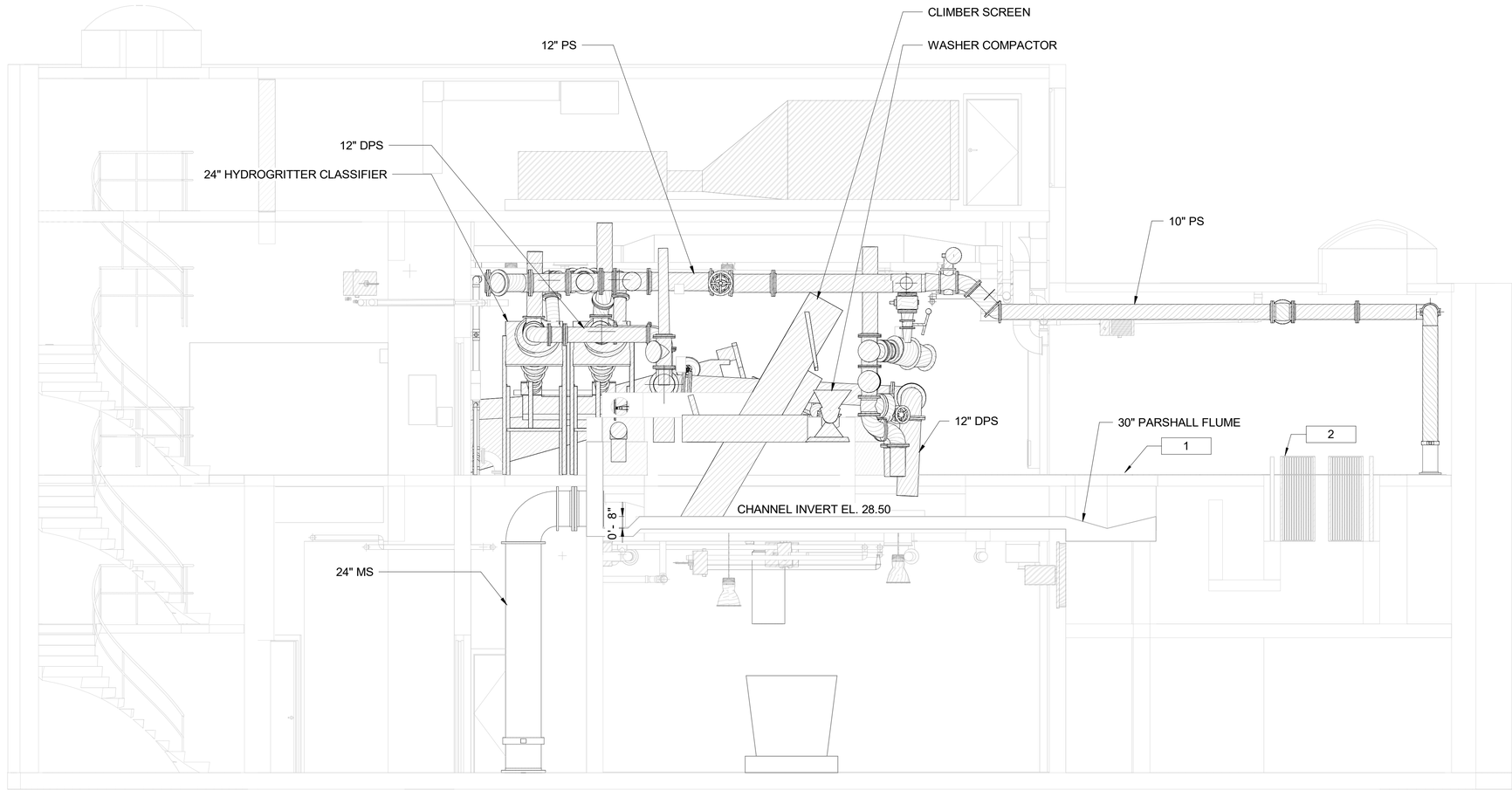
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GENERAL NOTES:

1. CONTRACTOR SHALL DEMOLISH ALL THE EXISTING PIPE, VALVES, EQUIPMENT WITHOUT DAMAGING THE BUILDING.
2. ALL THE DEMOLISHED PIPE, VALVES AND EQUIPMENT SHALL BE STORED OR DELIVERED TO THE DESIGNATED AREA ASSIGNED BY THE OWNER.
3. CONTRACTOR SHALL COMPLETE THE WORK IN A MANNER THAT IT KEEPS THE EXISTING FACILITY IN CONTINUOUS OPERATION. REFER SECTION 01 73 12 - MAINTENANCE OF OPERATION AND CONSTRUCTION STAGING.

KEYNOTE LEGEND

KEYNOTE NUMBER	KEYNOTES
1	DEMOLISH THE STEEL PLATES AND REPLACE WITH STEEL 316 SS GRATING. (REFER TO STRUCTURAL DRAWINGS FOR DETAILS)
2	REPLACE EXISTING MANUAL BAR RAKES AT THE DISTRIBUTION BOX (TYPICAL OF 8)



1 / DM-101 SECTION

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

1/4"=1'-0" 0 4 8 FT.

NYC Environmental Protection DWT

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CHECKED BY: J. ARMSTRONG
DESIGN LEAD: J. CONWAY
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK · JOHN ALBERT CONWAY · 107281 · LICENSED PROFESSIONAL ENGINEER

Environmental Protection

ENGINEER: Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION: I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

PROCESS MECHANICAL
DEMOLITION SECTION - 1

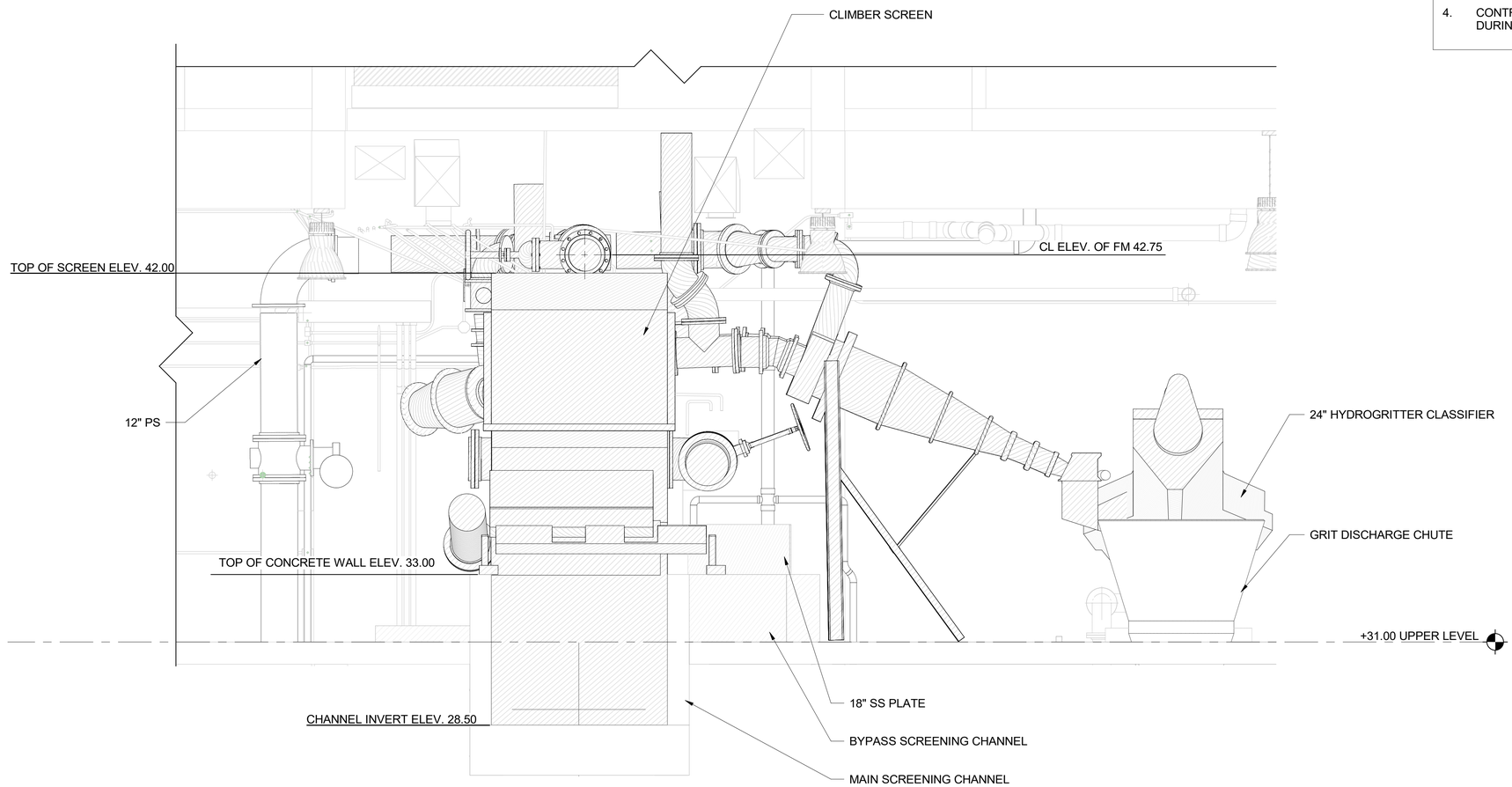
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GENERAL NOTES:

1. CONTRACTOR TO VERIFY DIMENSIONS, ELEVATIONS SHOWN ON THE DRAWINGS BEFORE STARTING ANY WORK AT THE PROJECT SITE.
2. CONTRACTOR SHALL COMPLETE THE WORK IN A MANNER THAT IT KEEPS THE EXISTING FACILITY IN CONTINUOUS OPERATION. REFER SECTION 01 73 12 - MAINTENANCE OF OPERATION AND CONSTRUCTION STAGING.
3. CONTRACTOR SHALL PROVIDE PLANT OPERATORS CONTINOUS, UNIMPEDED ACCESS TO THE FACILITY WHILE IN OPERATION. THE CONTRACTOR SHALL ALLOW FOR DEP ACCESS, BOTH PEDESTRIAN AND VEHICULAR, THROUGHOUT THE FACILITY AT ALL TIMES.
4. CONTRACTOR SHALL PROTECT EXISTING FACILITIES DURING DEMOLITION AND CONSTRUCTION.



2 DM-101 SECTION

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

1/2"=1'-0" 0 1 2 4 FT.

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DESIGN LEAD: J. CONWAY
SECTION MANAGER: J. GRUMAN
DRAWN BY: A. DIANAT

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK · JOHN ALBERT CONWAY · LICENSED PROFESSIONAL ENGINEER · 107281

Environmental Protection

ENGINEER: Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION: I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

PROCESS MECHANICAL
DEMOLITION SECTION - 2

DATE: OCTOBER 2026
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DRAWING NO. DM-302.00

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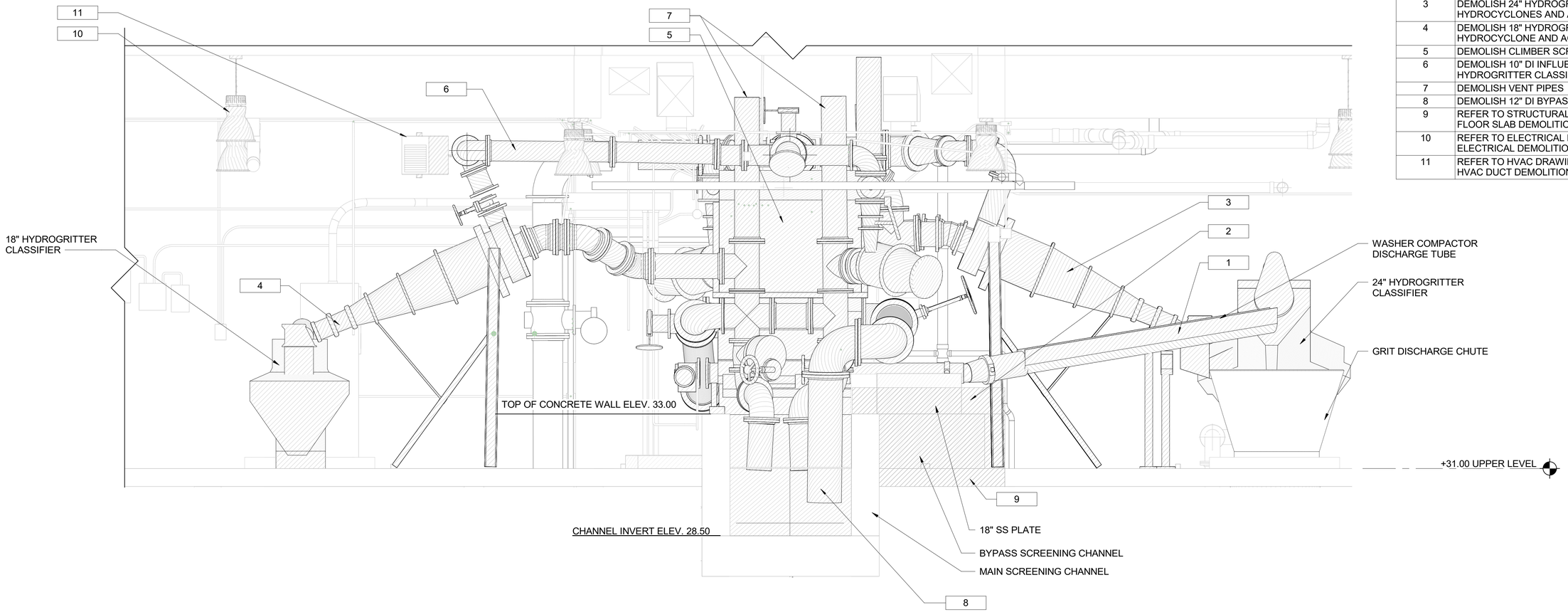
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GENERAL NOTES:

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2. CONTRACTOR SHALL PROVIDE PLANT OPERATORS CONTINOUS, UNIMPEDED ACCESS TO THE FACILITY WHILE IN OPERATION. THE CONTRACTOR SHALL ALLOW FOR DEP ACCESS, BOTH PEDESTRIAN AND VEHICULAR, THROUGHOUT THE FACILITY AT ALL TIMES.
3. CONTRACTOR SHALL PROTECT EXISTING FACILITIES DURING DEMOLITION AND CONSTRUCTION.

KEYNOTE LEGEND

KEYNOTE NUMBER	KEYNOTES
1	DEMOLISH WASHER COMPACTOR AND DISCHARGE TUBE
2	DEMOLISH STAINLESS STEEL PLATE WHICH IS MOUNTED ON THE MAIN AND BYPASS SCREENING CHANNEL WALLS
3	DEMOLISH 24" HYDROGRITTER CLASSIFIER W/TWO HYDROCYCLONES AND ACCESSORIES
4	DEMOLISH 18" HYDROGRITTER CLASSIFIER W/ONE HYDROCYCLONE AND ACCESSORIES
5	DEMOLISH CLIMBER SCREEN AND ACCESSORIES
6	DEMOLISH 10" DI INFLUENT PIPE TO 18" HYDROGRITTER CLASSIFIER
7	DEMOLISH VENT PIPES
8	DEMOLISH 12" DI BYPASS PIPE
9	REFER TO STRUCTURAL DRAWINGS FOR THE FLOOR SLAB DEMOLITION
10	REFER TO ELECTRICAL DRAWINGS FOR ELECTRICAL DEMOLITION AND RELATED WORK
11	REFER TO HVAC DRAWING FOR UNIT HEATER AND HVAC DUCT DEMOLITION



3 / DM-101 SECTION

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

1/2"=1'-0" 0 1 2 4 FT.

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STATE OF NEW YORK · JOHN ALBERT CONWAY · LICENSED PROFESSIONAL ENGINEER · 107281

Environmental Protection

ENGINEER: Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION: I. ANDERSON
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PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

PROCESS MECHANICAL
DEMOLITION SECTION - 3

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. DM-303.00

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1 DM-101 PHOTO
SCALE: N.T.S.



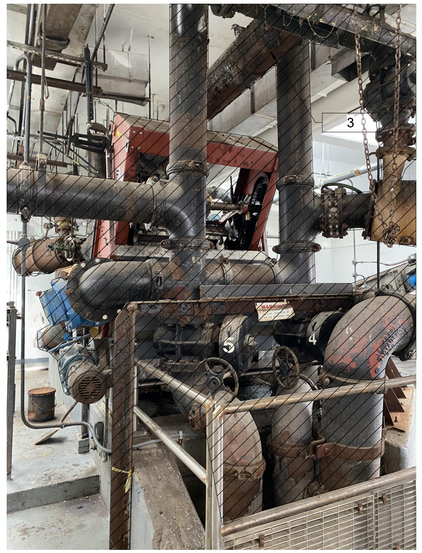
3 DM-101 PHOTO
SCALE: N.T.S.



5 DM-101 PHOTO
SCALE: N.T.S.



2 DM-101 PHOTO
SCALE: N.T.S.



4 DM-101 PHOTO
SCALE: N.T.S.

GENERAL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR DEMOLITION AND DISPOSAL OF ALL THE EQUIPMENT, PIPES, FITTINGS, VALVES, STEEL PLATES AS SHOWN AND MENTIONED IN THE BID DOCUMENTS.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE FLOW THROUGH THIS FACILITY ALL THE TIME.
3. AT THE OWNER'S DISCRETION, DEMOLISHD EQUIPMENT, PIPING, FITTINGS, ELECTRICAL EQUIPMENT, AND HVAC COMPONENTS SHALL BE SALVAGED AND DELIVERED TO THE OWNER'S DESIGNATED STORAGE AREA AT THE TALLMAN ISLAND WRRF. MATERIALS NOT DESIGNATED FOR SALVAGE SHALL BE DEMOLISHD FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH SPECIFICATION 01 74 20.
4. CONTRACTOR IS RESPONSIBLE FOR MAKING SURE THAT WHILE DEMOLISHING PIPES AND EQUIPMENT THE SURROUNDING AREA, BUILDING ELEMENTS DO NOT GET DAMAGED.
5. CONTRACTOR SHALL PROVIDE AT LEAST 48-HRS OF NOTICE TO THE ENGINEER AND THE OWNER BEFORE STARTING DEMOLITION WORK.

KEYNOTE LEGEND

KEYNOTE NUMBER	KEYNOTES
1	DEMOLISH EXISTING CLIMBER SCREEN AND ALL ASSOCIATED APPURTENANCES, i.e. LOCAL CONTROL PANEL, ELECTRICAL CONDUITS
2	DEMOLISH EXISTING 18" HYDROGRITTER CLASSIFIER, INLET AND OUTLET PIPE CONNECTION AND VALVES, DEMOLISH ELECTRICAL CONDUITS
3	DEMOLISH EXISTING OVERHEAD DUCTILE IRON FORCEMAIN (10" AND 12" DIA.) AS SHOWN ON THE CONSTRUCTION DRAWINGS. ALSO DEMOLISH ALL HANGERS, PIPE FITTINGS, AND VALVES ASSOCIATED WITH THE FORCEMAIN.
4	DEMOLISH ALL THE STEEL PLATES PLACED OVER THE CHANNEL AND REFORM CONCRETE PATCHING AND REPAIR AS NECESSARY. BEFORE INSTALLING STAINLESS STEEL GRATING OVER CHANNEL.
5	DEMOLISH ALL THE EXISTING MANUAL BAR RAKES IN THE DISTRIBUTION BOX. REPAIR CONCRETE IF NECESSARY AND INSTALL NEW MANUAL BAR RAKES IN THE DISTRIBUTION BOX.
6	DEMOLISH EXISTING 24" HYDROGRITTER CLASSIFIER, INLET AND OUTLET PIPE CONNECTIONS, VALVES, ELECTRICAL CONDUITS AND ALL APPURTENANCES.
7	DEMOLISH WASHER COMPACTOR AND DISCHARGE TUBE AND RELATED PIPE SUPPORTS, ELECTRICAL CONDUITS AND CONTROL PANELS.
8	DEMOLISH 12" DIP BYPASS PIPE SUPPORTS, FITTINGS, VALVES AND APPURTENANCES.
9	DEMOLISH THE STEEL PLATE MOUNTED ON THE TOP OF THE BYPASS CHANNEL AND MAIN SCREENING CHANNEL.
10	DEMOLISH THE BYPASS SCREENING CHANNEL WALL, AS PER THE STRUCTURAL DRAWINGS.

NYC Environmental Protection DWT

BID SET
DATE ISSUED: OCTOBER 2026

GRAPHIC SCALES CHECK BEFORE USE

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DESIGNED BY: J. CONWAY
DRAWN BY: A. DIANAT
CHECKED BY: J. ARMSTRONG
DESIGN LEAD: J. CONWAY
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK · JOHN ALBERT CONWAY · LICENSED PROFESSIONAL ENGINEER · 107281

NYC Environmental Protection

ENGINEER
Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION
I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN
A. LOPEZ

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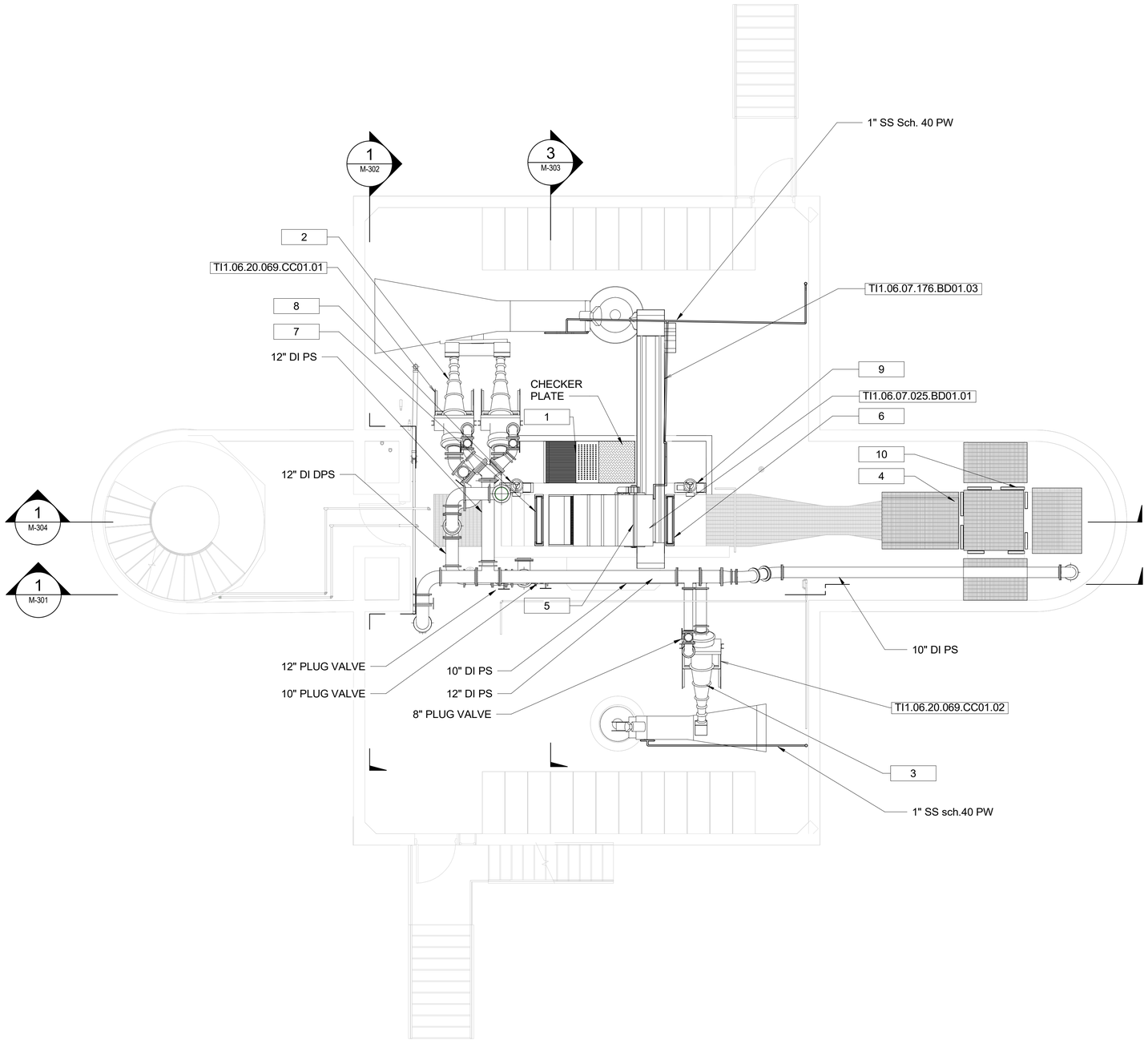
PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

PROCESS MECHANICAL
DEMOLITION DETAILS - 1

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. DM-501.00

All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Wastewater Treatment.

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KEYNOTE LEGEND	
KEYNOTE NUMBER	KEYNOTES
1	MANUAL BAR RAKE AND DRAIN PAD (SEE DETAILS ON SHEET M-502)
2	24" HYDRO-GRITTER CLASSIFIER
3	18" HYDRO-GRITTER CLASSIFIER
4	316 SS GRATING OVER CHANNEL AND DISTRIBUTION BOX
5	MULTI-RAKE BAR SCREEN
6	STOP LOG (DOWN STREAM) (SEE DETAIL ON SHEET NO. M-503)
7	STOP LOG (UP STREAM) (SEE DETAIL ON SHEET NO. M-503)
8	UPSTREAM SLIDE GATE (SEE DETAIL ON SHEET NO. M-503)
9	DOWNSTREAM SLIDE GATE (SEE DETAIL ON SHEET NO. M-503)
10	SS 316 MANUAL BAR RACK IN DISTRIBUTION BOX (TYP. 8)

UPPER LEVEL PLAN - EL 31.00

SCALE: 3/16" = 1'-0"

3/16"=1'-0" 0 5 10 FT.

