Project: **South Battery Park City Resiliency Project: Pier A Plaza / Battery Site Work And Near Surface Isolation ("NSI") Construction Services (the "Project") Request for Proposals ("RFP")**

Date: January 27, 2023

RE: Addendum #6
# of Pages: 69

A) REVISIONS TO RFP:

1) The following revised/updated Pier A/Battery and NSI Project (the "Project") drawings and specifications are hereby formally incorporated into the RFP's *Exhibit B-1 – Construction Documents (Drawings and Specifications).* These revised/updated drawings and specifications replace and supersede all prior versions issued with the RFP. The revised Specifications content, compared to the content included in the version of the Specification of the RFP's *Exhibit B-1 – Construction Documents (Project Drawings and Specifications)*, is yellow-highlighted in the enclosed attachments.

- **Lighting Drawings – Attachment #1**: Note that the scale has been corrected on the below-listed drawings:
  LC04 – Pier A Lighting Layout Part 04
  LC05 – The Battery Bikeway Lighting Layout Part 05

- **Civil Drawings – Attachment #2:**
  C223 – Site Paving Section Plan 13
  C224 – Site Paving Section Plan 14
  C225 – Site Paving Section Plan 15
  C227 – Site Paving Section Plan 17
  C324 – Grading Plan 14
  C423 – Storm Drainage Plan 13
  C424 – Storm Drainage Plan 14

- **Near Surface Isolation Drawing NS003 – Attachment #3:**
  NS003 – Near Surface Isolation Typical Details

- **Structural Drawing – Attachment #4:**
  SF304 – Flood Wall Foundation Plan 4 of 5

- ***Specification 347113.10 | Fixed and Operable Bollards – Attachment #5***
- ***Drawing Sheet Index G003 – Sheet Index 3 of 3 – Attachment #6***

2) The following new Pier A/Battery and NSI Project drawings and specifications are hereby formally incorporated into the RFP's *Exhibit B-1 – Construction Documents (Drawings and Specifications)*:

- ***Specification 312500 | Erosion and Sedimentation Controls – Attachment #7***
- ***Lighting Drawing LC03 – Wagner Park Lighting Layout – Attachment #8***
- ***Site Electrical Drawing SE103 – Wagner Park and Pier A Plaza Site Electrical Demolition Plan – Attachment #9***
- ***Site Electrical Drawing SE203 – Wagner Park and Pier A Plaza Site Electrical Plan – Attachment #10***
- ***Specification 313224 | Permeation Grouting – Attachment #11***

[NO FURTHER TEXT ON THIS PAGE]

3) The following new Pier A/Battery and NSI Project reference specifications are hereby formally incorporated into the RFP's *Exhibit B-2 – Supporting Documents (Informational Purposes)*:

- ***Reference Specification: Walz & Krenzer Flush Watertight Hatch (WK Model # WTH-F) – Attachment #12***
- ***Reference Specification: Presray D3HA Watertight Hatch for Infrequent Access – Attachment #13***

4) Revised/corrected versions of the following RFP exhibits are hereby issued, and are hereby formally incorporated into the RFP (via the original Exhibits A-I – External Link Dropbox folder on BPCA's website) as replacements to the prior versions of the respective exhibits.

- Exhibit C-2 – Form of Bid Breakdown: The only revision made is an omission of the Division 23 line item, as such Division 23 does not apply to the Scope of Work for this Project.
- Exhibit D – Technical Submittal Requirements (yellow-highlighted revised section on p. D-7)

B) BPCA'S RESPONSE TO SUBSTANTIVE QUESTIONS:

The following responses (the "Responses") are provided to questions ("Questions") received by Battery Park City Authority ("BPCA") by 5:00 p.m. Eastern Standard Time on January 19, 2023, in connection with its RFP for the South Battery Park City Resiliency Pier A Plaza / Battery Site Work and Near Surface Isolation (NSI) Project (the "Project"). A second addendum containing responses to Questions will be issued no later than February 2, 2023. The Responses are provided in bold, italicized print immediately following the Questions. Please note that all capitalized terms shall have the same definitions as provided in the RFP.

1) Can we get a copy of the attendance sheet for the site visit?
   Attendance sheets for both Project Site Walkthroughs – held on December 16, 2022 and January 12, 2023, respectively – were shared via Addenda #1 and #4, respectively.
2) For any Joint Venture bidder, would one member of the JV be sufficient or every member should have attended the site visit?
   The attendance of one JV member is sufficient to fulfill the mandatory attendance requirement.
3) Our company was unable to attend the site visit, however we have subsequently visited the portions of the site that are open to the public. Please modify the requirement regarding the site visit to provide that it is optional, and that bidders who are otherwise qualified will be considered for award of the project.
   As notified via Addendum #2, a second Project Site Walkthrough was scheduled and occurred on January 12, 2023.
4) Would BPCA sign an NDA prior Proposer [sic] submitting a proposal, in order for the Proposer to release confidential financial statements?
   Please see the RFP's Section 3.9- Freedom of Information Law for the provisions governing Proposal documents that Proposer wishes to designate as confidential.
5) Exhibit D - Section 4-3.1 Project Executive: Please clarify if the Project Executive is a full time person for this contract or a part-time individual.
   The Project Executive is a part-time position.
6) Exhibit D - Section 4-3.4 Project Scheduler: Please clarify if the Project Scheduler is a full-time person for this contract or a part-time individual.
   The Project Scheduler is a part-time position.
7) Exhibit D - Section 4-3.5 Project Estimator: Please clarify if the Project Estimator is a full-time person for this contract or a part-time individual.
   The Project Estimator is a part-time position.

8) Reference Exhibit C-2 Form of Bid Breakdown - Please provide Specifications Section for Division 23 Heating, Venting and Air Conditioning to develop accurate pricing. Additionally, please provide details and/or drawings to allow contractors to properly incorporate this work
"Division 23 – Heating, Venting and Air Conditioning" was inadvertently included in the original version of the Form of Bid Breakdown, and is not part of this Project. As noted in Section A – REVISIONS TO RFP (above), a revised version of the Exhibit C-2: Form of Bid Breakdown has been uploaded to the RFP's Exhibits A-I Dropbox website.
9) Reference Exhibit B-2 Specifications - Please provide Specifications Section for Division 31 - Earthwork Section 312500 Erosion and Sedimentation Controls in order to develop accurate pricing.
As noted in Section A – REVISIONS TO RFP (above), a new Specification Section 312500 – Erosion and Sedimentation Controls – is provided as part of Attachment #7.
10) Reference Exhibit B-2 Drawings - To accurately price geofoam supply, we like to request topper slab elevation plans and/or details that show geofoam thickness.
The grading plans provided as part of Exhibit B-1 show surface elevations of the proposed improvements, and the survey plans provided as part of Exhibit B-1 show the existing surface elevations. The selected Proposer must confirm the depths/thickness of geofoam, as noted on these Drawings C-803 and C-804.
11) We respectfully request an additional 2-week extension for proposers to submit questions.
An extension of the Questions submission due date was already provided in accordance with Addendum #3. Proposers would be made aware of any further Questions submission due date extension via a future addendum.
12) Based on our current bidding schedule, we formally request a four (4) week bid extension from February 7th to March 7th.
An extension of the Proposals due date was provided in accordance with Addendum #3. Proposers would be made aware of any further Proposals due date extension via a future addendum.
13) "Reference Exhibit F Diversity Forms- Please confirm if M/WBE subcontractors certified by the NYC Department of Small Business Services and Port Authority meet NYS Diversity Requirements stated in Exhibit F-1 Contractor Requirements for Participation by NYS Certified M/WBEs for minority members." ***No. Subcontractors or suppliers must be New York State-certified minority- or women-owned business enterprises in order for their participation to count towards the fulfillment of the Project goals.***
14) The bottom of the page on Addendum #1, just above the signature, the page asks us to confirm that we have received Addendum #2. I believe that this is a typo. Can you confirm?
Confirmed.
15) Please see Exhibit C-2 Form of Bid Breakdown, Item No. 10, Division 23 - Heating, Venting and Air Conditioning. We are unable to find Division 23 within the specifications.
See response to Question #8, above.
16) Please provide manufacturer for the Fixed and Operable Bollards within Specification Section 347113.1.
As noted in Section A – REVISIONS TO RFP (above), a revised version of Specification 347113.10 is provided as Attachment #5. The basis of the design for the bollards (both fixed and operable) are Delta Scientific DSC 720. The operation mechanism for the operable bollards is the counterbalance system.
17) Please provide a specification for the manual watertight access hatches, or a list of qualified manufacturers.
The qualified manufacturers as well as the model type are Walz & Krenzer Model WTH-F or Presray Model D3HA or approved equal (see Typical Watertight Access Hatch Detail on revised

Drawing NS003). Please note that the details for the access hatches are revised on Drawing NS003 to include a removable safety grating – which, as noted in Section A – REVISIONS TO RFP (above), is included as part of Attachment #3.

18) Please note that our company is interested in bidding on this above indicated project if you will provide us with a minimum of 6 weeks' time extension and postponed the bid from February 6th to March 20th, 2023. We are a highly qualified General Contractor since we have already completed one of the first DDC Eastside Resiliency from East 15th street to 25th street as a General Contractor, our contract value is over $163 Million, and have completed many other similar types of projects in Ny. We hereby respectfully request you consider providing us with a minimum of 6 weeks' time extension so that we can bid on this job and have a high chance to work with you.
See response to Question #12, above.
19) We did not get a chance to attend the mandatory site walk through on December 16th, 2022, due to our previously committed bid submissions and holiday schedule impact. We will greatly appreciate it if you can provide us with another site walk and make necessary arrangements.
See response to Question #3, above.
20) Would you be able to send me any specifics regarding what type of stone is being pulled up that we may be able to purchase?
Please refer to Specification Section 321400.4, specifically Part 2 – Products. Sections 2.01 – 2.18 of that Specification contain additional information regarding the salvaged stone, material matching requirements, and possible manufacturers for onsite salvaged materials.
21) Please confirm that BPCA is looking for both a surety letter and a 5% bid bond, as per Exhibit D, page 5, Section 1-8 Bonding Capacity.
Confirmed.
22) Drawing SE204 shows multiple ConEd boxes and 4" conduit runs.
    a. Please confirm if this work is part of the Package 4 contract. ***Confirmed.***
    b. Please provide where to pick up service from to the north of the new DB-6 box.
    The selected Proposer should work with Con Edison on determining the exact location.
    c. The conduit running north from the new DB-6 box does not provide the number of conduits in the ductbank. Please provide the number of 4" conduits in the duct bank.
    The duct bank should allow for six 4" conduits, although please refer to Note 15 on Drawing SE204 to coordinate the quantity with Con Edison prior to installation.
    d. Please confirm no cables are to be installed in the ConEd conduits under Package 4.
    Coordination with Con Edison is required to determine whether cables need to be installed.
    e. The conduit running southwest from the new 42"x30"x30" box does not provide the number of conduits in the ductbank. Please provide the number of 3" conduits in the duct bank
    The duct bank should allow for three 3" conduits, although please refer to Note 15 on Drawing SE204 to coordinate the quantity with Con Edison prior to installation.
    f. Please provide where to connect the 3" conduit running from the 42"x30"x30" duct bank. Drawing does not provide where this conduit connects to. ***Coordinate with Con Edison for the connection requirements to service equipment.***
    g. There is an existing elec. Box to the southeast of the new 42"x30"x30" box. Even though the box states existing elec. Box, it is displayed in bold. Please confirm this box is not to be replaced. If it is replaced, please provide the size of the box.
    Existing electrical box to remain. Please refer to Note 15 on Drawing SE204 for necessary coordination with Con Edison.

[NO FURTHER TEXT ON THIS PAGE]

23) Please refer to Drawings SE204 and Drawing LC04. Both drawings indicate a 1" = 20'-0" scale but one of them seems to have an incorrect scale. Please revise the scale on the drawing that has the incorrect scale. Same thing happens for drawings SE205 and LC05.
Drawings SE204 and SE205 contain the correct version of the scale. As noted in Section A – REVISIONS TO RFP (above), new Drawing LC03 is provided as Attachment #8; revised versions of Drawings LC04 and LC05 are provided as Attachment #1.

24) Please confirm that none of the work shown on contract drawings SE204 and LC04 fall under the Package 2 contract.
Confirmed. Please refer to the note on Drawing SE205 that refers to Drawing G008 for SBPCR Project Construction Package ("Package") demarcations.

