CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTEWATER TREATMENT

TO ALL BIDDERS FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:

BB-236

Reconstruction of Cyclone Degritters and Grit Washers
at the Bowery Bay WRRF

Borough of Queens
New York

ADDENDUM NO. 1

This Addendum is issued for the purpose of amending the requirements of the Contract Documents and is hereby made a part of said Contract Documents to the same extent as though it was originally included therein.

This Addendum consists of seven (7) pages, in addition to two (2) attachments.

The pages of this Addendum are numbered sequentially. All Bidders should check this book carefully to verify that all pages are included. Should any pages be missing, notify the Commissioner in writing as soon as possible.

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Attachments

ATTACHMENT 1 – CONTRACT DRAWINGS

ATTACHMENT 2 – QUESTIONS AND ANSWERS

NOTES:

1. **This complete Table of Contents should be signed, dated, detached from the book and submitted by the Bidder with their bid.**

Lisa F. Garcia
Commissioner

I acknowledge receipt of Addendum No. 1 for Contract BB-236, Reconstruction of Cyclone Degritters and Grit Washers at the Bowery Bay WRRF.

_____

NAME OF BIDDER

By: _____

Date: _____

Reconstruction of Cyclone Degritters and Grit Washers at the Bowery Bay WRRF

Contract BB-236

Addendum No. 1 to the Contract Documents

CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTEWATER TREATMENT

BB-236
Reconstruction of Cyclone Degritters and Grit Washers
at the Bowery Bay WRRF

ADDENDUM NO. 1

DETAILED SPECIFICATION

1. **Section D-1.7.A** delete "*M-03*" and insert "*M-04*".

2. **Section D-3.6** insert the following paragraphs immediately after the section title "**D-3.6 LABOR AND MATERIALS:**" and before the heading "**MECHANICAL SPECIFICATIONS**":

MANUFACTURERS

A. Equipment/Materials provided under this Specification shall be manufactured (including all standard equipment, unless specified) by:

1. Trillium Flow Technologies (WEMCO),

2. Or approved equal.

B. The Contractor shall supply products modified as necessary by the manufacturer to provide the specified features and to meet the specified operating conditions. The grit cyclone, classifier, and controls shall be provided by a single supplier who will take full responsibility for the system.

SPARE PARTS, SPECIAL TOOLS, AND SUPPLIES

A. The Contractor shall provide spare parts and special tools necessary to service, disassemble, repair and adjust the equipment furnished under this Specification.

B. Spare parts shall include the following:

Grit Cyclone

1. Four (4) sets of replacement liners (for all sections excluding apex liner covered below).

2. Eight (8) replacement apex liners.

3. Eight (8) sets of replacement vortex finder gaskets.

4. Eight (8) sets of retainer rings or retainer plates (if applicable).

Grit Classifier

1. *Four (4) lower bearing rebuild kits with bearings and seals.*
2. *Four (4) spare V-belt sets (if applicable).*
3. *One (1) lower bearing tool (if required).*
4. *Four (4) lock bushings (if required).*
5. *Four (4) sets of wearing shoes with nuts and bolts.*

SOURCE QUALITY CONTROL / SHOP TESTS

A. *Certified Witness shop tests shall be performed as specified herein.*
   1. *Certified shop tests for motors shall be performed.*
   2. *Certified shop tests for instrumentation and controls shall be performed.*

B. *A visual inspection of the unit to confirm Project requirements.*

C. *A no load test run on each unit to confirm that no oil or water leaks, excessive lubricant temperature, excessive noise and excessive vibration occur. Any causes for leaks, excessive sound, vibration, or lubricant temperature shall be corrected before shipment.*

D. *Factory testing shall be performed on one (1) complete unit using a simulated test loop consisting of a mixture of water and sand pumped to the cyclones to simulate operating conditions.*
   1. *A known volume and weight of water shall be added to the test loop such that the resultant pumped product has a content of approximately one percent (1%) solids by weight entering the cyclones.*

E. *Flow shall be directed to flow through the cyclones and test samples shall be taken at the cyclone inlet and the classifier weir after allowing the system to run for five (5) minutes to stabilize the sand concentrations.*

F. *Samples shall be sent to a third-party laboratory to be analyzed. Analysis shall include weight, volume, and screening sieves to demonstrate compliance with the design criteria.*

G. *The Contractor shall provide a brief letter report certifying that the unit has passed the specified test and inspection requirements. The entire assembly shall be prepared for shipment in accordance with the manufacturer's recommendations.*

MANUFACTURER'S REPRESENTATIVE

A. *The Contractor shall provide the service of the manufacturer's representative to assist in the installation of equipment; check the installation before the equipment is placed*

into operation; assist in the start-up of the equipment; and train the plant operations and the maintenance staff in the care, operation, and maintenance of the equipment.

B. *The Contractor shall provide the services of the manufacturer's representative at such times and for such duration of time as are needed to perform the tasks required of the representative, as listed below. At a minimum the services of the manufacturer's representative shall be provided as indicated herein below. The number of visits and person-days per visit indicated below shall be understood as referring to the minimum required services for the lot of equipment provided under this Specification.*

C. *The Engineer reserves the right to require that any unused person-days from any visit be applied to any other specified visit.*

Condition	*Visits*	*Person-Days per Visit*
Installation	*6*	*2*
Field testing	*3*	*2*
Start-up	*3*	*2*
Training	*2*	*1*

D. *Person-days shall be understood only as days spent onsite (not in transit).*

E. *The manufacturer's representative shall be a direct employee of the equipment manufacturer, with at least three (3) years' experience in the installation, testing, training and start-up of equipment of the type provided under this Specification. The manufacturer's sales and marketing personnel will not be accepted as manufacturer's representatives.*

F. *The manufacturer's representative shall sign in and out at the office of the Engineer each day they are at the Site.*

G. *Reports: The Contractor shall submit a report from the manufacturer for each visit to the Site of the manufacturer's representative. The report shall provide complete information regarding the visit, including, but not limited to, dates, times, subject equipment, tasks performed, persons contacted, problems corrected, test results, training provided, and other pertinent information.*

H. *In addition to the above, the Contractor shall provide the services of person(s) authorized by the manufacturer to witness the unloading at the Site of the equipment provided under this Specification, and to ascertain the condition of said equipment. Manufacturers' sales and marketing personnel may be accepted as authorized person(s) to perform these specific tasks. The Contractor shall submit to the Engineer a report, completed by the authorized person(s) and certified by the equipment manufacturer, documenting the findings of the authorized person(s).*

3. **Section D-3.6.MECHANICAL SPECIFICATIONS.B.3.a)** delete "*ASTM A53 Grade B steel*" and insert "*ASTM A312 Type 316L stainless steel*".

4. **Section D-3.6.MECHANICAL SPECIFICATIONS.A.4** delete "*shall 8-inch*" and insert "*shall be 8-inch (rated at 900 gpm and 8-15 psig)*".

5. **Section D-3.6.ELECTRICAL SPECIFICATIONS.B.2.B)** delete Items 4 through 11 and insert the following in their place:

    4. *When anti-friction bearings are furnished on horizontal motors for ratings to 500 horsepower and speeds to 3600 RPM they shall have a minimum bearing life of 100,000 hours as defined by AFBMA. Suitable fittings shall be provided to permit convenient positive purging of old grease during regreasing operation. Close running shaft seals shall prevent leakage of grease as well as prevent the entrance of foreign materials such as water and dirt into the bearing area. Motors equipped with anti-friction bearings shall have the appropriate AFBMA number stamped on a nameplate attached to the motor.*

    5. *When furnished, sleeve bearings shall be ring-oiled with an adequate, integral self-cooled oil reservoir. The bearing sleeves shall be lined with a high tin content babbitt to minimize oil contamination. Close running shaft seals shall prevent oil leakage as well as prevent entrance of foreign material such as water and dirt into the bearing area. Oil level sight gages with permanently marked easily discernible oil level shall be provided. In addition, inspection openings to observe the oil rings shall also be provided.*

    6. *When required by motor speed and bearing size, provision shall be made for forced lubrication. The oil supply shall be supplied with motor. In addition, oil rings and an adequate oil reservoir in the bearing housings shall be provided to permit orderly shutdown of the motor in the event of failure of the forced feed lubrication system.*

    7. *Vertical motors shall be provided with thrust bearings adequate for all thrusts to which they can be subjected. The rated minimum life of the thrust bearings shall be at least 15,000 hours when operated at rated speed and full load thrust. The driven equipment manufacturer shall supply the motor manufacturer with the speed and thrust conditions required by the driven equipment.*

    8. *Submersible motor bearings shall be permanently sealed and lubricated. Anti-friction guide and thrust bearings shall be replaceable. Bearings shall have a rated minimum life of 15,000 hours.*

EXHIBIT A

1. Replace Mechanical Drawing M-01 with the copy included with Attachment 1.

2. Replace Electrical Drawings E-01 through E-10 in their entirety with the copy included with Attachment 1 (E-01 through E-12).

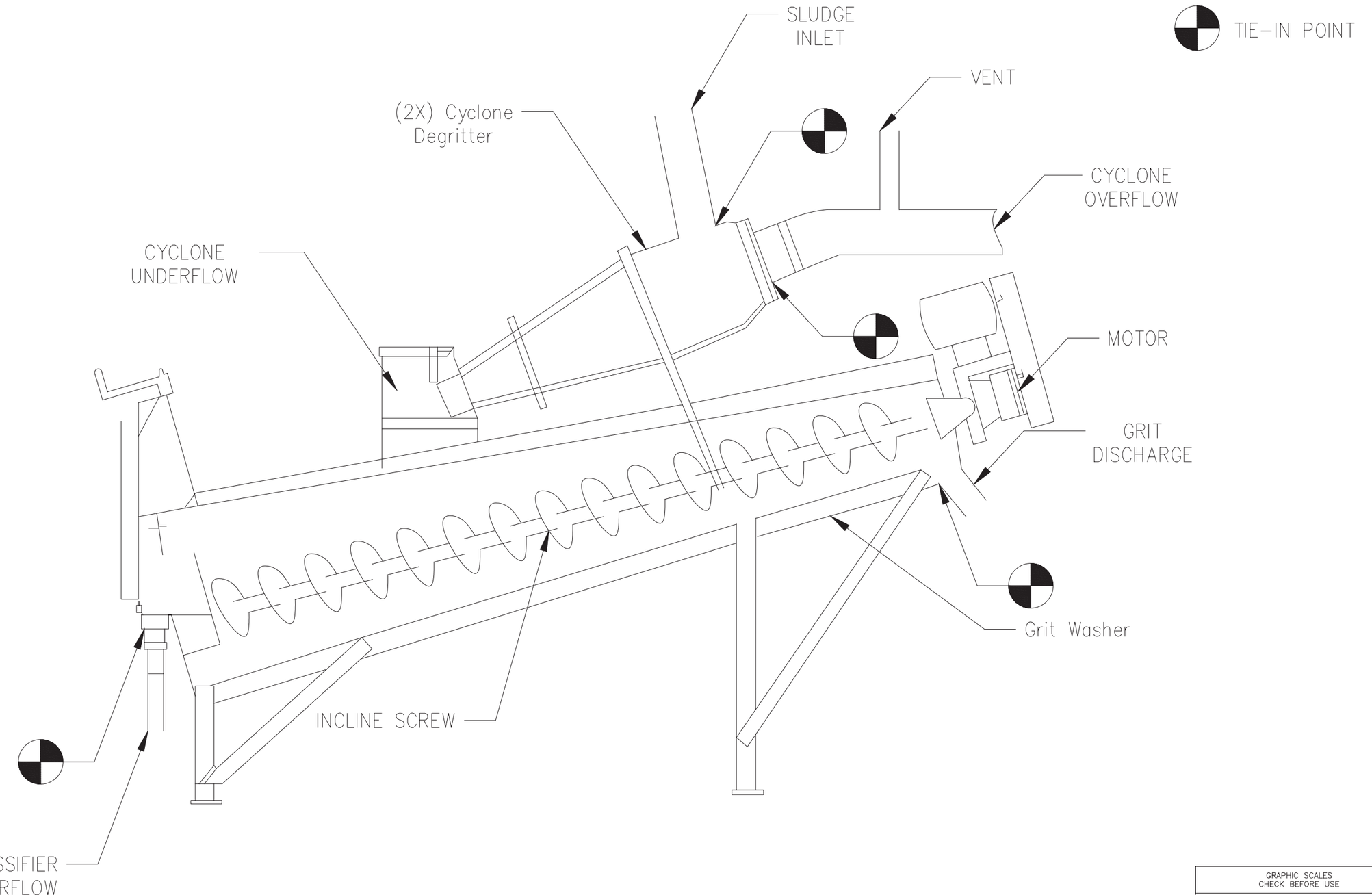
BB-236

Reconstruction of Cyclone Degritters and Grit Washers
at the Bowery Bay WRRF

ADDENDUM NO. 1

ATTACHMENT 1

DWG M-01
DWG E-01
DWG E-02
DWG E-03
DWG E-04
DWG E-05
DWG E-06
DWG E-07
DWG E-08
DWG E-09
DWG E-10
DWG E-11
DWG E-12



GRAPHIC SCALES CHECK BEFORE USE

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NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY: ZA
DRAWN BY: LAB
CHECKED BY: AG
DESIGN LEAD: ZA
CHIEF ENGINEER: IA

Environmental Protection

PROJECT ENGINEER
ZACCHAEUS AKINLEYE, P.E.

AREA ENGINEER
AKIMU GARUBA, P.E.