BID SET
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Environmental Protection

ENGINEER: Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION: I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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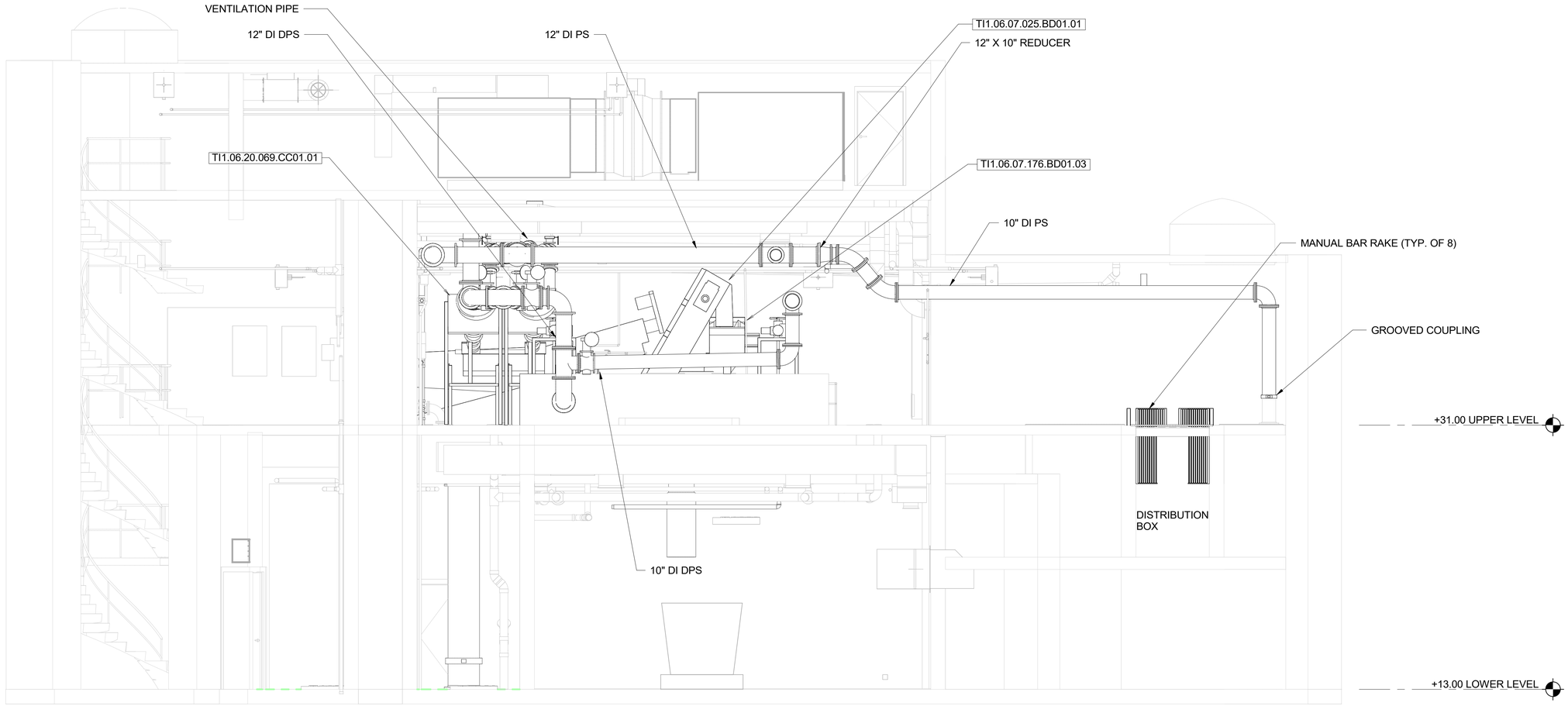
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PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
PROCESS MECHANICAL
UPPER LEVEL FLOOR PLAN

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. M-101.00

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1 M-101 SECTION

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

1/4"=1'-0" 0 4 8 FT.

BID SET

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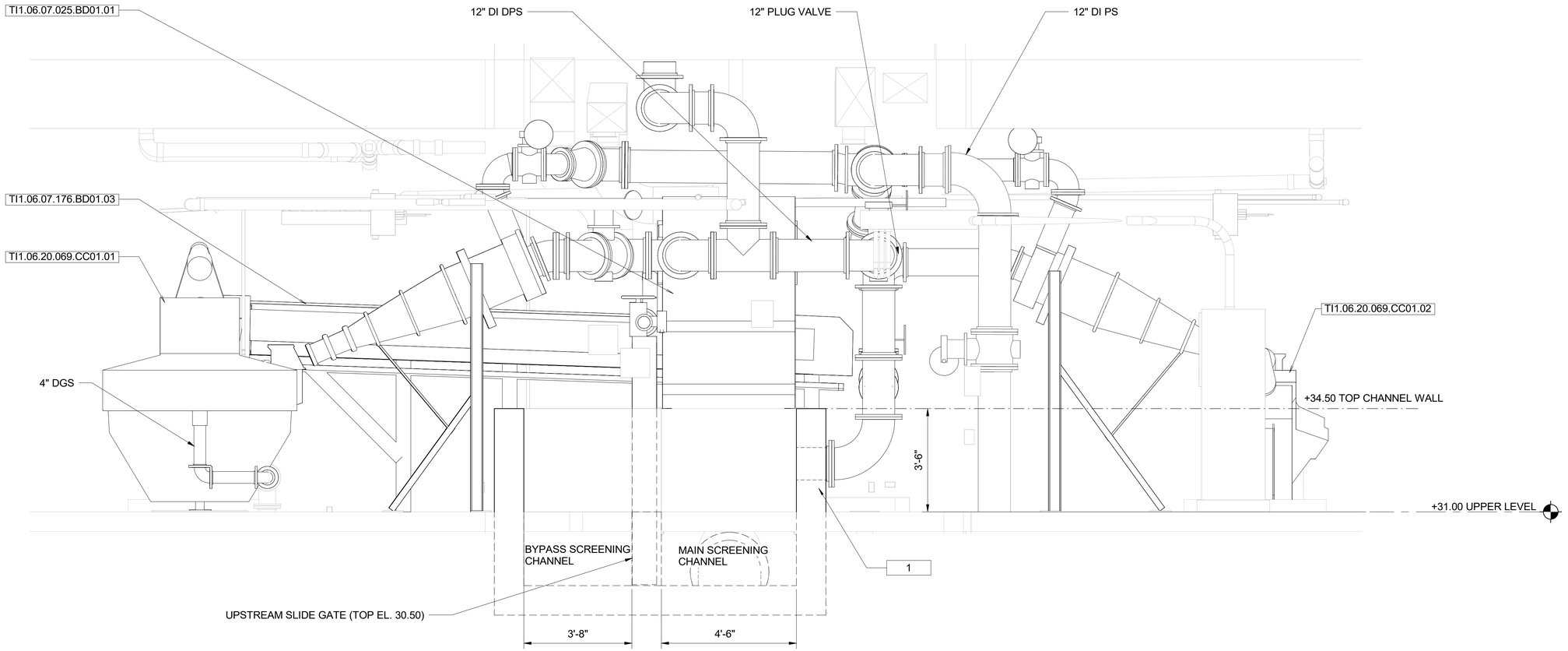
PROCESS MECHANICAL
SECTION - 1

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. M-301.00

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KEYNOTE LEGEND	
KEYNOTE NUMBER	KEYNOTES
1	12" WALL SLEEVE (SEE DETAIL ON SHEET M-501.00)



1 / M-101 SECTION

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

1/2"=1'-0" 0 1 2 4 FT.

BID SET

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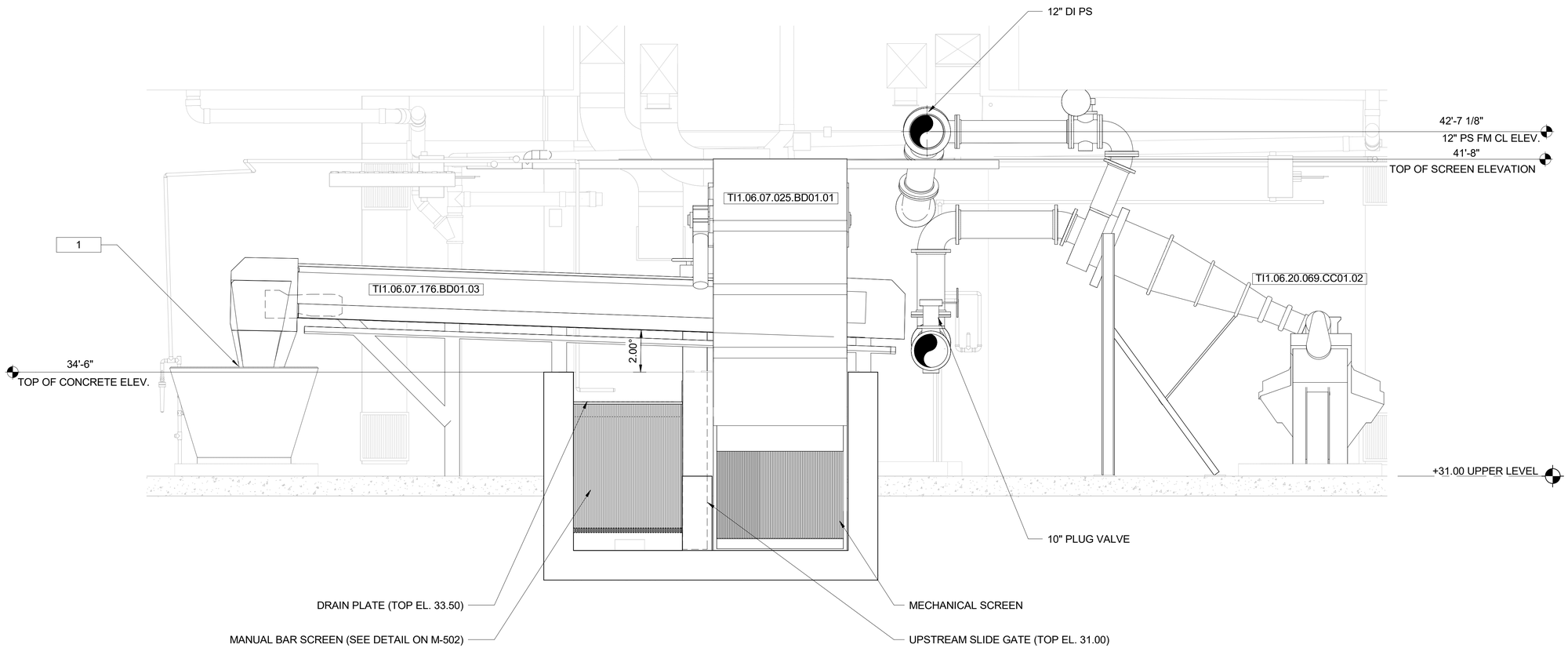
PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
PROCESS MECHANICAL
SECTION - 2

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. M-302.00

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KEYNOTE LEGEND	
KEYNOTE NUMBER	KEYNOTES
1	CONTRACTOR TO CUT THE SECTION OF THE EXISTING GRIT CHUTE TO INSTALL BELT CONVEYOR'S DISCHARGE CHUTE



3 / M-101 SECTION

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

1/2"=1'-0" 0 1 2 4 FT.

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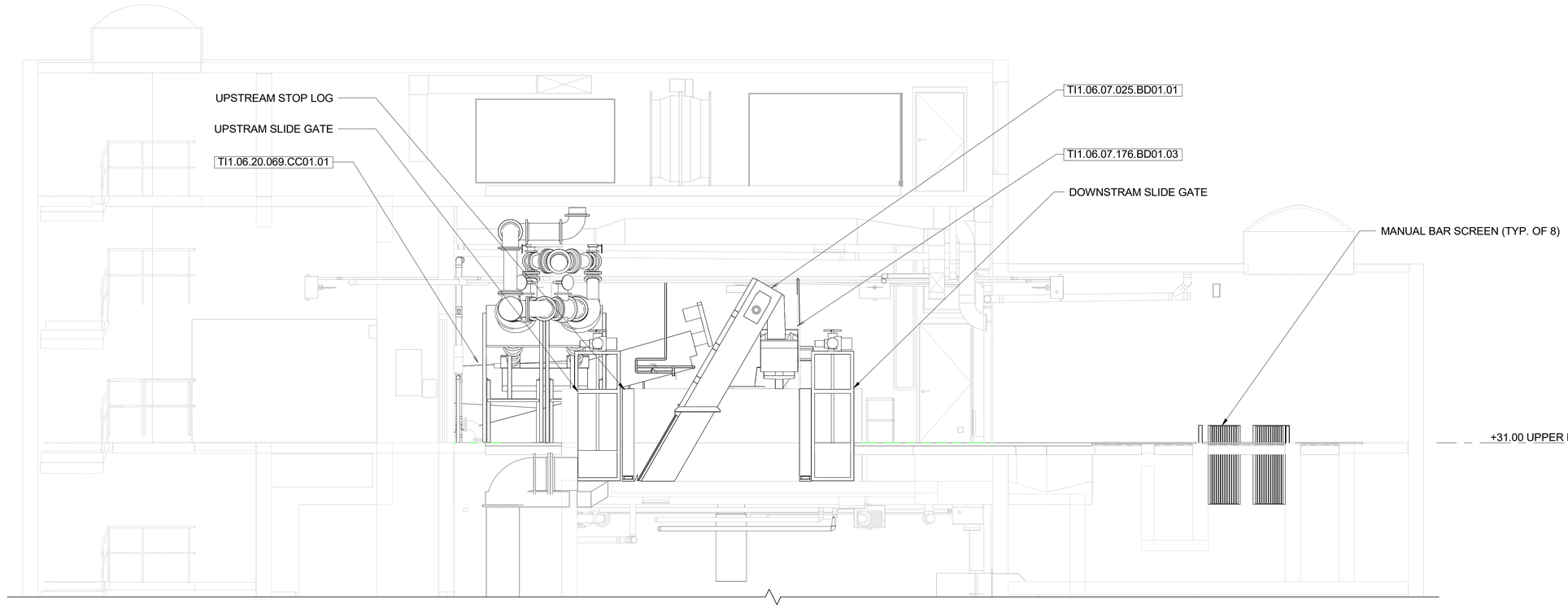
PROCESS MECHANICAL
SECTION - 3

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1 / M-101 SECTION

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

1/4"=1'-0" 0 4 8 FT.

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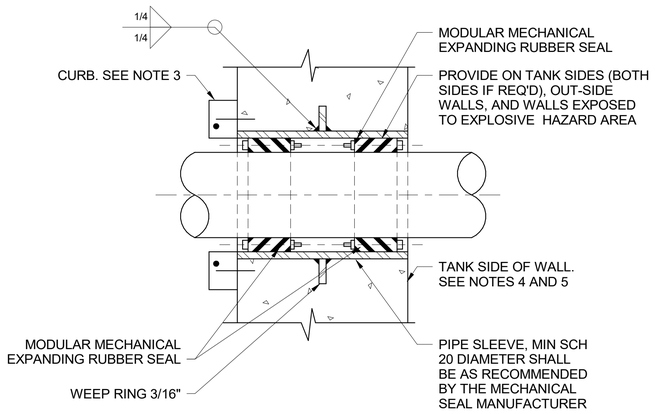
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MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

PROCESS MECHANICAL
SECTION - 4

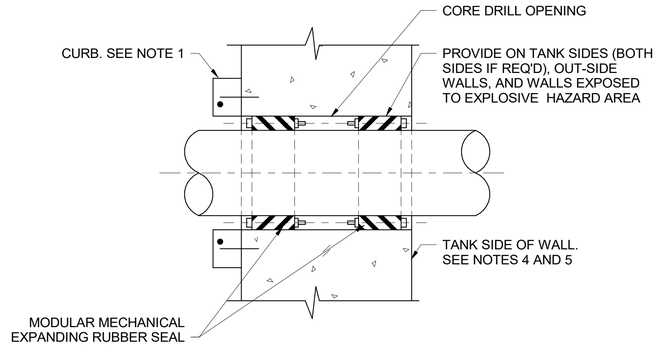
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FOR NEW WALLS



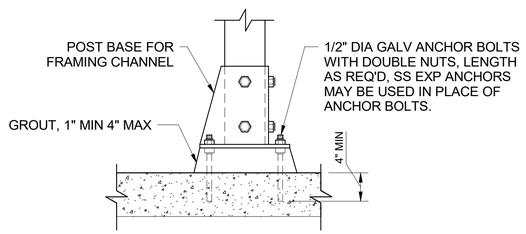
FOR EXISTING WALLS, FLOORS AND CEILINGS

NOTES:

1. AT BURIED TANK WALL LOCATIONS MODULAR MECHANICAL SEAL SHALL BE INSTALLED FROM INSIDE FACE.
2. PROVIDE SS HARDWARE ON MODULARE MECHANICAL EXPANDING RUBBER SEALS AT SUBMERGED LOCATIONS AND CORROSIVE ATMOSPHERE LOCATIONS.
3. PROVIDE CURB WHERE PENETRATING FLOOR
4. "TANK SIDE OF WALL" SHALL MEAN SIDE OF WALL NORMALLY EXPOSED TO LIQUID, EARTH OR OUTSIDE ATMOSPHERE
5. SEAL WITH MASTIC SEALANT WHERE WALL IS EXPOSED TO LIQUID, EARTH OR HAZARDOUS (CLASSIFIED) AREA
6. ALL PENETRATIONS BETWEEN CLASSIFIED AND NON-CLASSIFIED AREAS SHALL HAVE AIR TIGHT SEALS.

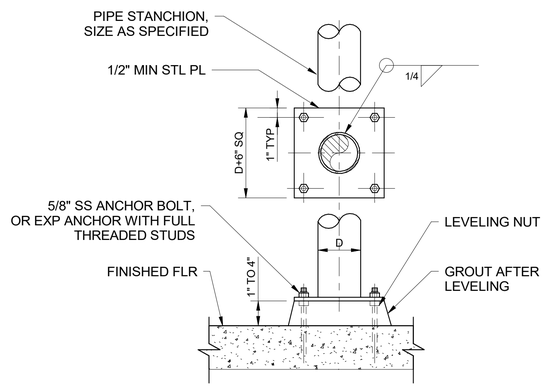
1 TYPE D PIPE PENETRATION

SCALE: N.T.S.



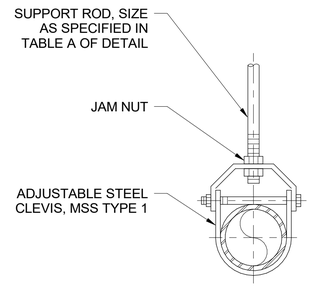
4 TYPE E FRAMING CHANNEL POST BASE

SCALE: N.T.S.



5 TYPE N PIPE STANCHION FLOOR ATTACHMENT

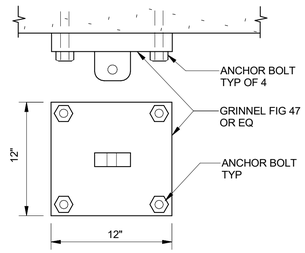
SCALE: N.T.S.



1/2" THROUGH 12" PIPE

2 TYPE D PIPE PENETRATION

SCALE: N.T.S.



MAX ALLOWABLE LOAD:

PLATE THICKNESS	ROD SIZE	BOLT SIZE	LOAD
3/4"	1"	3/4"	4960 LBS
1"	1-1/4"	7/8" 1"	8000 LBS
1"	1-1/2"		11630 LBS

ATTACH ROD TO STEEL PLATE WITH FORGED STEEL CLEVIS. GRINNEL FIG 299 OR EQUAL

3 TYPE P STRUCTURAL ATTACHMENT

SCALE: N.T.S.

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PROCESS MECHANICAL DETAILS

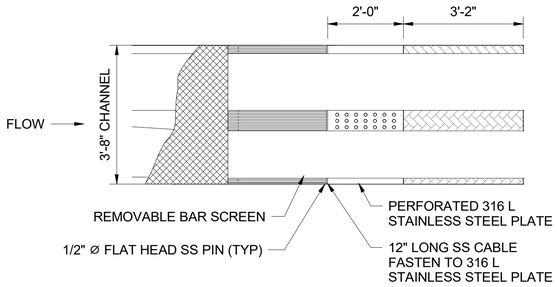
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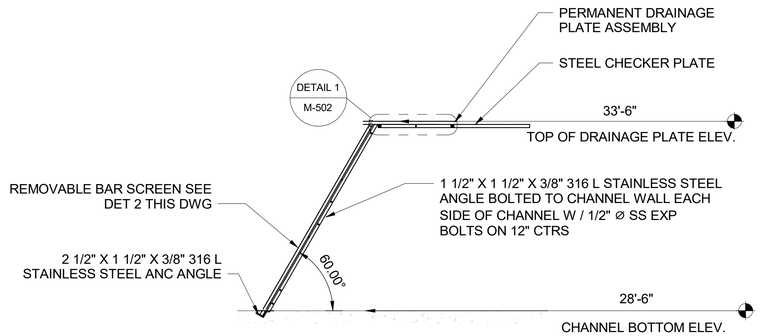
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GENERAL NOTES:

1. THE BAR RACK AND ALL EMBEDED ITEMS SHALL BE 316 L STAINLESS STEEL
2. ALL DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED IN THE FIELD BY ACTUAL MEASUREMENTS
3. BAR SPACING = 1.25 INCH
4. BAR THICKNESS = 1 INCH
5. BAR DEPTH = 2 INCH
6. BAR MATERIAL = 316 SS
7. PROVIDE 8 FT LONG HAND RAKE WITH 316 SS TINES AND ONE PIECE STRAIGHT-GRAINED HANDLE. COORDINATE HAND RAKE WITH BAR RACK

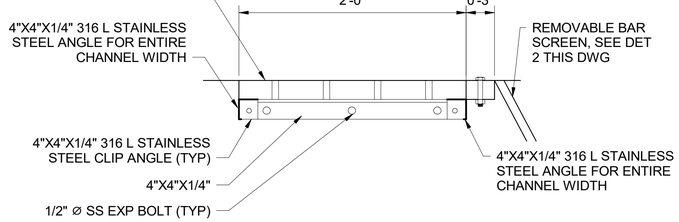


PLAN
SCALE: N.T.S.

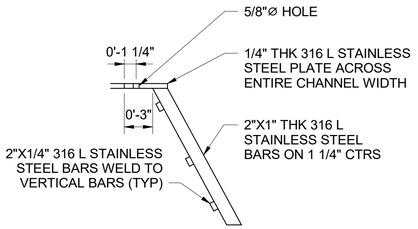


ELEVATION
SCALE: N.T.S.

REMOVABLE MANUAL BAR SCREEN DETAIL



DETAIL 1
SCALE: N.T.S.



DETAIL 2
SCALE: N.T.S.

1/2"=1'-0" 0 1 2 4 FT.

BID SET
DATE ISSUED: OCTOBER 2026

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DESIGNED BY: J. CONWAY
DRAWN BY: A. DIANAT
CHECKED BY: J. ARMSTRONG
DESIGN LEAD: J. CONWAY
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

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DIVISION CHIEF, ENGINEERING DESIGN
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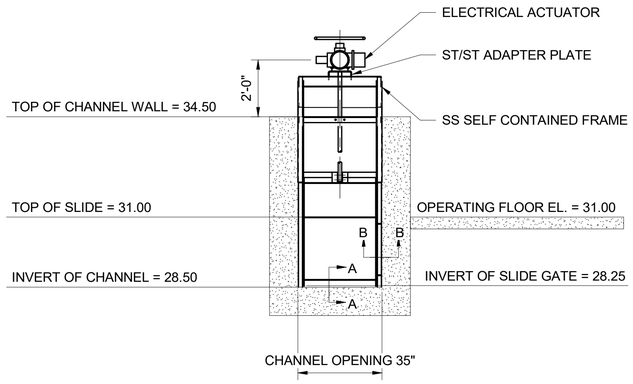
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PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
PROCESS MECHANICAL DETAILS

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. M-502.00

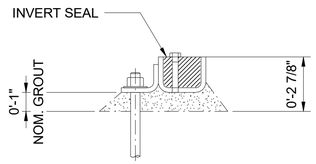
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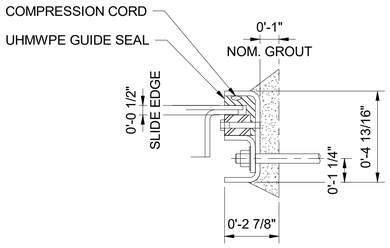
DETAIL FOR UPSTREAM SLIDE GATE

SCALE: N.T.S.



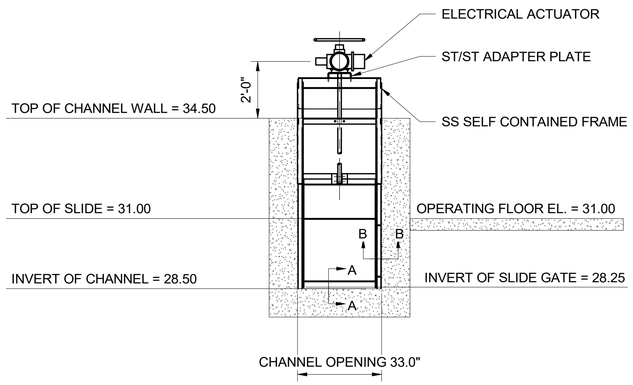
SECTION A-A

SCALE: N.T.S.



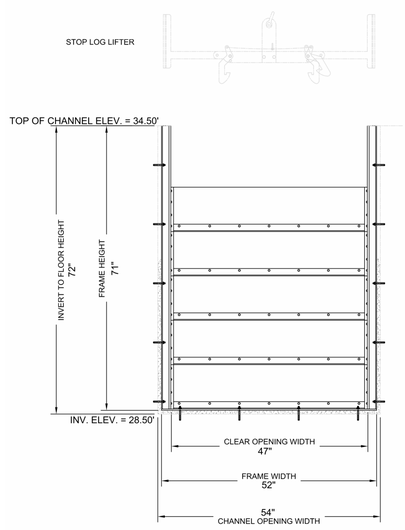
SECTION B-B

SCALE: N.T.S.