25) Please confirm that none of the work shown on reference drawings SE203 and LC03 fall under the Package 4 contract.
Please refer to Drawing G008 drawing for Package demarcations. As noted in Section A – REVISIONS TO RFP (above), new Drawings LC03, SE103, and SE203 have been provided, respectively, as Attachment #8, 9, and 10. Portions of the work shown on these sheets should be included in Package 4 (the inlet area north of Pier A). Also as noted in Section A – REVISIONS TO RFP (above), a new Sheet Index G003 has also been provided as part of Attachment #11 to capture these new sheets. Also, please refer to Drawing LC04 which includes TB and TJ fixtures as part of Package 4.

26) Drawings SE204 and LC04 do not have the same match line and therefore drawing LC04 shows additional light fixtures to the west of the work area shown in SE204 such as a TB pole, TJ fixtures, etc. Please clarify whether these fixtures are to be included under Package 4 contract.
Please refer to the note on Drawing SE205 that refers to Drawing G008 for Package demarcations.

27) Sheet G008 shows an additional area to the north of Pier A that is to be covered under Package 4. However, none of the contract drawings (drawings LC04, SE204) capture the electrical work shown in this area. Please clarify whether this work is part of Package 2 or Package 4.
This area of work should be included under Package 4. Please see response to Question #26.

28) Drawing LC09 shows integrated camera/speaker/wifi mounted at the bottom of TB poles. Who is furnishing and installing these devices?
As described in Specification Section 265100 – Architectural Lighting (Fixture Schedule), the pole's integrated camera/speaker/wifi equipment is to be determined and specified by others during the shop drawing phase. The pole manufacturer is responsible for coordinating and assembling all required components.

29) Drawing LC09 shows integrated camera/speaker/wifi mounted at the bottom of TB pole. Is wiring for camera/speaker/wifi part of the scope for Package 4? If so, please provide connection details and a riser diagram.
The integrated camera/speaker/wifi are part of Package 4. Connection details and riser diagram shall be provided by others. For more information, see response to Question #28.

30) Please confirm there is no low voltage (Audiovisual, access control or Information Technology) or fire alarm work in Package 4 contract.
Confirmed.

31) Please confirm there is no FDNY work under this contract other than what is shown on drawing EGT103, note 1.
Confirmed.

32) Please refer to drawing EGT104. Please confirm that empty conduits are to be installed for ConEd and that no cables are to be installed in ConEd circuits under Package 4.
Confirmed. Please coordinate the location and installation of the conduit/manholes with Con Edison. Con Edison will install the cables.

33) Drawings EGT104, EGT105 and EGT201 indicate relocating and reconstructing existing telecom duct banks. Please provide additional information as drawing EGT201 does not provide enough information.
Please refer to the notes on Drawing EGT201. The selected Proposer needs to perform test pits at the locations of the telecom duct banks to determine the existing conditions, which will then enable a determination on how to proceed with relocating the existing duct banks in coordination with the Empire City Service (ECS).

34) Please confirm there is no traffic signal work under Package 4.
Confirmed. There is no traffic signal work in Package 4. Existing traffic signals are to be maintained and protected in place.

35) In the SE drawing set please confirm that all conduits and boxes up the nearest box to the Package 4 area will be provided under other Packages and will be by others. ***Boxes and conduits shown on the SE drawing set within limits of work (LOW) are part of Package 4.***

36) In the SE drawing set, please confirm that all cabling from the Pavillion building up to the nearest roadway box the Package 4 area will be provided under other Packages and will be by others. Please confirm Package 4 contractor will splice existing cables in existing roadway boxes to pick up power to serve Package 4 lighting fixtures and HPUs.
Confirmed.

37) Please provide a riser drawing showing all lighting fixtures that are part of the Package 4 contract. It is very hard to refer to drawing G-008, SE204, LC04 and try to figure out which devices are part of Package 4 contract.
Please refer to Drawing E704 included in Package 3 (already provided as part of the original <u>Exhibit B-2</u> – Supporting Documents).

38) We are unable to get pricing for type TB poles as our vendors cannot get to the manufacturer representatives in the US. Please provide contact information for HEI poles and batteries.
HEI has partnered with Selux in the US. Please contact Jim Toole at <u>Jim.Toole@selux.com</u>.

39) Please reference Drawings NS103, NS203, NS303, NS403 for watertight hatches' location. We would like to request Specification Section for Manual Watertight Access Hatches.
Please refer to Detail C on Drawing NS003 which identifies two pre-approved models or approved equal. As noted in Section A – REVISIONS TO RFP (above), specifications for the two pre-approved manual watertight hatch models are provided for reference as Attachments #12 and 13, respectively.

40) The quantity of micropiles on plans do not match the quantity of micropiles shown on the tables (Plan SF303 and SF304). Please clarified which quantity controls?
The quantity shown on the plans controls. Following Contract award, the selected Proposer will be given access to the CAD files to determine exact pile locations in cases where such locations are not provided in the tables. As noted in Section A – REVISIONS TO RFP (above), revised Drawing SF304 containing a modified table, revised to match the plans, is provided as Attachment #4.

41) Is the existing 84 inches CSO cradle pile supported?
The design team does not have record information on whether the CSO outfall pipe(s) are cradle pile-supported. According to NYCDEP documentation, the structures are supported by piles.

42) Please provide the material of the 84" Elliptical CSO Outfall Pipe.
The NYCDEP records obtained do not identify the material of the CSO outfall pipe.

43) Ref. Drawing SF004 - Paragraph 1 provides the design criteria for Permeation grout but didn't provide the minimum compressive strength, please advise.
The purpose of permeation grouting is to provide seepage cutoff under the flood resiliency structure. The selected Proposer must design the grout mixture to meet the hydraulic conductivity requirements. The minimum compressive strength of the in-situ soil-grout mix is 50 psi.

44) Ref. Drawing SF004 - Paragraph 1 provides the existing structures that contractor shall monitor as a minimum for 50 Battery Place and Museum of Jewish Heritage, please confirm these two locations are not part of package 4 and will be performed by others .

Confirmed.

45) Ref. Drawing SF304 - This Drawing provides the Northing and Easting information of piles and piles layout, but this is a conflict between the provided table and the flood foundation plan. For example in the table the information provided was for piles No 45A and 45B; Total of 02 piles but on the plan there are total of 03 piles along grid lines 45, 45.1 and 45.2 respectively, please advise.

The quantity shown on the plans controls, so the bid quantity shall be based on the number of piles shown on the plans. The table is provided for reference only. See response to Question #40 regarding the provision of CAD files to the selected Proposer.

46) Micropile's note 8 on plan SF605 states that the upper 30 feet of the micropile's casing will not have any splices. But detail 1/SF403 on plan SF605 states that only the upper 10 feet of the micropile's casing will not have any splices. Which one controls?

Note 8 on Drawing SF605 does not prohibit splices in the top 30 feet of the pile, but requires that splices in the top 30 feet be designed to carry the full moment capacity of the casing. No splices are allowed in the top 12 feet of the micropile. As shown in Detail 1 on Drawing SF605, 10 feet measured is from the bottom of the pile cap, plus the 2 feet of embedment in the pile cap.

47) Please reference Drawings NS103, NS203, NS303, NS403 for watertight hatches' location. Are these Watertight Hatches to be HS20 Rated?

Yes, the manual watertight hatches are to be HS-20 load rated.

48) Please reference Drawings NS103, NS203, NS303, NS403 for watertight hatches' location. Are there any other specific requirements for the Watertight Access Hatches such as a leak rate, load rate, any specific devices or items to be included with the hatches?

Please refer to the revised version of Drawing NS003 (provided hereto as Attachment #3):

- ***Allowable leakage rate to be 0.1 gpm/ft of hatch perimeter.***
- ***Hatches are to be designed for the following hydrostatic loads in the unseating direction:***

Chamber	*Internal Pressure (psf) (unfactored)*
M7	***422***
M8	***447***
M9	***427***
Chamber 'P'	***468***
Camber 'Q'	***237***
MH20	***434***
MH21	***363***

- ***Hatch shall include a spring-balanced mechanism to reduce the force required to lift the panel open due to the weight of the hatch.***
- ***Hatch shall include a removable safety grating for fall protection.***
- ***Hatches shall be HS-20 load rated for vehicular traffic.***

[NO FURTHER TEXT ON THIS PAGE]

49) The current bid set (dated November 2022) showing the site demo work limits call out for the removal of existing stone paving, existing concrete walk, hex pavers, crushed rock surfacing, granite paving, brick pavers. Please provide the cross sectional details showing how many inches are to be removed (top and base course).

According to Site Demolition Notes 14 and 15 on Drawing C002.00, the selected Proposer is responsible for removing hardscape materials to full depth of the section. Field conditions related to thicknesses and base materials have not been verified.

50) We would like to request more information on the demolition that has to be done over the tunnel. Could you provide cross sections for the Existing Bench to be removed, Existing Light Pole and Pillar, and Existing Granite to be salvaged that is located over the top of the tunnel?

Field conditions of past demolition and/or construction over the tunnel have not been verified.

51) Please provide us with the flow rates for the existing 83" Elliptical Pipe & 54" RCP that we have to by-pass to install the Tide Flood Gate Chambers?

Based on NYCDEP records, the total contributing basin area for the 84" CSO outfall pipe is 23.89 acres and the 54" MS4 pipe in 1st Place is 13.88 acres. Actual flows to be bypassed will be dependent on the storm events that will occur during construction.

52) Can we have more details on the site demo for the bollard removal (IE Bollard Type)? There appears to be more than 1 type of bollard on the site to be removed. Also the As-Built plans show multiple bollards and would be very time consuming to figure out which bollard is where.

The intent of the site demolition plans is to inform if items are to be removed, salvaged, and/or protected in place, not identify each type/size of item (including pipe diameters) which can be obtained from the survey drawings.

53) Would it be possible to have all of the existing utility pipes sizes shown on the demolition drawings? With the time frame given it would be very time consuming to go through all of the previous projects drawings.

See response to Question #52, above.

54) Would it be possible to get more clarity on the existing temporary building that is to be removed? What are all the appurtenances that are to be removed with it? Are those concrete footings shown on the drawings or another material?

The existing temporary structure was constructed using modified cargo containers with wood composite cladding manufactured by SG Blocks. The structure sits on a concrete gravity foundation above the existing hexagonal pavers. All plumbing, mechanical, and electrical service connections and appurtenances fed through the north wall of the structure are included in removal work.

55) On sheet C-621.00 & C-619.00, there is a 3" DIP to 1.25" copper pipe reducer shown. That connection doesn't exist. Please clarify.

A combination of fittings to transition between pipe sizes/materials may be installed.

56) Multiple suppliers are informing us that 3" Ductile Iron Pipe is very difficult to purchase at this moment, would BPCA consider using PVC or HDPE or even 4" DIP as substitute?

At no additional cost to BPCA, 4-inch Ductile Iron Pipe with reducers at connections may be used in lieu of 3-inch DIP pipe. PVC and HDPE pipe is not an accepted substitute.

57) On Multiple sheets there are Curb Cuts called out as being NYCDPR Specs Detail 6 on 146-R9. Could you provide us with a sheet, because detail 6 on the curb sheets is not for a curb cut.

The curb cut call-outs on the relevant Civil Drawings have been modified to not reference the NYCDPR standard detail. As noted in Section A – REVISIONS TO RFP (above), revised versions of Drawings C223, C224, C225, C227, C324, C423, and C424 are provided as Attachment #2.

[NO FURTHER TEXT ON THIS PAGE]

58) Reference is made to Exhibit D, Technical Proposal Submittal Requirements, Section 2 – Experience of Contractor and Sub-Contractors, Item 4 (Geothermal system installation, including installation of geothermal wells). Please note that Exhibit A, Scope of Work, does not list any geothermal work as part of the work to be performed under this package. Nor, we were able to identify any geothermal work in the contract drawings. Could you please confirm that this is an error and there is no Geothermal Work under this contract? If it is, could you please rescind Section 2, item 4 under the contractor and subcontractors experience requirements? If this is not in error, could you please indicate where is this work shown in the contract drawings?
This is an error. As noted in Section A – REVISIONS TO RFP (above), a revised version of Exhibit D – Technical Proposal Requirements has been uploaded to the RFP's Exhibits A-I Dropbox website.

59) This is a general question regarding Specification section 313223 - Jet Grouting and Permeation Grouting. The means, methods quality assurance/ control and verification for these methods are very different and are traditionally addressed by two separate specification sections. Please provide separate jet grout and permeation grout specification sections.
As noted in Section A – REVISIONS TO RFP (above), Specification Section 313224 – Permeation Grouting is provided as Attachment #11.

60) Please explain why none of the bidding information explains the decision to treat some soils with jet grouting and some with permeation grouting, as shown throughout the Structural Drawings.
The use of permeation grouting is to limit lateral pressures on subsurface infrastructure, including NYCDEP and NYC Department of Transportation ("NYCDOT") pipes and tunnels. Jet grouting is proposed in areas where the lateral pressure exerted by the grouting process is less likely to impact subsurface features.