CHIEF, MECHANICAL ENGINEER
IAN ANDERSON, P.E.

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

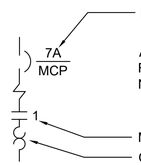
CAPITAL PROJECT DESCRIPTION NAME
LOCATION, SITE NAME
JOB DESCRIPTION
BB 236 - RECONSTRUCTION OF BOWERY BAY GRIT WASHERS
GRIT WASHER PARTS

DATE: NOV 2022
SCALE: NTS
SHEET NO: 1 OF 5
DRAWING NO. **M–01**

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

Last Saved By: Sejaz Last Date Saved: 9/17/2018 9:51 AM Date & Time Plotted: 11/19/2026 12:34 AM
Paper Size Printed/Plotted: ANSI full bleed B (17.00 x 11.00 Inches) Plot Scale:1:2 XREF Plot Style Table: BEDC_Acad(N).ctb
Drawing File Name & Drive Location: \\LFKBWTFENG\Mechanicol Section Contracts\Bowery Bay\BB-236 – 1332627_Reconstruction of Grit Washers\01_Design_Files\1.01_Drawings\M-01.dwg

ONE LINE SYMBOLS



MOTOR CIRCUIT PROTECTOR RATING

AC COMBINATION
FULL VOLTAGE
NON-REVERSING STARTER

MOTOR CONTACTOR RATING

OVERLOAD RELAY



480V, 3 POLE, MOLDED CASE CIRCUIT BREAKER. MINIMUM SYMMETRICAL INTERRUPTING RATING AS NOTED ON DWGS.
AT - TRIP RATING
AF - FRAME SIZE



KIRK KEY INTERLOCK



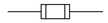
MOTOR OR ACTUAL HORSEPOWER AS SHOWN



MOTOR OPERATED VALVE ACTUATOR



DRAWOUT DEVICES



FUSE (CURRENT LIMITING TYPE SHOWN AS CLF)



GROUND FAULT CURRENT TRANSFORMER
SIZE AS REQUIRED



CURRENT TRANSFORMER, RATIO AS SHOWN



POTENTIAL TRANSFORMER, 480-120V UNLESS SHOWN OTHERWISE, SIZE AS REQ'D



AMMETER - AMMETER SWITCH



VOLTMETER - VOLTMETER SWITCH



JUNCTION BOX



POWER JUNCTION BOX (WITH TERMINAL STRIP)



FUSED DISCONNECT SWITCH



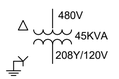
MOTOR STARTER/CONTROLLER
(NON COMBINATION-COMBINATION-MANUAL)
RV DENOTES REDUCED VOLTAGE



VARIABLE FREQUENCY DRIVE



NONFUSED DISCONNECT SWITCH



TRANSFORMER: SIZE, VOLTAGE &
CONFIGURATION AS SHOWN.
△ = DELTA
⏚ = GROUNDED WYE

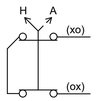
CONTROL SYMBOLS



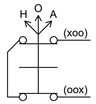
MOMENTARY CONTACT PUSH BUTTON
NORMALLY OPEN



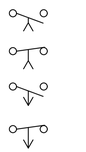
MOMENTARY CONTACT PUSH BUTTON
NORMALLY CLOSED



TWO POSITION MAINTAINED CONTACT
SELECTOR SWITCH, SWITCHING AS INDICATED



THREE POSITION MAINTAINED CONTACT
SELECTOR SWITCH, SWITCHING AS INDICATED
HOA: HAND-OFF-AUTO
TOR: TEST-OFF-REMOTE



NORMALLY OPEN — TIME DELAY AFTER COIL ENERGIZED
NORMALLY CLOSED — TIME DELAY AFTER COIL ENERGIZED
NORMALLY OPEN — TIME DELAY AFTER COIL DE-ENERGIZED
NORMALLY CLOSED — TIME DELAY AFTER COIL DE-ENERGIZED

NORMALLY OPEN CONTACT



NORMALLY CLOSED CONTACT



LEVEL SWITCH, LIQUID, NORMALLY CLOSED



PRESSURE OR VACUUM SWITCH, NORMALLY CLOSED



TEMPERATURE SWITCH, NORMALLY CLOSED



FLOW SWITCH, AIR OR WATER, NORMALLY CLOSED

LIMIT SWITCH OR TORQUE SWITCH, NORMALLY CLOSED



SOLENOID VALVE COIL

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



MOTOR STARTER/CONTACTOR COIL
OTHER COIL DESIGNATIONS
S - SLOW F - FORWARD L - LOW
F - FAST R - REVERSE H - HIGH
O - OPEN CL - CLOSE C - CONTACTOR



RELAY COIL, DESIGNATIONS AS FOLLOWS:
CR - CONTROL RELAY
OL - OVERLOAD RELAY
TD - TIME DELAY RELAY
AR - ALARM RELAY
RR - READY RELAY
SR - SEAL WATER RELAY
TR - TEMPERATURE RELAY



MOTOR OR ACTUAL HORSEPOWER AS SHOWN



CONNECTION POINT

CONTROL SYMBOLS CONT.



DISCONNECT SWITCH
SIZE AS SHOWN



GROUND CONNECTION

FIELD LOCATED DEVICE

DEVICE LOCATED AT MOTOR

DEVICE LOCATED IN CONTROL PANEL

CONDUCTOR CROSSOVER

TERMINATION

CONNECTION

REMOTE TERMINATIONS

ELAPSED TIME METER

SHIELDED WIRE WITH GROUND

MOTOR

SWITCH - TWO POSITION MAINTAINED CONTACT
SELECTOR STOP-START

SWITCH - DISCONNECT OPEN

SWITCH - CIRCUIT INTERRUPTER OPEN

OVERLOAD HEATER THREE PHASE CONDITION

POWER LAYOUT SYMBOLS

CONDUIT CONCEALED IN CEILING, WALLS, BELOW OR IN FLOOR SLAB (UNLESS NOTED OTHERWISE)

CONDUIT EXPOSED

CONDUIT TURNING DOWN

CONDUIT TURNING UP

CONDUIT CAPPED

FIELD CONTROL PANEL

JUNCTION BOX WITH TERMINAL BLOCKS FOR CONTROL WIRING AND HINGED DOOR. WHEN REQUIRED, DOOR MOUNTED DEVICES SHALL BE INCLUDED. BOX SIZE TO BE DETERMINED BY ELECTRICAL CONTRACTOR. NEMA RATING TO MATCH AREA AS DESCRIBED ON THE CONTRACT DRAWINGS.

NON-FUSED DISCONNECT SWITCH NEMA 4X STAINLESS STEEL ENCLOSURE UNLESS NOTED OTHERWISE. RATING SHALL BE 30A, 3 POLE UNLESS NOTED OTHERWISE.

TYPICAL HOMERUN TO PANELBOARD. TICK MARKS INDICATE WIRE QUANTITY, NUMBERS INDICATE CIRCUITRY
ALL HOMERUNS & LIGHTING CONDUITS SHALL BE 3/4" RGS CONDUIT WITH 2#12 & 1#12 GND AWG WIRES UNLESS NOTED OTHERWISE

JUNCTION BOX, SIZE TO BE DETERMINED BY ELECTRICAL CONTRACTOR
( ) SEE IDENTIFICATION BELOW
F - FLUSH

FIELD INSTRUMENT

HEAT TRACE CONTROL PANEL

POWER PANEL / LOAD CENTER

LIGHTING PANEL

MANHOLE

HANDHOLE

TRANSFORMER

EQUIPMENT TO BE DEMOLISHED

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

NO.	DATE	DESCRIPTION	APPR'D.

REVISIONS

DESIGNED BY: A. LUMANTA
CHECKED BY: E. JAMES
DESIGN LEAD: E. JAMES
SECTION MANAGER: E. FREDERICK

DRAWN BY: A. LUMANTA

ELECSYS

Environmental Protection

PROJECT ENGINEER
ZACCHAEUS AKINLEYE, P.E.

AREA ENGINEER
AKIMU GARUBA, P.E.

CHIEF, MECHANICAL ENGINEER
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BB 236
BOWERY BAY WWTP
RECONSTRUCTION OF GRIT WASHERS
ELECTRICAL
SYMBOLS AND LEGEND

DATE: MAY 2026
SCALE: NOT TO SCALE
SHEET NO: 1 OF 12
DRAWING NO. E–01

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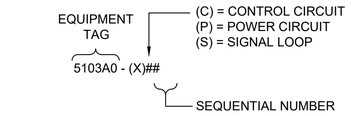
Date Plotted: 5/1/2026 11:00 AM\Author:alumanta\File Location:p:\projects\2508 – brown and caldwell – nyc dep – pw–120 bb–01\900–cad–gis\910 cad_bim\02–sheets\e\e–01.dwg

GENERAL NOTES

1. ALL POWER AND LIGHTING CONDUITS ARE SHOWN DIAGRAMATICALLY. EXACT RUNS SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD, EXCEPT WHERE SPECIFICALLY DIMENSIONED ON PLANS.
2. EXACT CONDUIT STUB-UP LOCATIONS ARE TO BE DETERMINED BY THE CONTRACTOR BASED ON THE CERTIFIED MANUFACTURER'S DRAWINGS OF THE RESPECTIVE EQUIPMENT. CONDUITS SHALL BE INSTALLED TO AGREE WITH THE EQUIPMENT FURNISHED.
3. REFER TO THE STRUCTURAL DRAWINGS FOR EXPANSION JOINT LOCATIONS.
4. ALL CONTRACT AREAS CLASSIFIED AS OUTDOOR, WET, DAMP, HAZARDOUS OR CORROSIVE LOCATIONS SHALL HAVE PVC COATED RGS CONDUIT, NEMA 4X STAINLESS STEEL JUNCTION AND PULL BOXES, WATERTIGHT DEVICES, ETC AS SPECIFIED. CONDUIT SUPPORT SYSTEMS SHALL BE TYPE 316 STAINLESS STEEL INCLUDING BUT NOT LIMITED TO PREFORMED CHANNEL, THREADED ROD, FASTENERS AND ALL RELATED APPURTENANCES. AREAS CLASSIFIED AS HAZARDOUS SHALL HAVE ELECTRICAL EQUIPMENT SUITABLE FOR THE CLASSIFICATION AND ITS INSTALLATION SHALL COMPLY WITH THE NEC IN RELATION TO THE CLASS & GROUP AS SHOWN ON CONTRACT DRAWINGS.
5. WALL & FLOOR OPENINGS SPECIFICALLY SHOWN SHALL BE COORDINATED BETWEEN TRADES.
6. IN PROCESS AREAS ALL PENETRATIONS FOR CONDUIT ENTRIES TO ELECTRICAL ENCLOSURES SHALL BE MADE FROM THE BOTTOM OR SIDE OF ENCLOSURE.
7. ALL CONDUITS RUNS SHALL BE EXPOSED. ENCASEMENT OF CONDUIT RUNS IN FLOORS OR SLABS IS PROHIBITED.
8. CONTRACTOR SHALL PROVIDE CONDUIT TAGGING IN ACCORDANCE WITH THE FOLLOWING:

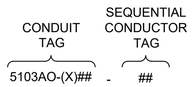
POWER, CONTROL, AND SIGNAL CONDUIT



120V POWER



WIRE TAGGING AT CONDUCTOR TERMINALS TERMINALS AND IN JUNCTION BOXES SHALL BE AS FOLLOWS:



CONTRACTOR SHALL PROVIDE PHYSICAL CONDUIT AND WIRE TAGS IN ACCORDANCE WITH THE SPECIFICATIONS. TAGGING CONVENTION SHALL BE SUBMITTED FOR REVIEW BY THE ENGINEER. UPON COMPLETED REVIEW OF CONDUIT AND WIRE TAGGING CONVENTION, CONTRACTOR SHALL PROVIDE COMPLETE PROPOSED CONDUIT AND WIRE TAG SCHEDULE FOR ENGINEER REVIEW PRIOR TO INSTALLATION OF CONDUIT AND WIRE. UPON COMPLETION OF INSTALLATION CONTRACTOR SHALL PROVIDE COMPLETE AS-BUILT CONDUIT AND WIRE SCHEDULE (ONE PER SITE) FOR REVIEW BY ENGINEER.