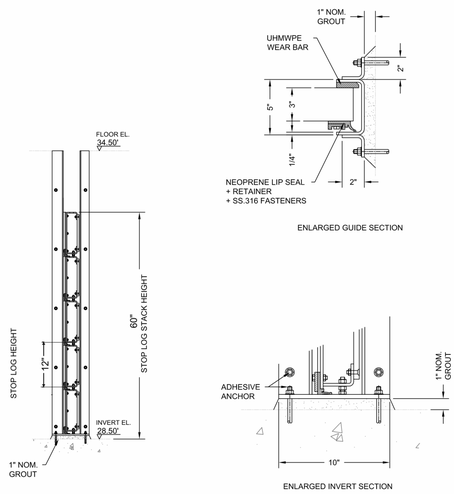
DETAIL FOR DOWNSTREAM SLIDE GATE

SCALE: N.T.S.



DETAIL FOR STOP LOG

SCALE: N.T.S.



DETAIL FOR STOP LOG

SCALE: N.T.S.

NOTE:
1. STOP LOG LIFTER, DAVIT CRANE AND STORAGE RACK WILL BE SUPPLIED WITH STOP LOGS.

NYC Environmental Protection DWT

BID SET

DATE ISSUED: AUGUST 2026

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BROWN AND CALDWELL ASSOCIATES
NEW YORK, NEW YORK

JOHN ALBERT CONWAY — STATE OF NEW YORK — LICENSED PROFESSIONAL ENGINEER — 107281

Environmental Protection

ENGINEER: Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION: I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

PROCESS MECHANICAL
DETAILS
SLIDE GATES AND STOP LOGS

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. M-503.00

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RISER AND SINGLE LINE DIAGRAM

SWITCH

FUSE

INDICATING PILOT LIGHT (PUSH-TO-TEST TYPE)
LETTER INDICATES LENS COLOR
W-WHITE G-GREEN A-AMBER
R-RED B-BLUE C-CLEAR

SOLENOID
VALVE

CONTACT - NORMALLY OPEN

CONTACT - NORMALLY CLOSED

CONDUCTOR CROSSOVER

TERMINATION / CONNECTION

REMOTE
CONTACT

GROUND

MOTOR (# DENOTES HORSEPOWER)

MOMENTARY CONTACT PUSH BUTTON
NORMALLY OPEN

MOMENTARY CONTACT PUSH BUTTON
NORMALLY CLOSED

MOTOR STARTER CONTACTOR COIL DESIGNATION: M-COIL

(X00)
(00X)
SWITCH -THREE POSITION
MAINTAINED CONTACT
SELECTOR HAND-OFF-AUTOMATIC

SWITCH
CIRCUIT INTERRUPTER
OPEN

OVERLOAD HEATER
THREE PHASE
CONDITION

CONTINUOUS RATING
AC COMBINATION FULL VOLTAGE NON-REVERSING
STARTER WITH MAGNETIC
BREAKER, ELECTRONIC OVERLOAD,
MONITORING AND
COMMUNICATION

MOTOR CIRCUIT PROTECTOR -TRIP RANGE
SETTING BASED ON ACTUAL MOTOR FULL
LOAD AMPS.

CONTROL POWER
TRANSFORMER
NEMA SIZE 1 MINIMUM/OTHER SIZES NOTED
BY 2, 3, ETC.

SWITCH - FLOW
NORMALLY OPEN

CONTACT - TIME DELAY
AFTER COIL ENERGIZED
NORMALLY OPEN

SWITCH - HIGH TORQUE

ETM
ELAPSED TIME METER

DELTA/WYE TRANSFORMER CONNECTION W/ GROUND

EQUIPMENT LEGEND

NEW

EXISTING

EXISTING TO BE DEMOLISHED

RACEWAYS, WIRINGS & EQUIPMENT

CONDUIT RUN

CONDUIT TURNING UP

CONDUIT TURNING DOWN

MANUAL STARTER FOR FRACTIONAL HORSEPOWER
MOTOR (SWITCH WITH THERMAL OVERLOAD)

30
UNFUSED DISCONNECT SWITCH NUMBER DENOTES
SWITCH AMPERE RATING, WP DENOTES
WEATHERPROOF ENCLOSURE

100/60
FUSED DISCONNECT SWITCH NUMBERS DENOTE
SWITCH & FUSE AMPERE RATING.

MOTOR
NUMERAL - DENOTES HORSE POWER RATING

PULLBOX - SIZED AS REQUIRED

MCC
MOTOR CONTROL
CENTER

JUNCTION BOX

ABBREVIATIONS

A	AMPERE	MCP	MOTOR CIRCUIT PROTECTOR
AFF	ABOVE FINISHED FLOOR	MD	MOTORIZED DAMPER
AUTO	AUTOMATIC	MECH	MECHANICAL
AWG	AMERICAN WIRE GAUGE	MIN	MINIMUM
BLDG	BUILDING	MTD	MOUNTED
CAB	CABINET	MTG	MOUNTING
CAT	CATALOG	NIC	NOT IN CONTRACT
CDT	CONDUIT	NTS	NOT TO SCALE
CB	CIRCUIT BREAKER	P	POLE
CKT	CIRCUIT	P&ID	PIPING & INSTRUMENTATION DIAGRAM
CL	CENTER LINE		
CLG	CEILING	PB	PULL BOX
CLOS	CLOSET	0	PHASE
CNTL	CONTROL	PNL	PANEL
COMM	COMMUNICATION	PWR	POWER
CONT	CONTINUATION	RECEPT	RECEPTACLE
CT	CURRENT TRANSFORMER	REQ	REQUIRED
CU	COPPER	RM	ROOM
DISC	DISCONNECT	SECT	SECTION
DWG	DRAWING	SPEC	SPECIFICATION
EA	EACH	SV	SOLENOID VALVE
EC	ELECTRICAL CONTRACTOR	TYP	TYPICAL
EL	ELEVATION	UH	UNIT HEATER
ELEC	ELECTRICAL	UNF	UNFUSED
EMER	EMERGENCY	UON	UNLESS OTHERWISE NOTED
EQUIP	EQUIPMENT	V	VOLT OR VOLTAGE
EXIST	EXISTING	VA	VOLT AMPERE
FBO	FURNISHED BY OTHER	W	WATT
FL	FLOOR	WP	WEATHERPROOF
FLEX	FLEXIBLE	HV	HIGH VOLTAGE
FT	FEET OR FOOT	HZ	HERTZ
G	GROUND	JB	JUNCTION BOX
GFI	GROUND FAULT INTERRUPTER	KCM	THOUSAND CIRCULAR MILS
HP	HORSE POWER	KV	KILOVOLT
MAX	MAXIMUM	KVA	KILOVOLT AMPERE
MCB	MAIN CIRCUIT BREAKER	KW	KILOWATT

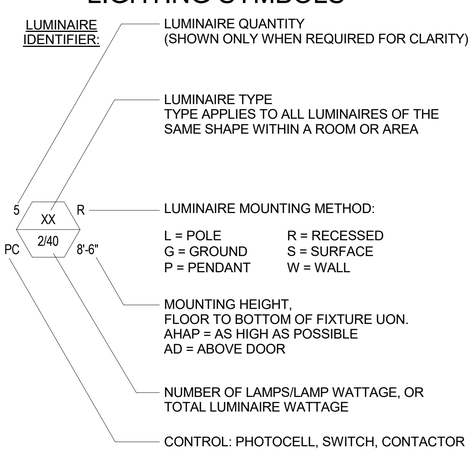
GENERAL NOTES

1. ALL WORK SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE 2011 NEW YORK CITY ELECTRICAL CODE, BUILDING MANAGEMENTS RULES AND REGULATIONS, NFPA 72, UL, 2016 NEW YORK CITY ENERGY CONSERVATION CODE, 2022 NEW YORK CITY BUILDING CODE AND ALL OTHER GOVERNING AGENCIES HAVING JURISDICTION.
2. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. FOLLOW DRAWINGS FOR LAYING OUT WORK AND CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACE CONDITIONS. MAINTAIN HEADROOM AND SPACE CONDITIONS.
3. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THE FULL SET OF BID DOCUMENTS TO BE AWARE OF THE TOTAL SCOPE PRIOR TO SUBMITTING BID.
4. ELECTRICAL CONTRACTOR SHALL COORDINATE WORK WITH OTHER TRADES FOR EXACT LOCATION OF ALL CONTROL DEVICES. LOCATION AS SHOWN ON THE ELECTRICAL PLANS ARE APPROXIMATE. ALL FINAL CONNECTIONS TO MOTOR TERMINALS SHALL BE DONE WITH A MINIMUM 18" OF LIQUID TIGHT FLEXIBLE CONDUIT USING THE APPROPRIATE FITTINGS. PROVIDE EXTERIOR GROUND WIRE WRAPPED AROUND FLEXIBLE CONDUIT WHERE REQUIRED BY CODE.
5. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL LABOR AND MATERIALS REQUIRED TO PRODUCE COMPLETE AND WORKING SYSTEMS. HE SHALL FURNISH AND INSTALL COMPLETE WIRING FOR POWER TO EQUIPMENT, ETC.
6. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD MEASUREMENTS AND VERIFICATION OF FIELD CONDITIONS PRIOR TO PERFORMING HIS WORK. ANY CHANGES IN WORK NECESSITATED BY FAILURE OF THIS CONTRACTOR TO COMPLY WITH THIS CONDITION SHALL BE UNDERTAKEN BY THIS CONTRACTOR AT HIS OWN EXPENSE.
7. THE CONTRACTOR SHALL DO NECESSARY CUTTING, CHOPPING AND PATCHING FOR WORK UNDER THIS CONTRACT. ALL CHOPPING, ETC. SHALL BE PERFORMED AFTER HOURS AND COORDINATED WITH BUILDING MANAGEMENT.
8. LEAVE WIRES WITH SUFFICIENT SLACK TO PERMIT MAKING FINAL CONNECTIONS. RACEWAYS OVER 10 FT LONG IN WHICH WIRING IS NOT INSTALLED: FURNISH FISH WIRE.
9. SET BOXES SQUARE AND TRUE WITH BUILDING FINISH. ERECT WALL AND SWITCH OUTLETS IN ADVANCE OF FURRING AND FIREPROOFING. SECURE TO BUILDING STRUCTURE BY ADJUSTABLE STRAP IRONS.
10. COVERS OF JUNCTION AND PULLBOXES SHALL BE READILY ACCESSIBLE.
11. PROVIDE PULLBOXES WHERE INDICATED, WHERE REQUIRED BY CODE AND WHEREVER NECESSARY TO FACILITATE PULLING OF WIRE. COORDINATE PULLBOX LOCATIONS WITH OTHER TRADES.
12. AREAS OF WORK INCLUDED IN THIS CONTRACT ARE NFPA CLASSIFIED HAZARDOUS AREAS (CLASS 1, DIVISION 1 AND 2). THE CONTRACTOR SHALL NOT PERFORM WORK IN CLASSIFIED AREAS WITHOUT OBTAINING APPROPRIATE PERMITS AND OBTAINING ALL SPECIAL PERMITS THAT MAY BE REQUIRED FOR GRINDING AND WELDING. THE CONTRACTOR SHALL MAINTAIN CONTINUOUS EXPLOSIVE GAS MONITORING AND SUPPLEMENTAL VENTILATION WHILE WORKING IN CLASSIFIED AREAS. HAS MONITORING AND VENTILATION SHALL BE INCLUDED AS PART OF THE CONTRACTOR'S HEALTH AND SAFETY PLAN AS REQUIRED IN DETAILED SPECIFICATION SECTION 01 35 27.
13. EMPTY RACEWAY RUNS: PROVIDE PULLBOXES EVERY 100 FT AND AS INDICATED. COORDINATE LOCATIONS WITH OTHER TRADES.
14. WIRE COLOR CODING : AS PER CODE. WHERE COLOR-CODED CABLE IS NOT AVAILABLE, CERTIFY IN WRITING AND TEST PERMISSION FOR OVERLAP COLOR TAPING OF CONDUCTORS (MINIMUM LENGTH 6") IN ACCESSIBLE LOCATIONS. COLOR CODING, ONCE SELECTED, MUST BE USED CONSISTENTLY FOR THE ENTIRE PROJECT.
15. INSTALL NEW WORK AND CONNECT TO EXISTING WORK WITH MINIMUM INTERFERENCE TO EXISTING FACILITIES. TEMPORARY SHUTDOWNS: ONLY WITH WRITTEN CONSENT OF OWNER. MAINTAIN CONTINUOUS OPERATION OF EXISTING FACILITIES. ALARM AND EMERGENCY SYSTEMS SHALL NOT BE INTERRUPTED.
16. WHERE TEMPORARY EQUIPMENT SHUTDOWNS ARE REQUIRED, DISCONNECT SWITCHES OR CIRCUITS BREAKERS SHALL BE LOCKED OUT BY THE ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL ESTABLISH LOCKOUT AND TAGOUT PROCEDURE IN COORDINATION WITH BUILDING MANAGEMENT.
16. FIRESTOPPING SHALL BE INSTALLED WHENEVER WIRING OR RACEWAYS CROSS FIRE RATED CONSTRUCTION.
17. PROVIDE UNFUSED DISCONNECT SWITCHES FOR ALL MECHANICAL EQUIPMENT UNLESS OTHERWISE NOTED ON CONSTRUCTION DOCUMENTS OF PROCESS MECHANICAL SCHEDULES.
18. THE MINIMUM RATING OF DISCONNECT SWITCHES SHALL BE EQUAL TO OR GREATER THAN THE RATING OF THE PROTECTIVE DEVICE ON THE SUPPLY SIDE OF THE DISCONNECT SWITCH. MINIMUM DISCONNECT SWITCH SIZE IS 30 AMPERES. FOR MOTORS RATED OVER 5HP, SWITCHES SHALL BE PROVIDED PER SPECIFICATION SECTION 26 29 13 2.02.A.3.A.5 TABLE.
19. NO LOW VOLTAGE WIRING SHALL BE PERMITTED IN THE SAME RACEWAY AS POWER WIRING.
20. FURNISH AND INSTALL WIRING FOR EQUIPMENT FURNISHED BY OTHERS AS SHOWN ON ALL CONTRACT DRAWING. COORDINATE WITH OTHER TRADES FOR DETAILS OF INSTALLATION AND WIRING REQUIREMENTS.
21. PROVIDE FIRESTOPPING ON ALL NEW AND EXISTING PENETRATIONS THROUGH THE WALL AND FLOOR DUE TO DEMOLITION OR NEW CONSTRUCTION. THE FIRE RATING OF THE PENETRATION SEALING METHOD SHALL MATCH THE RATING OF THE WALL OR FLOOR. USE A UL LISTED SEALING METHOD WHICH IS ACCEPTABLE TO DEP.
22. UPON COMPLETION OF ALL ELECTRICAL WORK, THE ELECTRICAL CONTRACTOR SHALL ADJUST AND TEST ALL CIRCUITS, SWITCHES, MOTORS AND ANY OTHER ELECTRICAL ITEMS INSTALLED. ANY DEFECTIVE ITEMS SHALL BE IMMEDIATELY REPAIRED OR REPLACED WITH NEW AND THAT PORTION OF THE SYSTEM RETESTED. ALL SUCH REMEDIAL WORK SHALL BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER.
23. ALL EQWUIPMENT SHAL BE GROUNDED PER NEC AND NYCEC.

CONSTRUCTION NOTES

1. ALL DIMENSIONS ARE FROM FINISHED FACE TO FINISHED FACE UNLESS OTHERWISE NOTED.
2. ALL CONTRACTORS AND SUBS ARE TO VISIT THE SITE AND FORMULATE A WORK PLAN TO ACHIEVE HIGH QUALITY DESIGN STANDARDS PRIOR TO BIDDING JOB. ANY ADDITIONAL COSTS WILL BE CONTRACTOR'S RESPONSIBILITY TO ACHIEVE END RESULT OF WORK.
3. ELECTRICAL CONTRACTOR TO FURNISH MATERIAL DATA APPLICATION SHEETS FOR ANY AND ALL PRODUCTS OR ASSEMBLIES USED FOR FIRESTOPPING.
4. CONTRACTOR WILL DEMOLISH ALL DEBRIS & BROOM SWEEP PREMISES AT THE END OF EACH WORK DAY.

LIGHTING SYMBOLS



BID SET
DATE ISSUED: OCTOBER 2026

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DRAWN BY: L. FINKELSTEIN
CHECKED BY: T. CARMICIANO
DESIGN LEAD: J. CONWAY
SECTION MANAGER: J. GRUMAN

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NEW YORK, NEW YORK

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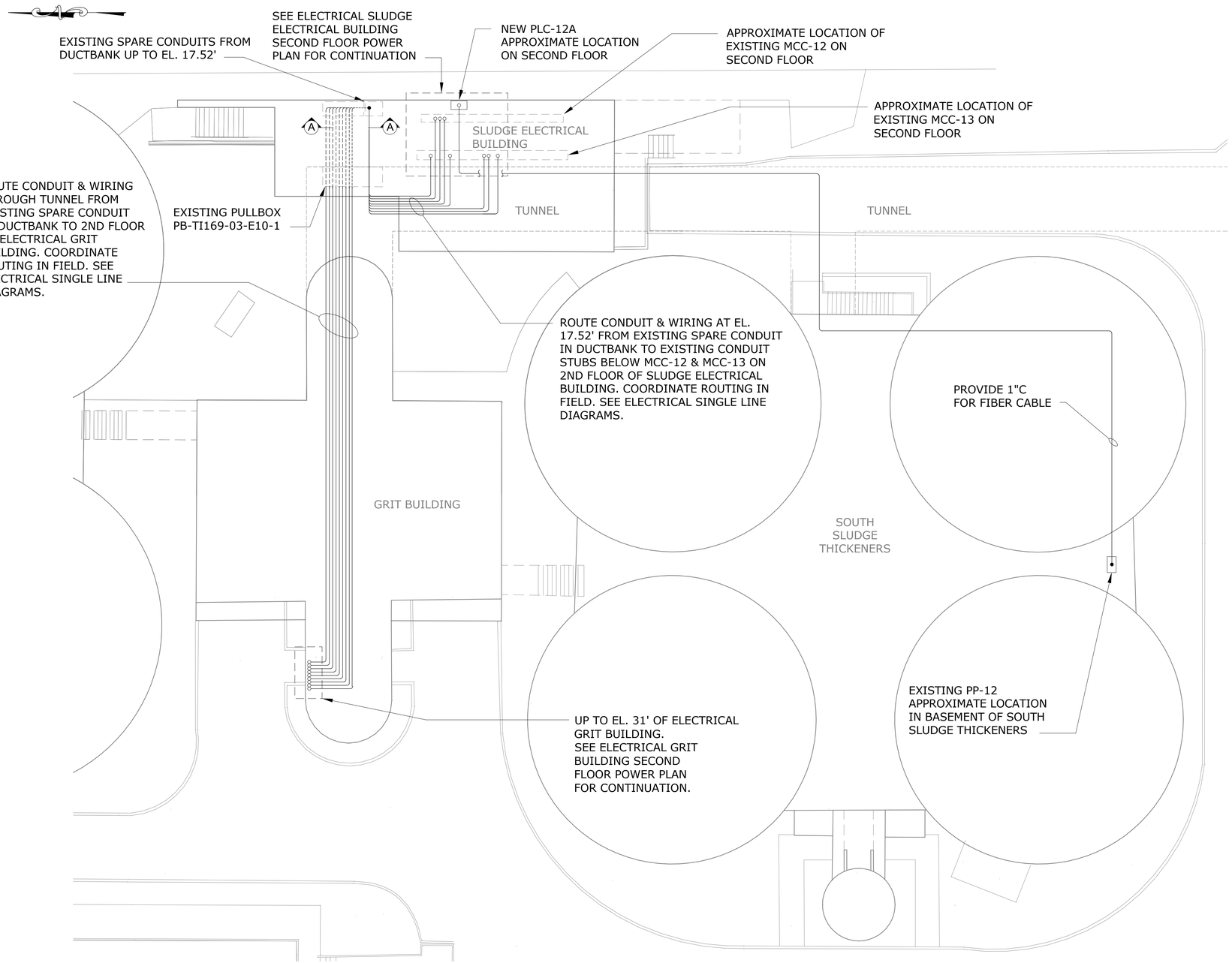
PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

ELECTRICAL
ELECTRICAL SYMBOL LIST AND NOTES

DATE: OCTOBER 2026
SHEET NO:
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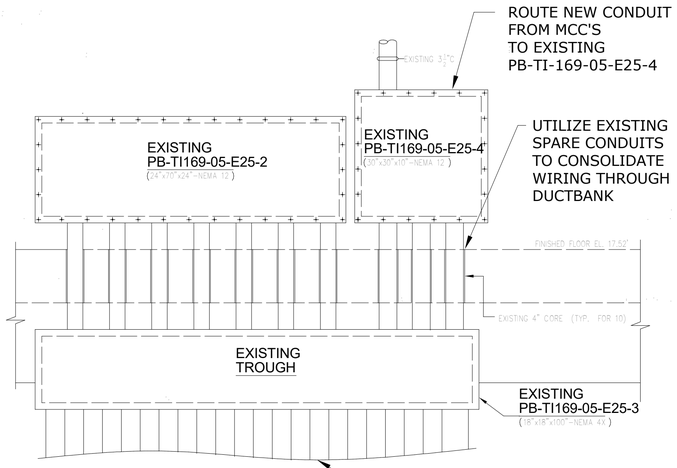
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TUNNEL PLAN - EL. 0.55

SCALE: 3/32" = 1'-0"



ELEVATION VIEW A

N.T.S.

3/16"=1'-0" 0 5 10 FT.

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DATE ISSUED: OCTOBER 2026

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NYC Environmental Protection

ENGINEER: Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION: I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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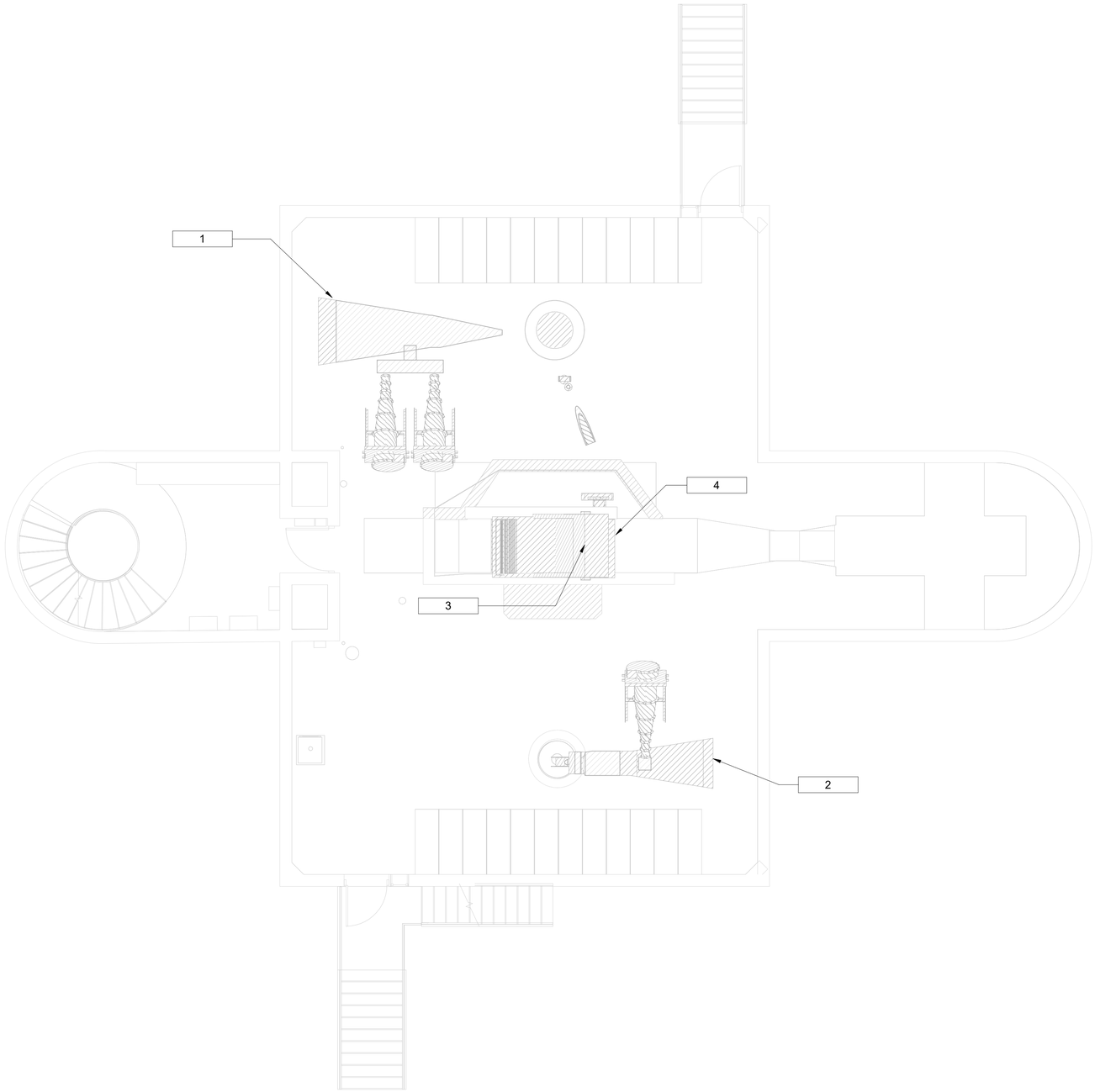
PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

ELECTRICAL SITE PLAN

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. E-002.00

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UPPER LEVEL PLAN - EL 31.00

SCALE: 3/16" = 1'-0"

GENERAL NOTES:

1. REFER TO ELECTRICAL SYMBOL LIST AND NOTES SHEET FOR GENERAL NOTES & ADDITIONAL DEMOLITION NOTES. REFER TO G-003 FOR HAZARDOUS AREA CLASSIFICATIONS SPECIFIC TO THIS PROJECT.
2. EXISTING MECHANICAL EQUIPMENT TO BE REMOVED AS INDICATED ON THIS PLAN. REMOVE ALL ELECTRICAL EQUIPMENT AND WIRING, CONDUIT BACK TO SOURCE.
3. 24" & 18" HYDROGRITTER CLASSIFIERS ARE TO BE REPLACED. DEMOLISH ALL ELECTRICAL EQUIPMENT AND WIRING BACK TO SOURCE, RETAIN CONDUIT FOR REUSE. SEE ELECTRICAL SINGLE LINE DIAGRAM & FEEDER SCHEDULE FOR ADDITIONAL INFORMATION.