By signing the line below, I am acknowledging that all pages of this Addendum #6 have been received, reviewed and understood, and will be incorporated into the Proposal submitted. This document must be attached to the Proposal for consideration.

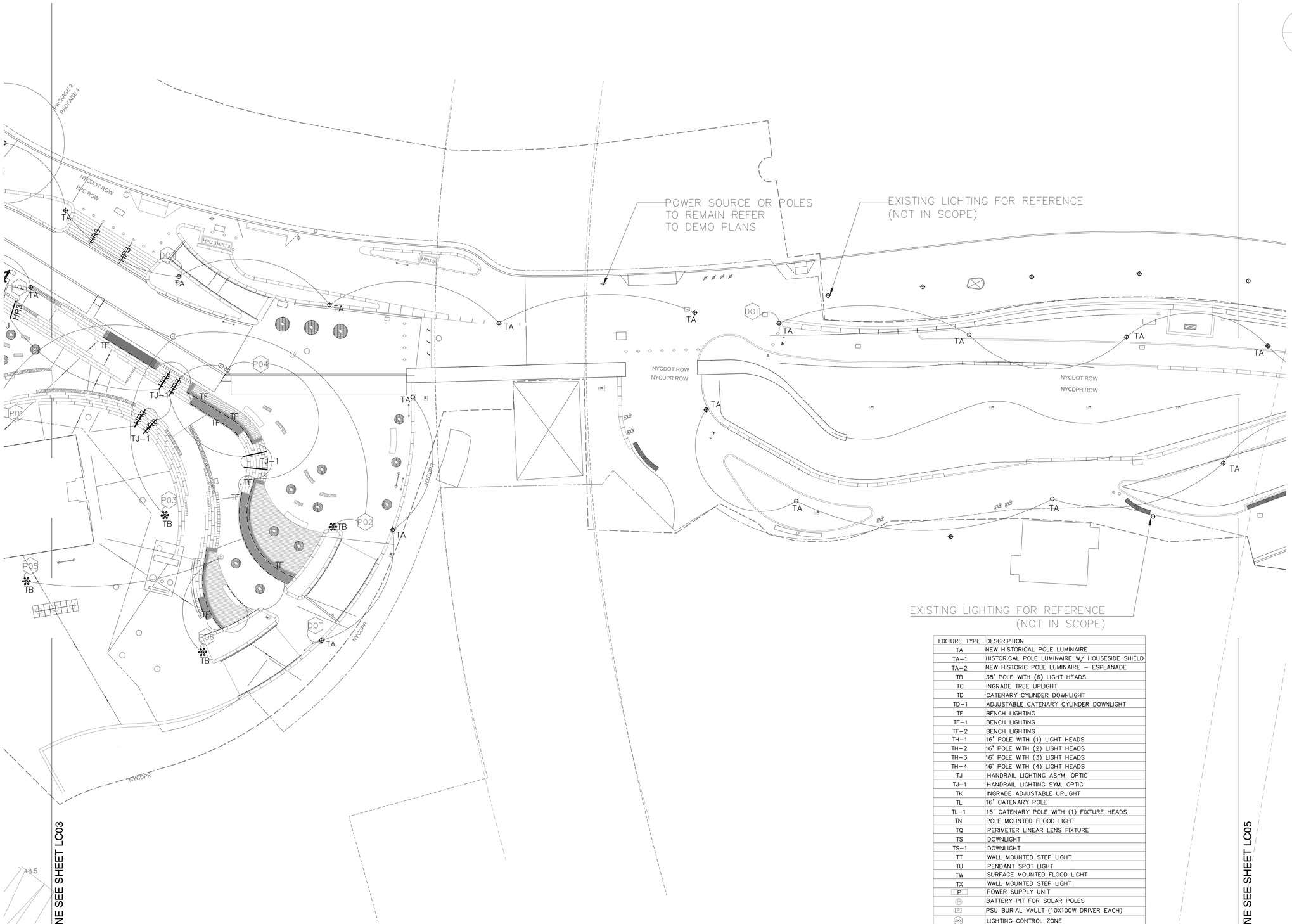
_____	_____	_____
Print Name	Signature	Date

Number of pages received:_____ <fill in>

Distributed to: All prospective Proposers

ATTACHMENT #1
REVISED LIGHTING DRAWINGS:
LC04 – Pier A Lighting Layout Part 04
LC05 – The Battery Bikeway Lighting Layout Part 05

(ATTACHED)



EXISTING LIGHTING FOR REFERENCE
(NOT IN SCOPE)

FIXTURE TYPE	DESCRIPTION
TA	NEW HISTORICAL POLE LUMINAIRE
TA-1	HISTORICAL POLE LUMINAIRE W/ HOUSESIDE SHIELD
TA-2	NEW HISTORIC POLE LUMINAIRE – ESPLANADE
TB	38' POLE WITH (6) LIGHT HEADS
TC	INGRADE TREE UPLIGHT
TD	CATENARY CYLINDER DOWNLIGHT
TD-1	ADJUSTABLE CATENARY CYLINDER DOWNLIGHT
TF	BENCH LIGHTING
TF-1	BENCH LIGHTING
TF-2	BENCH LIGHTING
TH-1	16' POLE WITH (1) LIGHT HEADS
TH-2	16' POLE WITH (2) LIGHT HEADS
TH-3	16' POLE WITH (3) LIGHT HEADS
TH-4	16' POLE WITH (4) LIGHT HEADS
TJ	HANDRAIL LIGHTING ASYM. OPTIC
TJ-1	HANDRAIL LIGHTING SYM. OPTIC
TK	INGRADE ADJUSTABLE UPLIGHT
TL	16' CATENARY POLE
TL-1	16' CATENARY POLE WITH (1) FIXTURE HEADS
TN	POLE MOUNTED FLOOD LIGHT
TQ	PERIMETER LINEAR LENS FIXTURE
TS	DOWNLIGHT
TS-1	DOWNLIGHT
TT	WALL MOUNTED STEP LIGHT
TU	PENDANT SPOT LIGHT
TW	SURFACE MOUNTED FLOOD LIGHT
TX	WALL MOUNTED STEP LIGHT
P	POWER SUPPLY UNIT
	BATTERY PIT FOR SOLAR POLES
P	PSU BURIAL VAULT (10X10OW DRIVER EACH)
XXX	LIGHTING CONTROL ZONE

SCALE 1"=20'-0"

AECOM

PROJECT

SOUTH BATTERY PARK CITY RESILIENCY DESIGN SERVICES

CLIENT

HUGH L. CAREY BATTERY PARK CITY AUTHORITY

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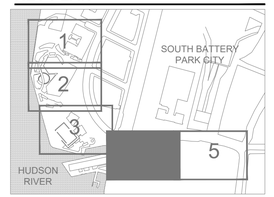
973.539.440 oweisengineering.com

KEY PLAN



REGISTRATION

ISSUE/REVISION

I/R	DATE	DESCRIPTION
I	2022-11-02	BID SET

Designed By:	**SUZAN TILLOTSON**
Drawn By:	**CHANDNI AZEEZ**
Checked By:	**SHAN JIANG**
Approved By:	**MARK KUBICKI**

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

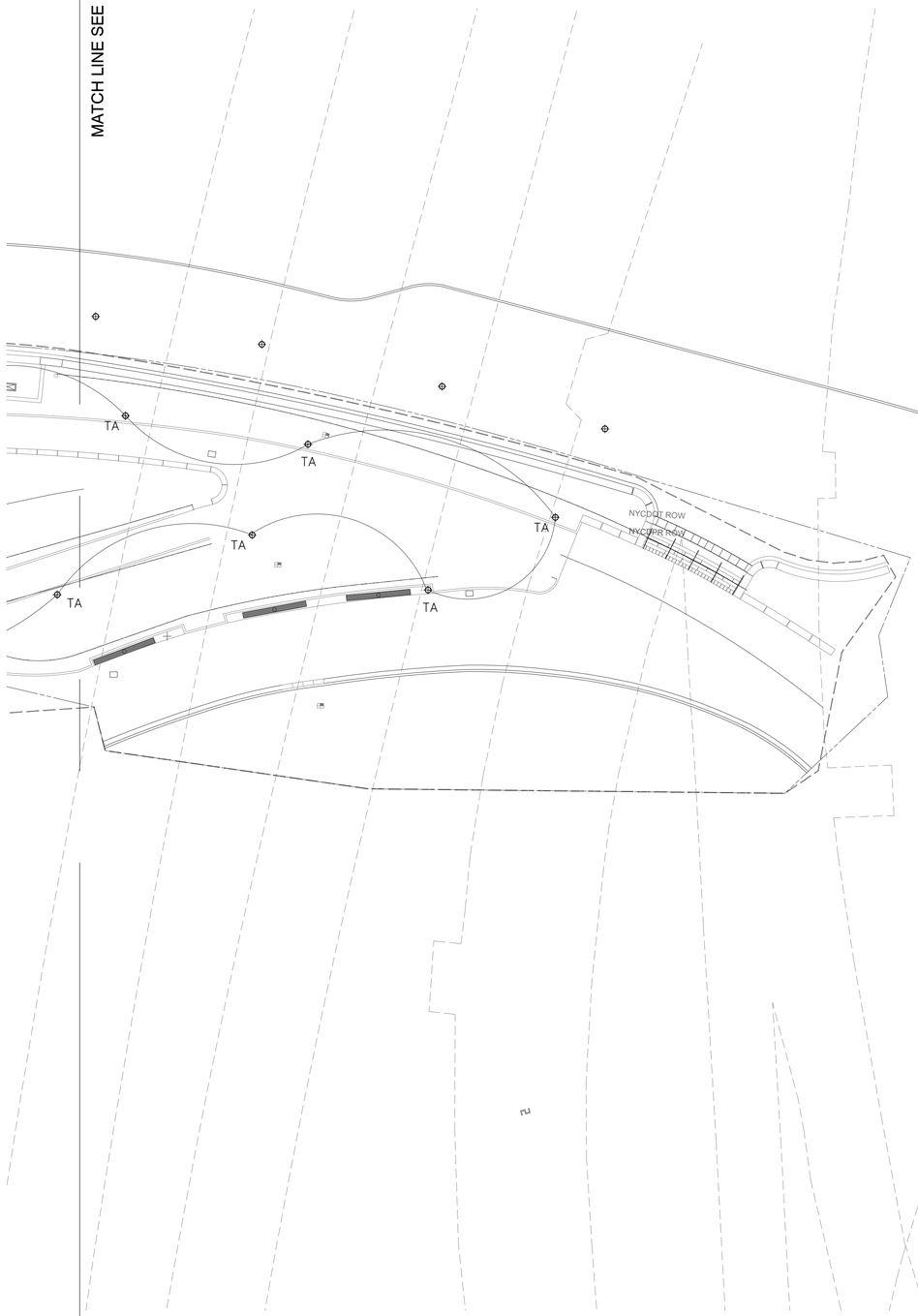
PIER A
LIGHTING LAYOUT
PART 04

SHEET NUMBER

LC04

ANSI D 22" x 34"

MATCH LINE SEE SHEET LC04



FIXTURE TYPE	DESCRIPTION
TA	NEW HISTORICAL POLE LUMINAIRE
TA–1	HISTORICAL POLE LUMINAIRE W/ HOUSESIDE SHIELD
TA–2	NEW HISTORIC POLE LUMINAIRE – ESPLANADE
TB	38' POLE WITH (6) LIGHT HEADS
TC	INGRADE TREE UPLIGHT
TD	CATENARY CYLINDER DOWNLIGHT
TD–1	ADJUSTABLE CATENARY CYLINDER DOWNLIGHT
TF	BENCH LIGHTING
TF–1	BENCH LIGHTING
TF–2	BENCH LIGHTING
TH–1	16' POLE WITH (1) LIGHT HEADS
TH–2	16' POLE WITH (2) LIGHT HEADS
TH–3	16' POLE WITH (3) LIGHT HEADS
TH–4	16' POLE WITH (4) LIGHT HEADS
TJ	HANDRAIL LIGHTING ASYM. OPTIC
TJ–1	HANDRAIL LIGHTING SYM. OPTIC
TK	INGRADE ADJUSTABLE UPLIGHT
TL	16' CATENARY POLE
TL–1	16' CATENARY POLE WITH (1) FIXTURE HEADS
TN	POLE MOUNTED FLOOD LIGHT
TQ	PERIMETER LINEAR LENS FIXTURE
TS	DOWNLIGHT
TS–1	DOWNLIGHT
TT	WALL MOUNTED STEP LIGHT
TU	PENDANT SPOT LIGHT
TW	SURFACE MOUNTED FLOOD LIGHT
TX	WALL MOUNTED STEP LIGHT
P	POWER SUPPLY UNIT
	BATTERY PIT FOR SOLAR POLES
P	PSU BURIAL VAULT (10X10OW DRIVER EACH)
XXX	LIGHTING CONTROL ZONE