ABBREVIATIONS

A	-	AMPS
AFF	-	ABOVE FINISHED FLOOR
AIC	-	AMPS INTERRUPTING CAPACITY
AM	-	AMMETER
ATS	-	AUTOMATIC TRANSFER SWITCH
AWG	-	AMERICAN WIRE GAUGE
BKR	-	BREAKER
C	-	CONDUIT
CB	-	CIRCUIT BREAKER
CKT	-	CIRCUIT
CLF	-	CURRENT LIMITING FUSE
CPT	-	CONTROL POWER TRANSFORMER
CT	-	CURRENT TRANSFORMER
DC	-	DIRECT CURRENT
DEP	-	DEPARTMENT OF ENVIRONMENTAL PROTECTION
DMU	-	DIGITAL MULTIMETERING UNIT
DWG	-	DRAWING
EL	-	ELEVATION
ETM	-	ELAPSED TIME METER
FCP	-	FIELD CONTROL PANEL
FVNR	-	FULL VOLTAGE NON-REVERSING
FVR	-	FULL VOLTAGE REVERSING
GFCT	-	GROUND FAULT CURRENT TRANSFORMER
GND	-	GROUND
HID	-	HIGH INTENSITY DISCHARGE
HTCP	-	HEAT TRACE CONTROL PANEL
HTPC	-	HEAT TRACE POWER CONNECTION
JB	-	JUNCTION BOX
KCMIL	-	ONE THOUSAND CIRCULAR MILS
KW	-	KILOWATTS
LAP	-	LOCAL ALARM PANEL
LC	-	LIGHTING CONTACTOR
LCP	-	LOCAL CONTROL PANEL
LCS	-	LOCAL CONTROL STATION
LP	-	LIGHTING PANEL
LPI	-	LIGHTNING PROTECTION INSTITUTE
LPS	-	LIGHTNING PROTECTION SYSTEM
MCC	-	MOTOR CONTROL CENTER
MCP	-	MOTOR CIRCUIT PROTECTOR
MPC	-	MINI POWER CENTER
NEC	-	NATIONAL ELECTRICAL CODE
NFPA	-	NATIONAL FIRE PROTECTION ASSOCIATION
NEM	-	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NC	-	NORMALLY CLOSED
NO	-	NORMALLY OPEN, NUMBER
NTS	-	NOT TO SCALE
NYCEC	-	NEW YORK CITY ELECTRICAL CODE
PB	-	PULL BOX
PCP	-	PROCESS CONTROL PANEL
PP	-	POWER PANEL
PT	-	POTENTIAL TRANSFORMER
RGS	-	RIGID GALVANIZED STEEL
RMS	-	ROOT MEAN SQUARE
RVAT	-	REDUCED VOLTAGE AUTO-TRANSFORMER
SP	-	SPARE
SPD	-	SURGE PROTECTION DEVICE
SWGR	-	SWITCHGEAR
TB	-	TERMINAL BLOCK
TSP	-	TWISTED SHIELDED PAIR
TYP	-	TYPICAL
V	-	VOLTS
VFD	-	VARIABLE FREQUENCY DRIVE
VM	-	VOLTMETER
W	-	WATTS
XFMR	-	TRANSFORMER
XP	-	EXPLOSION PROOF

DEMOLITION NOTES

1. THE CONTRACTOR SHALL COORDINATE ALL DEMOLITION WORK WITH THE CITY AND THE ENGINEER. NO EQUIPMENT SHALL BE REMOVED UNTIL APPROVED BY THE ENGINEER.
2. THE CONTRACTOR SHALL REMOVE EQUIPMENT IN CONJUNCTION WITH THE GENERAL SEQUENCE OF CONSTRUCTION. THE CONTRACTOR IS ADVISED THAT THIS IS AN OPERATING PLANT AND CERTAIN ITEMS CANNOT BE REMOVED UNTIL NEW POWER SYSTEMS, EQUIPMENT, ETC. ARE INSTALLED, IN PLACE AND OPERATING.
3. THE CONTRACTOR SHALL DE-ENERGIZE AND SAFE-OFF ALL EQUIPMENT SHOWN TO BE REMOVED UNDER THIS CONTRACT AS REQUIRED. ALL OPENINGS IN WALLS, FLOORS, ENCLOSURES, ETC LEFT DUE TO DEMOLITION OF ELECTRICAL EQUIPMENT SHALL BE PATCHED, SEALED AND PAINTED TO MATCH EXISTING MATERIALS AND SURFACES.
4. REFER TO THE SPECIFICATIONS FOR GENERAL SEQUENCE OF CONSTRUCTION & ADDITIONAL DEMOLITION DETAILS.

EXISTING MCC MODIFICATION AND REPLACEMENT NOTES

1. FURNISH & INSTALL NEW DEVICES AS SHOWN. NEW EQUIPMENT SHALL BE COMPATIBLE WITH THE EXISTING MCC AND SHALL BE FROM THE SAME MANUFACTURER AS THE EXISTING MCC. SHORT CIRCUIT RATINGS SHALL BE THE SAME AS THE EXISTING MCC.
2. CLEAN EXISTING MCC TO BE MODIFIED UNDER THIS CONTRACT BOTH INSIDE AND OUT. REMOVE ALL DIRT & DUST. REMOVE BUCKET AND GREASE JAWS & BLADES. TIGHTEN ALL CONNECTIONS.
3. REMOVALS AND MODIFICATIONS SHALL BE COORDINATED BETWEEN TRADES, THE ENGINEER & THE CITY, AS THIS IS AN OPERATING PLANT AND MUST REMAIN IN OPERATION.
4. WHERE EQUIPMENT IS BEING REMOVED, THE RELATED CONDUIT AND CABLE SYSTEM, FIELD MOUNTED STARTERS, DISCONNECTS, AND CONTROL PANELS, AND ANY RELATED SUPPORTS, SHALL BE REMOVED IN THEIR ENTIRETY.
5. ALL INFORMATION SHOWN IS BELIEVED TO BE CORRECT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES FOUND DURING CONSTRUCTION.
6. PROVIDE SHOP DRAWINGS FOR APPROVAL AND OPERATION & MAINTENANCE MANUALS WITH SCHEMATIC & WIRING DIAGRAMS FOR EACH MCC CUBICLE BEING MODIFIED OR PROVIDED UNDER THIS CONTRACT.

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

NO.	DATE	DESCRIPTION	APPR'D.

REVISIONS

DESIGNED BY: A. LUMANTA
DRAWN BY: A. LUMANTA
CHECKED BY: E. JAMES
DESIGN LEAD: E. JAMES
SECTION MANAGER: E. FREDERICK

ELECSYS

Environmental Protection

PROJECT ENGINEER
ZACCHAEUS AKINLEYE, P.E.

AREA ENGINEER
AKIMU GARUBA, P.E.

CHIEF, MECHANICAL ENGINEER
IAN ANDERSON, P.E.

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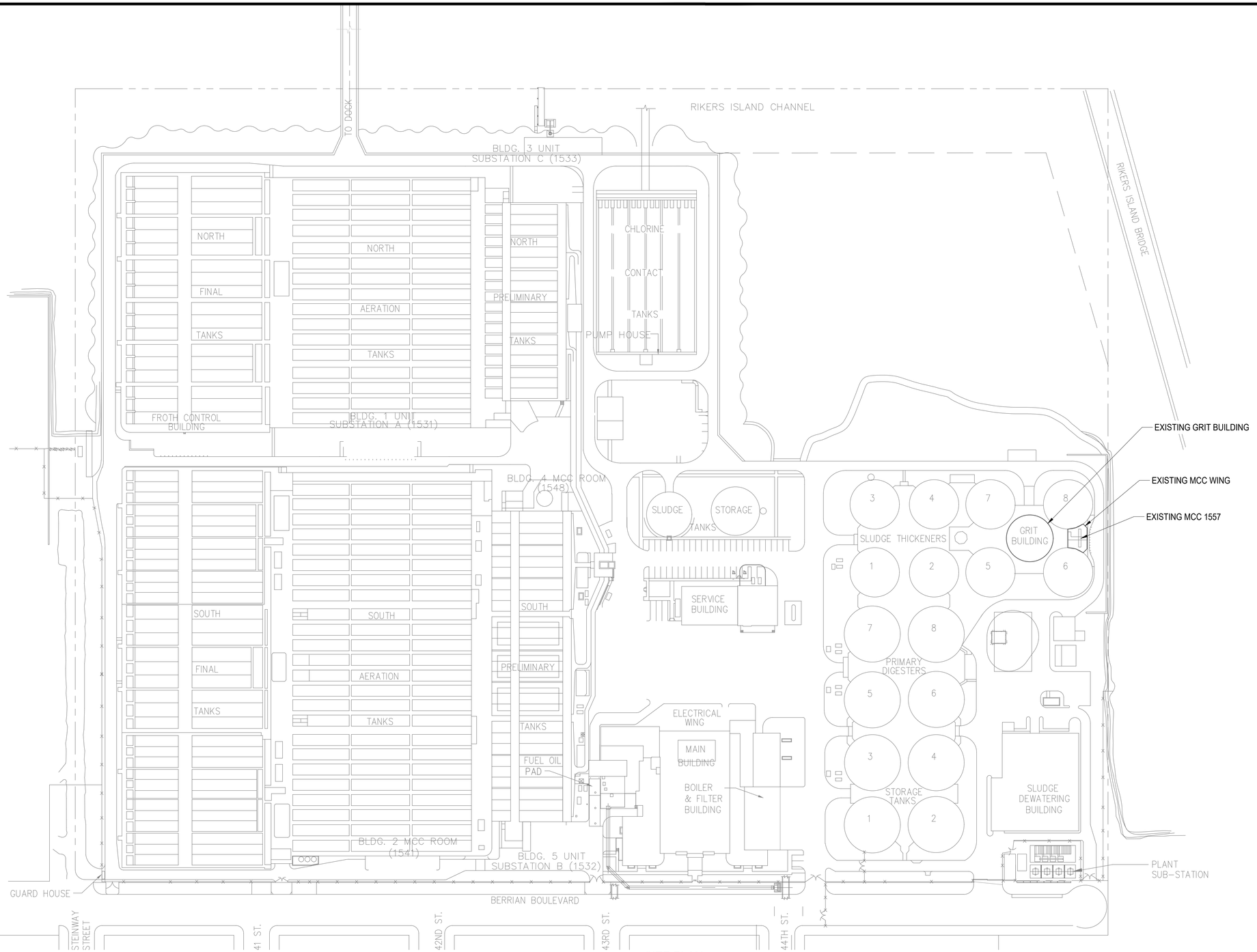
BUREAU OF WASTE WATER TREATMENT
96-05 HORACE HARDING EXPRESSWAY 2nd FLOOR
CORONA, NEW YORK 11368
www.nyc.gov/dep

BB 236
BOWERY BAY WWTP
RECONSTRUCTION OF GRIT WASHERS

ELECTRICAL
ABBREVIATIONS AND NOTES

DATE: MAY 2026
SCALE: NOT TO SCALE
SHEET NO: 2 OF 12
DRAWING NO. E-02

FD174911
Last Save By Date and Time: alumanta \ 4/30/2026 5:46 PM \ Plotstyle Table BEDC_Acad(N).ctb
Date Plotted: 5/1/2026 11:00 AM \ Author: alumanta \ File Location: p: \ projects \ 2508 - brown and caldwell - nyc dep - pw-120 bb-01 \ 900-cad-gis \ 910 cad_bim \ 02-sheets \ e \ e-02.dwg



SITE PLAN

SCALE: 1"=80'-0"

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

NO.	DATE	DESCRIPTION	APPR'D.

REVISIONS

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CHECKED BY: E. JAMES
DESIGN LEAD: E. JAMES
SECTION MANAGER: E. FREDERICK

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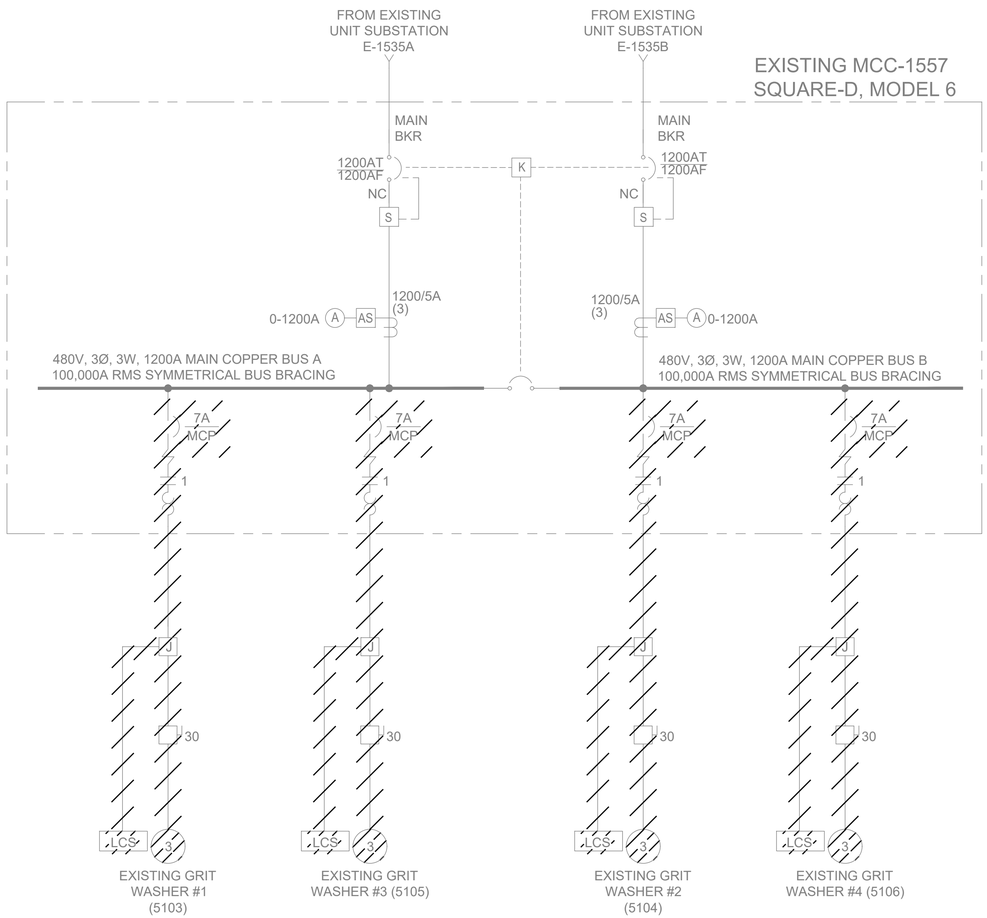
BB 236
BOWERY BAY WWTP
RECONSTRUCTION OF GRIT WASHERS