KEYNOTE LEGEND

Key Value	KEYNOTES
1	DEMOLISH EXISTING 24" - HYDROGRITTER CLASSIFIER (SEE NOTE 2)
2	DEMOLISH EXISTING 18" - HYDROGRITTER CLASSIFIER (SEE NOTE 2)
3	DEMOLISH EXISTING CLIMBER SCREEN (SEE NOTE 2)
4	DEMOLISH EXISTING SCREENING WASHER COMPACTOR (SEE NOTE 2)

3/16"=1'-0" 0 5 10 FT.

NYC Environmental Protection DWT

BID SET

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A. LOPEZ

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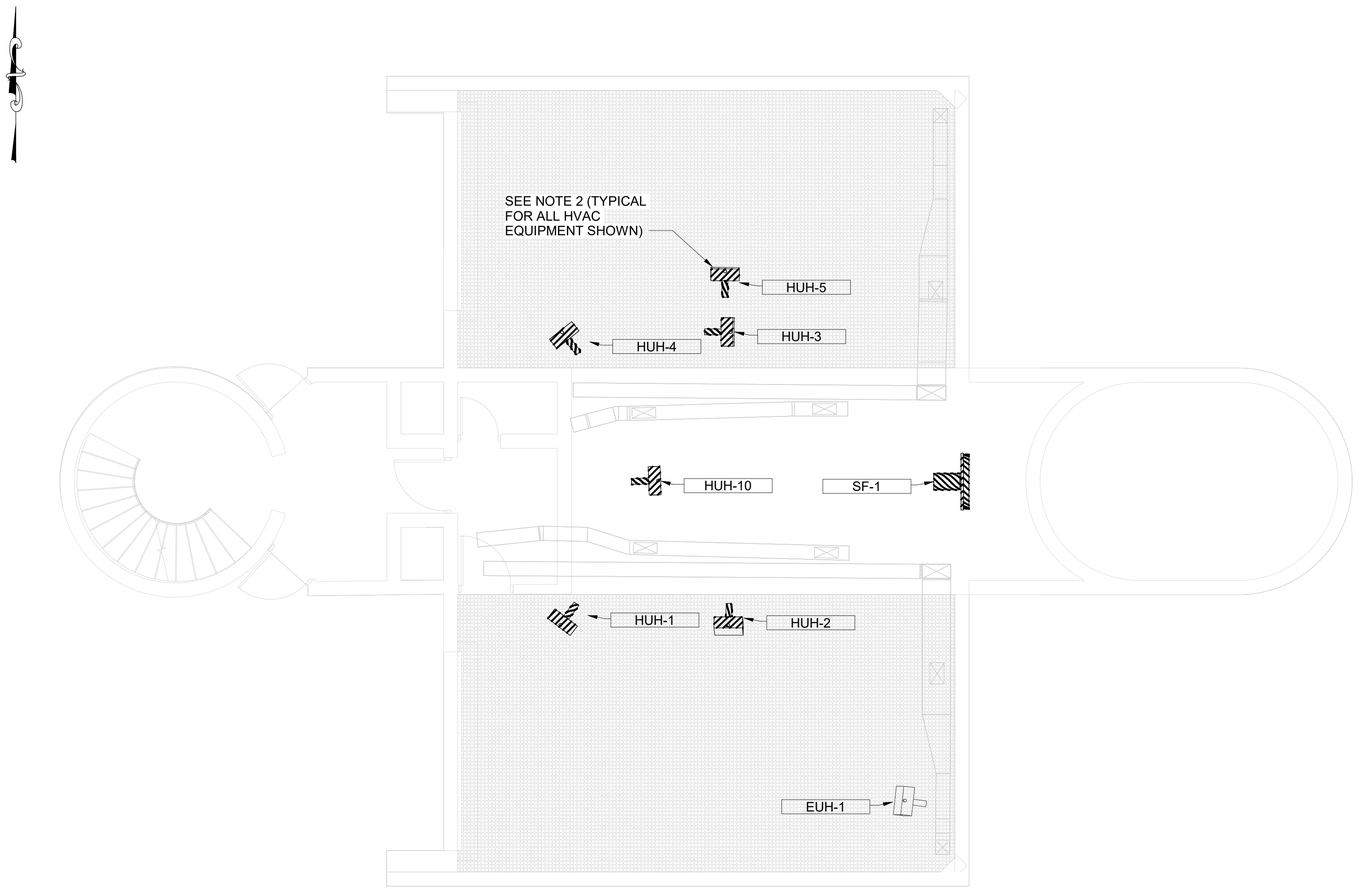
PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

ELECTRICAL
UPPER LEVEL POWER DEMOLITION PLAN

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. DE-101.00

All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Wastewater Treatment.

Autodesk Docs://106463 - PW-119 Tallman Island Screening/PW119N_BC_TI-181_E_V24.rvt
10/16/2026 12:48:33 PM



LOWER LEVEL PLAN - EL. 13.00

SCALE: 3/16" = 1'-0"

GENERAL NOTES:

1. REFER TO ELECTRICAL SYMBOL LIST AND NOTES SHEET FOR GENERAL NOTES & ADDITIONAL DEMOLITION NOTES. REFER TO G-003 FOR HAZARDOUS AREA CLASSIFICATIONS SPECIFIC TO THIS PROJECT.
2. DEMOLISH EXISTING HVAC EQUIPMENT AS INDICATED ON THIS PLAN. TRACE EXISTING CIRCUITRY TO RECONNECT REPLACEMENT HVAC EQUIPMENT BACK TO SOURCE. DISCONNECT AND DEMOLISH CABLE. RETAIN CONDUIT TO EXTEND TO NEW HVAC EQUIPMENT. SEE ELECTRICAL HVAC POWER PLANS FOR NEW HVAC EQUIPMENT LOCATIONS.

3/16"=1'-0" 0 5 10 FT.

BID SET
DATE ISSUED: OCTOBER 2026

GRAPHIC SCALES CHECK BEFORE USE

IF SHEET IS LESS THAN 22" X 34" IT IS A REDUCED PRINT. SCALE ACCORDINGLY

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.
0	11/25	90% DESIGN UPDATE - REVISION 1	

DESIGNED BY: L. FINKELSTEIN
DRAWN BY: L. FINKELSTEIN
CHECKED BY: T. CARMICIANO
DESIGN LEAD: J. CONWAY
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK · CINDY K. FENGLER · 083458 · LICENSED PROFESSIONAL ENGINEER

Environmental Protection

ENGINEER
Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION
I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN
A. LOPEZ

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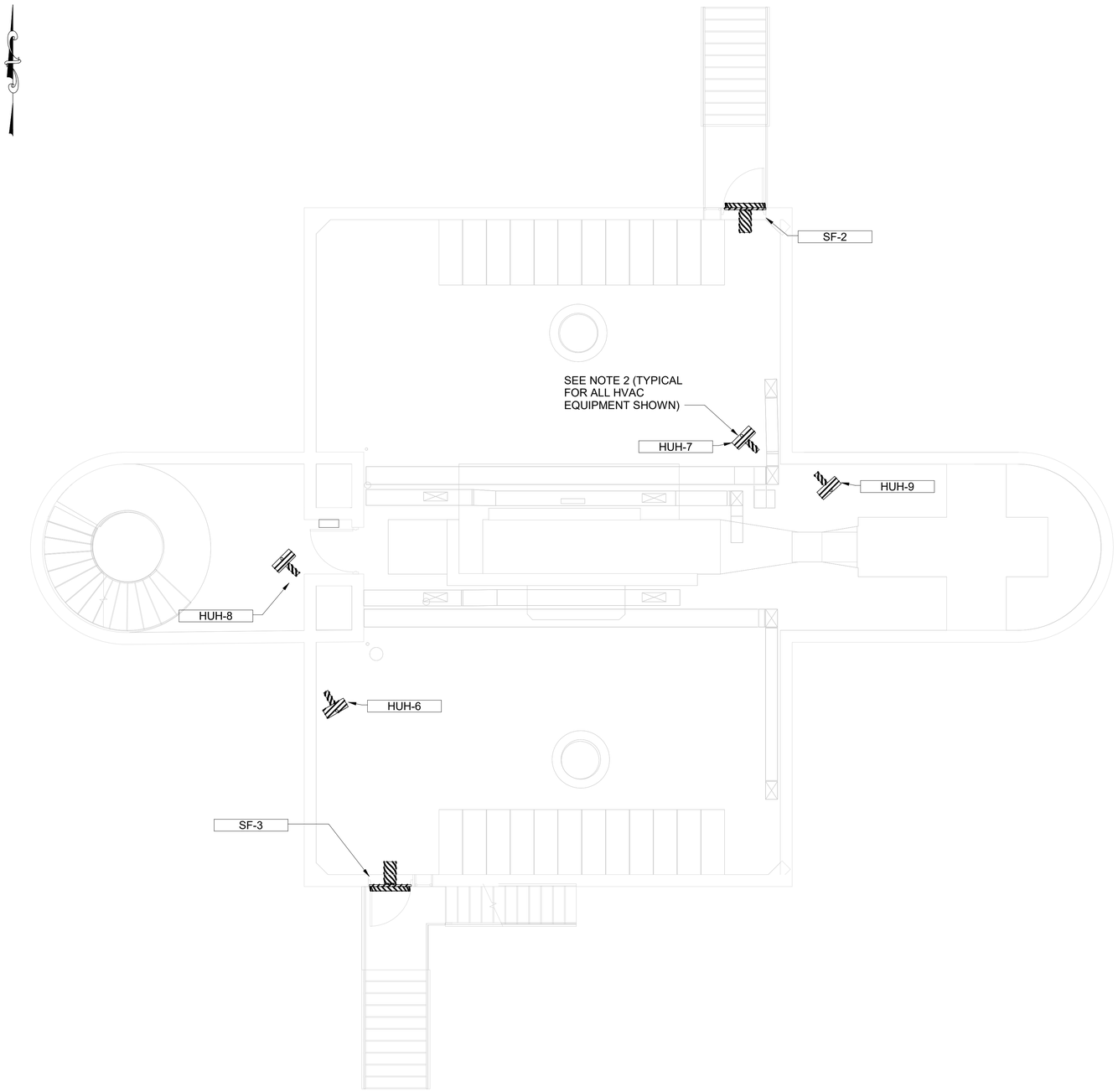
PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

ELECTRICAL
LOWER LEVEL HVAC POWER DEMOLITION PLAN

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. DE-102.00

All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Wastewater Treatment.

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GENERAL NOTES:

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2. DEMOLISH EXISTING HVAC EQUIPMENT AS INDICATED ON THIS PLAN. TRACE EXISTING CIRCUITRY TO RECONNECT REPLACEMENT HVAC EQUIPMENT BACK TO SOURCE. DISCONNECT AND DEMOLISH CABLE. RETAIN CONDUIT TO EXTEND TO NEW HVAC EQUIPMENT. SEE ELECTRICAL HVAC POWER PLANS FOR NEW HVAC EQUIPMENT LOCATIONS.

UPPER LEVEL PLAN - EL 31.00

SCALE: 3/16" = 1'-0"

3/16"=1'-0" 0 5 10 FT.

NYC Environmental Protection DWT

BID SET

DATE ISSUED: OCTOBER 2026

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0	11/25	90% DESIGN UPDATE - REVISION 1	

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DRAWN BY: L. FINKELSTEIN
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SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK CINDY R. FERRERO 089458 LICENSED PROFESSIONAL ENGINEER

Environmental Protection

ENGINEER
Y. LIN

CHIEF, MECHANICAL ENGINEER SECTION
I. ANDERSON

DIVISION CHIEF, ENGINEERING DESIGN
A. LOPEZ

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PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
ELECTRICAL
UPPER LEVEL HVAC POWER DEMOLITION PLAN

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. DE-103.00

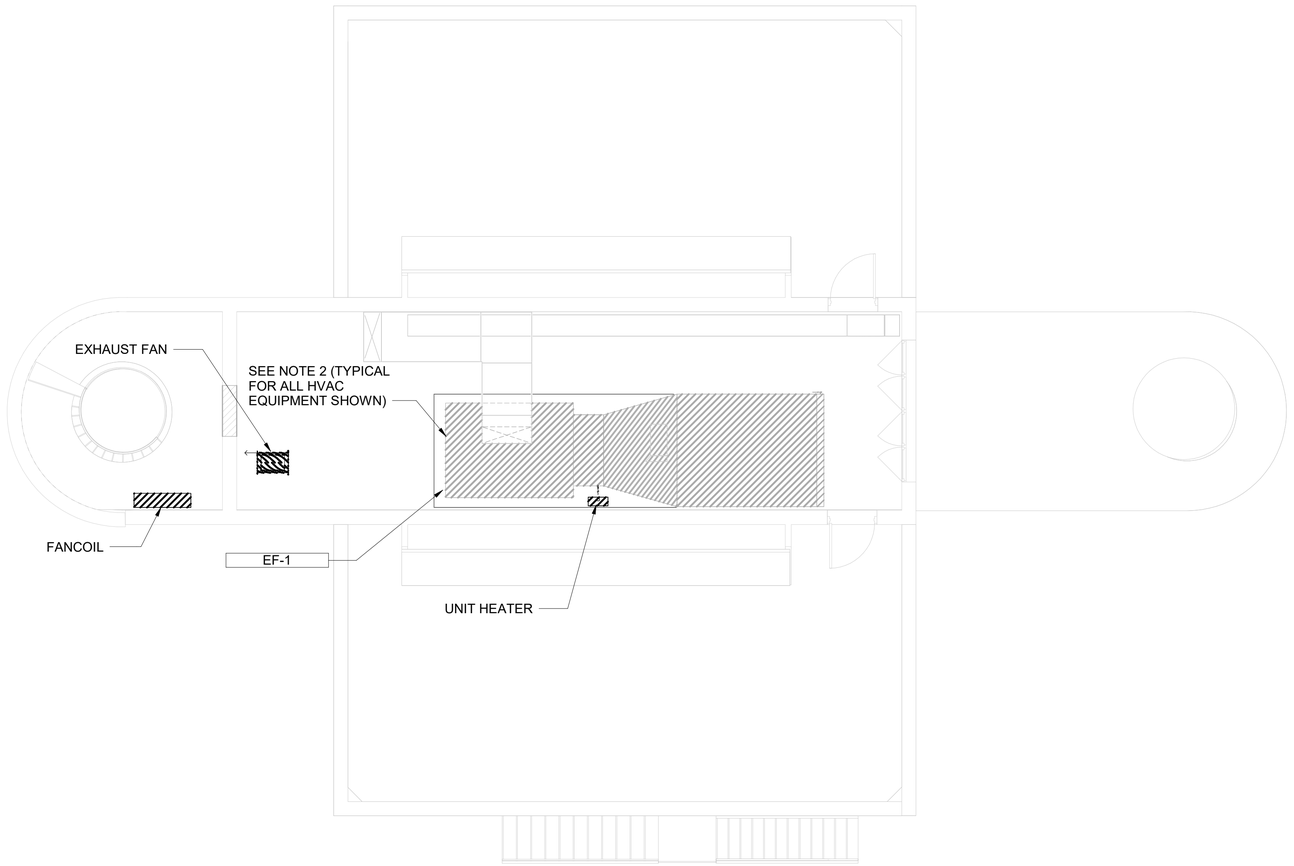
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Autodesk Docs://106463 - PW-119 Tallman Island Screening/PW119N_BC_TI-181_E_V24.rvt
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GENERAL NOTES:

1. REFER TO ELECTRICAL SYMBOL LIST AND NOTES SHEET FOR GENERAL NOTES & ADDITIONAL DEMOLITION NOTES. REFER TO G-003 FOR HAZARDOUS AREA CLASSIFICATIONS SPECIFIC TO THIS PROJECT.

2. DEMOLISH EXISTING HVAC EQUIPMENT AS INDICATED ON THIS PLAN. TRACE EXISTING CIRCUITRY TO RECONNECT REPLACEMENT HVAC EQUIPMENT BACK TO SOURCE. DISCONNECT AND DEMOLISH CABLE. RETAIN CONDUIT TO EXTEND TO NEW HVAC EQUIPMENT. SEE ELECTRICAL HVAC POWER PLANS FOR NEW HVAC EQUIPMENT LOCATIONS.



ROOF PLAN - EL. 46.33

SCALE: 3/16" = 1'-0"

3/16"=1'-0" 0 5 10 FT.

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DATE ISSUED: OCTOBER 2026

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DRAWN BY: L. FINKELSTEIN
CHECKED BY: T. CARMICIANO
DESIGN LEAD: J. CONWAY
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK CINDY R. FEINGOLD 083459 LICENSED PROFESSIONAL ENGINEER

Environmental Protection

ENGINEER
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I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN
A. LOPEZ

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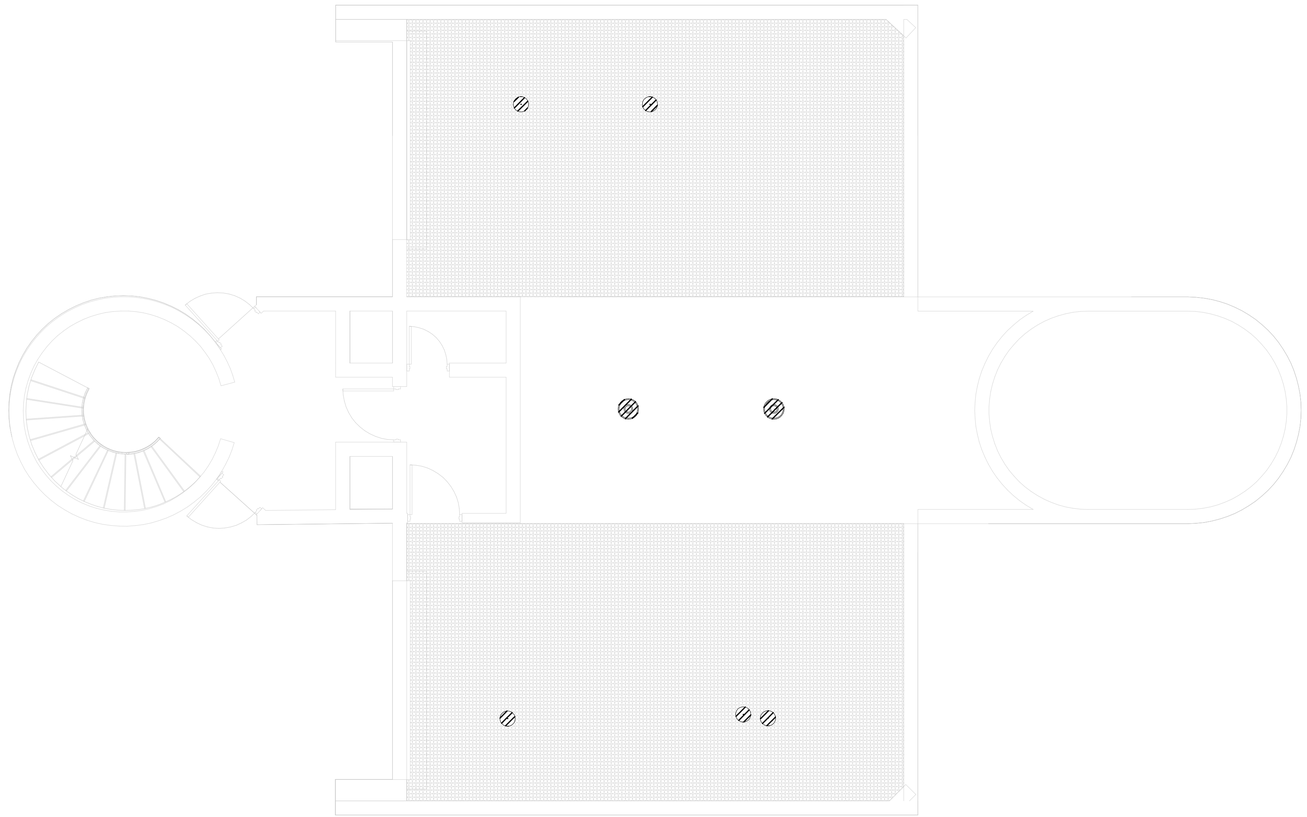
PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

ELECTRICAL
ROOF LEVEL HVAC POWER DEMOLITION PLAN

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. DE-104.00

All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Wastewater Treatment.

Autodesk Docs://106463 - PW-119 Tallman Island Screening/PW119N_BC_TI-181_E_V24.rvt
10/16/2026 12:48:34 PM



LOWER LEVEL PLAN - EL. 13.00

SCALE: 3/16" = 1'-0"

GENERAL NOTES:

1. REFER TO ELECTRICAL SYMBOL LIST AND NOTES SHEET FOR GENERAL NOTES & ADDITIONAL DEMOLITION NOTES. REFER TO G-003 FOR HAZARDOUS AREA CLASSIFICATIONS SPECIFIC TO THIS PROJECT.
2. EXISTING LIGHTING FIXTURES SHALL BE DEMOLISHED AND REPLACED WITH NEW. EXISTING CABLING AND CONDUIT SHALL BE REUSED. FIELD VERIFY LOCATION AND QUANTITY OF EXISTING LIGHTING FIXTURES. REFER TO LIGHTING PLANS FOR ADDITIONAL INFORMATION.

3/16"=1'-0" 0 5 10 FT.

BID SET
DATE ISSUED: OCTOBER 2026

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DRAWN BY: L. FINKELSTEIN
CHECKED BY: T. CARMICIANO
DESIGN LEAD: J. CONWAY
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES
NEW YORK, NEW YORK

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ENGINEER
Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION
I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN
A. LOPEZ

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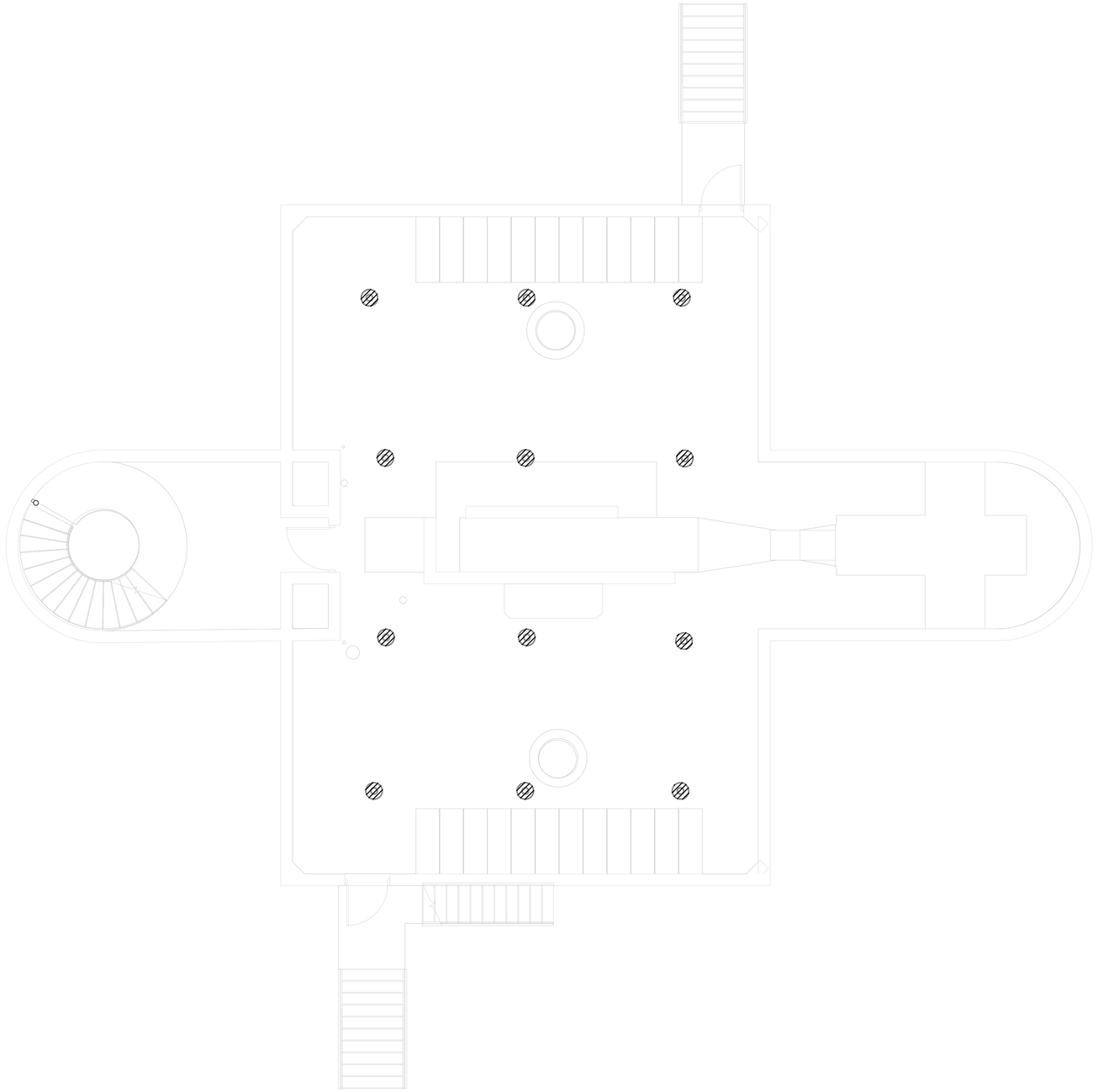
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PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
ELECTRICAL
LOWER LEVEL LIGHTING DEMOLITION PLAN

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. DE-105.00

All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Wastewater Treatment.

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GENERAL NOTES:

1. REFER TO ELECTRICAL SYMBOL LIST AND NOTES SHEET FOR GENERAL NOTES & ADDITIONAL DEMOLITION NOTES. REFER TO G-003 FOR HAZARDOUS AREA CLASSIFICATIONS SPECIFIC TO THIS PROJECT.

2. EXISTING LIGHTING FIXTURES SHALL BE DEMOLISHED AND REPLACED WITH NEW. EXISTING CABLING AND CONDUIT SHALL BE REUSED. FIELD VERIFY LOCATION AND QUANTITY OF EXISTING LIGHTING FIXTURES. REFER TO LIGHTING PLANS FOR ADDITIONAL INFORMATION.