N

SCALE 1"=20'-0"

AECOM

PROJECT

SOUTH BATTERY PARK CITY RESILIENCY DESIGN SERVICES

CLIENT

HUGH L. CAREY BATTERY PARK CITY AUTHORITY

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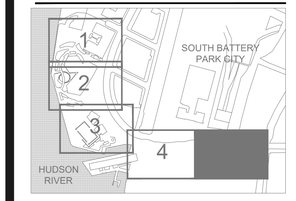
KEY PLAN



REGISTRATION

ISSUE/REVISION

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Checked By:	**SHAN JIANG**
Approved By:	**MARK KUBICKI**

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

THE BATTERY BIKEWAY LIGHTING LAYOUT PART 05

SHEET NUMBER

LC05

Last saved by: SJIANG (2022-01-19) Last Plotted: 2022-01-19
Filename: G:\JOBS\SOUTH BATTERY PARK CITY (19-8920)\AUTO CAD DRAWINGS\XREF AND TDA LAYOUTS\SBPC-MOD-LIGHT-PLAN.DWG

ATTACHMENT #2

REVISED CIVIL DRAWINGS:

C223 – Site Paving Section Plan 13
C224 – Site Paving Section Plan 14
C225 – Site Paving Section Plan 15
C227 – Site Paving Section Plan 17
C324 – Grading Plan 14
C423 – Storm Drainage Plan 13
C424 – Storm Drainage Plan 14

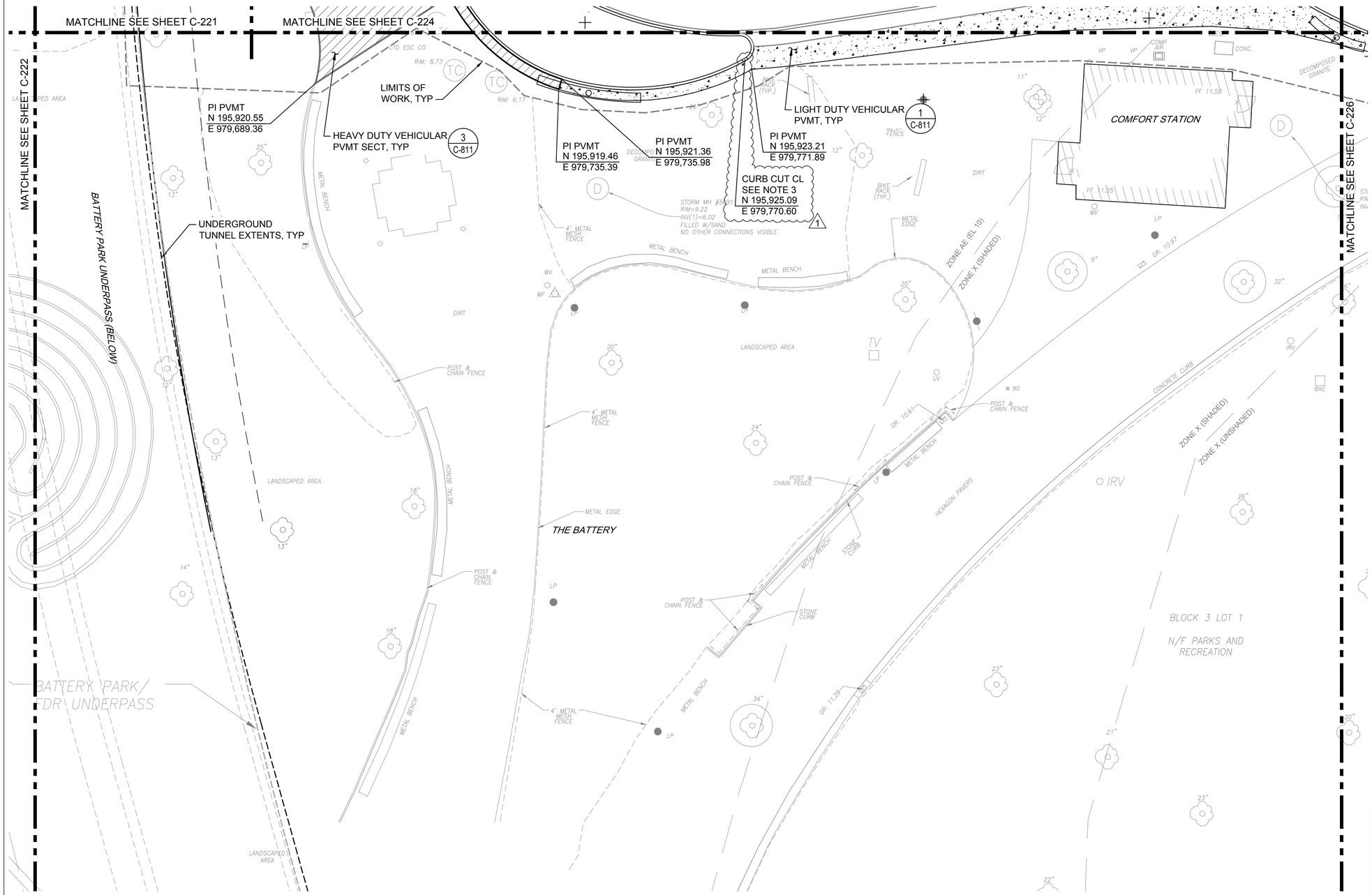
(ATTACHED)

ANSI D 22" x 34"

NOTES:

1. SEE SHEET C-001 FOR LEGEND AND ABBREVIATIONS.
2. SEE SHEET C-002 FOR GENERAL NOTES AND SITE PAVING SECTION NOTES.

1 3. CONSTRUCT CURB CUT FLUSH WITH HARDSCAPE SURFACE BY INSTALLING ONE (1) 4" X 8" X 12" GRANITE BLOCK IN LIEU OF 4" X 12" X 12" BLOCK.



GRAPHIC SCALE: 1" = 10'
10 5 0 5 10 20 30

DOB APPROVAL STAMP

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AECOM

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SOUTH BATTERY PARK CITY RESILIENCY DESIGN SERVICES
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New York, NY 10280

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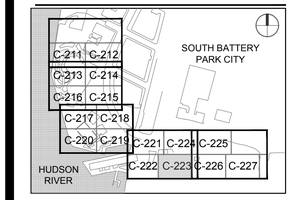
KEY PLAN


REGISTRATION


NYC DOB JOB NUMBER

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1	JAN 2023	RESPONSES TO QUESTIONS
I/R	DATE	DESCRIPTION

PROJECT/TERM CONTRACT NUMBER
Contract No. 18-2586

SHEET TITLE
SITE PAVING SECTION PLAN 13

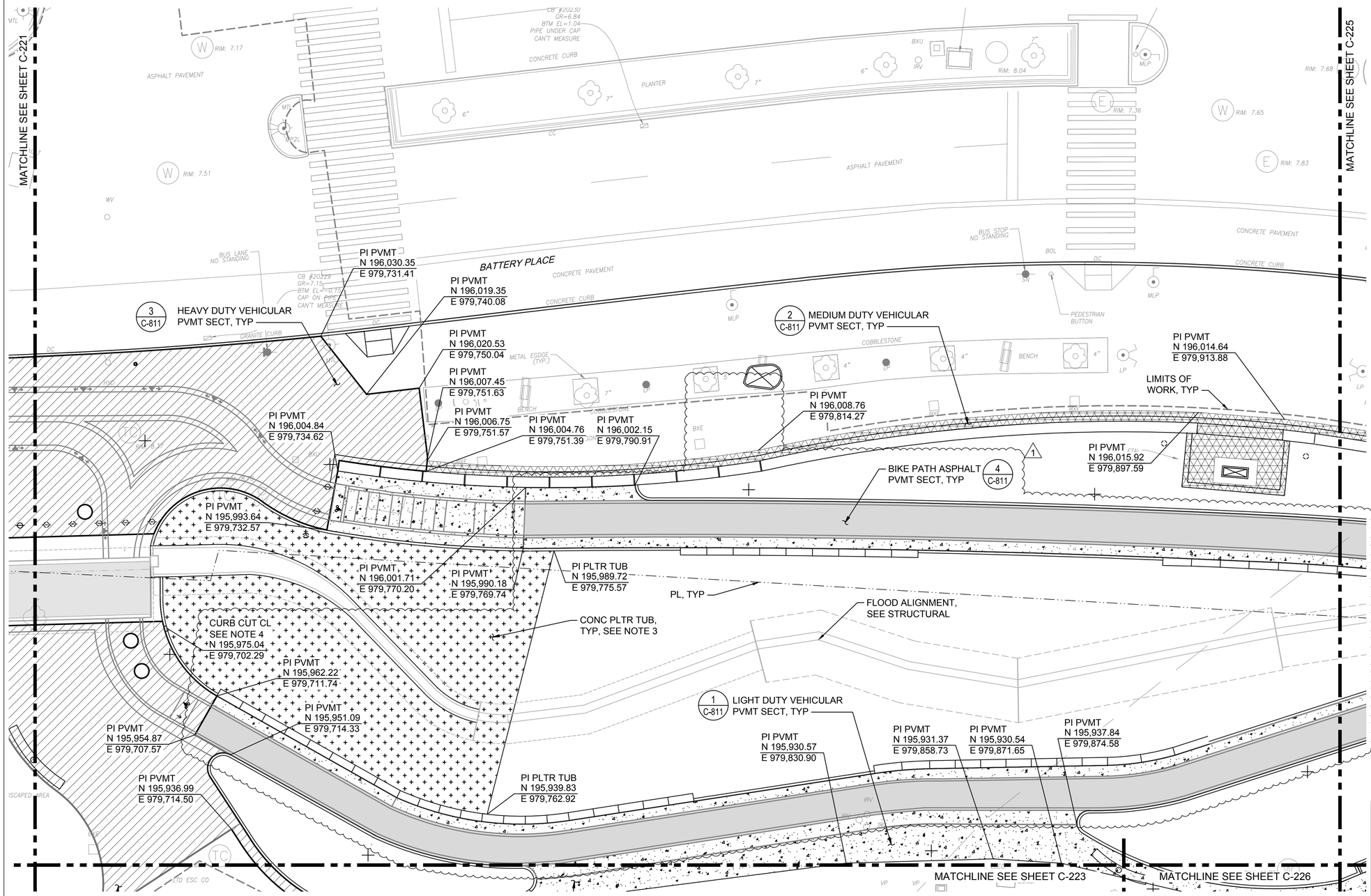
SHEET NUMBER
C-223.00

PAGE NUMBER OF

ANSI D 22" x 34"

NOTES:

1. SEE SHEET C-001 FOR LEGEND AND ABBREVIATIONS.
2. SEE SHEET C-002 FOR GENERAL NOTES AND SITE PAVING SECTION NOTES.
3. CONCRETE TUB INTERFACE CONDITIONS DEPEND ON TUB LOCATION WITHIN SITE. SEE DETAILS (1 / C-812) THROUGH (5 / C-812).
4. CONSTRUCT CURB CUT FLUSH WITH HARDSCAPE SURFACE BY INSTALLING ONE (1) 4" X 8" X 12" GRANITE BLOCK IN LIEU OF 4" X 12" X 12" BLOCK.