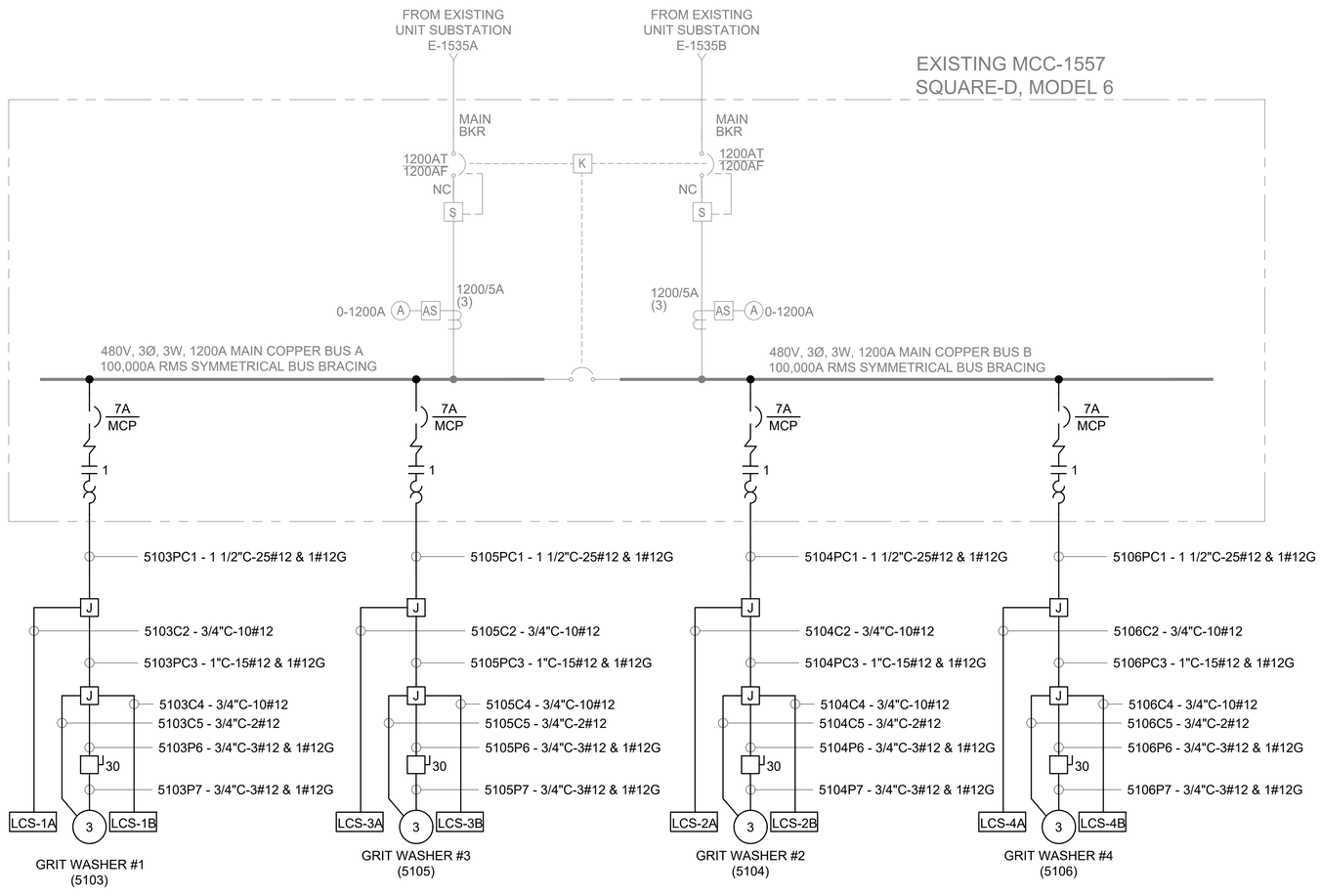
ELECTRICAL
OVERALL SITE PLAN

DATE: MAY 2026
SCALE: AS SHOWN
SHEET NO: 3 OF 12
DRAWING NO. E–03

FD174911
Last Save By Date and Time: alumanta\4/30/2026 6:56 PM\Plotstyle Table\BEDC_Acad(N).ctb
Date Plotted: 5/1/2026 11:00 AM\Author: alumanta\File Location: p:\projects\2508 – brown and caldwell – nyc dep – pw–120 bb–01\900–cad–gis\910 cad_bim\02–sheets\e\e–03.dwg



PARTIAL MCC-1557 ONE LINE DIAGRAM - DEMOLITION



PARTIAL MCC-1557 ONE LINE DIAGRAM - MODIFIED

NOTES:

1. CONTRACTOR SHALL DEMOLISH AND REPLACE GRIT WASHERS #1, 2, 3 AND 4, INCLUDING ASSOCIATED LOCAL CONTROL STATIONS (LCS), DISCONNECT SWITCHES, CONDUIT AND CABLES AS SHOWN.
2. CONTRACTOR SHALL MODIFY THE EXISTING MCC, PROVIDE NEW DOORS, DOOR MOUNTED DEVICES AND ALL INTERNAL COMPONENTS ASSOCIATED WITH EACH BUCKETS AS REQUIRED FOR MODIFICATION.
3. EQUIPMENT DEMOLITION SHOWN SHALL BE STAGED TO MINIMIZE OPERATIONAL IMPACTS. ONLY ONE GRIT WASHER SHALL BE DEMOLISHED OR OUT OF SERVICE AT ANY GIVEN TIME.

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

NO.	DATE	DESCRIPTION	APPR'D.

REVISIONS

DESIGNED BY: A.LUMANTA
DRAWN BY: A.LUMANTA
CHECKED BY: E. JAMES
DESIGN LEAD: E. JAMES
SECTION MANAGER: E. FREDERICK

ELECSYS

Environmental Protection

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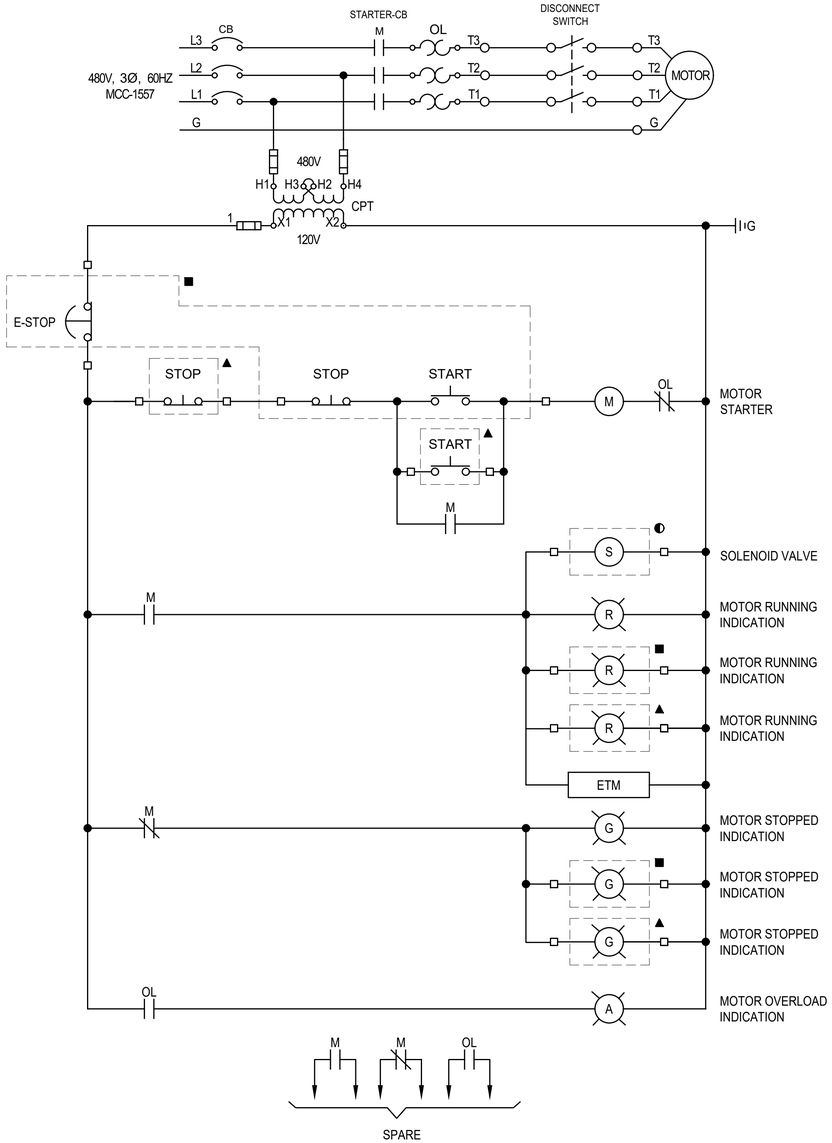
96-05 HORACE HARDING EXPRESSWAY 2nd FLOOR
CORONA, NEW YORK 11368
www.nyc.gov/dep

BB 236
BOWERY BAY WWTP
RECONSTRUCTION OF GRIT WASHERS
ELECTRICAL
EXISTING MCC-1557
PARTIAL ONE LINE DIAGRAM

DATE: MAY 2026
SCALE: NOT TO SCALE
SHEET NO: 4 OF 12
DRAWING NO. E–04

FD174911
Last Save By Date and Time: alumanta\5/1/2026 9:36 AM\Plotstyle Table: BEDC_Acad(N).ctb
Date Plotted: 5/1/2026 11:00 AM\Author: alumanta\File Location: p:\projects\2508 – brown and caldwell – nyc dep – pw–120 bb–01\900–cad–gis\910 cad_bim\02–sheets\e\e–04.dwg

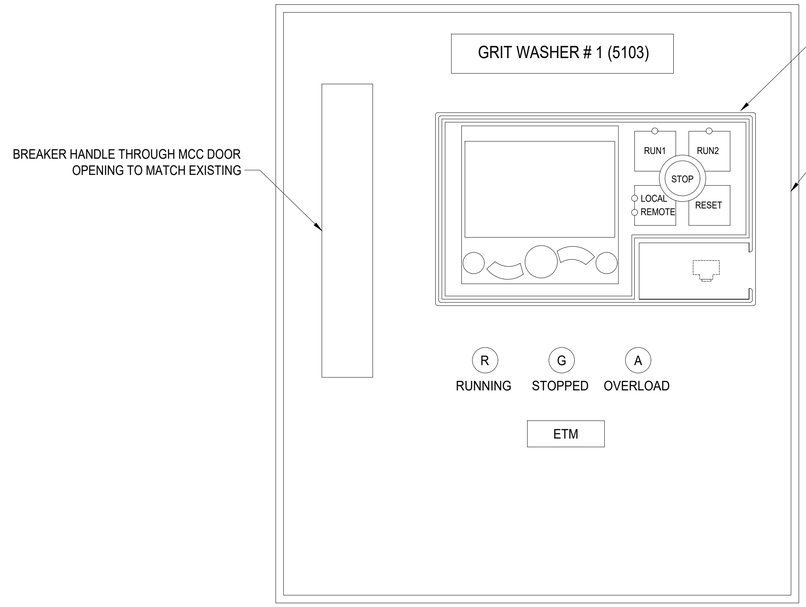


GRIT WASHER CONTROL SCHEMATIC

NOTES:

1. UNLESS OTHERWISE NOTED WITH DEVICE LOCATION IDENTIFIER, ALL DEVICES LOCATION SHOWN ARE LOCATED AT THE MCC.

IDENTIFIER	LOCATION
▲	LOCAL CONTROL STATION (LCS-A) (LOCATED AT EL. 10.00')
■	LOCAL CONTROL STATION (LCS-B) (LOCATED AT EL. 25.00')
◐	MOTOR OR ADJACENT TO THE MOTOR



GRIT WASHER MCC DOOR - FRONT VIEW

(TYPICAL FOR GRIT WASHER #1, #2, #3, #4)

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ACCORDINGLY

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REVISIONS

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CHECKED BY: E. JAMES
DESIGN LEAD: E. JAMES
SECTION MANAGER: E. FREDERICK

ELECSYS

Environmental Protection

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CORONA, NEW YORK 11368
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BB 236
BOWERY BAY WWTP
RECONSTRUCTION OF GRIT WASHERS

ELECTRICAL
BREAKER CONTROL SCHEMATIC
AND BLOCK DIAGRAM

DATE: MAY 2026
SCALE: NOT TO SCALE
SHEET NO: 5 OF 12
DRAWING NO. E-05

FD174911
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Date Plotted: 5/1/2026 11:01 AM\Author:alumanta\File Location:p:\projects\2508 - brown and caldwell - nyc dep - pw-120 bb-01\900-cad-gis\910 cad_bim\02-sheets\e\e-05.dwg

NOTES:

1. CONTRACTOR SHALL DEMOLISH EXISTING STARTER, DOOR MOUNTED DEVICES AND ALL INTERNAL COMPONENTS AS REQUIRED.

SECTION FOR REMOTE PROCESS & HVAC I/O EQUIPMENT	SEE NOTE # 1 → SPARE STARTER	GRIT WASHER 5105	EF THK740411	HV THK730103	ATS-1 FEEDER		SUMP PUMP THK430301	SPARE STARTER	SL THK NO.1 THK SLUDGE GRINDER 1 THK180112	SL THK NO.1 THK SLUDGE GRINDER 2 THK180122	SLUDGE THICKENER NO.7 COLLECTOR MECHANISM THK 180700	SLUDGE THICKENER NO.5 COLLECTOR MECHANISM THK 180500	SLUDGE THICKENER NO.3 COLLECTOR MECHANISM THK 180300	SLUDGE THICKENER NO.1 COLLECTOR MECHANISM THK 180100	MAIN BREAKER NO. 1 (FEED FROM SUB-E 1535A)	TIE BREAKER
	EF THK740404	EF THK740401	GRIT WASHER 5103	HV THK730105	ATS-3 FEEDER	ATS-2 FEEDER	SUMP PUMP THK430311	SEAL WATER PUMP THK460310	SL THK NO.3 THK SLUDGE GRINDER 1 THK180312	SL THK NO.3 THK SLUDGE GRINDER 2 THK180322						
	EF TUN740401	EF THK740405	HV 730101	SPARE	PP-A FEEDER		SPARE STARTER	SEAL WATER PUMP THK460130	SL THK NO.5 THK SLUDGE GRINDER 1 THK180512	SL THK NO.5 THK SLUDGE GRINDER 2 THK180522	SLUDGE THICKENER NO.7A THICKENED SLUDGE THK 180710	SLUDGE THICKENER NO.5A THICKENED SLUDGE THK 180510	SLUDGE THICKENER NO.3A THICKENED SLUDGE THK 180310	SLUDGE THICKENER NO.1A THICKENED SLUDGE THK 180110		
	BUS A POWER SUPPLY	EF THK740409	SPACE	SPARE	EUH THK751601	SPARE	SPARE	SPARE TEMP SEAL WATER SYSTEM CONTROL PANEL	SL THK NO.7 THK SLUDGE GRINDER 1 THK180712	SL THK NO.7 THK SLUDGE GRINDER 2 THK180722	SLUDGE THICKENER NO.7B THICKENED SLUDGE THK 180720	SLUDGE THICKENER NO.5B THICKENED SLUDGE THK 180520	SLUDGE THICKENER NO.3B THICKENED SLUDGE THK 180320	SLUDGE THICKENER NO.1B THICKENED SLUDGE THK 180120		
											SPACE	SPACE	SPACE	SPACE		

EXISTING MCC-1557A ELEVATION - DEMOLITION

TIE SECTION	MAIN BREAKER NO. 2 (FEED FROM SUB-E 1535B)	SLUDGE THICKENER NO.4 COLLECTOR MECHANISM THK 180200	SLUDGE THICKENER NO.4 COLLECTOR MECHANISM THK 180400	SLUDGE THICKENER NO.6 COLLECTOR MECHANISM THK 180600	SLUDGE THICKENER NO.8 COLLECTOR MECHANISM THK 180800	SL THK NO.2 THK SLUDGE GRINDER 1 THK180212	SL THK NO.2 THK SLUDGE GRINDER 2 THK180222	SPARE STARTER FOR SEAL WATER PUMP	SUMP PUMP THK430302	ATS-1 FEEDER		HV THK730102	HV THK730106	EF THK740401	SOUTH CRAC THK760801	SEE NOTE # 1 → SECTION FOR REMOTE PROCESS & HVAC I/O EQUIPMENT
		SLUDGE THICKENER NO.2A THICKENED SLUDGE THK 180210	SLUDGE THICKENER NO.4A THICKENED SLUDGE THK 180410	SLUDGE THICKENER NO.6A THICKENED SLUDGE THK 180610	SLUDGE THICKENER NO.8A THICKENED SLUDGE THK 180810	SL THK NO.4 THK SLUDGE GRINDER 1 THK180412	SL THK NO.4 THK SLUDGE GRINDER 2 THK180422	SEAL WATER PUMP THK460120	SUMP PUMP THK430312	ATS-3 FEEDER	ATS-2 FEEDER	HV THK730104	BOOSTER PUMP NO.7	GRIT WASHER 5106	SPARE STARTER	
		SLUDGE THICKENER NO.2B THICKENED SLUDGE THK 180220	SLUDGE THICKENER NO.4B THICKENED SLUDGE THK 180420	SLUDGE THICKENER NO.6B THICKENED SLUDGE THK 180620	SLUDGE THICKENER NO.8B THICKENED SLUDGE THK 180820	SL THK NO.6 THK SLUDGE GRINDER 1 THK180612	SL THK NO.6 THK SLUDGE GRINDER 2 THK180622	SPARE STARTER	SPARE STARTER FOR SUMP PUMP	PP-B FEEDER		SPARE STARTER	EF THK740407	GRIT WASHER 5104	EF THK740402	
		SPACE	SPACE	SPACE	SPACE	SL THK NO.8 THK SLUDGE GRINDER 1 THK180812	SL THK NO.8 THK SLUDGE GRINDER 2 THK180822	SPARE	SPARE HOIST THK509901	SOUTH ROLL-UP DR THK569902	SPARE	SPACE	EF THK740403	ACC THK760901	SPACE	

EXISTING MCC-1557B ELEVATION - DEMOLITION

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

NO.	DATE	DESCRIPTION	APPR'D.

REVISIONS

DESIGNED BY: A.LUMANTA
DRAWN BY: A.LUMANTA
CHECKED BY: E. JAMES
DESIGN LEAD: E. JAMES
SECTION MANAGER: E. FREDERICK

ELECSYS

Environmental Protection

PROJECT ENGINEER
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CHIEF, MECHANICAL ENGINEER
IAN ANDERSON, P.E.

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BUREAU OF WASTE WATER TREATMENT
96-05 HORACE HARDING EXPRESSWAY 2nd FLOOR
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www.nyc.gov/dep

BB 236
BOWERY BAY WWTP
RECONSTRUCTION OF GRIT WASHERS
ELECTRICAL
EXISTING MCC-1557 ELEVATION DEMOLITION

DATE: MAY 2026
SCALE: NOT TO SCALE
SHEET NO: 6 OF 12
DRAWING NO. E-06

FD174911
Last Save By Date and Time: alumanta\5/1/2026 10:45 AM\Plotstyle Table:BEDC_Acad(N).ctb
Date Plotted: 5/1/2026 11:01 AM\Author:alumanta\File Location:p:\projects\2508 - brown and caldwell - nyc dep - pw-120 bb-01\900-cad-gis\910 cad_bim\02-sheets\e\e-06.dwg

NOTES:

1. CONTRACTOR SHALL MODIFY THE EXISTING MCC, PROVIDE NEW DOORS, DOOR MOUNTED DEVICES AND ALL INTERNAL COMPONENTS ASSOCIATED WITH EACH BUCKETS AS REQUIRED FOR MODIFICATION. SEE DRAWING E-05 FOR MCC DOOR FRONT VIEW.

SECTION FOR REMOTE PROCESS & HVAC I/O EQUIPMENT	SEE NOTE # 1 → SPARE STARTER	GRIT WASHER 5105	EF THK740411	HV THK730103	ATS-1 FEEDER		SUMP PUMP THK430301	SPARE STARTER	SL THK NO.1 THK SLUDGE GRINDER 1 THK180112	SL THK NO.1 THK SLUDGE GRINDER 2 THK180122	SLUDGE THICKENER NO.7 COLLECTOR MECHANISM THK 180700	SLUDGE THICKENER NO.5 COLLECTOR MECHANISM THK 180500	SLUDGE THICKENER NO.3 COLLECTOR MECHANISM THK 180300	SLUDGE THICKENER NO.1 COLLECTOR MECHANISM THK 180100	MAIN BREAKER NO. 1 (FEED FROM SUB-E 1535A)	TIE BREAKER
	EF THK740404	EF THK740401	GRIT WASHER 5103	HV THK730105	ATS-3 FEEDER	ATS-2 FEEDER	SUMP PUMP THK430311	SEAL WATER PUMP THK460310	SL THK NO.3 THK SLUDGE GRINDER 1 THK180312	SL THK NO.3 THK SLUDGE GRINDER 2 THK180322						
	EF TUN740401	EF THK740405	HV 730101	SPARE	PP-A FEEDER		SPARE STARTER	SEAL WATER PUMP THK460130	SL THK NO.5 THK SLUDGE GRINDER 1 THK180512	SL THK NO.5 THK SLUDGE GRINDER 2 THK180522	SLUDGE THICKENER NO.7A THICKENED SLUDGE THK 180710	SLUDGE THICKENER NO.5A THICKENED SLUDGE THK 180510	SLUDGE THICKENER NO.3A THICKENED SLUDGE THK 180310	SLUDGE THICKENER NO.1A THICKENED SLUDGE THK 180110		
	BUS A POWER SUPPLY	EF THK740409	SPACE	SPARE	EUH THK751601	SPARE	SPARE	SPARE	SPARE	TEMP SEAL WATER SYSTEM CONTROL PANEL	SL THK NO.7 THK SLUDGE GRINDER 1 THK180712	SL THK NO.7 THK SLUDGE GRINDER 2 THK180722	SLUDGE THICKENER NO.7B THICKENED SLUDGE THK 180720	SLUDGE THICKENER NO.5B THICKENED SLUDGE THK 180520	SLUDGE THICKENER NO.3B THICKENED SLUDGE THK 180320	SLUDGE THICKENER NO.1B THICKENED SLUDGE THK 180120		
											SPACE	SPACE	SPACE	SPACE		

EXISTING MCC-1557A ELEVATION - MODIFIED

TIE SECTION	MAIN BREAKER NO. 2 (FEED FROM SUB-E 1535B)	SLUDGE THICKENER NO.4 COLLECTOR MECHANISM THK 180200	SLUDGE THICKENER NO.4 COLLECTOR MECHANISM THK 180400	SLUDGE THICKENER NO.6 COLLECTOR MECHANISM THK 180600	SLUDGE THICKENER NO.8 COLLECTOR MECHANISM THK 180800	SL THK NO.2 THK SLUDGE GRINDER 1 THK180212	SL THK NO.2 THK SLUDGE GRINDER 2 THK180222	SPARE STARTER FOR SEAL WATER PUMP	SUMP PUMP THK430302	ATS-1 FEEDER		HV THK730102	HV THK730106	EF THK740401	SOUTH CRAC THK760801	SEE NOTE # 1 → SECTION FOR REMOTE PROCESS & HVAC I/O EQUIPMENT
		SLUDGE THICKENER NO.2A THICKENED SLUDGE THK 180210	SLUDGE THICKENER NO.4A THICKENED SLUDGE THK 180410	SLUDGE THICKENER NO.6A THICKENED SLUDGE THK 180610	SLUDGE THICKENER NO.8A THICKENED SLUDGE THK 180810	SL THK NO.4 THK SLUDGE GRINDER 1 THK180412	SL THK NO.4 THK SLUDGE GRINDER 2 THK180422	SEAL WATER PUMP THK460120	SUMP PUMP THK430312	ATS-3 FEEDER	ATS-2 FEEDER	HV THK730104	BOOSTER PUMP NO.7	GRIT WASHER 5106	SPARE STARTER	
		SLUDGE THICKENER NO.2B THICKENED SLUDGE THK 180220	SLUDGE THICKENER NO.4B THICKENED SLUDGE THK 180420	SLUDGE THICKENER NO.6B THICKENED SLUDGE THK 180620	SLUDGE THICKENER NO.8B THICKENED SLUDGE THK 180820	SL THK NO.6 THK SLUDGE GRINDER 1 THK180612	SL THK NO.6 THK SLUDGE GRINDER 2 THK180622	SPARE STARTER	SPARE STARTER FOR SUMP PUMP	PP-B FEEDER		SPARE STARTER	EF THK740407	GRIT WASHER 5104	EF THK740402	
		SPACE	SPACE	SPACE	SPACE	SL THK NO.8 THK SLUDGE GRINDER 1 THK180812	SL THK NO.8 THK SLUDGE GRINDER 2 THK180822	SPARE	SPARE	HOIST THK509901	SOUTH ROLL-UP DR THK569902	SPACE	EF THK740403	ACC THK760901	SPACE	

EXISTING MCC-1557B ELEVATION - MODIFIED

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IT IS A REDUCED PRINT. SCALE
ACCORDINGLY

NO.	DATE	DESCRIPTION	APPR'D.