UPPER LEVEL PLAN - EL 31.00

SCALE: 3/16" = 1'-0"

BID SET
DATE ISSUED: OCTOBER 2026

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DRAWN BY: L. FINKELSTEIN
CHECKED BY: T. CARMICIANO
DESIGN LEAD: J. CONWAY
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES
NEW YORK, NEW YORK

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Environmental Protection

ENGINEER
Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION
I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN
A. LOPEZ

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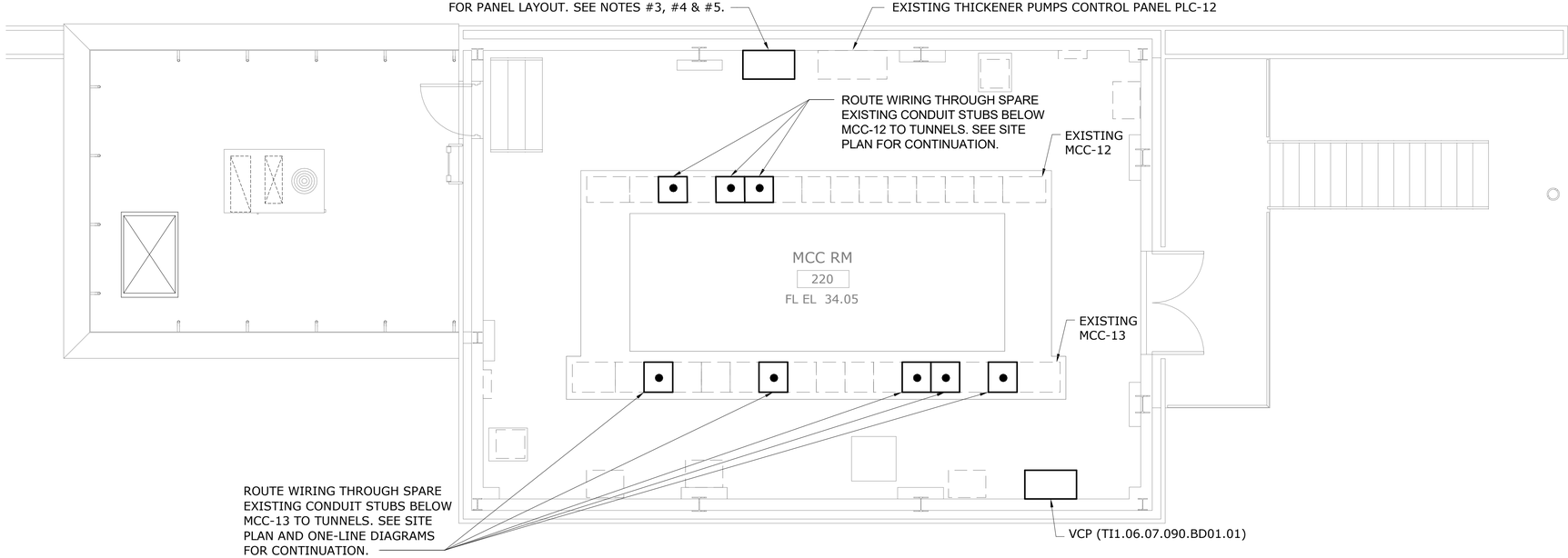
PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

ELECTRICAL
GRIT BUILDING
UPPER LEVEL LIGHTING DEMOLITION PLAN

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. DE-106.00

All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Wastewater Treatment.

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UPPER LEVEL PLAN - EL 34.05

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

GENERAL NOTES:

1. REFER TO ELECTRICAL SYMBOL LIST AND NOTES SHEET FOR GENERAL NOTES. REFER TO G-003 FOR HAZARDOUS AREA CLASSIFICATIONS SPECIFIC TO THIS PROJECT.
2. REFER TO ELECTRICAL SINGLE LINE DIAGRAMS FOR OVERCURRENT PROTECTION SIZING, POWER DISTRIBUTION, CABLE AND CONDUIT SIZING.
3. PROVIDE IN 3/4" CONDUIT, INSTRUMENTATION CABLE TO WIRE PLC-12A ENCLOSURE TO EXISTING COMBUSTIBLE GAS DETECTORS LOCATED IN UPPER LEVEL GRIT BUILDING. SEE INSTRUMENTATION AND CONTROL DRAWINGS FOR HVAC MONITORING P&ID.
4. GO/NO-GO, HORN/STROBE ALARM PANELS AND GAS DETECTORS SHALL BE WIRED IN PARALLEL TO USE A SINGLE SET OF SCADA OUTPUTS FOR INDICATION OF GO/NO-GO, HORN/STROBE ALARM, AND/OR GAS PRESENCE. SEE INSTRUMENTATION AND CONTROL DRAWINGS FOR HVAC MONITORING P&ID.
5. RELOCATE EXISTING DUCT SMOKE DETECTOR TEST SWITCHES AND OUTLET THAT ARE ADJACANT TO EXISTING THICKENER PUMPS CONTROL PANEL PLC-12.

1/4"=1'-0" 0 4 8 FT.

BID SET
DATE ISSUED: OCTOBER 2026

GRAPHIC SCALES CHECK BEFORE USE

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NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.
0	11/25	90% DESIGN UPDATE - REVISION 1	

DESIGNED BY: L. FINKELSTEIN
DRAWN BY: L. FINKELSTEIN
CHECKED BY: T. CARMICIANO
DESIGN LEAD: J. CONWAY
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES
NEW YORK, NEW YORK

STATE OF NEW YORK CINDY R. FEINGOLD 083459 LICENSED PROFESSIONAL ENGINEER

Environmental Protection

ENGINEER
Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION
I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN
A. LOPEZ

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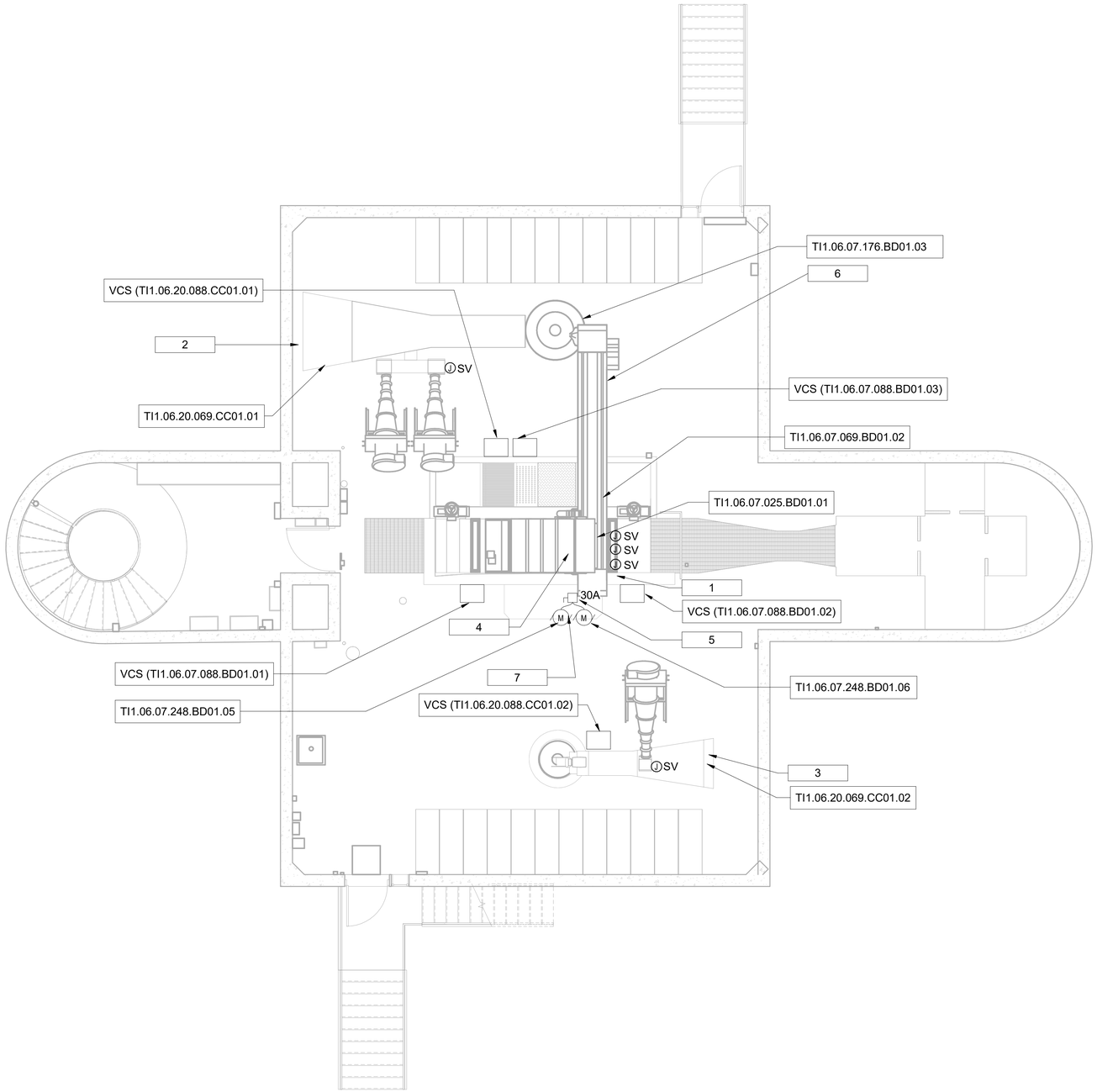
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CORONA, NEW YORK 11368
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PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
ELECTRICAL
SLUDGE ELECTRICAL BUILDING
UPPER LEVEL MCC ROOM POWER PLAN

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. E-100.00

All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Wastewater Treatment.

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UPPER LEVEL PLAN - EL 31.00

SCALE: 3/16" = 1'-0"

GENERAL NOTES:

1. REFER TO ELECTRICAL SYMBOL LIST AND NOTES SHEET FOR GENERAL NOTES. REFER TO G-003 FOR HAZARDOUS AREA CLASSIFICATIONS SPECIFIC TO THIS PROJECT.
2. NEW MECHANICAL EQUIPMENT. REFER TO ELECTRICAL SINGLE LINE DIAGRAMS FOR OVERCURRENT PROTECTION SIZING, POWER DISTRIBUTION, CABLE AND CONDUIT SCHEDULES.

KEYNOTE LEGEND

Key Value	KEYNOTES
1	120V SUPPLY FROM MCC CONTROL POWER TRANSFORMERS TO POWER SOLENOID VALVES. REFER TO SCHEMATIC DIAGRAMS FOR WIRING DETAIL. TYPICAL FOR ALL SOLENOID VALVES.
2	24" HYDROGRITTER CLASSIFIER (SEE NOTE 2)
3	18" HYDROGRITTER CLASSIFIER (SEE NOTE 2)
4	MULTI-RAKE BAR SCREEN (SEE NOTE 2)
5	WASHER COMPACTOR (SEE NOTE 2)
6	BELT CONVEYOR (SEE NOTE 2)
7	PROVIDE LOCAL CONTROL PANEL FOR (2) ACTUATORS, INCLUDING PUSH BUTTONS FOR OPEN/CLOSE/STOP CONTROLS FOR (2) GATES TO THE BYPASS CHANNEL. SEE PROCESS MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION. (SEE NOTE 2)

3/16"=1'-0" 0 5 10 FT.

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STATE OF NEW YORK CINDY R. FEINGOLD 083450 LICENSED PROFESSIONAL ENGINEER

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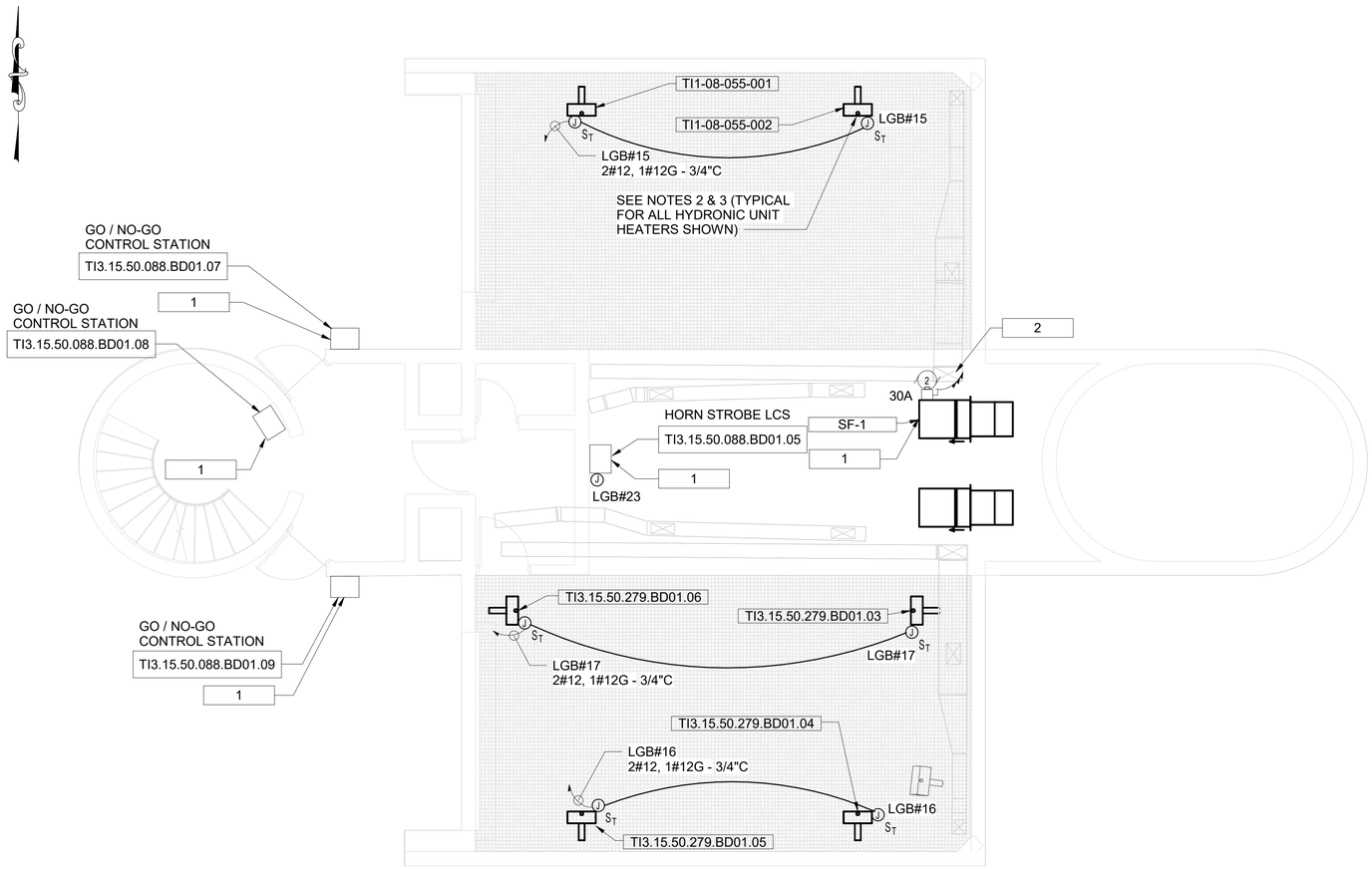
PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

ELECTRICAL
GRIT BUILDING
UPPER LEVEL POWER PLAN

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. E-101.00

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Autodesk Docs://106463 - PW-119 Tallman Island Screening/PW119N_BC_TI-181_E_V24.rvt
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LOWER LEVEL PLAN - EL. 13.00

SCALE: 3/16" = 1'-0"

GENERAL NOTES:

1. REFER TO ELECTRICAL SYMBOL LIST AND NOTES SHEET FOR GENERAL NOTES. REFER TO G-003 FOR HAZARDOUS AREA CLASSIFICATIONS SPECIFIC TO THIS PROJECT.
2. EXTEND THE CONDUIT FROM REMOVED HVAC EQUIPMENT TO NEW HVAC EQUIPMENT. TRACE CIRCUITS FROM DEMOLISHED HVAC EQUIPMENT AND VERIFY THEY MATCH THE CIRCUITS TO NEW HYDRONIC UNIT HEATERS. REFER TO HVAC POWER DEMOLITION PLANS FOR INFORMATION. PROVIDE NEW CONDUIT AND WIRING AS REQUIRED.
3. ALL HYDRONIC UNIT HEATER CIRCUITS TO BE RUN TO EXISTING PANELBOARD "LGB" (LGB#) UNLESS OTHERWISE NOTED.

KEYNOTE LEGEND

Key Value	KEYNOTES
1	PROVIDE INSTRUMENTATION CABLE AND 3/4"C FROM EACH SUPPLY FAN, GO/NO-GO CONTROL STATIONS AND HORN/STROBE PANEL TO NEW PLC-12A ENCLOSURE IN EXISTING MCC ROOM 220. SEE INSTRUMENTATION AND CONTROL DRAWINGS FOR HVAC MONITORING P&ID.
2	REFER TO SINGLE LINE DIAGRAMS FOR 480V POWER SUPPLY TO FANS. REFER TO SCHEMATIC DIAGRAMS FOR WIRING DETAIL. TYPICAL FOR ALL FANS.

3/16"=1'-0" 0 5 10 FT.

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I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN
A. LOPEZ

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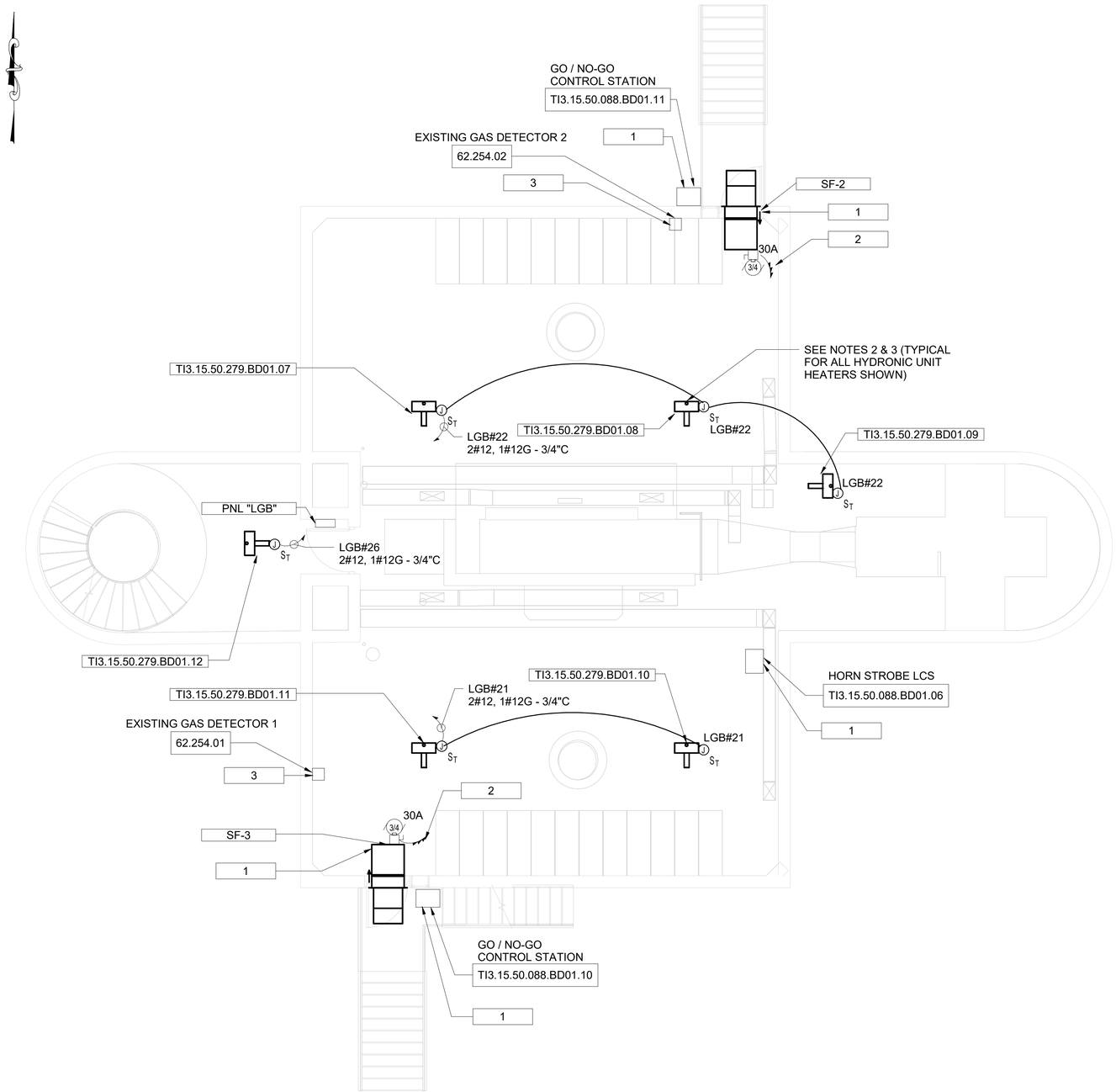
PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

ELECTRICAL
GRIT BUILDING
LOWER LEVEL HVAC POWER PLAN

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. E-102.00

All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Wastewater Treatment.

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UPPER LEVEL PLAN - EL 31.00

SCALE: 3/16" = 1'-0"

GENERAL NOTES:

1. REFER TO ELECTRICAL SYMBOL LIST AND NOTES SHEET FOR GENERAL NOTES. REFER TO G-003 FOR HAZARDOUS AREA CLASSIFICATIONS SPECIFIC TO THIS PROJECT.
2. EXTEND THE CONDUIT FROM REMOVED HVAC EQUIPMENT TO NEW HVAC EQUIPMENT. TRACE CIRCUITS FROM DEMOLISHED HVAC EQUIPMENT AND VERIFY THEY MATCH THE CIRCUITS TO NEW HYDRONIC UNIT HEATERS. REFER TO HVAC POWER DEMOLITION PLANS FOR INFORMATION. PROVIDE NEW CONDUIT AND WIRING AS REQUIRED.
3. ALL HYDRONIC UNIT HEATER CIRCUITS TO BE RUN TO EXISTING PANELBOARD "LGB" (LGB#) UNLESS OTHERWISE NOTED.

KEYNOTE LEGEND

Key Value	KEYNOTES
1	PROVIDE INSTRUMENTATION CABLE AND 3/4"C FROM EACH SUPPLY FAN, GO/NO-GO CONTROL STATIONS AND HORN/STROBE PANEL TO NEW PLC-12A ENCLOSURE IN EXISTING MCC ROOM 220. SEE INSTRUMENTATION AND CONTROL DRAWINGS FOR HVAC MONITORING P&ID.
2	REFER TO SINGLE LINE DIAGRAMS FOR 480V POWER SUPPLY TO FANS. REFER TO SCHEMATIC DIAGRAMS FOR WIRING DETAIL. TYPICAL FOR ALL FANS.
3	REFER TO LEVEL 2 MCC ROOM POWER PLAN FOR ADDITIONAL INFORMATION.

3/16"=1'-0" 0 5 10 FT.

BID SET
DATE ISSUED: OCTOBER 2026

GRAPHIC SCALES CHECK BEFORE USE

IF SHEET IS LESS THAN 22" X 34" IT IS A REDUCED PRINT. SCALE ACCORDINGLY

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.
0	11/25	90% DESIGN UPDATE - REVISION 1	

DESIGNED BY: L. FINKELSTEIN
DRAWN BY: L. FINKELSTEIN
CHECKED BY: T. CARMICIANO
DESIGN LEAD: J. CONWAY
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES
NEW YORK, NEW YORK

STATE OF NEW YORK · CINDY R. FENGLER · 083458 · LICENSED PROFESSIONAL ENGINEER

Environmental Protection

ENGINEER: Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION: I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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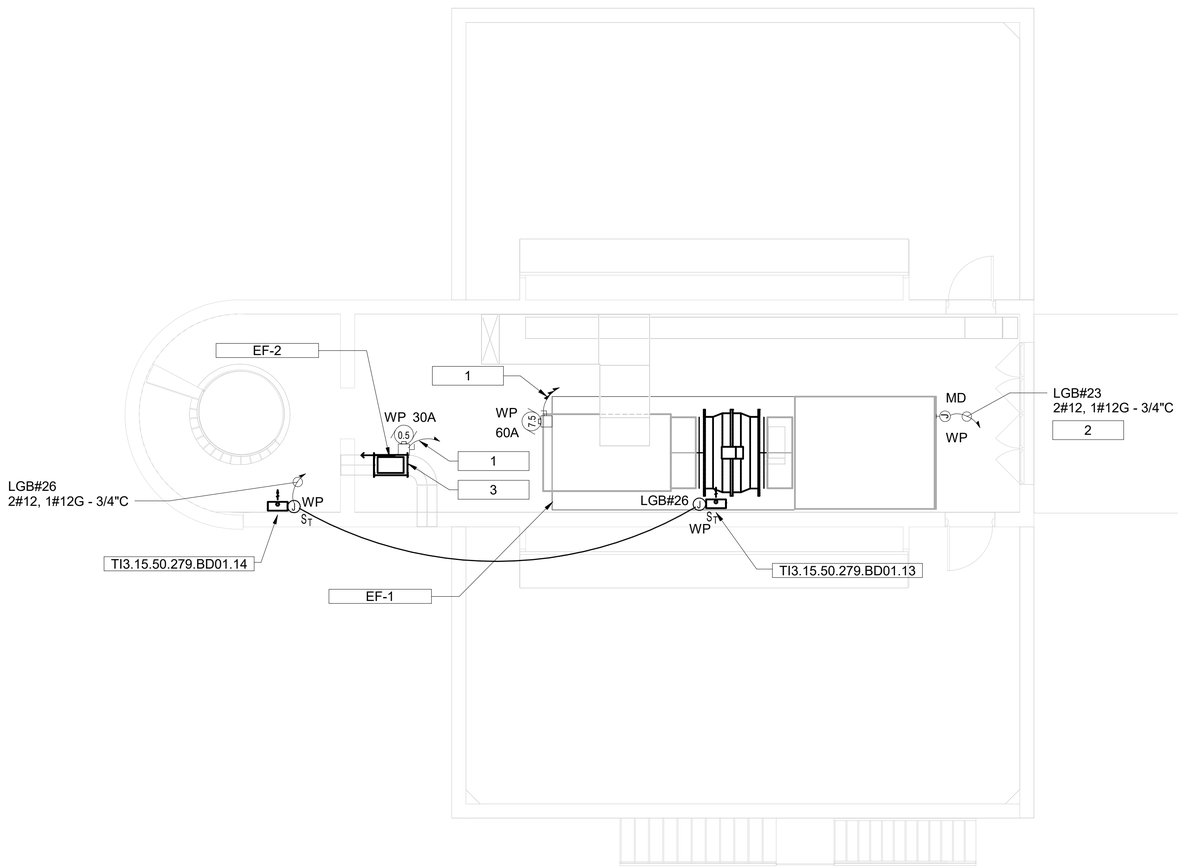
PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

ELECTRICAL
GRIT BUILDING
UPPER LEVEL HVAC POWER PLAN

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. E-103.00

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ROOF PLAN - EL. 46.33

SCALE: 3/16" = 1'-0"

GENERAL NOTES:

1. REFER TO ELECTRICAL SYMBOL LIST AND NOTES SHEET FOR GENERAL NOTES. REFER TO G-003 FOR HAZARDOUS AREA CLASSIFICATIONS SPECIFIC TO THIS PROJECT.
2. EXTEND THE CONDUIT FROM REMOVED HVAC EQUIPMENT TO NEW HVAC EQUIPMENT. REFER TO HVAC POWER DEMOLITION PLANS FOR INFORMATION. PROVIDE NEW CONDUIT AND WIRING AS REQUIRED.