GRAPHIC SCALE: 1" = 10'
10 5 0 5 10 20 30

DOB APPROVAL STAMP

AECOM

PROJECT
SOUTH BATTERY PARK CITY RESILIENCY DESIGN SERVICES
20 Battery Place
New York, NY 10280

CLIENT
HUGH L. CAREY BATTERY PARK CITY AUTHORITY
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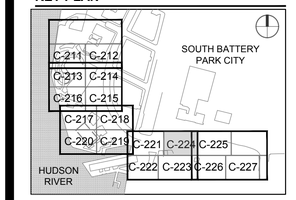
KEY PLAN



REGISTRATION

NYC DOB JOB NUMBER

ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	JAN 2023	RESPONSES TO QUESTIONS

PROJECT/TERM CONTRACT NUMBER
Contract No. 18-2586

SHEET TITLE
SITE PAVING SECTION PLAN 14

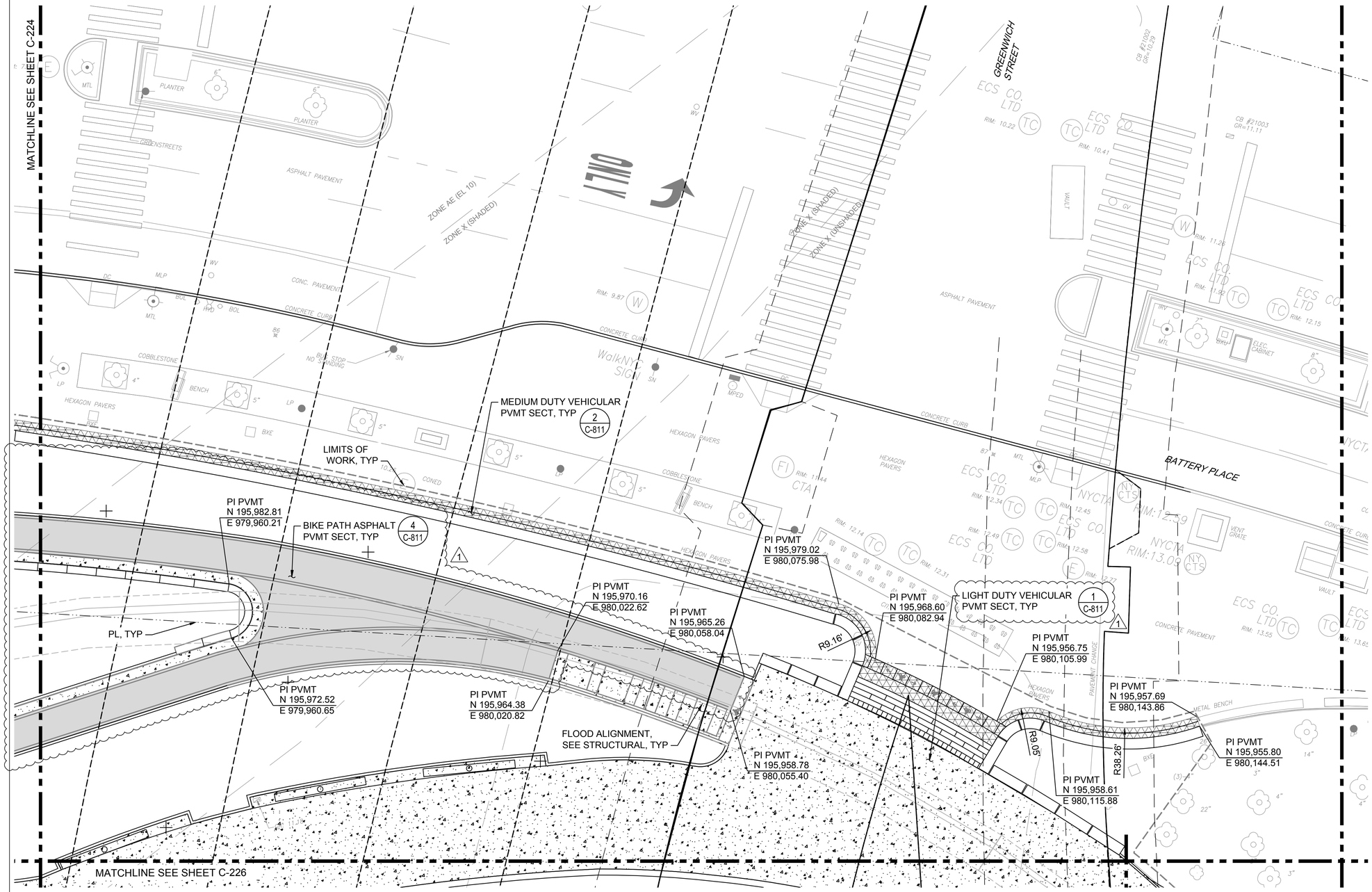
SHEET NUMBER
C-224.00

PAGE NUMBER OF

ANSI D 22" x 34"

NOTES:

1. SEE SHEET C-001 FOR LEGEND AND ABBREVIATIONS.
2. SEE SHEET C-002 FOR GENERAL NOTES AND SITE PAVING SECTION NOTES.



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AECOM

PROJECT

SOUTH BATTERY PARK CITY RESILIENCY DESIGN SERVICES
20 Battery Place
New York, NY 10280

CLIENT

HUGH L. CAREY BATTERY PARK CITY AUTHORITY
200 Liberty St, 24th Floor, New York, NY 10281
212.417.4304

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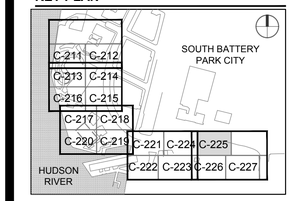
KEY PLAN



REGISTRATION

STATE OF NEW YORK
MATTHEW J. YASS
101122-1
LICENSED PROFESSIONAL ENGINEER
01/19/23

NYC DOB JOB NUMBER

ISSUE/REVISION

1	JAN 2023	RESPONSES TO QUESTIONS
I/R	DATE	DESCRIPTION

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

SITE PAVING SECTION PLAN 15

SHEET NUMBER

C-225.00

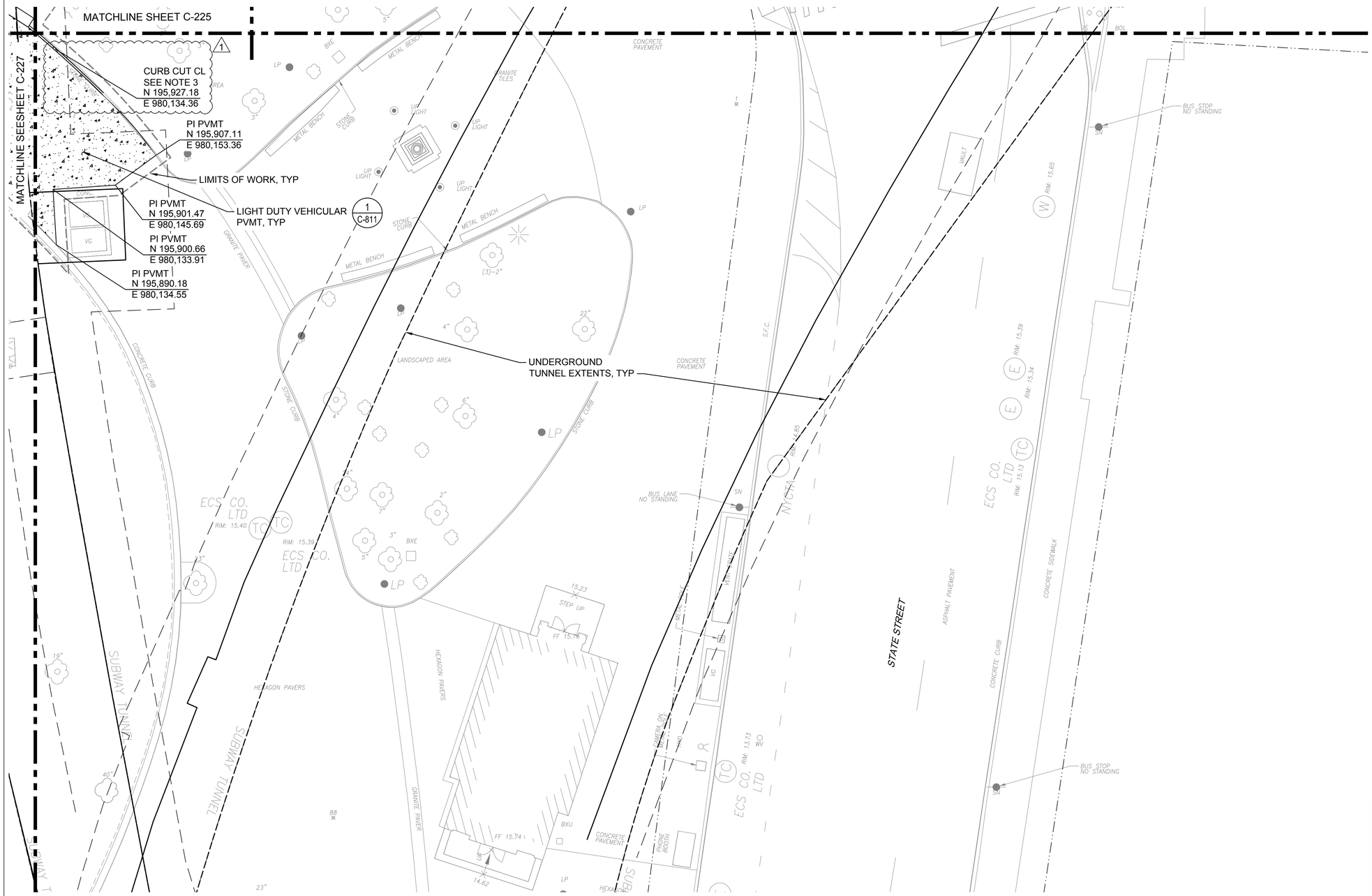
PAGE NUMBER OF

ANSI D 22" x 34"

NOTES:

1. SEE SHEET C-001 FOR LEGEND AND ABBREVIATIONS.
2. SEE SHEET C-002 FOR GENERAL NOTES AND SITE PAVING SECTION NOTES.

1 3. CONSTRUCT CURB CUT FLUSH WITH HARDSCAPE SURFACE BY INSTALLING ONE (1) 4" X 8" X 12" GRANITE BLOCK IN LIEU OF 4" X 12" X 12" BLOCK.



GRAPHIC SCALE: 1" = 10'

10 5 0 5 10 20 30

DOB APPROVAL STAMP

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N

AECOM

PROJECT

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20 Battery Place
New York, NY 10280

CLIENT

HUGH L. CAREY BATTERY PARK CITY AUTHORITY
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212.417.4304

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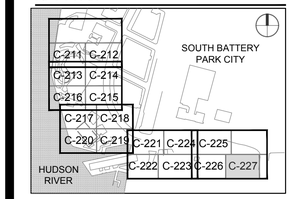
KEY PLAN



REGISTRATION

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PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

SITE PAVING SECTION PLAN 17

SHEET NUMBER

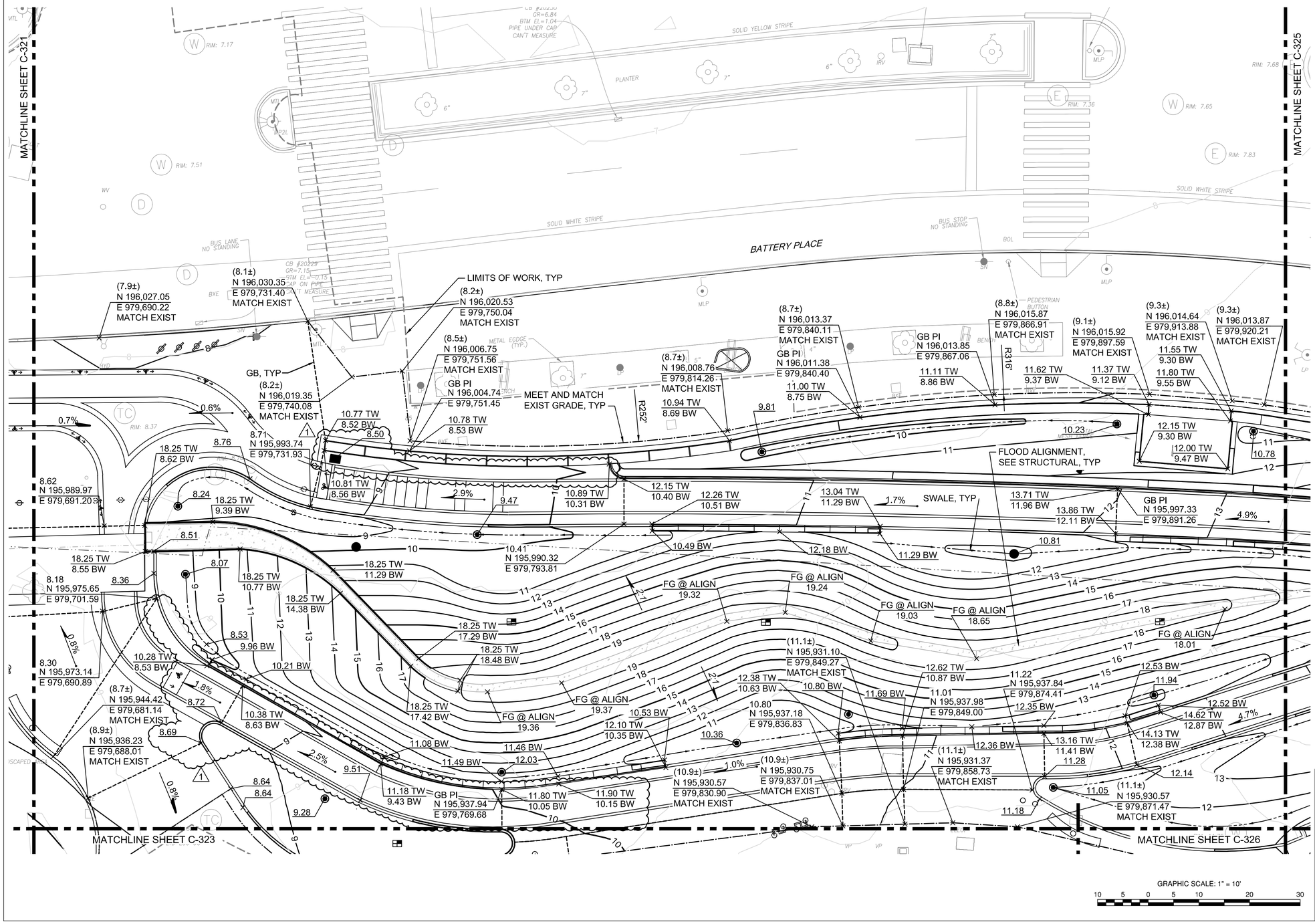
C-227.00

PAGE NUMBER OF

ANSI D 22" x 34"