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DRAWN BY: A.LUMANTA
CHECKED BY: E. JAMES
DESIGN LEAD: E. JAMES
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BB 236
BOWERY BAY WWTP
RECONSTRUCTION OF GRIT WASHERS
ELECTRICAL
EXISTING MCC-1557 ELEVATION MODIFIED

DATE: MAY 2026
SCALE: NOT TO SCALE
SHEET NO: 7 OF 12
DRAWING NO. E-07

FD174911
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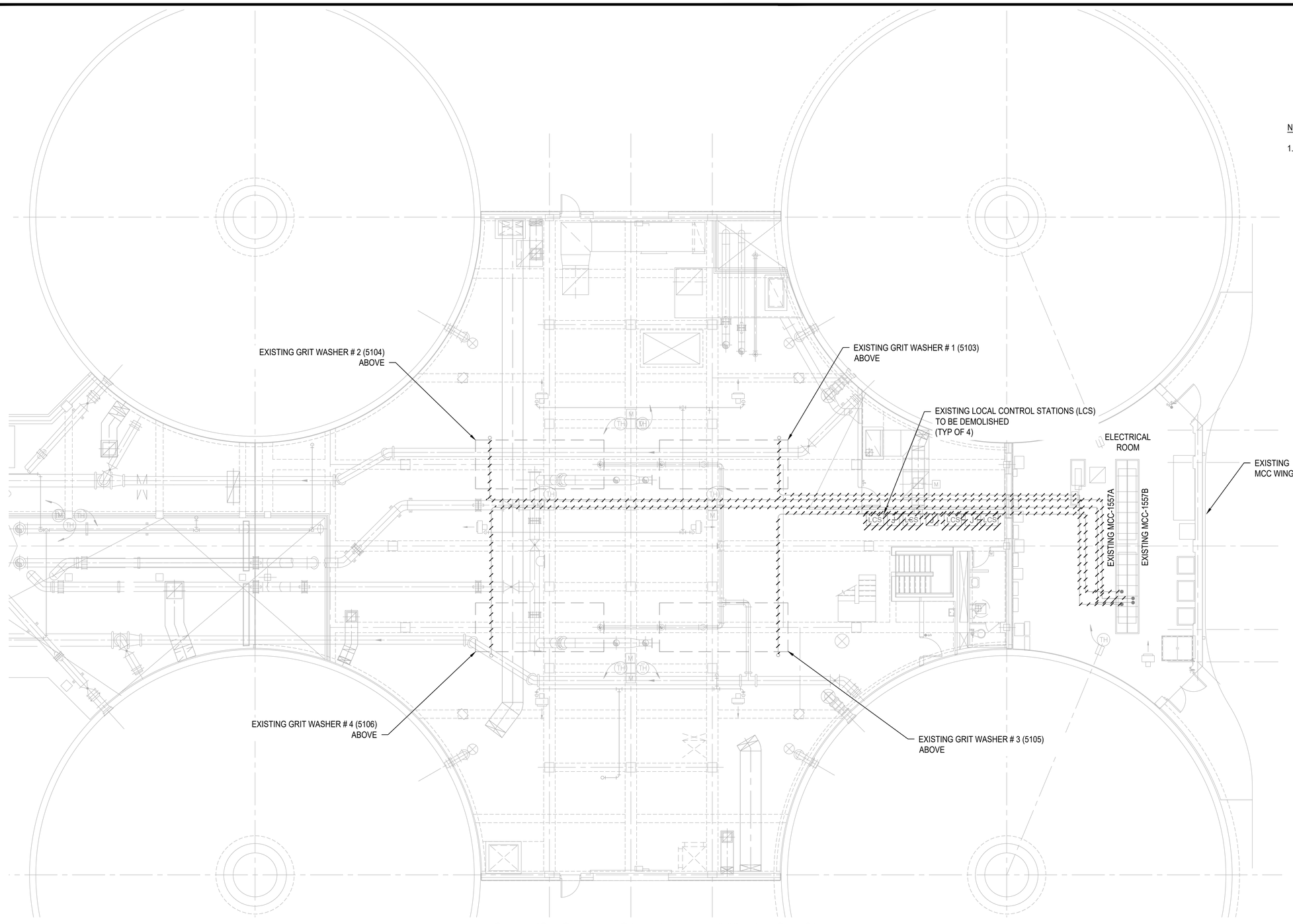
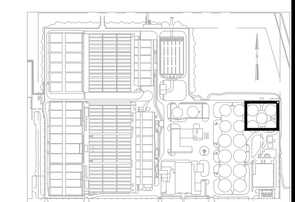


THICKENERS HIGH LEVEL GALLERY AT EL. 10.00' - DEMOLITION

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

NOTES:

1. CONTRACTOR SHALL DEMOLISH EXISTING LOCAL CONTROL STATIONS (LCS), JUNCTION BOXES, CONDUIT AND CABLE ASSOCIATED WITH EXISTING GRIT WASHERS # 1, 2, 3 AND 4 AS SHOWN.



KEY PLAN

1/8"=1'-0" 0 5 10 15 FT.

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

NO.	DATE	DESCRIPTION	APPR'D.

REVISIONS

DESIGNED BY: A.LUMANTA
CHECKED BY: E. JAMES
DESIGN LEAD: E. JAMES
SECTION MANAGER: E. FREDERICK

DRAWN BY: A.LUMANTA

ELECSYS

NYC Environmental Protection

PROJECT ENGINEER
ZACCHAEUS AKINLEYE, P.E.
AREA ENGINEER
AKIMU GARUBA, P.E.
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IAN ANDERSON, P.E.

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BB 236
BOWERY BAY WWTP
RECONSTRUCTION OF GRIT WASHERS

ELECTRICAL
THICKENER HIGH LEVEL GALLERY AT EL. 10.00'
POWER PLAN - DEMOLITION

DATE: MAY 2026
SCALE: AS SHOWN
SHEET NO: 8 OF 12
DRAWING NO. E–08

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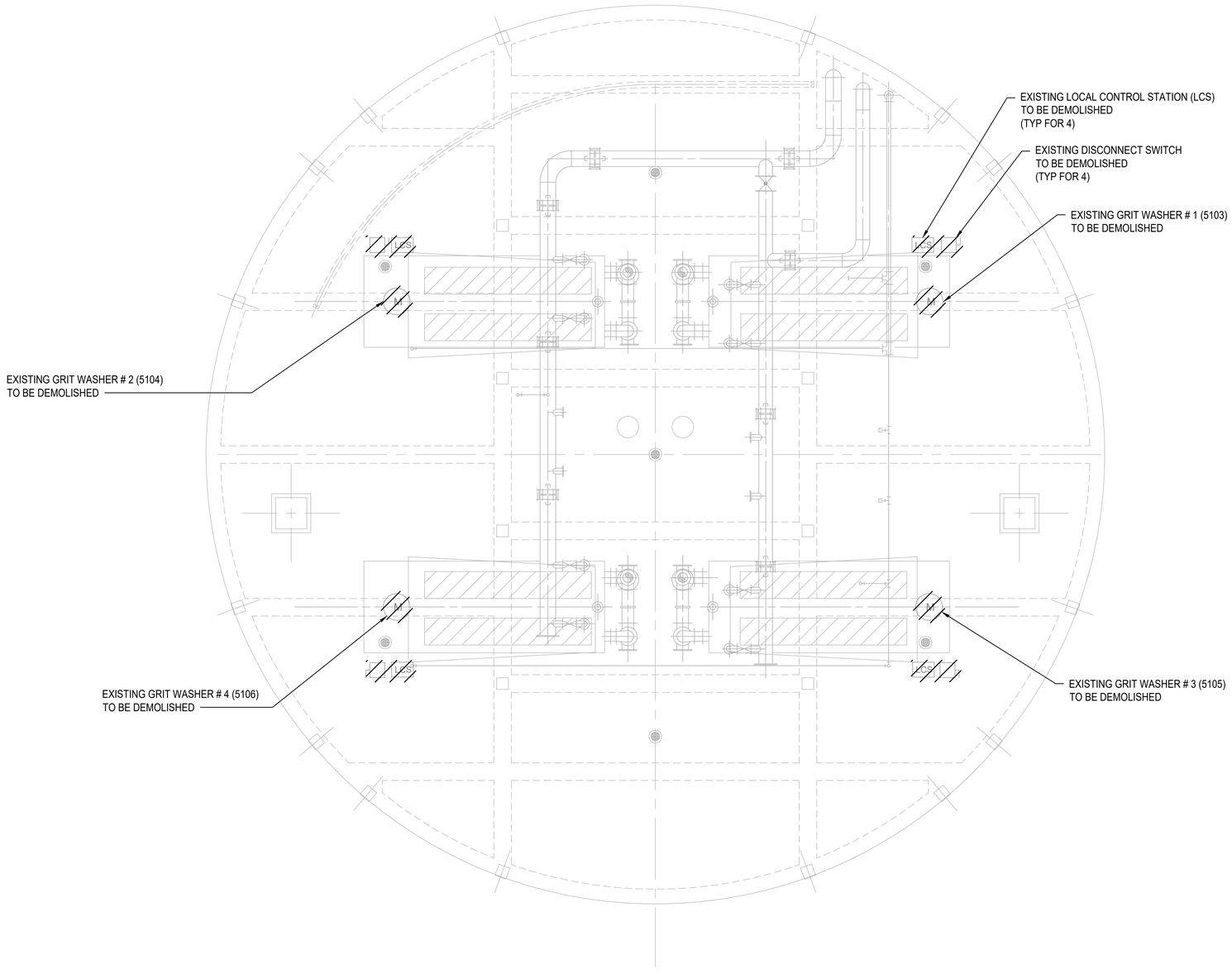
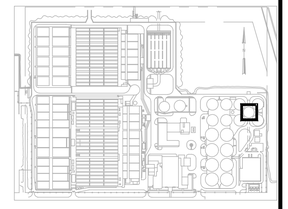


NOTES:

1. CONTRACTOR SHALL DEMOLISH EXISTING GRIT WASHERS # 1, 2, 3, AND 4, ASSOCIATED LOCAL CONTROL STATIONS (LCS), DISCONNECT SWITCHES, SUPPORTS, CONDUITS AND CABLES.



KEY PLAN

GRIT BUILDING AT EL. 25.00' - DEMOLITION

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

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

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

NO.	DATE	DESCRIPTION	APPR'D.

REVISIONS

DESIGNED BY: A.LUMANTA
DRAWN BY: A.LUMANTA
CHECKED BY: E. JAMES
DESIGN LEAD: E. JAMES
SECTION MANAGER: E. FREDERICK

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ELECTRICAL
GRIT BUILDING AT EL. 25.00'
POWER PLAN - DEMOLITION

DATE: MAY 2026
SCALE: AS SHOWN
SHEET NO: 9 OF 12
DRAWING NO. E–09

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FD174911
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Date Plotted: 5/1/2026 11:01 AM\Author: alumanto\File Location: p:\projects\2508 - brown and caldwell - nyc dep - pw-120 bb-01\900-cad-gis\910 cad_bim\02-sheets\e\e-10.dwg

NOTES:

1. CONTRACTOR SHALL DETERMINE EXACT CONDUIT ROUTINGS IN THE FIELD.
2. THICKENER HIGH LEVEL GALLERY IS CLASS I, DIVISION 1 HAZARDOUS AND CORROSIVE LOCATION. ELECTRICAL ROOM IS A DUSTY LOCATION. ALL MATERIALS, EQUIPMENT, INCIDENTALS, ETC SHALL CONFORM TO THE REQUIREMENTS OF THE LOCATION'S CLASSIFICATION.

GRIT WASHER # 2 (5104) ABOVE

UP TO GRIT WASHER (TYP FOR 4)

GRIT WASHER # 1 (5103) ABOVE

5103PC3

5104PC3

5106PC3

5105PC3

5105PC1

5103PC1

5104PC1

5106PC1

LCS-1A

LCS-2A

LCS-3A

LCS-4A

GRIT WASHER LCS (TYP OF 4)

ELECTRICAL ROOM

EXISTING MCC-1557A

EXISTING MCC-1557B

EXISTING MCC WING

GRIT WASHER # 4 (5106) ABOVE

GRIT WASHER # 3 (5105) ABOVE

KEY PLAN

THICKENERS HIGH LEVEL GALLERY AT EL. 10.00' - PROPOSED

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

1/8"=1'-0" 0 5 10 15 FT.

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

NO.	DATE	DESCRIPTION	APPR'D.

REVISIONS

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DRAWN BY: A.LUMANTA
CHECKED BY: E. JAMES
DESIGN LEAD: E. JAMES
SECTION MANAGER: E. FREDERICK

ELECSYS

NYC Environmental Protection

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AREA ENGINEER: AKIMU GARUBA, P.E.
CHIEF, MECHANICAL ENGINEER: IAN ANDERSON, P.E.

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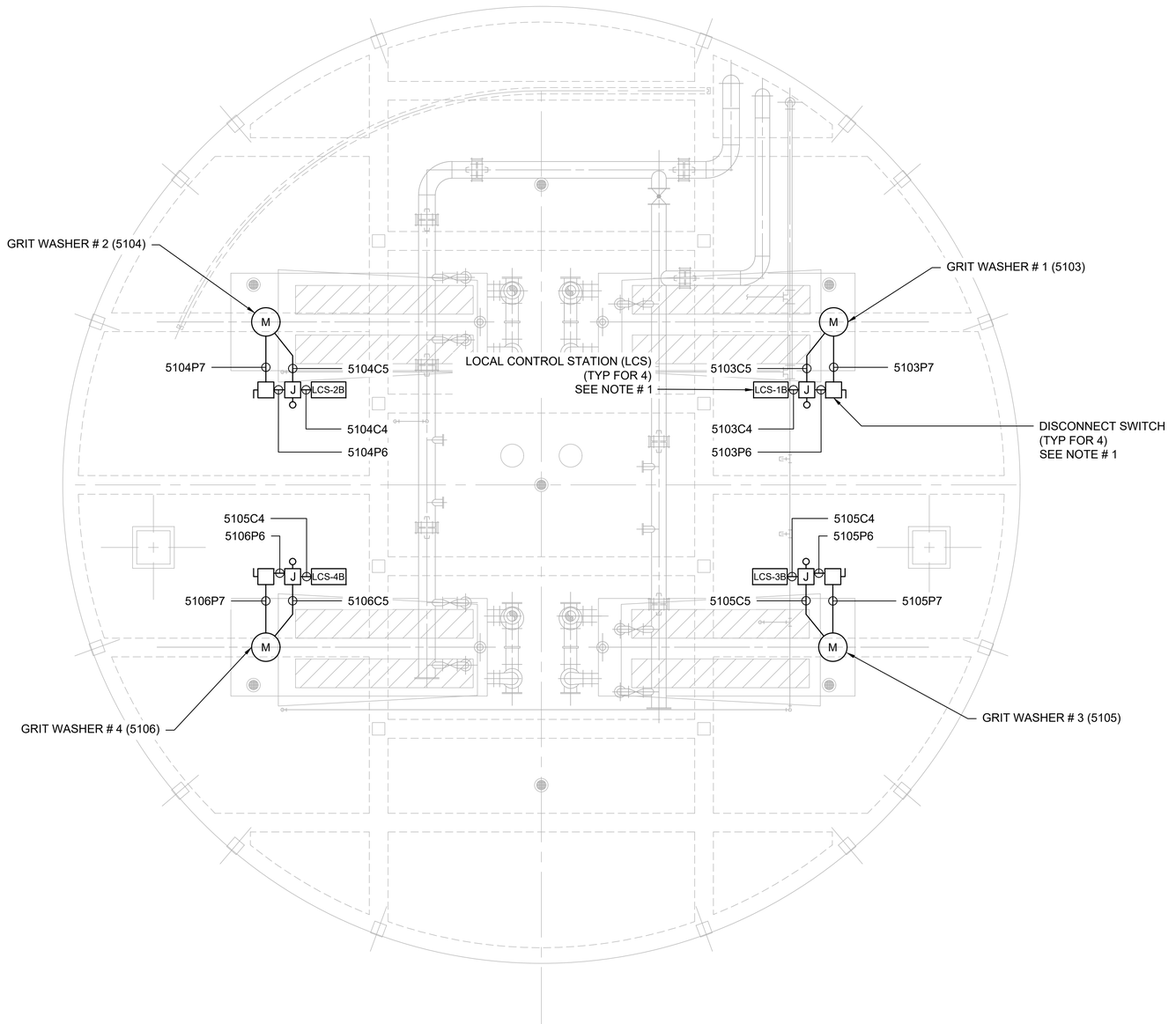
ELECTRICAL
THICKENER HIGH LEVEL GALLERY AT EL. 10.00'
POWER PLAN - PROPOSED