KEYNOTE LEGEND

Key Value	KEYNOTES
1	CONDUIT AND WIRING ROUTED FROM MCC-12 TO EXHAUST FAN AND EXHAUST FAN LCS LOCATIONS TO BE INSTALLED BY OTHERS VIA CONTRACT TI-169. TERMINATE CONDUCTORS AT BOTH MCC-12 AND THE EXHAUST FAN. COORDINATE CONTROLS WIRING WITH EXISTING LCS AND HVAC DRAWINGS TO ACHIEVE EXHAUST FAN SEQUENCE OF OPERATIONS. REFER TO SINGLE LINE DIAGRAMS FOR 480V POWER SUPPLY TO FANS. REFER TO SCHEMATIC DIAGRAMS FOR WIRING DETAIL.
2	MOTORIZED DAMPER CIRCUIT TO BE RUN TO EXISTING PANELBOARD "LGB" (LGB#).
3	DISCONNECT JUMPER WIRE TO INSTALL EXHAUST FAN EF-2 FOR OPERATION AT 277V. CONTRACTOR SHALL PROVIDE A LOCALLY INSTALLED DELTA WYE TRANSFORMER SIZED WITH CONDUIT AND CABLE NECESSARY TO SUPPLY 277V TO THE EXHAUST FAN. REFER TO SINGLE LINE DIAGRAMS FOR WIRING DETAIL.

3/16"=1'-0" 0 5 10 FT.

NYC Environmental Protection DWT

BID SET

DATE ISSUED: OCTOBER 2026

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CHECKED BY: T. CARMICIANO
DESIGN LEAD: J. CONWAY
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK · CHRIST N. FENNERIS · 089450 · LICENSED PROFESSIONAL ENGINEER

Environmental Protection

ENGINEER
Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION
I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN
A. LOPEZ

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PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

ELECTRICAL
GRIT BUILDING
ROOF LEVEL HVAC POWER PLAN

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. E-104.00

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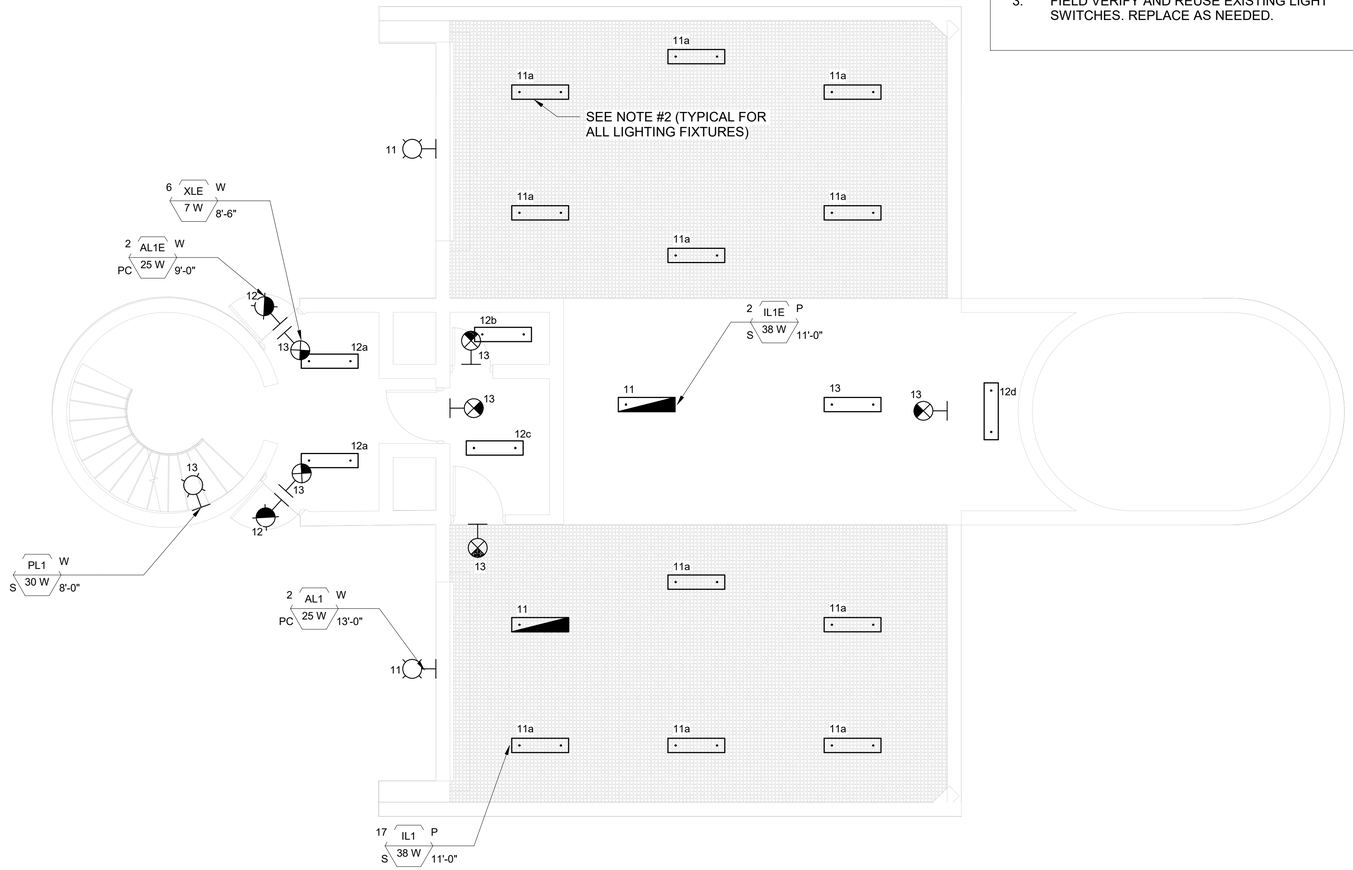
TYPE	DESCRIPTION	MODEL NUMBER
AL1	LED WALL PACK, VANDAL RESISTANT, 3000 LUMENS, 120-277V, 25W, WIDE DISTRIBUTION, 40K, WITH INTEGRATED PHOTOCELL, SURFACE MOUNTED	LITHONIA LIGHTING WST LED WST LED P2 40K VW MVOLT PE (PROVIDE HARDWARE AND ASSOCIATED APPURTENANCES FOR MOUNTING)
AL1E	LED WALL PACK, VANDAL RESISTANT, 3000 LUMENS, 120-277V, 25W, WIDE DISTRIBUTION, 40K, WITH INTEGRATED PHOTOCELL, BATTERY BACK UP SURFACE MOUNTED	LITHONIA LIGHTING WST LED WST LED P2 40K VW MVOLT PE E7WH (PROVIDE HARDWARE AND ASSOCIATED APPURTENANCES FOR MOUNTING)
IL1	HAZARDOUS LOCATION LED LIGHTING, HEAVY-DUTY DESIGN DESIGN WTIH HIGH IMPACT RESISTANCE, 40W, 4000K, 120 DEGREES BEAM ANGLE, 5400 LUMENS	SOLAS RAY LIGHTING, HJHL SERIES, THE FLYER, HJHL42-040-40-U-120 (PROVIDE HARDWARE AND ASSOCIATED APPURTENANCES FOR MOUNTING)
IL1E	HAZARDOUS LOCATION LED LIGHTING, HEAVY-DUTY DESIGN DESIGN WTIH HIGH IMPACT RESISTANCE, 4000K, 120 DEGREES BEAM ANGLE, 5400 LUMENS. WITH INTERMAL EM BATTERY OPTION	SOLAS RAY LIGHTING, HJHL SERIES, THE FLYER, HJHL42-040-40-U-120-EM (PROVIDE HARDWARE AND ASSOCIATED APPURTENANCES FOR MOUNTING)
PL1	ADJUSTABLE LED VAPORTIGHT JELLY JAR, WALL MOUNT, SURFACE LIGHT, CAST-ALUMINUM HOUSING, SEALED GASKET, 4000K	TRACELITE JJL SERIES, JJL-30-4K (PROVIDE HARDWARE AND ASSOCIATED APPURTENANCES FOR MOUNTING)
XLE	HAZARDOUS LOCATION EMERGENCY EXIST SIGN, LED WET LOCATION EXIT SIGN, NEW YORK RATED (RED LETTERS, 8" TALL, 1" STROKE, WHITE OR METAL HOUSING)	HOLOPHANE, HDXE SERIES HDXE-2-R-12/27-EL (PROVIDE HARDWARE AND ASSOCIATED APPURTENANCES FOR MOUNTING)

LIGHTING SCHEDULE

SCALE: N.T.S.

GENERAL NOTES:

1. REFER TO ELECTRICAL SYMBOL LIST AND NOTES SHEET FOR GENERAL NOTES. REFER TO G-003 FOR HAZARDOUS AREA CLASSIFICATIONS SPECIFIC TO THIS PROJECT.
2. EXTEND THE CONDUIT FROM LIGHTING FIXTURES TO NEW LIGHTING FIXTURES. RECONNECT CIRCUITS TRACED FROM LIGHTING FIXTURES IN EXISTING PANEL "LGB" TO POWER NEW LIGHTING FIXTURES. REFER TO LIGHTING DEMOLITION PLANS FOR INFORMATION. PROVIDE NEW CONDUIT AND WIRING AS REQUIRED. REFER TO LIGHTING SCHEDULE FOR ADDITIONAL DETAILS.
3. FIELD VERIFY AND REUSE EXISTING LIGHT SWITCHES. REPLACE AS NEEDED.



LOWER LEVEL PLAN - EL. 13.00

SCALE: 3/16" = 1'-0"

3/16"=1'-0" 0 5 10 FT.

BID SET
DATE ISSUED: OCTOBER 2026

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DRAWN BY: L. FINKELSTEIN
CHECKED BY: T. CARMICIANO
DESIGN LEAD: J. CONWAY
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK ANDI R. FEINGOLD 083450 LICENSED PROFESSIONAL ENGINEER

Environmental Protection

ENGINEER: Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION: I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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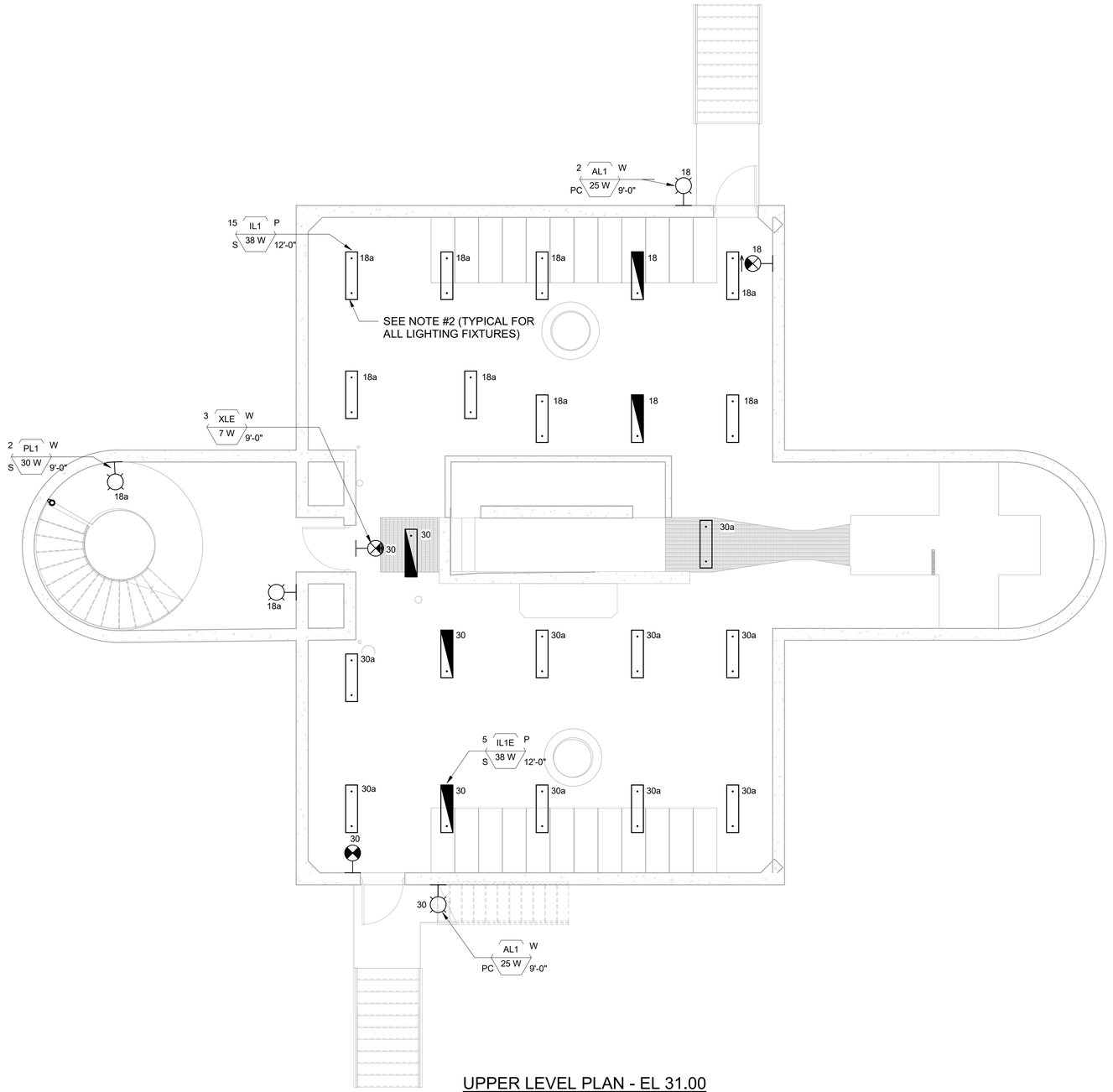
PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

ELECTRICAL
GRIT BUILDING
LOWER LEVEL LIGHTING PLAN

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. E-105.00

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3. FIELD VERIFY AND REUSE EXISTING LIGHT SWITCHES. REPLACE AS NEEDED.

UPPER LEVEL PLAN - EL 31.00

SCALE: 3/16" = 1'-0"

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Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK GIDDY R. FEINSTEIN LICENSED PROFESSIONAL ENGINEER 083459

NYC Environmental Protection

ENGINEER
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CHIEF, MECHANICAL ENGINEER SECTION
I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN
A. LOPEZ

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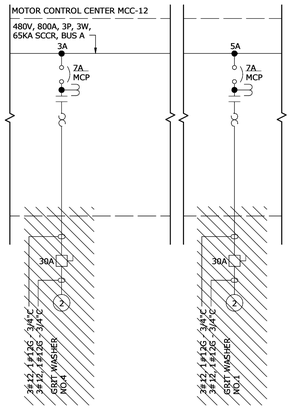
PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF

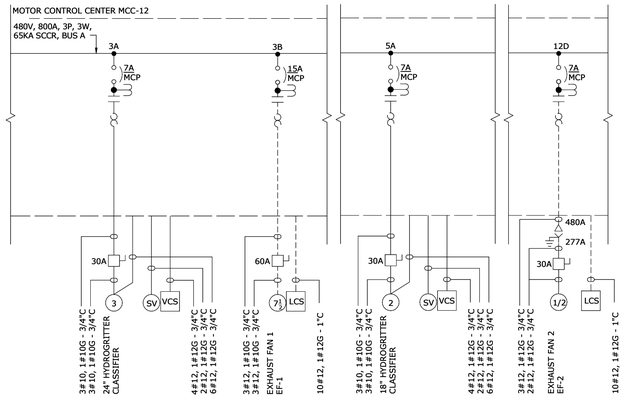
ELECTRICAL
GRIT BUILDING
UPPER LEVEL LIGHTING PLAN

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. E-106.00

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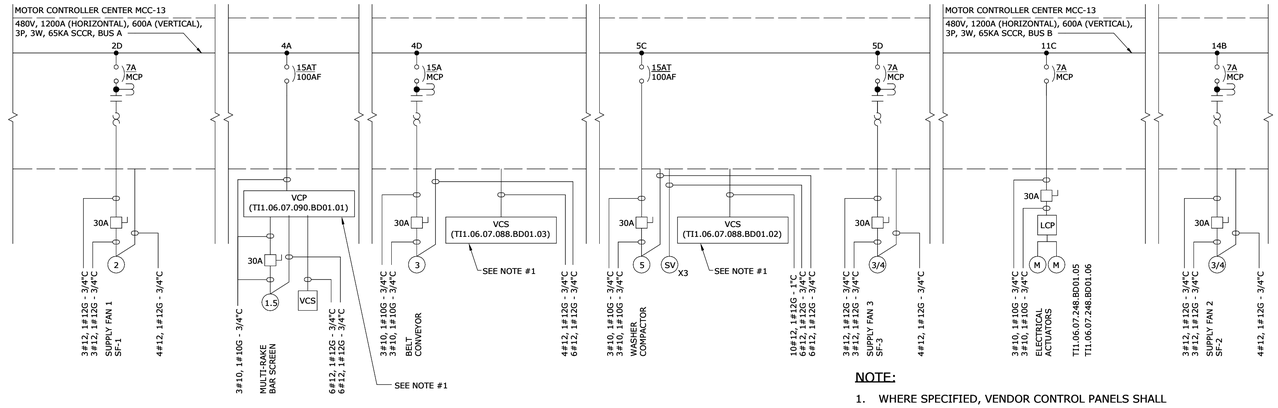
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MCC-12 PARTIAL ONE LINE DIAGRAM DEMOLITION
N.T.S.

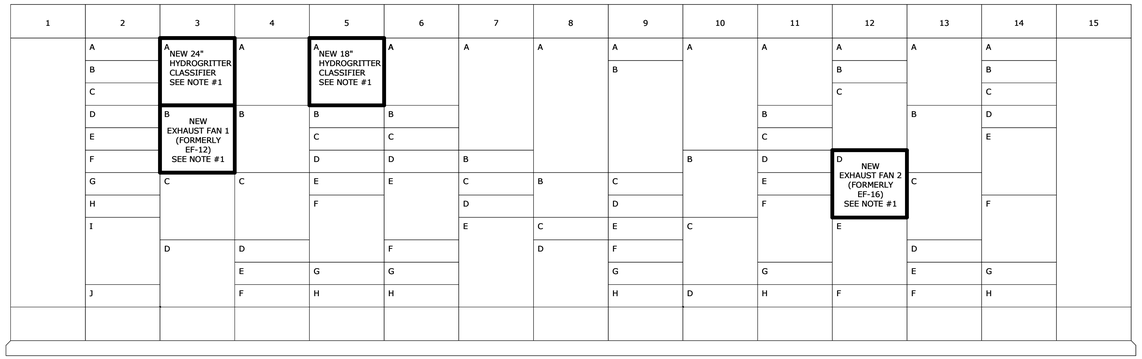
MCC-12 PARTIAL ONE LINE DIAGRAM NEW WORK
N.T.S.



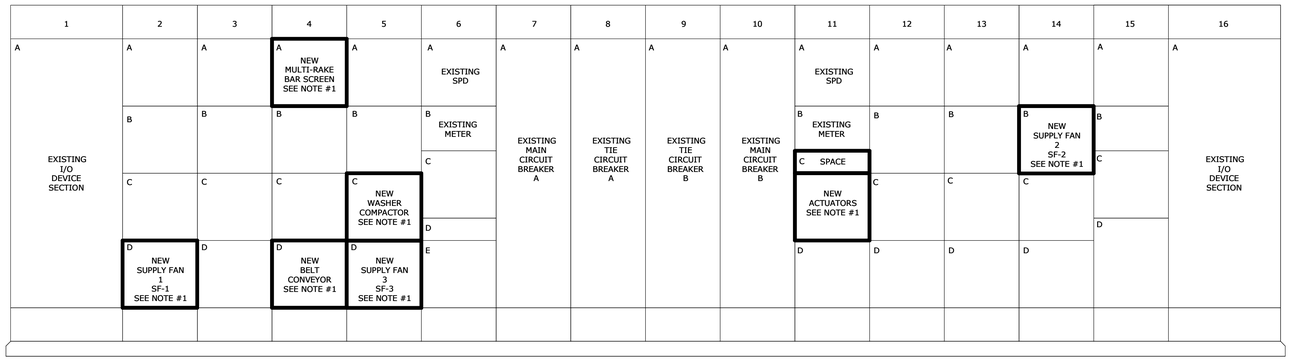
MCC-13 PARTIAL ONE LINE DIAGRAM NEW WORK
N.T.S.

NOTE:

1. WHERE SPECIFIED, VENDOR CONTROL PANELS SHALL INCLUDE MOTOR STARTERS AND OVERLOAD PROTECTION.



EXISTING MCC-12 ELEVATION - NEW WORK
N.T.S.



EXISTING MCC-13 ELEVATION - NEW WORK
N.T.S.

NOTES:

1. RETROFIT MCP'S PER ELECTRICAL SCHEMATIC DIAGRAMS AND INSTRUMENTATION & CONTROL DRAWINGS TO FEED THE NEW INDICATED LOADS. ADJUST MCP AND CIRCUIT BREAKER TRIP SETTINGS TO MATCH THE AMPERAGES SPECIFIED ON ONE LINE DIAGRAMS SHOWN ON THIS SHEET.

KVA		PANEL DESIGNATION EXIST. LGB						KVA	
DEMAND LOAD	CONN. LOAD	CKT No.	DESCRIPTION	C/B RATING		C/B RATING	DESCRIPTION	CKT No.	CONN. LOAD	DEMAND LOAD
-	-	1	EXISTING TO REMAIN	15	A	15	EXISTING TO REMAIN	2	-	-
-	-	3	EXISTING TO REMAIN	15		15	EXISTING TO REMAIN	4	-	-
-	-	5	EXISTING TO REMAIN	15		15	EXISTING TO REMAIN	6	-	-
-	-	7	EXISTING TO REMAIN	15		40	EXISTING TO REMAIN	8	-	-
-	-	9	EXISTING TO REMAIN	20		30Z	EXISTING TO REMAIN	10	-	-
-	-	11	EXISTING TO REMAIN	15			EXISTING TO REMAIN	12	-	-
-	-	13	EXISTING TO REMAIN	20		15	EXISTING TO REMAIN	14	-	-
-	-	15	HYDRONIC UNIT HEATERS	20		15	HYDRONIC UNIT HEATERS	16	-	-
-	-	17	HYDRONIC UNIT HEATERS	15		15	EXISTING TO REMAIN	18	-	-
-	-	19	EXISTING TO REMAIN	20		20	EXISTING TO REMAIN	20	-	-
-	-	21	HYDRONIC UNIT HEATERS	15		15	HYDRONIC UNIT HEATERS	22	-	-
-	-	23	MOTORIZED DAMPER, HORN/STROBE ALARM	15		15	EXISTING TO REMAIN	24	-	-
-	-	25	EXISTING TO REMAIN	15		15	HYDRONIC UNIT HEATERS	26	-	-
-	-	27	EXISTING TO REMAIN	15		15	EXISTING TO REMAIN	28	-	-
-	-	29	EXISTING TO REMAIN	20		20	EXISTING TO REMAIN	30	-	-
-	-	31	EXISTING TO REMAIN	15		15	EXISTING TO REMAIN	32	-	-
-	-	33	EXISTING TO REMAIN	30Z		15	EXISTING TO REMAIN	34	-	-
-	-	35	EXISTING TO REMAIN			20	EXISTING TO REMAIN	36	-	-

TOTAL	TOTAL	VOLTAGE	PHASE	WIRES	AIC	POLES	TOTAL	TOTAL
-	-	120/208V	3	4-W	10K	36	-	-

REMARKS
EXIST. PANEL
CONNECTED LOAD = - kVA
DEMAND LOAD - kVA

MAIN
BUS 100 AMPS
BRKR - AMPS
☐ MAIN C.B.
■ TOP FEED
☐ BOTTOM FEED
☐ FLUSH MOUNTED
■ SURFACE MOUNTED
■ MAIN LUGS ONLY
■ EXISTING PANEL

OPTIONS
☐ 200% NEUTRAL
■ GROUND BUS
☐ ISOLATED GROUND BUS
■ DOOR-IN-DOOR CONSTRUCTION
☐ STAINLESS STEEL COVER
☐ NEMA 3R PANEL
☐ SUB-FEED MAIN C.B. (3P) QTY: AMPS:
☐ CONTACTOR AMPS: QTY.CONTROLLED:
☐ OTHER:
☐ OTHER:

EXISTING "LGB" PANEL SCHEDULE - NEW WORK
N.T.S.