NOTES:

1. SEE SHEET C-001 FOR LEGEND, AND ABBREVIATIONS.
2. SEE SHEET C-002 FOR GENERAL NOTES AND GRADING NOTES.



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New York, NY 10280

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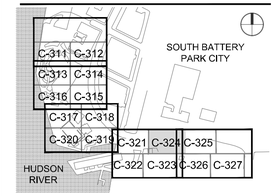


REGISTRATION

NYC DOB JOB NUMBER

ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	JAN 2023	RESPONSES TO QUESTIONS

PROJECT/TERM CONTRACT NUMBER
Contract No. 18-2586

SHEET TITLE
GRADING PLAN 14

SHEET NUMBER
C-324.00

PAGE NUMBER OF

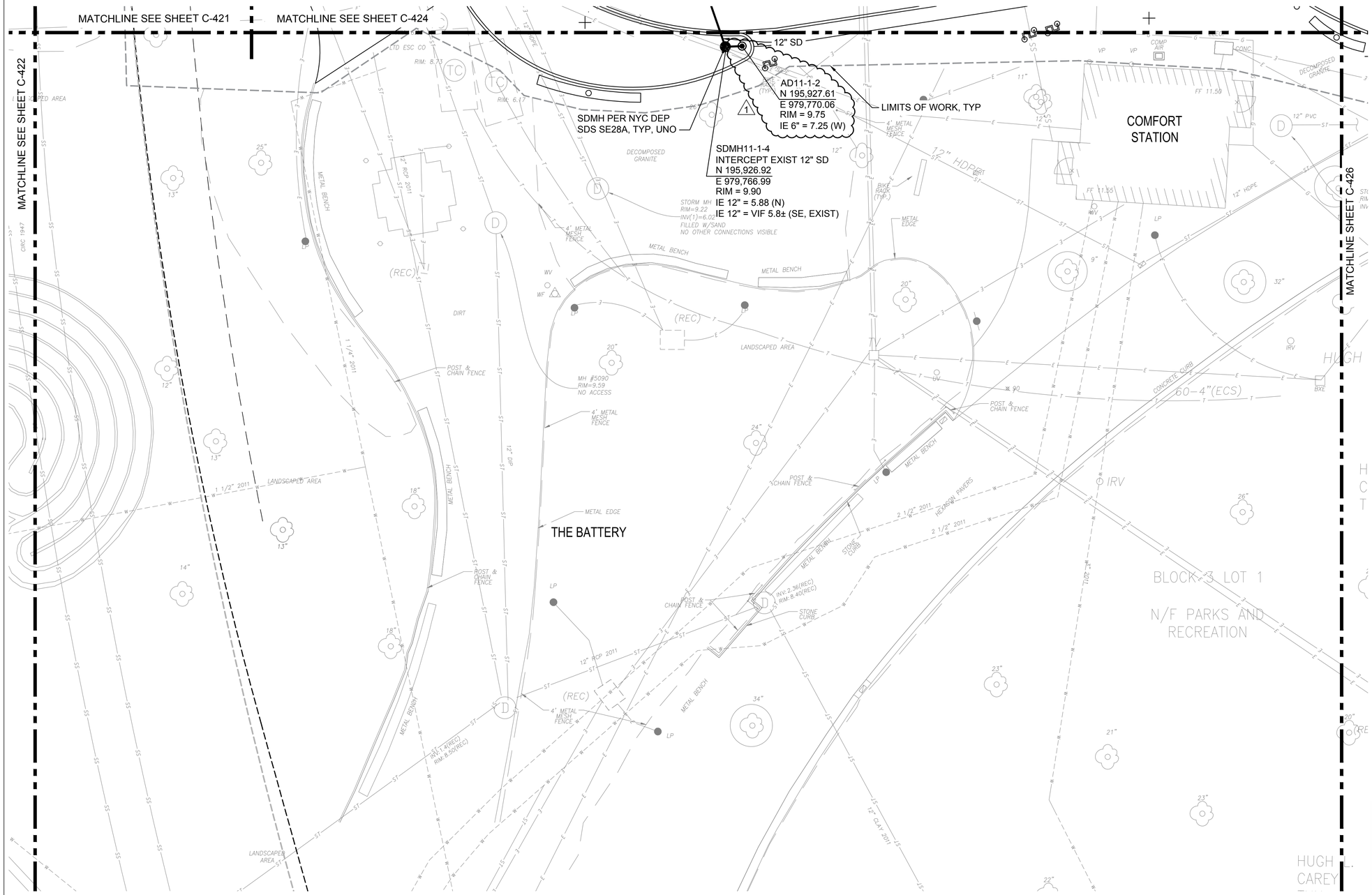
DOB APPROVAL STAMP

ANSI D 22" x 34"

NOTES:

1. SEE SHEET C-001 FOR LEGEND, AND ABBREVIATIONS.

2. SEE SHEET C-002 FOR GENERAL NOTES AND STORM DRAINAGE NOTES.



N

AECOM

PROJECT

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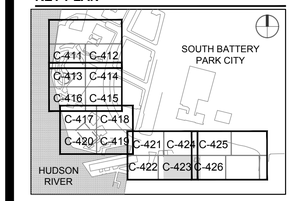

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Contract No. 18-2586

SHEET TITLE

STORM DRAINAGE PLAN 13

SHEET NUMBER

C-423.00

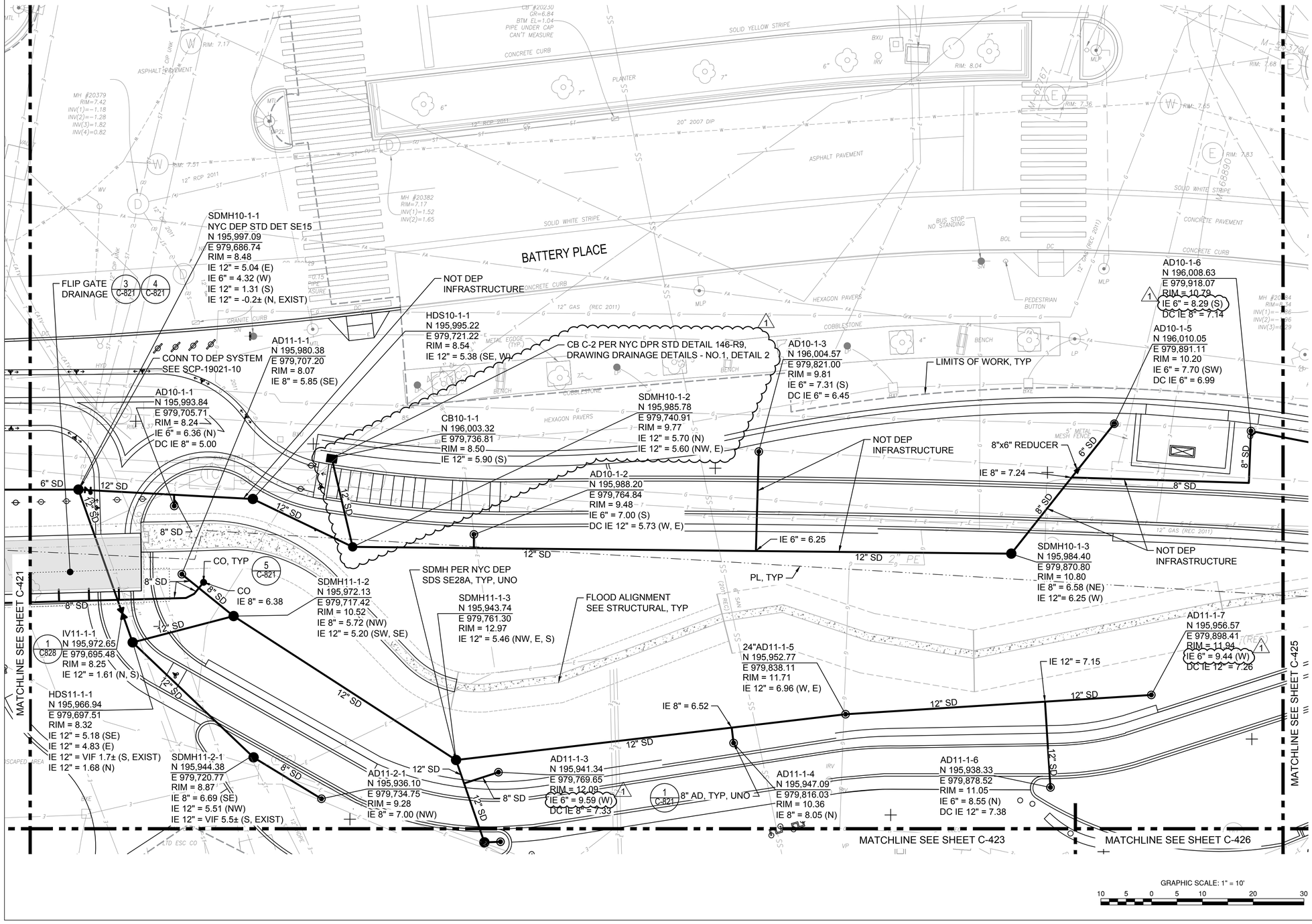
PAGE NUMBER OF

DOB APPROVAL STAMP

ANSI D 22" x 34"

NOTES:

1. SEE SHEET C-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE SHEET C-002 FOR STORM DRAINAGE NOTES.
3. STORM DRAIN/SEWER PIPES 18-INCH DIAMETER AND LARGER, DRAINAGE STRUCTURES, AND INLETS/CATCH BASINS AND LATERALS WITHIN MAPPED STREETS ARE NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION INFRASTRUCTURE, UNLESS NOTED OTHERWISE.
4. CONNECTION TO NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION INFRASTRUCTURE UNDER SEPARATE CONNECTION PERMIT (SCP), UNLESS NOTED OTHERWISE.