DATE: MAY 2026
SCALE: AS SHOWN
SHEET NO: 10 OF 12
DRAWING NO. E-10

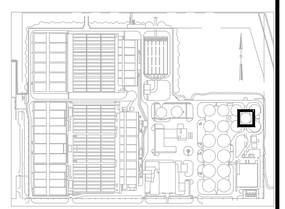


GRIT BUILDING AT EL. 25.00' - PROPOSED

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

NOTES:

1. CONTRACTOR SHALL PROVIDE INDEPENDENT SUPPORTS FOR DISCONNECT SWITCHES AND LOCAL CONTROL STATIONS.
2. GRIT BUILDING AREA IS CLASS I, DIVISION 1 HAZARDOUS AND CORROSIVE LOCATION. ALL MATERIALS, EQUIPMENT, INCIDENTALS, ETC SHALL CONFORM TO THE REQUIREMENTS OF THE LOCATION'S CLASSIFICATION.



KEY PLAN

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

IF SHEET IS LESS THAN 22" X 34"
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ACCORDINGLY

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RECONSTRUCTION OF GRIT WASHERS

ELECTRICAL
GRIT BUILDING AT EL. 25.00'
POWER PLAN - DEMOLITION

DATE: MAY 2026
SCALE: AS SHOWN
SHEET NO: 11 OF 12
DRAWING NO. E–11

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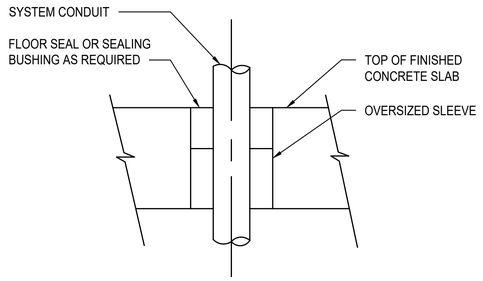
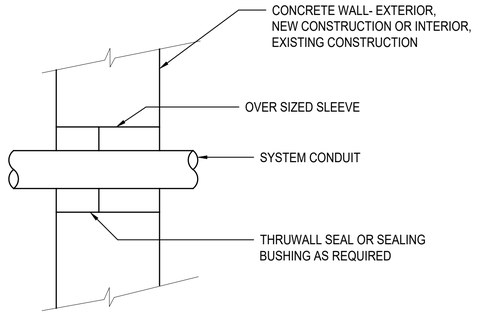


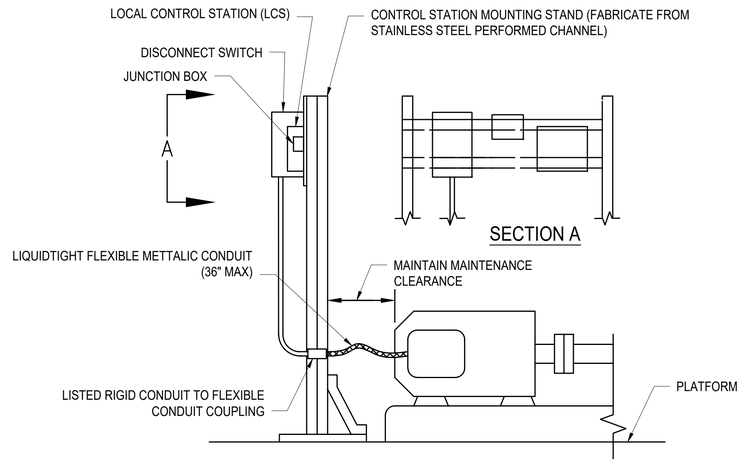
TYPICAL THROUGH FLOOR CONDUIT DETAIL

N.T.S



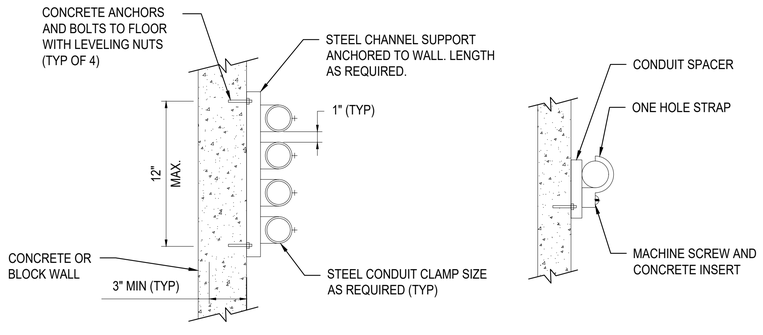
WALL CORING DETAIL

N.T.S



TYPICAL MOTOR CONNECTION

N.T.S

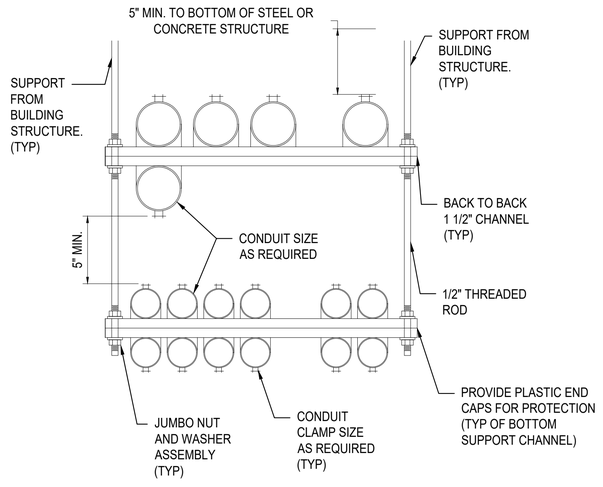


NOTES:

1. SUPPORT ALL MULTIPLE EXPOSED CONDUITS ON STEEL CHANNEL.

CONDUIT WALL MOUNTING DETAIL

N.T.S



NOTES:

1. THE WIDTH OF THE RACK VARIES WITH NUMBER OF CONDUITS TO BE SUPPORTED AND SPACING BETWEEN CONDUITS.
2. DETERMINE SPAN AND TYPE OF SUPPORTS, LOCATE SUPPORTS, AND SIZE SUPPORT RODS, CONNECTIONS AND BRACES PER MANUFACTURER'S RECOMMENDATIONS.
3. MAXIMUM OF 36" BETWEEN ROD HANGER-SUPPORTS.
4. PROVIDE STEEL HARDWARE PER SPECIFICATIONS.
5. SPACE CONDUIT SUFFICIENTLY TO ALLOW REMOVAL OF ONE CONDUIT WITHOUT DISTURBING ADJACENT CONDUITS.
6. PROVIDE 25% SPARE SPACE ON ALL TRAPEZE ASSEMBLIES.

CONDUIT TRAPEZE MOUNTING DETAIL

N.T.S

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NO.	DATE	DESCRIPTION	APPR'D.

REVISIONS

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DRAWN BY: A.LUMANTA
CHECKED BY: E. JAMES
DESIGN LEAD: E. JAMES
SECTION MANAGER: E. FREDERICK

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BB 236
BOWERY BAY WWTP
RECONSTRUCTION OF GRIT WASHERS

ELECTRICAL
STANDARD DETAILS

DATE: MAY 2026
SCALE: NOT TO SCALE
SHEET NO: 12 OF 12
DRAWING NO. E-12

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BB-236

Reconstruction of Cyclone Degritters and Grit Washers
at the Bowery Bay WRRF

ADDENDUM NO. 1

ATTACHMENT 2

QUESTIONS AND ANSWERS

NYCDEP

Questions and Answers

BB-236 – Reconstruction of Cyclone Degritters and Grit Washers at the Bowery Bay WRRF

No	Discussion Forum Questions	DEP Response
1	Does this project require BABA compliance?	This contract is not subject to the Build America, Buy America (BABA) requirements,
2	Who is the basis of design manufacturer for the Cyclone Degritters and Grit Washers?	Trillium Flow Technologies (WEMCO), or approved equal. Addendum No. 1 will provide the additional specification accordingly.
3	Spec Sections D-1.17 Maintenance of Continuous Operation and D-3.1.C Sequence of Construction do not provide any restrictions regarding maintaining service during construction. Please advise how many cyclone degritters can be taken out of service simultaneously.	Addendum No. 1 will replace the drawings with a corrected version. Drawing E-04 states: "Note # 3. Equipment demolition shown shall be staged to minimize operational impacts. Only one Grit Washer shall be demolished or taken out of service at any given time."
4	Spec Section D-3.1 does not list any named manufacturers for the cyclone degritters. Please provide a list of approved manufacturers for this equipment.	Refer to the response to Question #2.
5	Please advise if there are any loading restrictions on the 2nd floor (equipment floor) and 1st floor below.	Specific structural floor load ratings for the 1st and 2nd floors are not available in existing record documents; however, the 2nd floor currently supports the existing grit removal equipment without structural issues. The Contractor shall field-verify existing structural conditions and ensure that all equipment operating loads, demolition activities, and rigging/transport operations do not exceed the structural capacity of the existing slabs.
6	Drawing E-09 states that the classifiers will be installed in a Class 1, Division 1, environment. Please verify that the motor is Explosion Proof rated as described in section d).3.d on page 150 of Contract BB-236	Yes, Motor shall be explosion proof and shall be UL listed for Class I, Division 1 as stated in the Electrical Specification section B.2.d)3.d.
7	Due to the local control panels being mounted next to the classifiers the specified push button/pilot light features are not possible due to Class 1 Division 1 environment required by Drawing E-09. Please verify that enclosure needs to meet the Class 1 Division 1 environment. Page 152 of Contract BB-236.	Enclosure needs to meet the Class I Div 1 requirement. Addendum No. 1 will replace the drawings with a corrected version. Refer to Electrical Drawing E-05 for the Grit washer control schematic.
8	Page 142 of Contract BB-236 states that the conveyor shall be ASTM A53 Grade B steel pipe in section 3.a. The tank however is required to be 316L stainless steel on page 141 – B.1.a). Please verify that the conveyor should not also be 316L construction	Addendum No. 1 will revise the specification accordingly.