BID SET
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STATE OF NEW YORK · CINDY R. FENGLER · 083458 · LICENSED PROFESSIONAL ENGINEER

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ENGINEER
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CHIEF, MECHANICAL ENGINEER SECTION
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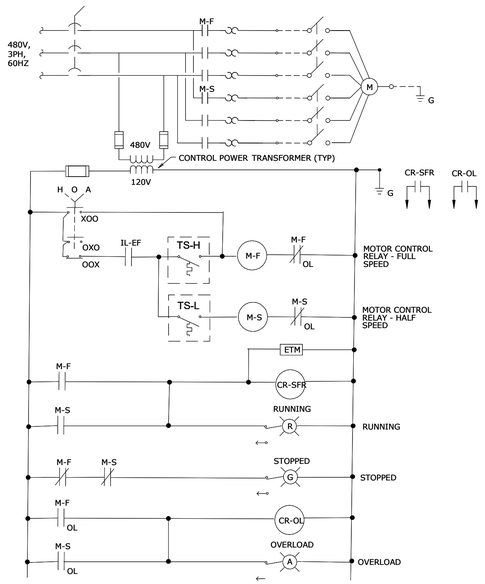
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ELECTRICAL
ELECTRICAL SINGLE LINE DIAGRAMS & PANEL SCHEDULE

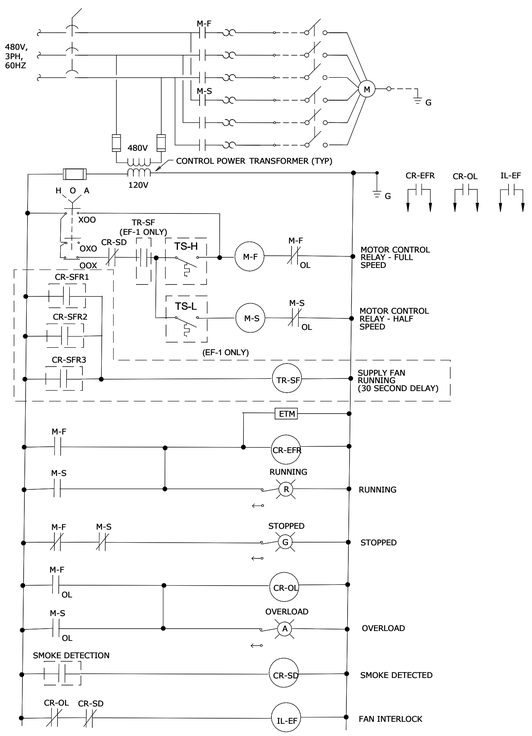
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DRAWING NO. E-107.00

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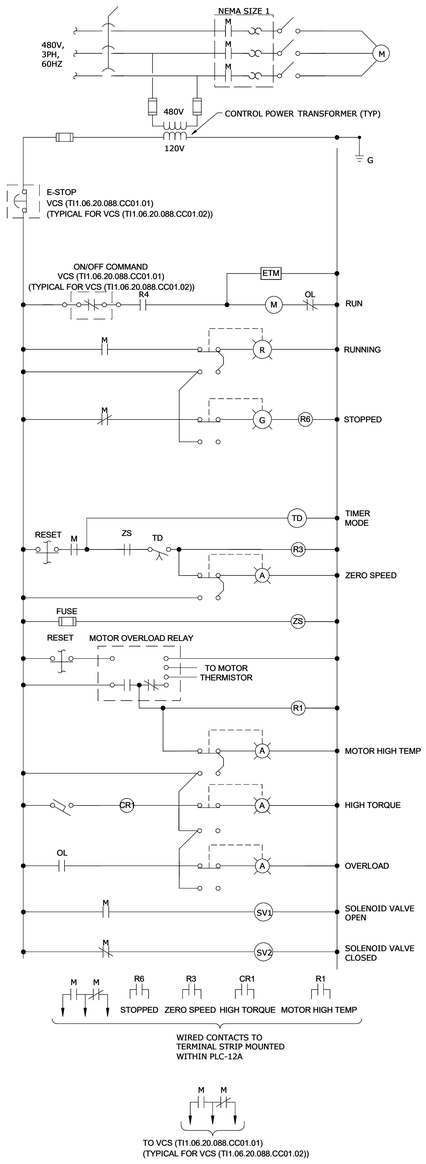
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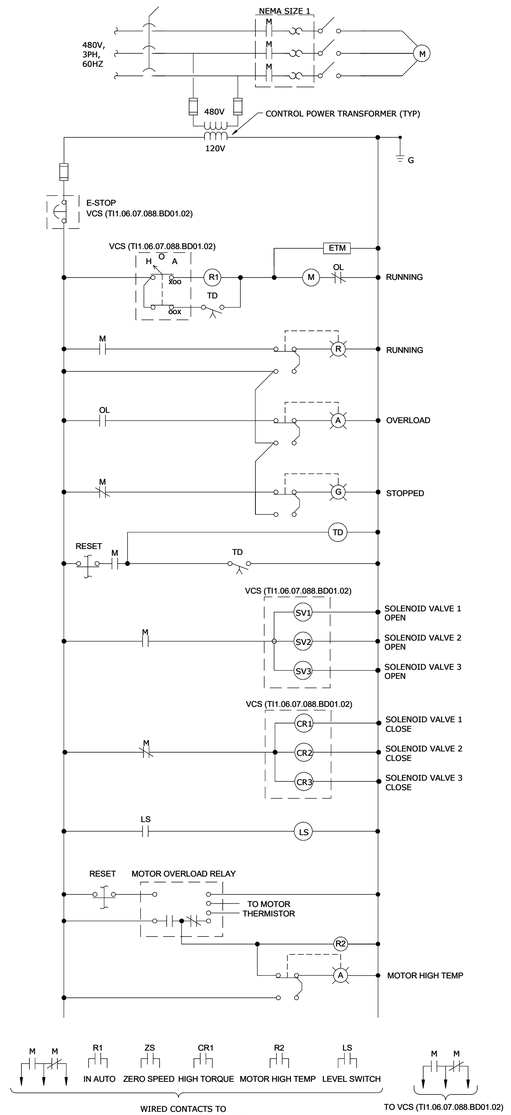
SUPPLY FAN SCHEMATIC DIAGRAM (TYPICAL OF 3)
N.T.S.



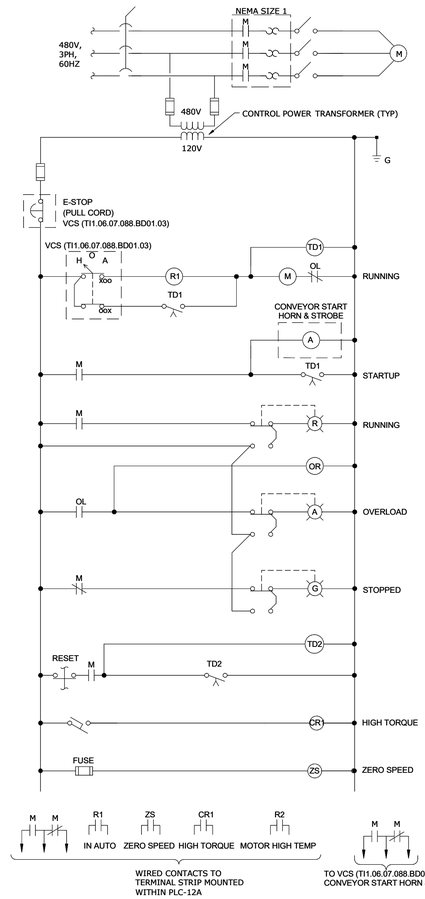
EXHAUST FAN SCHEMATIC DIAGRAM (TYPICAL OF 2)
N.T.S.



HYDROGRITTER CLASSIFIER SCHEMATIC DIAGRAM (TYPICAL)
N.T.S.



WASHER COMPACTOR SCHEMATIC DIAGRAM
N.T.S.



BELT CONVEYOR SCHEMATIC DIAGRAM
N.T.S.

NOTES:

1. UNLESS SPECIFIED, THE DEVICES ARE LOCATED AT THE MCC CUBICLE.
2. SCHEMATIC DIAGRAMS FOR NEW EQUIPMENT HAVE BEEN DEVELOPED BASED ON EXISTING AS-BUILT DRAWINGS AND FIELD OBSERVATIONS. FIELD VERIFY EQUIPMENT CONTROLS AND NOTIFY THE ENGINEER IF CONTROL LOGIC CHANGES ARE REQUIRED BASED ON FIELD VERIFICATION.

LEGEND:

■ AT LOCAL CONTROL STATION

BID SET
DATE ISSUED: OCTOBER 2026

GRAPHIC SCALES CHECK BEFORE USE

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NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.
0	11/25	90% DESIGN UPDATE - REVISION 1	

DESIGNED BY: L. FINKELSTEIN
DRAWN BY: L. FINKELSTEIN
CHECKED BY: T. CARMICIANO
DESIGN LEAD: J. CONWAY
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK · CINDY R. FERRERO · 083458 · LICENSED PROFESSIONAL ENGINEER

Environmental Protection

ENGINEER
Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION
I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN
A. LOPEZ

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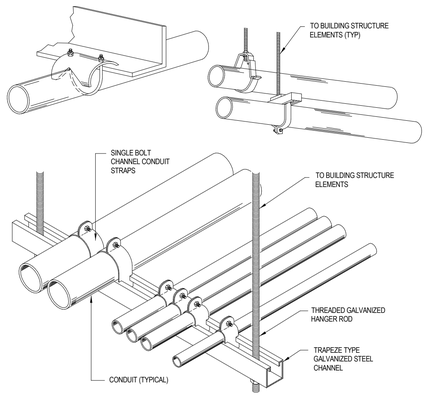
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BUREAU OF WASTEWATER TREATMENT
96-05 HORACE HARDING EXPRESSWAY 2nd FLOOR
CORONA, NEW YORK 11368
www.nyc.gov/dep

PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
ELECTRICAL
ELECTRICAL SCHEMATIC DIAGRAMS

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. E-108.00

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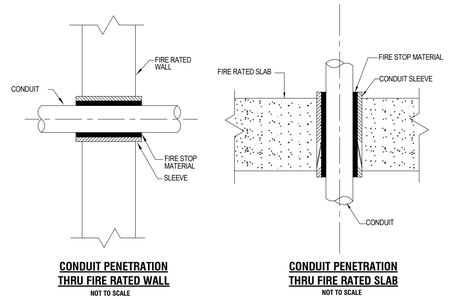
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10/16/2026 12:48:40 PM



NOTES:

1. CONTRACTOR MAY USE A CONDUIT SUSPENSION SYSTEM EQUIVALENT TO THAT WHICH IS DETAILED, HAVING THE FEATURES SHOWN AND APPROVED IN ADVANCE BY THE ENGINEER.
2. CONDUIT SUSPENSION SYSTEM SHALL BE INDEPENDENT OF ANY OTHER SUSPENSION SYSTEM

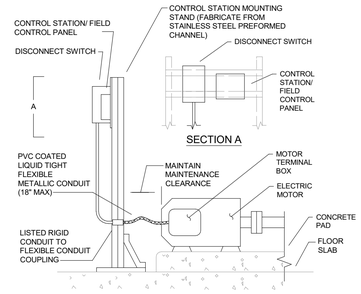
TYPICAL CONDUIT SUPPORT SYSTEMS
NOT TO SCALE



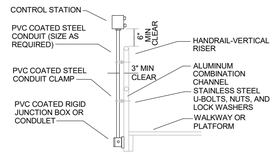
CONDUIT PENETRATION THRU FIRE RATED WALL
NOT TO SCALE

CONDUIT PENETRATION THRU FIRE RATED SLAB
NOT TO SCALE

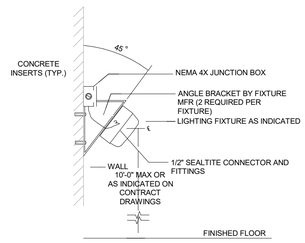
CONDUIT PENETRATION DETAILS
NOT TO SCALE



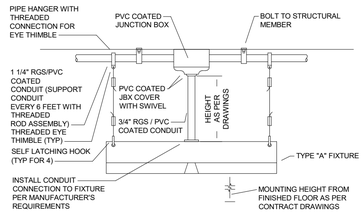
TYPICAL MOTOR CONNECTION
NOT TO SCALE



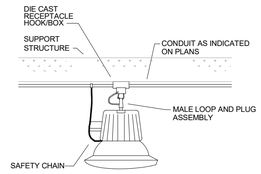
HANDRAIL MOUNTED CONTROL STATION
NOT TO SCALE



WALL MOUNTED FIXTURE DETAIL
NOT TO SCALE



PENDANT MOUNTING FOR LINEAR FIXTURE AND SUPPORTING CONDUIT DETAIL
NOT TO SCALE



TYPICAL PENDANT FIXTURE MOUNTING DETAIL
NOT TO SCALE

BID SET
DATE ISSUED: OCTOBER 2026

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NEW YORK, NEW YORK

CINDY R. FENGLER — LICENSED PROFESSIONAL ENGINEER — 083458 — STATE OF NEW YORK

Environmental Protection

ENGINEER: Y. LIN
CHIEF, MECHANICAL ENGINEER SECTION: I. ANDERSON
DIVISION CHIEF, ENGINEERING DESIGN: A. LOPEZ

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CORONA, NEW YORK 11368
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PW119-N-TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
ELECTRICAL
ELECTRICAL DETAILS

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. E-501.00

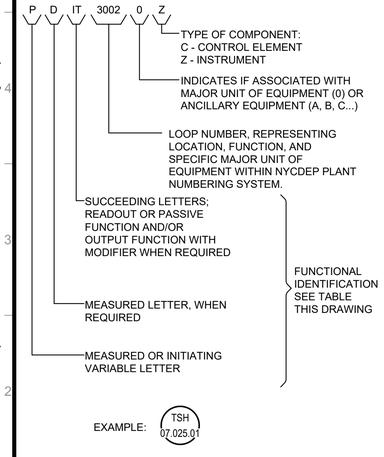
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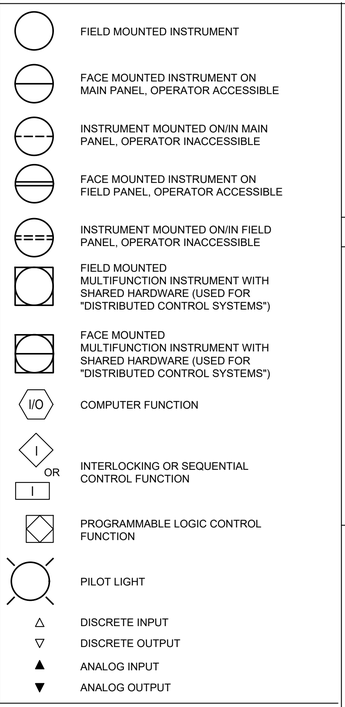
FUNCTIONAL IDENTIFICATION

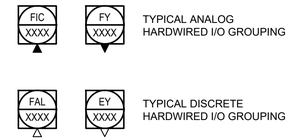
VARIABLE	MEASURED OR INITIATING VARIABLE DESCRIPTION	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION				
C	CONDUCTIVITY			CONTROL	CLOSE
D	DENSITY, SPECIFIC GRAVITY	DIFFERENTIAL			
E	VOLTAGE, SOLENOID		PRIMARY ELEMENT		
F	FLOW RATE	RATIO			
G	FIRE, SMOKE		GLASS		
H	HAND				HIGH
I	CURRENT, ELECTRIC		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	MOISTURE, HUMIDITY, MOTION	MOMENTARY			MIDDLE, INTERMEDIATE
N	EQUIPMENT STATUS				
O	DISSOLVED OXYGEN		ORIFICE		OPEN
P	PRESSURE, VACUUM		POINT (TEST)		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION		MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE, TORQUE		WELL		
X	UNCLASSIFIED	X AXIS			
Y	EVENT, STATE OR PRESENCE	Y AXIS		COMPUTE, CONVERT	
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, FINAL CONTROL ELEMENT	

INSTRUMENT TAG NUMBERS



TYPICAL INSTRUMENT IDENTIFICATION





NETWORK I/O LEGEND

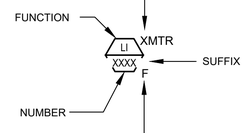
DEVICE TYPE DEFINITIONS FOR NETWORK I/O BLOCK

INSTRUMENTATION

MVM	MOTORIZED VALVE - VARIABLE
MVOC	MOTORIZED VALVE - OPEN/CLOSE
PVOC	PNEUMATIC VALVE - OPEN/CLOSE
XMTR	TRANSMITTER
SW	SWITCH (TSL, FSL, LSL, etc.)
DO	DIGITAL OUTPUT (EV, PANEL LIGHT, etc.)
PVM	PRESSURE VALVE MODULATING

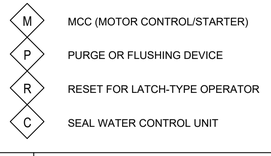
MOTOR CONTROL

VFD	VARIABLE FREQUENCY DRIVE
VSD	VARIABLE SPEED DRIVE (DC)
CSR	CONSTANT SPEED - REVERSIBLE
CSS	CONSTANT SPEED - STANDARD
CS2	CONSTANT SPEED - 2 SPEED
CSSHV	CONSTANT SPEED - HVAC
CS2HV	CONSTANT SPEED - 2 SPEED HVAC
RVR	REDUCE VOLTAGE - REVERSIBLE



NETWORK TYPE	
F	FOUNDATION FIELDBUS
D	DEVICENET
E	ETHERNET
P	PROFIBUS
M-RTU	MODBUS RTU
M-TCP	MODBUS TCP
CIP	CONTROL INDUSTRIAL PROTOCOL
E-SNMP	SIMPLE NETWORK MANAGEMENT PROTOCOL

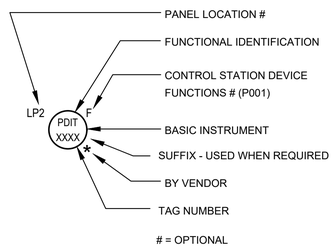
MISCELLANEOUS SYMBOLS



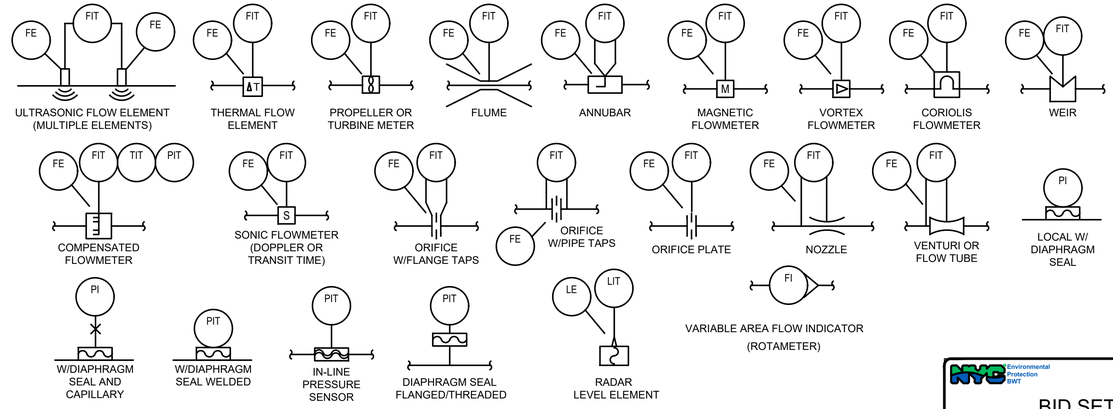
GENERAL NOTES

1. THE LEGEND AND SYMBOL DRAWINGS ARE GENERAL IN NATURE, SOME SYMBOLS SHOWN MAY NOT BE USED ON THE CONTRACT DRAWINGS. UNUSED SYMBOLS PLOT WITH A THIN LINEWEIGHT.
2. SEE DRAWING G-002 FOR EQUIPMENT NUMBER PREFIXES AND PIPING SYSTEM SYMBOLS.
3. SEE DRAWING E-001 FOR ADDITIONAL SYMBOLS.
4. SYMBOLS ARE ARRANGED ON SPECIFIC DRAWINGS AND IN CATEGORIES FOR CONVENIENCE ONLY; MAY BE USED OF ANY OF THE CONTRACT DRAWINGS.

TYPICAL INSTRUMENT IDENTIFICATION



INSTRUMENTATION SYMBOLS



BID SET

SUBMITTAL DATE: OCTOBER 2026

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DRAWN BY: J. HART
CHECKED BY: G. BUNIMOVICH
DESIGN LEAD: R. BOBKA
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK RYAN J. BOBKA 092056 LICENSED PROFESSIONAL ENGINEER 10/15/26

Environmental Protection

ACCOUNTABLE MANAGER: Y. LIN
PORTFOLIO MANAGER: E. LOCKNER

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TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
INSTRUMENTATION
LEGEND, SYMBOLS, AND ABBREVIATIONS - 1

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. I-001.00

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Drawing File Name & Drive Location: C:\Users\tdimiceli\DCACDocs\BC Forma Project Hub\106463 - PW-119 Tallman Island Screening\Project Files\300 Design\300_DesignCAD\012 ISheets\I-001.00.dwg
Last Date Saved: 8/8/2026 5:54 PM
Plot Style Table: BEDC_Acad_2021.ctb
Plot Scale: 1'-1"
Date & Time Plotted: 10/15/2026 12:58 PM

PROCESS AND SIGNAL CROSS REFERENCE SYSTEM

LINE CROSS REFERENCE SYMBOL LOCATION IDENTIFICATION LETTERS



PROCESS LINE NUMBER, RANDOMLY ASSIGNED TO LINE CROSS REFERENCE SYMBOLS APPEARING ON THE LEFT AND RIGHT SIDE RESPECTIVELY ON EACH DRAWING TO IDENTIFY AND LOCATE ON CROSS REFERENCE SYMBOL

TO/FROM SYMBOL EXAMPLES



DEFINES A LINE CONTINUING FROM DRAWING "I-101" TO DRAWING "I-102".



DEFINES A LINE CONTINUING FROM DRAWING "I-102" TO DRAWING "I-101".

PROCESS AND INSTRUMENTATION DRAWING LINE TYPES

- INSTRUMENT SUPPLY, PROCESS TAPS
- ELECTRICAL SIGNAL (ANALOG OR DISCRETE)
- CAPILLARY TUBE OR FILLED SYSTEM
- ELECTROMAGNETIC OR SONIC SIGNAL (GUIDED)
- ELECTROMAGNETIC OR SONIC SIGNAL (UNGUIDED)
- SOFTWARE OR DATA LINK
- MECHANICAL LINK
- HYDRAULIC
- NEW PRIMARY PROCESS FLOW
- NEW SECONDARY PROCESS FLOW
- NEW UTILITY PROCESS FLOW
- FUTURE
- EXISTING PROCESS FLOW
- NEW/EXISTING CONNECTIONS
- TEMPORARY PIPING
- PROCESS AREA
- VENDOR PACKAGE BOUNDARY

INSTRUMENT OPERATING FUNCTIONS

CALCULATIVE FUNCTIONS

S	SUM
D	DIFFERENCE
+ -	BIAS
OR S/n	AVERAGE
G	MULTIPLY
I	DIVIDE
S	SQUARE ROOT EXTRACTION
OR X 1/n	EXPONENTIAL
f(x)	CHARACTERIZE
f(t)	TIME FUNCTION
1:1	BOOST AND ISOLATE
N	VELOCITY LIMITER
N	HIGH SELECTING
N	HIGH LIMITING
M	LOW SELECTING
M	LOW LIMITING
REV	REVERSE ACTION
GAF	GAP ACTION FLOATING
S&H	SAMPLE AND HOLD
SRG	SPLIT-RANGING

CONVERSION FUNCTIONS

E/P, I/P (TYPICAL)	FOR INPUT/OUTPUT CONVERTERS USING FOLLOWING SIGNALS: A - ANALOG B - BINARY D - DIGITAL E - VOLTS F - FREQUENCY H - HYDRAULIC I - CURRENT O - ELECTROMAGNETIC OR SONIC P - PNEUMATIC R - RESISTANCE

CONTROL FUNCTIONS

% OR P	PROPORTIONAL CONTROL ACTION
-% OR -P	REVERSE PROPORTIONAL CONTROL ACTION
f OR I	INTEGRAL CONTROL ACTION
d/dt OR D	DERIVATIVE CONTROL ACTION
1-0	ON-OFF CONTROL ACTION
D1-0	DIFFERENTIAL GAP CONTROL ACTION
1:3 , 1:2 (TYPICAL)	GAIN
3:1 , 2:1 (TYPICAL)	ATTENUATE
LCP	LOCAL CONTROL PANEL PROVIDED UNDER DIVISION 40
LCS	LOCAL CONTROL STATION PROVIDED UNDER DIVISION 26
OL	OVERLOAD
VCP	VENDOR CONTROL PANEL PROVIDED UNDER DIVISION 43 OR 46

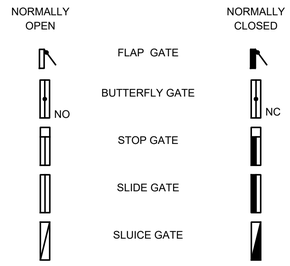
ANALYTICAL FUNCTIONS

COMB	COMBUSTIBLE GAS
DO	DISSOLVED OXYGEN
H2S	HYDROGEN SULFIDE
ORP	OXIDATION-REDUCTION POTENTIAL
pH	pH
RES Cl2	RESIDUAL CHLORINE
SO	SULFUR DIOXIDE
TRB	TURBIDITY
Ω	CONDUCTIVITY

SWITCHING FUNCTIONS

BP	BYPASS
E-STOP	EMERGENCY STOP
HA	HAND-AUTO
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
LOR	LOCAL-OFF-REMOTE
LR	LOCAL-REMOTE
NIA	NOT IN AUTO
OA	OPEN-AUTO
OAC	OPEN-AUTO-CLOSE
OC	OPEN-CLOSE
OO	ON-OFF
OOJ	ON-OFF-JOG
OSC	OPEN-STOP-CLOSE
RE	RESET
SS	START-STOP

SLIDE AND SLUICE GATES



BID SET

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TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
INSTRUMENTATION
LEGEND, SYMBOLS, AND ABBREVIATIONS - 2