DOB APPROVAL STAMP

AECOM

PROJECT

SOUTH BATTERY PARK CITY RESILIENCY DESIGN SERVICES
20 Battery Place
New York, NY 10280

CLIENT

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212.675.7760 tillotsondesign.com

THOMAS PHIFER AND PARTNERS
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OWEIS
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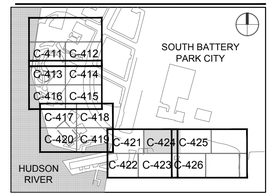
973.539.440 oweisengineering.com

KEY PLAN



REGISTRATION

STATE OF NEW YORK
MATTHEW J. JONES
101122
LICENSED PROFESSIONAL ENGINEER
01/19/23

NYC DOB JOB NUMBER

ISSUE/REVISION

1	JAN 2023	RESPONSES TO QUESTIONS
I/R	DATE	DESCRIPTION

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

STORM DRAINAGE PLAN 14

SHEET NUMBER

C-424.00

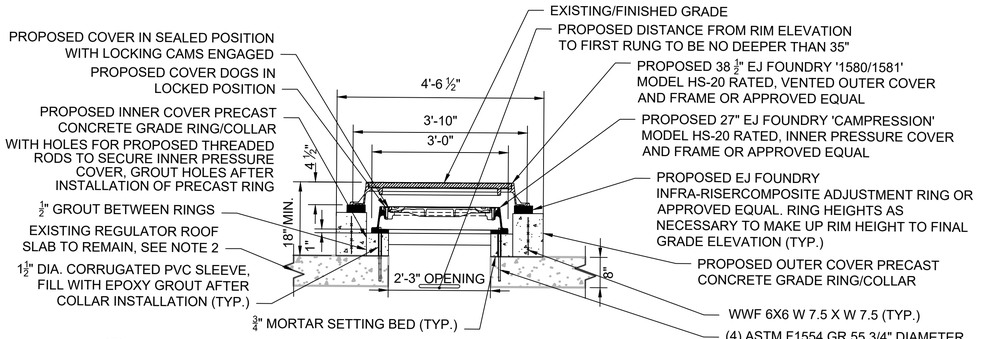
PAGE NUMBER OF

ATTACHMENT #3

REVISED NEAR SURFACE ISOLATION DRAWING

NS003 – Near Surface Isolation Typical Details

(ATTACHED)

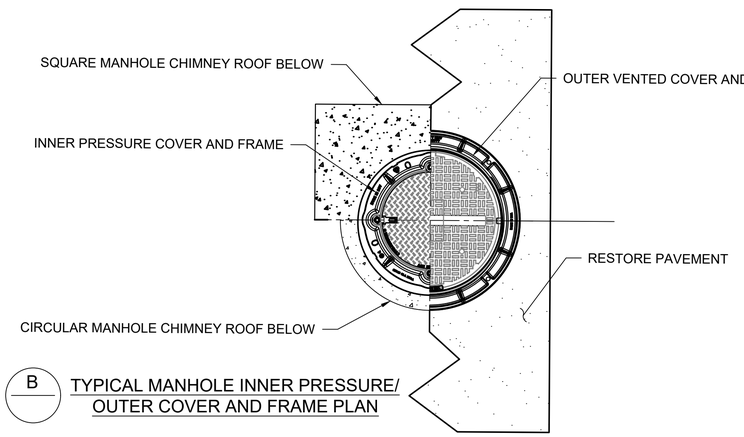


A

INSTALLATION DETAIL FOR WATERTIGHT MANHOLE COVER ON REGULATOR - IN SEALED POSITION

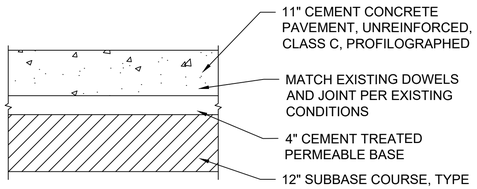
WATERTIGHT MANHOLE NOTES:

1. DOWEL MUST BE PLACED ON TOP OF CONCRETE SLAB WITH MINIMUM 8 INCHES THICKNESS, OR ON TOP OF WALL.
2. NOTIFY THE ENGINEER IF THE EXISTING CONCRETE HAS ANY CRACKS OR SPALLS, OR IF THE SLAB OR WALL ARE LESS THAN 8" THICK.
3. DO NOT USE EMBEDMENT LENGTH HIGHER THAN THOSE SPECIFIED.
4. CLEAR DISTANCE FROM DOWEL TO EDGE OF CONCRETE MUST NOT BE LESS THAN 2.5".
5. DISTANCE FROM RIM ELEVATION TO FIRST RUNG TO BE NO DEEPER THAN 35". NO STEPS REQUIRED IN SLUICE GATE OPERATOR MANHOLE.
6. RESTORE DISTURBED PAVEMENTS IN ACCORDANCE WITH APPROPRIATE AGENCY STANDARDS, SEE DETAIL B AND F THIS SHEET.
7. PLASTIC CAPS TO BE INSTALLED ON ALL RECESSED AREAS AROUND THE HARDWARE ON MANHOLE COVER.



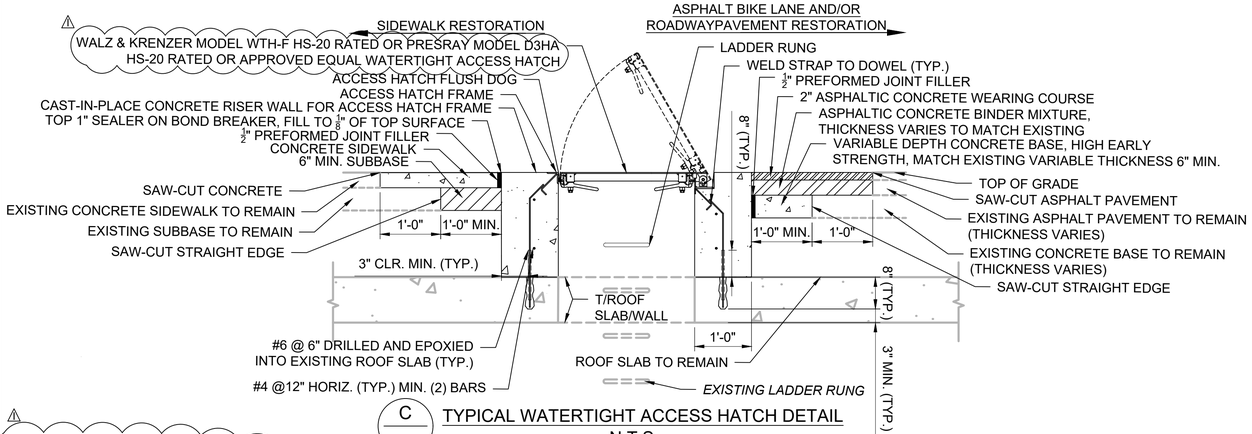
B

TYPICAL MANHOLE INNER PRESSURE/ OUTER COVER AND FRAME PLAN



F

NYSDOT CONCRETE ROADWAY PAVEMENT



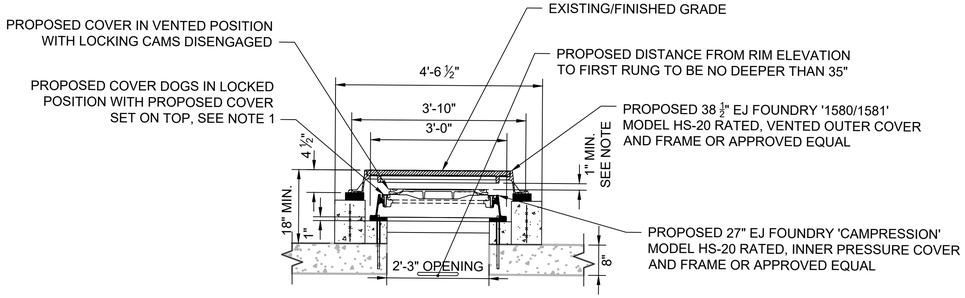
C

TYPICAL WATERTIGHT ACCESS HATCH DETAIL

N.T.S.

PAVEMENT RESTORATION NOTES:

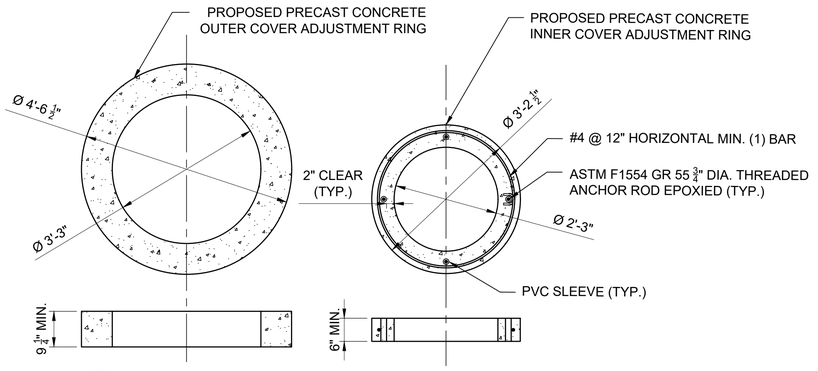
1. RESTORE DISTURBED ASPHALT ROADWAY/BICYCLE LANE PAVEMENT PER DETAIL C. RESTORE PAVEMENT MARKINGS IN ACCORDANCE WITH NYCDOT STANDARD SPECIFICATIONS AND DRAWINGS.
2. RESTORE DISTURBED CONCRETE SIDEWALK PER DETAIL C, IN ACCORDANCE WITH NYCDOT STANDARD DETAILS AND SPECIFICATIONS, MATCH PIGMENT, THICKNESS TO BE 4" (7" IN DRIVEWAY AND CORNER AREAS).
3. RESTORE DISTURBED CONCRETE ROADWAY PAVEMENT WITH NYSDOT-MAINTAINED ROADWAY PER DETAIL F. DETAIL SHOWN IS BASED ON ASSUMED CONDITIONS. FIELD VERIFY EXISTING PAVEMENT CONDITIONS AND RESTORE PER APPROPRIATE NYSDOT STANDARD DETAILS AND SPECIFICATIONS.



G

INSTALLATION DETAIL FOR WATERTIGHT MANHOLE COVER ON REGULATOR - IN VENTING POSITION

NOTE: INNER COVERS ARE TO BE PLACED ON TOP OF THE LOCKED CAMS IN THE NON-SURGE CONDITION TO ALLOW FOR VENTING.

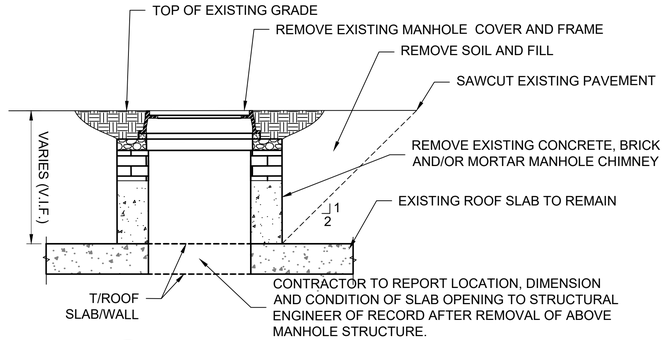


D

GRADE RING/COLLAR ADJUSTMENT RING DIMENSIONS

N.T.S.

NOTE: FIELD VERIFY PROPOSED DEPTH. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR APPROVAL.



E

DEMOLITION DETAIL MANHOLE COVER

WATERTIGHT ACCESS HATCH NOTES:

1. FOR HATCH SIZES SEE SHEET NOS. NS103, NS203, NS303, AND NS403.
2. CONTRACTOR TO FURNISH AND INSTALL REMOVABLE SAFETY GRATING AT ALL WATERTIGHT HATCH LOCATIONS. COORDINATE REQUIREMENTS WITH NYCDEP PRIOR TO FABRICATION.
3. CONTRACTOR TO ENGAGE FABRICATOR FOR FINAL DESIGN AND SHOP DRAWINGS OF HATCHES. PROVIDE SHOP DRAWINGS TO ENGINEER FOR REVIEW AND APPROVAL.
4. ALLOWABLE LEAKAGE RATE TO BE 0.1 GPM/FT OF HATCH PERIMETER.
5. HATCHES ARE TO BE DESIGNED FOR THE FOLLOWING HYDROSTATIC LOADS IN THE UNSEATING DIRECTION:

CHAMBER	INTERNAL PRESSURE (PSF) (UNFACTORED)
M7	422
M8	447
M9	427
CHAMBER P	468
MH20	434
MH21	363

6. HATCH SHALL INCLUDE A SPRING-BALANCED MECHANISM TO REDUCE THE FORCE REQUIRED TO LIFT THE PANEL OPEN DUE TO THE WEIGHT OF THE HATCH.