9	Please verify that solenoid must be suitable for Class 1 Division 1 environment. Spec's on page 141, Section B.1.e).	Solenoid valve needs to meet the Class I Div 1 requirement.
10	Recent past projects with NYC-DEP have required that the unit be supplied with a safety stop switch. This device extends a cable around the perimeter of the machine and stops the machine instantaneously if the cable is pulled/leaned against. It is an additional safety feature while operating the machine without the covers in place. They are not required in this specification; are they needed for this project?	Not required.
11	Most NYC-DEP projects require a multitude of spare parts; none are specified here. Are spare parts desired for typical wear components?	Addendum No. 1 will provide the additional specification accordingly.
12	Startup and training trips are not defined in this specification, but we assume they are required. Can the number of days be defined so we can provide them with our bid?	Addendum No. 1 will provide the additional specification accordingly.
13	Factory test of classifiers is a NYC-DEP standard requirement for this type of equipment. Is a factory test, witnessed or non-witnessed, required for this project?	Addendum No. 1 will provide the additional specification accordingly.
14	The grit capture rate is not defined. Is there a minimum acceptable grit capture rate for the project?	Refer to Page 142 Paragraph 3.d).
15	We respectfully request a 2-week extension to the current question deadline of 10/9	The bid opening date has been extended to December 3.
16	We respectfully request a 2-week extension to the current bid date of 10/28	The bid opening date has been extended to December 3.
17	Please confirm the funding source for BB-236(City, capital, NYSSRF/EFC, or federal). Confirm whether AIS, BABA or other domestic-content requirements apply, and if so, provide the applicable specification, certification forms and waiver process. Also confirm whether Davis-Bacon wage rates apply.	City-Funded Capital, AIS, BABA do not apply
18	Division 2, General specification, part D-2.19.3.C. states "known hazardous materials and their locations and sampling results are shown on the contract drawings and previous samples, if available". Please clarify known hazardous materials as issued contract documents appear to be silent on what materials, quantities are known.	There are no known hazardous materials identified in the Contract Documents for the work area. If suspected hazardous materials (such as asbestos-containing materials, lead-based paint, or PCBs) are encountered during the work, the Contractor shall immediately notify the Resident Engineer and proceed in accordance with Section D-2.19 and all applicable federal, state, and local regulations.
19	D-2.19.1. States The Contractor shall be aware that work activities may result in a change to the Work Site's hazardous waste generator status and that Compliance with the revised generator	Confirmed that NYC DEP (the Owner) retains hazardous waste generator status and the EPA Identification Number for the facility. However, the requirement to comply with any change in

	status is required. Please confirm this only applies to a "small quantity generator" vs. a "large quantity generator status change, and confirm owner maintains generator status.	generator status applies to all generator classifications defined in Section D-2.19.1 (VSQG/CESQG, SQG, and LQG)—not solely between SQG and LQG. If the Contractor's work activities generate hazardous waste in quantities that elevate the facility's monthly generator classification, the Contractor shall comply with all regulatory and Section D-2.19 requirements corresponding to the elevated status.
20	General specification D-2.21.7 notes to resident engineering office, please clarify as the contract documents appear to be silent for providing any field offices.	The Contractor is not required to provide a field office. The existing Resident Engineer's field office location will be provided at the Pre-Construction Meeting.
21	General specification D-1.12 refers to contractors staging area, material storage area and limited parking availability to the contractor. Please clarify and show on G-1 the proposed area and define any noted limitations.	On-site staging and material storage will be provided within the Plant property; however, the exact location cannot be designated prior to construction due to active Plant operations. Exact staging boundaries and contractor parking limits shall be coordinated with the CM and the Plant upon mobilization.
22	Division 3, Detailed specification, section D-3.6.A.8 states "the cyclone under flow shall feed into the classifier for washing and dewatering, and be sized so that the proper hydraulic loading is provided to the classifier." The specifications appear to be lacking any details associated to the design criterial, hydraulic conditions, flow rates, grit loading rates and associated parameters. Please provide.	Addendum No. 1 will provide the additional specification accordingly. Also refer to requirements as specified in Section D-3.6.
23	Division 3, Detailed specifications for D-3.6.A&B- are the renamed manufactures that are pre-approved and accepted as basis of design?	Refer to the response to Question #2.
24	Division 3, Detailed SpecificationD-3.6.B.3.d – states screw shall have the capacity to remove 5 tons per hour of grit from the grit settling tank. Please clarify whether this is peak capacity or continuous operating capacity.	Peak capacity.
25	Division 3, Detailed specifications for D-3.6.B.3.a) "notes "IF calculations are required, they shall be signed by a PE." Please advise on the expectations of calculations and requirements for PE stamps.	Calculations verifying compliance with the maximum allowable stress (3,000 psi) and minimum fatigue life (20 years at 98% reliability) are required and shall be submitted with the grit classifier shop drawings. All calculations shall be signed and sealed by a Professional Engineer licensed in the State of New York (or in accordance with the General Conditions).
26	Division 3, section D-3.1.C – sequence of work, please advise if there are any restrictions to the	Only one Grit Washer shall be demolished or taken out of service at any given time.

	number of cyclones / classifiers that can be out of service at any one time.	
27	Division 3, Electrical specifications, section B.2.b.) part 4 & 6 are not complete paragraphs and appear to continued in part 5 & 7. Please clarify and confirm that 5 &7 are either eliminated or are lacking information.	This is a formatting issue. Item 5 is continuation of Item 4. Item 7 is continuation of Item 6. Addendum No. 1 will revise the specification accordingly.
28	Division 3, Part D-3.9.C.2 – notes that after the 24 hour run test, DEP will operate the system for 2weeks. Please advise if after the 24 hour run, that there is no constraints to removing the next unit out of service for removal and replacement.	The next unit shall not be taken out of service until the newly installed unit has successfully completed both the 24-hour run test and the subsequent 2-week DEP operational trial period, and has been accepted by the Resident Engineer for reliable continuous service. All sequencing and outage requests remain subject to plant operational conditions and approval by the Resident Engineer and Plant Operations.
29	Issued contract drawings, have limited information on existing conditions, access, material handling for the removal and installation work. Please release additional as-built drawings of the work area, in addition to any OEM information on the existing equipment.	The Contractor shall field-verify all existing conditions, dimensions, access routes, and rigging/material-handling requirements prior to bidding and equipment fabrication.
30	The spec requires an 8-inch cyclone inlet while M-02 (Existing Flow Diagram) shows two 6-inch feed lines into each cyclone degritter assembly. Please confirm the required inlet size for the new cyclones (8 inch per spec vs. 6-inch existing).	Both dimensions are correct. The new cyclones shall be provided with an 8-inch inlet in accordance with the specifications. Existing 6-inch to 8-inch adapter fittings may be reused if undamaged and compatible with the new equipment connections; otherwise, the Contractor shall provide new adapter/reducer fittings matching the existing piping material and pressure rating to complete the equipment tie-in.
31	Please confirm the complete list of Contract Drawings. Issue E-11 and E 12 or confirm those sheets are not part of the Contract, and confirm M-04 is a Contract Drawing.	Addendum No. 1 will replace the drawings with a corrected version.
32	No new piping plan, sections or tie-in details are provided. M-04 shows equipment layout only. Please provide piping plans and sections that show tie-in points, elevations and pipe sizes, and that identify new vs. reused piping and valves for Small & Large Bore Pipe. Confirm vent routing and termination and the drain discharge point.	Piping scope is limited to the immediate equipment tie-in connections only; general piping, pipe support, and valve replacements are not included in this contract. Existing isolation valves on the 10-inch lines and the existing drain valve shall be retained and reused in place, and shall not be demolished. Any short piping spools, fittings, or couplings required for the equipment tie-in shall match the existing adjacent piping material and pressure rating, and shall be leak-tested in accordance with manufacturer recommendations upon startup. Refer to Drawing M-01 for tie-in points.

		Addendum No. 1 will replace the drawings with a corrected version.
33	There is no specification for pipe material, fittings, valves, pipe supports, coatings or pressure testing. LS-2 includes demolition of a "Drain Valve," but no replacement valve is specified. M-02 shows isolation valves on the 10-inchlines. Please provide the pipe, valve and support specifications, or confirm that piping scope is limited to equipment connections. Confirm whether the existing isolation and drain valves are to be reused or replaced.	Refer to the response to Question #32.
34	Please confirm whether the existing monorail may be used and its rated capacity.	The existing monorail is rated at 3 tons. It is available for the Contractor's use, provided that the Contractor signs the Agreement to Use, performs documented crane inspections prior to and after each work session, and does not exceed the 3-ton rated capacity.
35	Please provide equipment support and anchorage details. Confirm whether existing pads may be reused and whether PE-sealed structural design by the contractor is required.	Equipment support and anchorage details shall be based on the certified submittal data from the actual procured equipment. A structural design signed and sealed by a licensed Professional Engineer (PE) is required for the equipment pad and anchorage to verify compliance with all applicable codes and equipment loading conditions. Existing concrete pads shall not be reused, and a new PE-designed concrete pad shall be provided.
36	Please confirm the hazardous area classification (Class, Division and Group). Confirm that motors, local control stations, disconnects, solenoid valves, junction boxes, flexible connections and seal fittings must be explosion-proof or listed for that classification.	Enclosures shall be rated for Class I, Div 1, Group D.
37	Volume 2 D-3.6 Electrical Specifications section E.3.a.2 states "Conductors shall be stranded, coper, single conductor wire conforming to ASTMB8, and B33" Please confirm that ASTMB 33 for tinned or annealed copper wire is required for this contract. Manufacturers typically do not produce standard building wire to ASTMB 33 and meeting this requirement results in added costs impacts due to minimum order quantities. Contractor recommends removing the ASTM B33 requirement.	This is a DEP standard requirement. Single conductor wire shall conform to ASTM B8 and B33.
38	Volume 2 D-3.6 Electrical Specifications section E.3.a.2 states "Conductors shall be stranded, coper, single conductor wire conforming to ASTMB8, and B33" Please	Should meet both ASTM B8 and B33.

	confirm if standard UL-listed XHHW-2 and RHW copper conductors meeting ASTM B8 is acceptable.	
39	The spec calls for a 3HP grit washer motor in several places. Drawing E 04 Note 3 states "New grit washer is rated 5HP." Please confirm the motor horsepower and the resulting starter, overload and feeder sizing.	Grit washer motor rating is 3HP. Addendum No. 1 will replace the drawings with a corrected version. Refer to Electrical Drawing E-04 for the Grit washer one line diagram for overload and feeder sizing.
40	The scope includes a "monitoring panel with signal interfaces to the existing plant for the MCC room," and O&M requirements call for PLC ladder logic, software and passwords. No drawing or specification defines the panel location, I/O list, signals, destination (plant SCADA or DCS), communication protocol, or whether a PLC is required. E-05 shows only a "Section for remote process & HVAC I/O equipment. "Please provide the monitoring panel scope: location, enclosure, I/O list, PLC requirements, SCADA integration, and responsibility for programming and plant-side configuration.	Monitoring Panel for SCADA interface is not required.
41	E-06 shows only an ON/OFF switch and run, ready and fault lights, which are labeled "PUMP." The spec describes Hand-Off-Auto selector switches and emergency-stop push button with padlock attachments. E-06 Note1 refers to "functional control descriptions found in the specifications, "but the specifications contain none. Please provide the functional control description. Confirm the required local control station devices (HOA, E stop, pilot lights) and any remote or automatic control.	Addendum No. 1 will replace the drawings with a corrected version. Refer to Electrical Drawing E-05 for the breaker control schematic.
42	The spec requires a 115 V solenoid valve on the sluice water line, wired by the electrical contractor to open when the motor runs. E-06 and E-09 show no circuit, conductors or control for this valve. The 200 VA control power transformer may not be sized for the added load. Please show the solenoid valve power and control circuit and confirm the control power transformer size and locations.	Addendum No. 1 will replace the drawings with a corrected version. Refer to Electrical Drawing E-05 for the breaker control schematic.
43	The spec calls for "solid state contactors...with silver-to-silver renewable contacts, "which are contradictory requirements. It also calls for overload relays with an on-board Ethernet port. E-02 requires new devices to match the existing Square D Model 6 MCC. No network destination is shown for the Ethernet overloads.	MCC replacement devices and equipment shall match the existing. In addition, new Schneider LTMCU Control Operator Unit shall be provided. Addendum No. 1 will replace the drawings with a corrected version. Refer to Electrical Drawing E-05 for details.

44	The spec does not name any approved manufacturers	Refer to the response to Question #2.
45	The spec does not detail any performance requirements (grit capture efficiency, mesh size, min/max flow etc)	Refer to the response to Question #22.
46	No spare parts requirements are included	Addendum No. 1 will provide the additional specification accordingly.
47	Neither factory nor field testing requirements included	Addendum No. 1 will provide the additional specification accordingly.
48	No controls/PLC integration requirements are included	Correct, no PLC integration. Addendum No. 1 will replace the drawings with a corrected version. Refer to Electrical Drawing E-05 for control wiring.
49	We request clarification regarding the 7% combined M/WBE participation requirement for Contract BB-236. The pre-bid presentation indicates that contractors are required to submit quarterly M/WBE reports and subcontractor information to track progress toward meeting the participation goal during contract performance. Please clarify the following:	A bidder must identify an M/WBE participation plan that meets the goal requirement.
50	Are bidders required to demonstrate that the full 7% M/WBE participation goal has been satisfied through identified subcontractor commitments at the time of bid submission, or is the goal intended to be achieved progressively during contract performance?	A bidder is required to demonstrate the goal requirement is met at the time of bid submission.
51	At bid submission, must bidders identify specific certified M/WBE subcontractors and their anticipated contract values, or is an acceptable M/WBE utilization plan and certification of good-faith efforts sufficient?	A bidder must identify an M/WBE participation plan that meets the goal requirement.
52	If the bidder intends to self-perform substantial portions of the work and purchase specialized process equipment directly from the manufacturer, how should these circumstances be reflected in the bid-day M/WBE submission?	A bidder must identify an M/WBE participation plan that meets the goal requirement.
53	If the full participation goal cannot be committed at bid submission, must a partial waiver be obtained before bidding, or may the bidder document continued good-faith efforts during construction?	A waiver must be submitted at least 7 days before bid due date.
54	Division 2 (D-2.11) demolition and removals indicate potential concrete removals. During the site visit of existing conditions, it is noted that the existing grit classifier house keeping pads are in poor condition. Please verify if it is intended for the house keeping pads to be completely removed and replaced, or	Refer to the response to Question #35.

	rehabilitated to establish and equal basis of bid. In addition, please provide concrete restoration or new concrete requirements and provide dimensions associated to the pads.	
55	The manufacturer has requested the serial numbers and identification information for the existing equipment to identify the original supplied units and prepare a quotation for the proposed replacements. **Please provide the following information for each of the four existing cyclone degritter systems:**	Wemclone SN 7399704-1-2-3-4.
56	Manufacturer's model numbers and serial numbers for the existing WEMCO cyclone degritters and grit washer/classifier assemblies.	Refer to the response to Question #55.
57	Available equipment nameplate photographs identifying the original equipment.	Photographs of the existing equipment nameplates are not available, as the original nameplates are severely corroded and illegible.
58	Any existing equipment schedules, manufacturer's drawings, shop drawings, or O&M manuals identifying the original equipment.	Refer to the response to Question #55.
59	Where applicable, pump model and serial numbers associated with the existing degritter systems, if required for identification of the original WEMCO installation.	Refer to the response to Question #55.