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. I-002.00

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Last Saved By: TDimiceli
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Date & Time Plotted: 10/15/2026 12:57 PM
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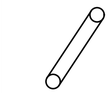
PUMPS

- PUMP, CENTRIFUGAL
- PUMP, DIAGHRAGM
- PUMP, GEAR
- PUMP, METERING
- PUMP, PERISTALTIC
- PUMP, PROGRESSING CAVITY
- PUMP, ROTARY LOBE
- PUMP, SUBMERSIBLE
- PUMP, JET
- PUMP, VERTICAL

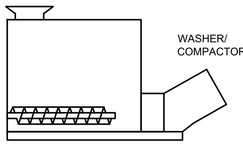
BLOWERS/COMPRESSORS

- BLOWER OR CENTRIFUGAL FAN
- BLOWER OR COMPRESSOR, LIQUID RING
- BLOWER OR COMPRESSOR, ROTARY LOBE
- COMPRESSOR, ROTARY SCREW
- COMPRESSOR, ROTARY SLIDING VANE
- COMPRESSOR, PISTON

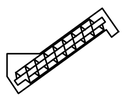
PROCESS EQUIPMENT



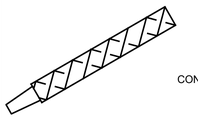
MECHANICAL SCREEN



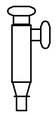
WASHER/ COMPACTOR



CLASSIFIER



CONVEYOR



HYDROCYCLONE

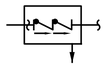
MOTORS AND POWER

- VFD — VARIABLE FREQUENCY DRIVE (AC)
- S — SOLENOID
- M — MOTOR
- ENGINE
- EJECTOR, PNEUMATIC
- GENERATOR

MISCELLANEOUS EQUIPMENT



SILENCER



REDUCED PRESSURE BACKFLOW PREVENTER



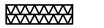
BURNER, WASTE GAS



DIFFUSER HEADER



SPRAY NOZZLES



MIST ELIMINATOR



SAMPLER

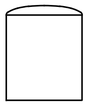
JET NOZZLE



SPRAY NOZZLE



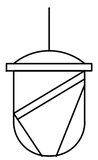
RECEIVER OR PRESSURE VESSEL



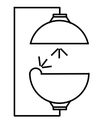
TANK, NON-PRESSURE TYPE



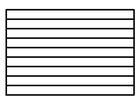
TANK, DOUBLE-WALLED



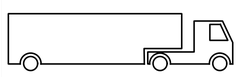
MOTORIZED STRAINER



EYEWASH/SHOWER



ULTRAVIOLET BANK



TRUCK

PIPE LINE DEVICES



TRAP



SEDIMENT TRAP



GAS DRIP TRAP



SEPARATOR/ DRYER



PIPELINE FILTER



RUPTURE DISK (VACUUM RELIEF)



RUPTURE DISK (PRESSURE RELIEF)



CONNECTION BETWEEN NEW AND EXISTING PIPING



UNION



QUICK CONNECTOR



CAP OR PLUG



BLIND FLANGE



FLEX CONNECTOR

FABRIC EXPANSION JOINT



FLUME



WEIR



VENT TO ROOF

VENT



STEAM VENT

AUTOMATIC VENT

MANUAL VENT

STRAINERS

FOOT VALVE

AIR SEPARATOR

DRAIN

DRAIN VALVE

CALIBRATION CHAMBER

PULSATION DAMPENER

ROTAMETER

STOP LOG

INJECTOR

FLAME TRAP

FLAME TRAP WITH THERMO SHUTOFF ASSEMBLY

FLAME CHECK

SAMPLING AND FLUSHING CONNECTIONS

SUCTION DIFFUSER

TEMPERATURE WELL

FLOW STRAIGHTENING VANES

PRESSURE REDUCING ASSEMBLY

AMMONIA UNION

DAMPER

SIGHT GLASS

PIG LAUNCHER/ RECEIVER

REDUCER

FLEX COUPLING

HEAT TRACE

VALVES

NORMALLY OPEN	NORMALLY CLOSED
GATE VALVE	
PLUG VALVE	
BALL VALVE	
GLOBE VALVE	
NEEDLE VALVE	
KNIFE GATE VALVE	
DIAPHRAGM VALVE	
BUTTERFLY VALVE	
ANGLE VALVE	
THREE WAY VALVE	
FOUR WAY VALVE	
FLOAT VALVE	
PINCH VALVE	
BALANCING COCK	
THERMOSTATICALLY CONTROLLED VALVE	
FUSIBLE LINK	
CHECK VALVE	

- DOUBLE LEAF CHECK VALVE
- BALL CHECK VALVE
- PUMP DISCHARGE VALVE
- GAUGE OR ROOT VALVE
- PRESSURE AND VACUUM RELIEF VALVE
- VACUUM RELIEF VALVE
- PRESSURE RELIEF VALVE
- IN-LINE SPRING LOADED RELIEF VALVE
- PRESSURE REGULATING VALVE (SELF-CONTAINED)
- BACK PRESSURE REGULATING VALVE (SELF-CONTAINED)
- MUD VALVE

- SOLENOID VALVE
- DIAPHRAGM OPERATED VALVE
- PRESSURE BALANCE OPERATED VALVE
- MOTOR OPERATED VALVE
- MOTOR OPERATED VALVE, MODULATING

NOTE:
USE VALVE BODY SYMBOL TO MATCH TYPE OF VALVE.

- PISTON OPERATED VALVE
- TELESCOPING VALVE
- ANTI SIPHON VALVE
- LIFT CHECK VALVE
- BRAIDED FLEX CONNECTOR

BID SET

SUBMITTAL DATE: OCTOBER 2026

GRAPHIC SCALES CHECK BEFORE USE

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DRAWN BY: J. HART
CHECKED BY: G. BUNIMOVICH
DESIGN LEAD: R. BOBKA
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK — RYAN J. BOBKA — 092066 — LICENSED PROFESSIONAL ENGINEER — 10/15/26

Environmental Protection

ACCOUNTABLE MANAGER: Y. LIN
PORTFOLIO MANAGER: E. LOCKNER

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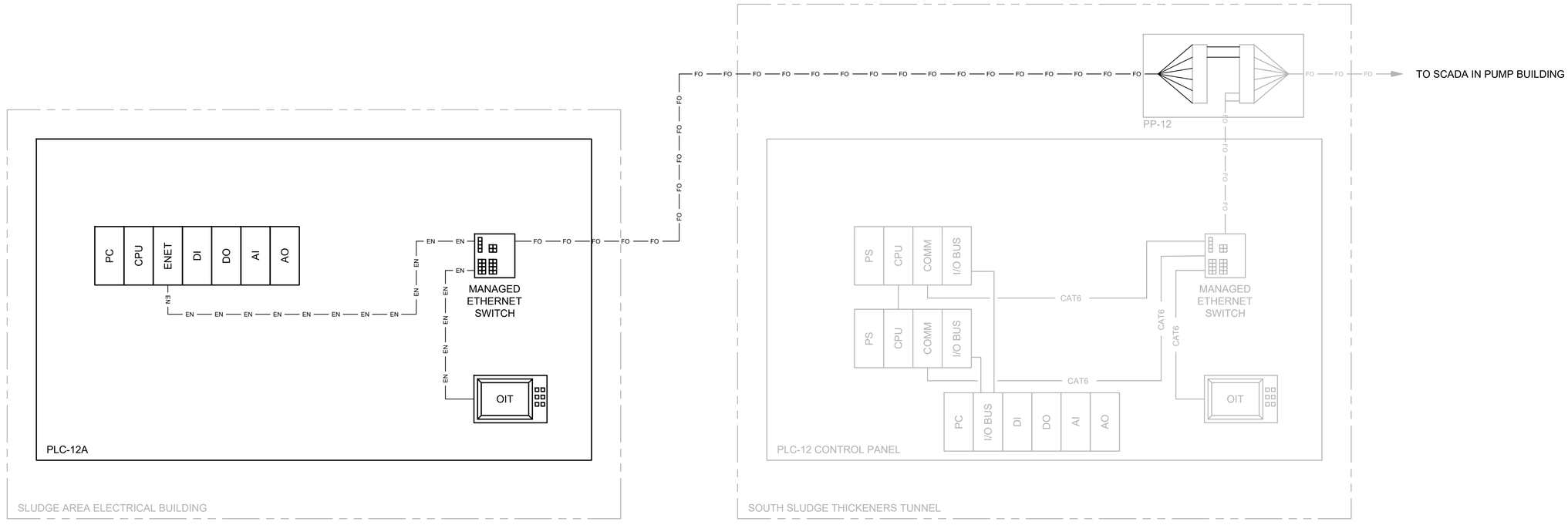
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BUREAU OF WASTEWATER TREATMENT
96-05 HORACE HARDING EXPRESSWAY 2nd FLOOR
CORONA, NEW YORK 11368
www.nyc.gov/dep

TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
INSTRUMENTATION
LEGEND, SYMBOLS, AND ABBREVIATIONS - 3

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. I-003.00

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Plot Style Table: BEDC_Acad_2021.ctb
Plot Scale: 1:1
Date & Time Plotted: 10/15/2026 12:57 PM



Last Saved By: TDinicell
Last Date Saved: 8/8/2026 5:52 PM
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Date & Time Plotted: 10/15/2026 12:57 PM

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

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Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES
NEW YORK, NEW YORK

STATE OF NEW YORK · RYAN J. BOBKA · 092056 · LICENSED PROFESSIONAL ENGINEER · 10/15/26

Environmental Protection

ACCOUNTABLE MANAGER: Y. LIN
PORTFOLIO MANAGER: E. LOCKNER

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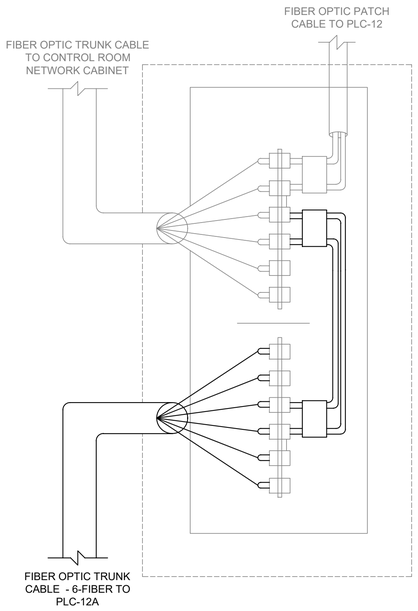
TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
INSTRUMENTATION
NETWORK DIAGRAM / CONTROL SYSTEM ARCHITECTURE

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. I-004.00

Environmental Protection BWT
BID SET
SUBMITTAL DATE: OCTOBER 2026

GRAPHIC SCALES CHECK BEFORE USE
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NOTES:

1. ALL FIBER CONNECTIONS SHOWN ARE SC TYPE.
2. INSTALL NE 1-METER FIBER OPTIC PATCH CABLE (OM1) BETWEEN ADAPTER PLATES.
3. IN PUMP AND BLOWER BUILDING CONTROL ROOM NETWORK CABINET, ADD 1 MEDIA CONVERTER AND CAT6 CABLE CONVERT 1 PAIR OF OM1 CABLE COMING FROM THICKENER AREA. TERMINATE CAT6 CABLE AT ETHERNET SWITCH.

A PLC-12 EXTERNAL PATCH PANEL MODIFICATIONS
NTS

BID SET
SUBMITTAL DATE: OCTOBER 2026

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Brown AND Caldwell
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Environmental Protection

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PORTFOLIO MANAGER: E. LOCKNER

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96-05 HORACE HARDING EXPRESSWAY 2nd FLOOR
CORONA, NEW YORK 11368
www.nyc.gov/dep

TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
INSTRUMENTATION
DETAILS

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. I-005.00

Last Saved By: TDimiceli
Paper Size Printed/Plotted: ANSI full bleed D (34.00 x 22.00 inches)
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Last Saved By: TDimiceli
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Date & Time Plotted: 10/15/2026 12:56 PM
Plot Style Table: BEDC_Acad_2021.ctb
Plot Scale: 1:1

SCADA

PLC-12A (TI1.13.30.94.CC01.12A)

EMERGENCY STOP YA 20.069.02B
RUNNING YL 20.069.02A
MOTOR HIGH TEMP TAH 20.069.02
ZERO SPEED SAL 20.069.02
HIGH TORQUE WAH 20.069.02

EMERGENCY STOP YA 20.069.01B
RUNNING YL 20.069.01A
MOTOR HIGH TEMP TAH 20.069.01
ZERO SPEED SAL 20.069.01
HIGH TORQUE WAH 20.069.01

MCC-12 (TI3.12.37.140.AH01.12)

RESET HS 20.069.02C
RUNNING YL 20.069.02A
STOPPED YL 20.069.02B
OVERLOAD YA 20.069.02
HIGH TORQUE WAH 20.069.02
MOTOR HIGH TEMP TAH 20.069.02
ZERO SPEED SAL 20.069.02

MCC-12 (TI3.12.37.140.AH01.12)

RESET HS 20.069.01C
RUNNING YL 20.069.01A
STOPPED YL 20.069.01B
OVERLOAD YA 20.069.01
HIGH TORQUE WAH 20.069.01
MOTOR HIGH TEMP TAH 20.069.01
ZERO SPEED SAL 20.069.01

EAST PRIMARY SETTLING TANKS

10" PS
TI.06.11.06.20.02
12" PS
TI.06.11.06.20.01
TI1.06.20.277.CC01.10
WEST PRIMARY SETTLING TANKS

TI1.06.20.277.CC01.11

SPRAY WATER

TI1.06.20.277.CC01.07
8" PS
10" DCS
TI1.06.20.277.CC01.08

HS OO 20.069.02A
HS ESTOP 20.069.02B
VCS (TI1.06.20.088.CC01.02)
*VENDOR PROVIDED

SSL 20.069.02
WSH 20.069.02
M TSH 20.069.02

D I-102
BELT CONVEYOR

CHUTE
6" OF
4" D
TI1.06.20.174.CC01.02
6" OF
D

DUMPSTER
TI1.06.20.182.CC01.02

18" HYDROGRITTER
TI1.06.20.069.CC01.02

CLASSIFIER 3
TI1.06.20.062.CC01.03

SPRAY WATER

TI1.06.20.277.CC01.01
TI1.06.20.277.CC01.02
TI1.06.20.277.CC01.03
8" PS
8" PS

HS OO 20.069.01A
HS ESTOP 20.069.01B
VCS (TI1.06.20.088.CC01.01)
*VENDOR PROVIDED

SSL 20.069.01
WSH 20.069.01
M TSH 20.069.01

CHUTE
CHUTE
6" OF
4" D
TI1.06.20.174.CC01.01
6" OF
D

DUMPSTER
TI1.06.20.182.CC01.01

24" HYDROGRITTER
TI1.06.20.069.CC01.01

CLASSIFIER 1
TI1.06.20.062.CC01.01

CLASSIFIER 2
TI1.06.20.062.CC01.02

10" DCS
TI1.06.20.277.CC01.04
B I-102
SCREENING CHANNEL

10" DCS
TI1.06.20.277.CC01.05
C I-102
SCREENING CHANNEL

10" DCS
A I-102
SCREENING CHANNEL

NYC Environmental Protection BWT

BID SET

SUBMITTAL DATE: OCTOBER 2026

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DESIGN LEAD: R. BOBKA
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES
NEW YORK, NEW YORK

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Environmental Protection

ACCOUNTABLE MANAGER: Y. LIN
PORTFOLIO MANAGER: E. LOCKNER

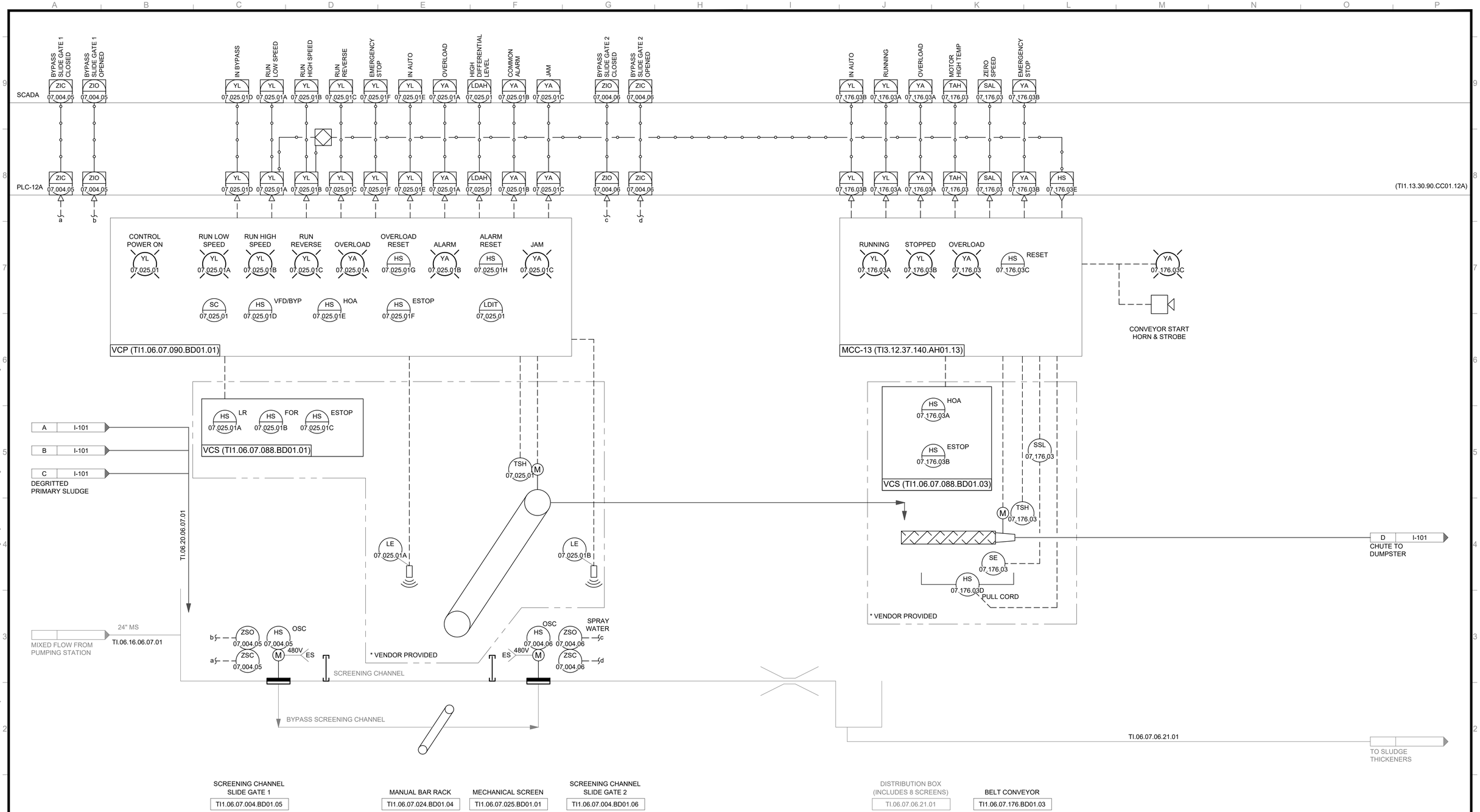
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TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
INSTRUMENTATION
HYDROGRITTER CLASSIFIER P&ID

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. I-101.00

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Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES NEW YORK, NEW YORK

STATE OF NEW YORK RYAN J. BOBKA 092056 LICENSED PROFESSIONAL ENGINEER 10/15/26

Environmental Protection

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PORTFOLIO MANAGER: E. LOCKNER


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TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
INSTRUMENTATION
SCREEN P&ID

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. I-102.00

All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Wastewater Treatment.



NOTE: STAIRWELL EXHAUST FANS EF-2 IS NOT SHOWN. MONITORING AND CONTROL FUNCTIONS ARE DEFINED ON H-502.

BID SET

SUBMITTAL DATE: OCTOBER 2026

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SECTION MANAGER: J. GRUMAN
DRAWN BY: J. HART

BROWN AND CALDWELL ASSOCIATES
NEW YORK, NEW YORK

STATE OF NEW YORK · RYAN J. BOBKA · 092056 · LICENSED PROFESSIONAL ENGINEER · 10/15/26

Environmental Protection

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PORTFOLIO MANAGER: E. LOCKNER

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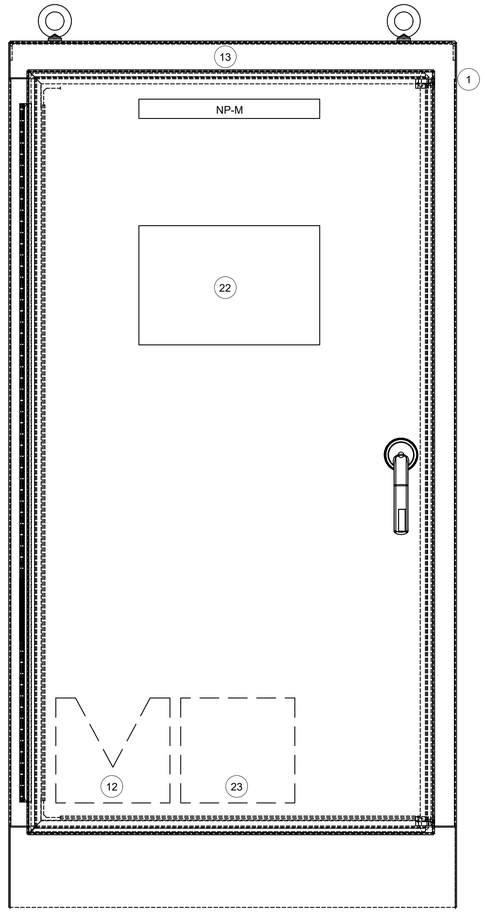
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TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
INSTRUMENTATION
HVAC MONITORING P&ID

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. I-103.00

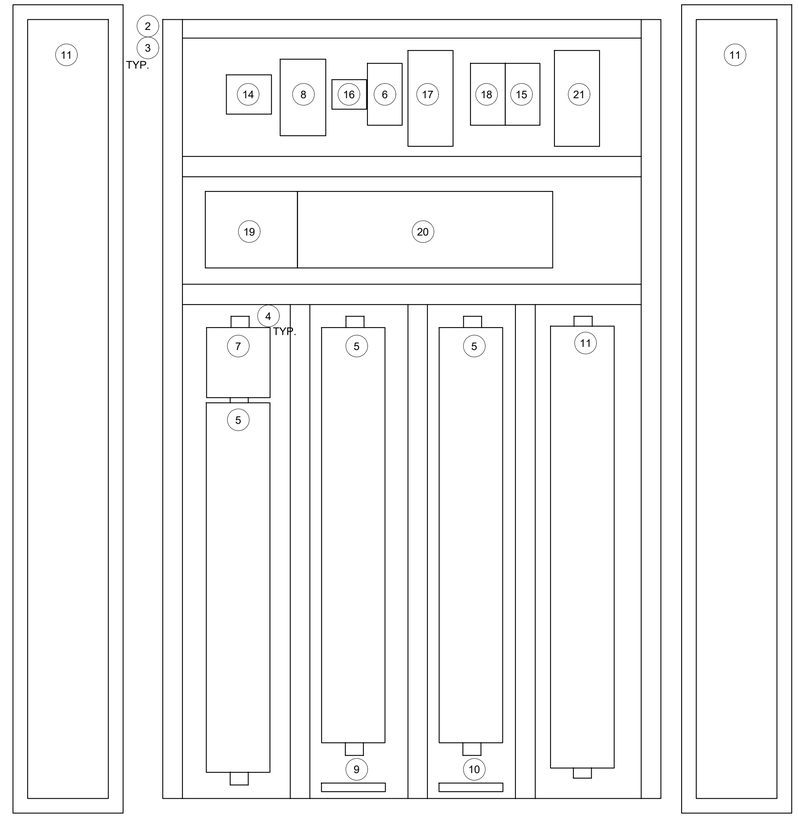
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PLC ENCLOSURE LAYOUT

MAXIMUM DIMENSIONS: 72" H x 36" W x 20" D



PLC SUBPANEL LAYOUT

MAXIMUM DIMENSIONS: 68" H x 32" W

NAMEPLATE SCHEDULE	
NAMEPLATE	TEXT
NP-M	PLC-12A CONTROL PANEL

MAJOR COMPONENT DESCRIPTION	
ITEM	DESCRIPTION
1	ENCLOSURE
2	SUBPANEL (BACK)
3	WIREWAY
4	DIN RAIL
5	TERMINAL BLOCKS, BARRIERS, END ANCHORS
6	CIRCUIT BREAKER
7	SIGNAL SURGE SUPPRESSOR
8	RECEPTACLE
9	GROUND BAR

MAJOR COMPONENT DESCRIPTION	
ITEM	DESCRIPTION
10	INSTRUMENT GROUND BAR
11	CONTROL RELAYS
12	PRINT POCKET
13	LIGHT
14	TVSS
15	24VDC DISTRIBUTION TERMINALS
16	120VAC TERMINALS AND FUSES
17	24VDC POWER SUPPLY
18	24VDC FUSES

MAJOR COMPONENT DESCRIPTION	
	DESCRIPTION
19	PLC PROCESSOR
20	PLC I/O MODULES
21	ETHERNET SWITCH
22	OPERATOR INTERFACE TERMINAL
23	UNINTERRUPTIBLE POWER SUPPLY

NYC Environmental Protection BWT

BID SET

SUBMITTAL DATE: OCTOBER 2026

GRAPHIC SCALES CHECK BEFORE USE

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NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY: R. BOBKA
DRAWN BY: J. HART
CHECKED BY: G. BUNIMOVICH
DESIGN LEAD: R. BOBKA
SECTION MANAGER: J. GRUMAN

Brown AND Caldwell
BROWN AND CALDWELL ASSOCIATES
NEW YORK, NEW YORK

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ACCOUNTABLE MANAGER: Y. LIN
PORTFOLIO MANAGER: E. LOCKNER

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www.nyc.gov/dep

TI-181
MULTI-RAKE SCREEN AND DEGRITTING SYSTEM INSTALLATION AT TALLMAN ISLAND WRRF
INSTRUMENTATION
PLC CONTROL PANEL LAYOUT

DATE: OCTOBER 2026
SHEET NO:
DRAWING NO. I-501.00

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