AECOM

PROJECT

SOUTH BATTERY PARK CITY RESILIENCY DESIGN SERVICES

CLIENT

HUGH L. CAREY BATTERY PARK CITY AUTHORITY

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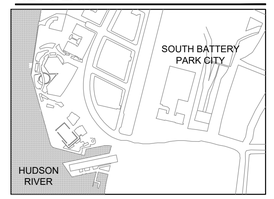
KEY PLAN



REGISTRATION

ISSUE/REVISION

I	2023-01-24	ADDENDUM REVISION 1
	2022-11-02	BID SET
I/R	DATE	DESCRIPTION

Designed By:	**A. HUANG**
Drawn By:	**N. RIFENBURGH**
Checked By:	**P. BRUECK**
Approved By:	**L. DIAZ**

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

NEAR SURFACE ISOLATION TYPICAL DETAILS

SHEET NUMBER

NS003

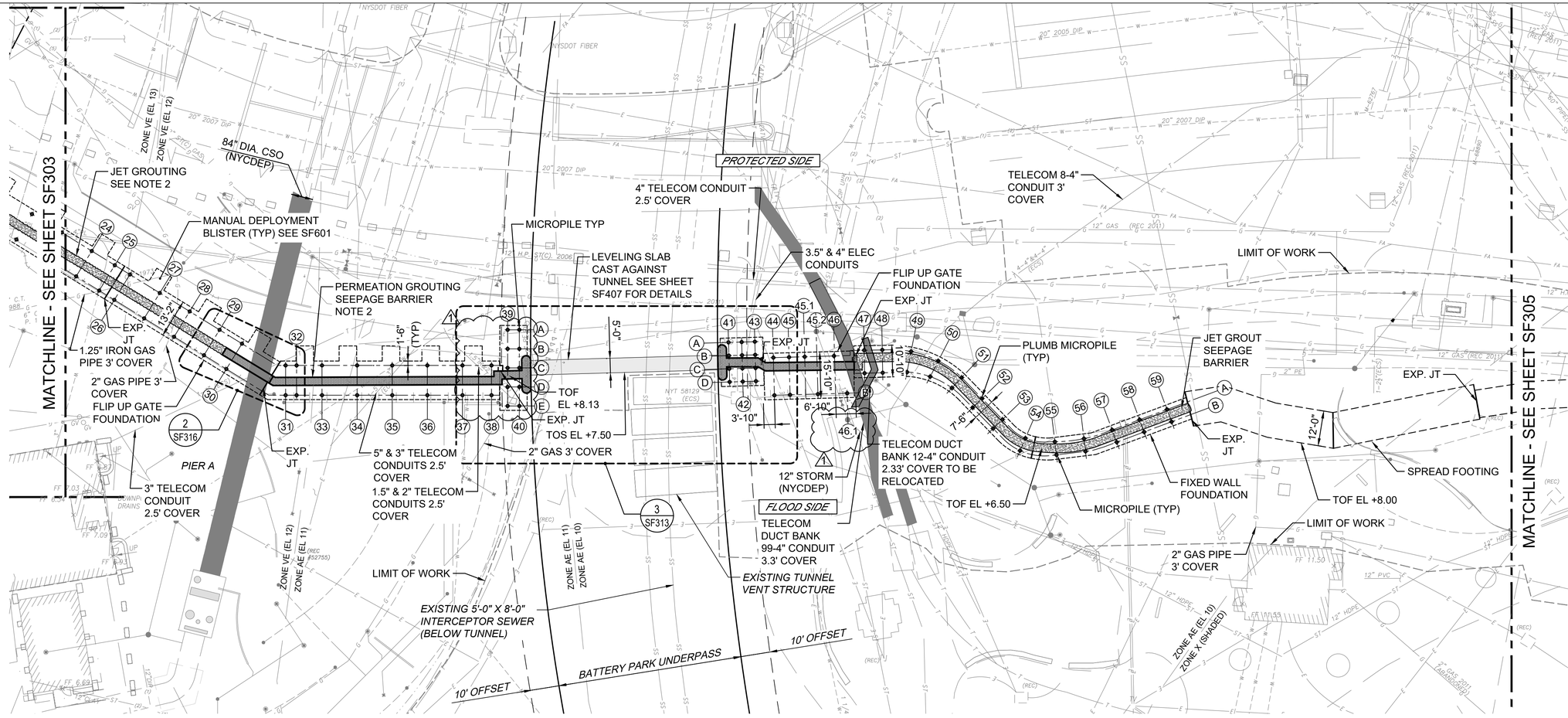
Printed On 30% Post-Consumer Recycled Content Paper

Last saved by: RIFENBURGH(2023-01-24) Last Plotted: 2023-01-25
Filename: C:\PWWORKING\AECOM_DS16_NA\NANCILEE.RIFENBURGH@AECOM.COM\D0547099\SBPCNSI-DETAILS-NSI_TYPICAL DETAILS.DWG

ATTACHMENT #4
REVISED STRUCTURAL DRAWING
SF304 – Flood Wall Foundation Plan 4 of 5

(ATTACHED)

ANSI D 22" x 34"



PILE SCHEDULE		
PILE NUMBER	NORTHING	EASTING
24A	196024.56	979439.18
24B	196015.90	979433.85
25A	196019.70	979447.05
25B	196011.05	979441.73
26A	196016.52	979452.21
26B	196007.86	979446.88
27A	196010.22	979462.43
27B	196001.56	979457.10
28A	196003.92	979472.64
28B	195995.26	979467.31
29A	195997.62	979482.85
29B	195988.97	979477.53
30A	195992.91	979490.51
30B	195984.25	979485.18
31A	195985.48	979505.43
31B	195975.32	979505.43
32A	195985.48	979509.18
32B	195975.32	979509.18
33A	195985.48	979517.87
33B	195975.32	979517.87

PILE SCHEDULE		
PILE NUMBER	NORTHING	EASTING
34A	195985.48	979529.87
34B	195975.32	979529.87
35A	195985.48	979541.87
35B	195975.32	979541.87
36A	195985.48	979553.87
36B	195975.32	979553.87
37A	195985.48	979565.87
37B	195975.32	979565.87
38A	195985.48	979575.78
38B	195975.32	979575.79
39A	195997.64	979581.31
39B	195991.14	979581.31
39C	195984.64	979581.31
39D	195978.14	979581.31
39E	195971.64	979581.31
40A	195997.64	979585.31
40B	195991.14	979585.31
40C	195984.64	979585.31
40D	195978.14	979585.31
40E	195971.64	979585.31

PILE SCHEDULE		
PILE NUMBER	NORTHING	EASTING
41A	195993.33	979656.79
41B	195988.84	979656.92
41C	195984.34	979657.04
41D	195979.84	979657.17
42A	195993.46	979661.29
42B	195988.96	979661.41
42C	195984.46	979661.54
42D	195979.97	979661.67
43A	195993.59	979665.79
43B	195989.09	979665.91
43C	195984.59	979666.04
43D	195980.09	979666.16
44A	195988.14	979672.12
44B	195975.29	979672.48
45A	195988.29	979677.48
45B	195975.44	979677.84
45.1A	195988.44	979682.84
45.2B	195975.71	979687.35
46A	195988.72	979692.83
46.1B	195975.99	979697.35

PILE SCHEDULE		
PILE NUMBER	NORTHING	EASTING
47A	195990.66	979703.14
47B	195982.82	979703.29
48A	195990.77	979709.34
48B	195982.98	979709.49
49A	195990.25	979719.19
49B	195983.19	979717.79
50A	195987.00	979728.46
50B	195981.66	979725.72
51A	195981.33	979736.48
51B	195977.78	979733.15
52A	195974.17	979743.43
52B	195971.08	979740.23
53A	195967.00	979750.40
53B	195963.94	979747.23
54A	195960.62	979758.25
54B	195956.38	979756.43
55A	195959.41	979768.32
55B	195954.93	979768.87
56A	195960.48	979778.27
56B	195956.14	979778.79

PILE SCHEDULE		
PILE NUMBER	NORTHING	EASTING
57A	195963.45	979787.91
57B	195959.28	979789.46
58A	195966.94	979797.28
58B	195962.76	979798.83
59A	195970.43	979806.65
59B	195966.25	979808.20

NOTES:

1. UTILITY LOCATIONS ARE BASED ON FIELD OBSERVATIONS AND RECORD DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES PRIOR TO CONSTRUCTION.
2. SEE GENERAL NOTES FOR PILE INSTALLATION, FLOWABLE FILL AND GROUTING NOTES.
3. CONTRACTOR SHALL SUBMIT A VIBRATION MONITORING PLAN PRIOR TO INSTALLATION OF PILES. VIBRATORY INSTALLATION OF PILES IS NOT PERMITTED WITHIN 50 FEET OF THE MUSEUM BUILDINGS AND TUNNELS.
4. WORK THIS SHEET WITH SHEET SF309.
5. REFER TO CIVIL DWGS FOR ADDITIONAL INFORMATION ABOUT EXISTING DUCT BANKS TO BE RECONSTRUCTED, CONTRACTOR MUST DETERMINE SIZE AND ELEVATIONS IN THE FIELD.

LEGEND

- MICROPILE
- JET GROUT
- PERMEATION GROUTING
- PACKAGE LIMITS
- LIMIT OF WORK

GRAPHIC SCALE: 1" = 20'-0"

20' 10' 0 10' 20' 40' 60'

AECOM

PROJECT
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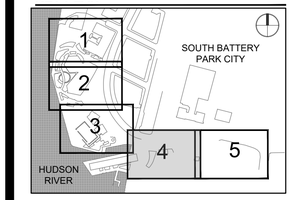
KEY PLAN



REGISTRATION

NYC SBS JOB NUMBER

20220059

ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	2023-01-24	ADDENDUM REVISION 1
	2022-11-02	BID SET

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

FLOOD WALL FOUNDATION PLAN 4 OF 5

SHEET NUMBER

SF304

ATTACHMENT #5
REVISED SPECIFICATION 347113.10 –
FIXED AND OPERABLE BOLLARDS

(ATTACHED)

SECTION 347113.10 - FIXED AND OPERABLE BOLLARDS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. This work consists of furnishing all materials, products, accessories, tools, equipment, services, transportation, labor, supervision, and manufacturing techniques required for installation of fixed and operable bollards described herein and as shown on the Contract Drawings.

1.02 REFERENCES

A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only. Unless otherwise noted, the latest edition of the following codes and standards governs this work. If any conflicts exist between these codes and standards the more restrictive requirements will govern.

B. American Society for Testing and Materials (ASTM)

1. ASTM A123 Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
2. ASTM A153 Zinc Coating (Hot-Dip) on Iron and Steel Hardware
3. ASTM A780 Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
4. ASTM A992 Structural Steel Shapes
5. ASTM D822 Weatherability of Powder Coatings B
6. ASTM F2656 Standard Test Method for Crash Testing of Vehicle Security Barriers

C. American Welding Society (AWS)

1. AWS A5.8 – Specifications for Filler Metals for Brazing and Braze Welding
2. AWS D1.1 – Specifications for Structural Welding Code - Steel.
3. AWS D1.6 – Structural Welding Code - Stainless Steel.

1.03 RELATED SECTIONS

A. Section 031000 - Concrete Formwork

B. Section 033000 - Cast-In-Place Concrete

C. Section 050513 - Hot Dip Galvanizing

D. Section 055010 - Miscellaneous Metals

1.04 PRE-INSTALLATION MEETINGS

A. Pre-installation Conference: Conduct conference at Project site.

1.05 PRICE AND PAYMENT PROCEDURES

A. Measurement and Payment
1. Payment: There are no separate pay items for the work of this section. Payment: For demolition and removals the CONTRACTOR will be paid at the applicable lump sum price bid.

1.06 SUBMITTALS

A. General: Refer to and comply with Section 013300, "Submittal Procedures" for procedures and additional submittal criteria.

B. Action Submittals
1. Product Data: For each type of product, submit the following:
2. Shop Drawings for installation, equipment, and electrical work
3. Product Data for both types of bollards and list of spare parts
4. Field Test Reports
5. Operating and Maintenance Instructions
6. Spare parts data for each different item of material and equipment used, after approval of the detail drawings. Include in the data a complete list of parts and supplies, with current unit prices and source of supply. Provide a manufacturer's standard recommended spare parts package, with current unit prices and source of supply complete with detailed manuals on parts replacement, with each barrier to facilitate 1 year of normal operation. Give particular consideration to system components which are not readily available from local or commercial sources and which are critical to the operation of the system.

C. INFORMATIONAL SUBMITTALS
1. Qualification Data: For delegated-design professional engineer.

1.07 QUALITY ASSURANCE

A. Delegated Design Professional: A qualified New Professional Engineer licensed in the state of New York.

B. Manufacturer Qualifications: Fabricator of products, minimum of five years successful experience.

C. Welding Qualifications: Qualify procedures and personnel in accordance with the following:

1. AWS D1.1, "Structural Welding Code - Steel."
2. AWS D1.6, “Structural Welding Code - Stainless Steel”

1.08 DELIVERY, STORAGE, AND HANDLING

A. Protect mechanical finishes on exposed surfaces of all components from damage by applying a strippable, temporary protective covering before shipping.

1.09 Sustainable Design Requirements

A. Sustainable Design Requirements: The Owner requires the Contractor to implement practices and procedures to meet the Project’s environmental performance goals, which include achieving ILFI Zero Carbon and WEDG Certification. Refer to Section 018113 - Sustainable Design Requirements for the Project’s targets and specific requirements. The Contractor shall ensure that the requirements related to the Project’s sustainability design goals are implemented to the fullest extent. Substitutions, or other changes to the work proposed by the Contractor or their Subcontractors, shall not be allowed if such changes compromise the Project’s sustainability goals and ILFI Zero Carbon or WEDG certification, unless such substitutions or other changes are approved in writing by BPCA.

1.010 COORDINATION

A. Field verify locations prior to the preparation of Shop Drawings and fabrication.

B. Coordinate installation bollards with installation of concrete foundations and pavement surfaces. Provide templates and other information as required.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. Fixed Bollards: Bollard foundation shall be designed by a Professional Engineer registered in the State of New York. The bollard design (single bollard) shall be crash-test-certified to ASTM F2656 Impact Condition Designation M30, Penetration Rating P1. Bollard locations shall be as shown on the Contract Drawings.

B. Operable Bollards: The total bollard height when in the raised position shall be no less than 39 inches above the roadway surface and shall have an outside diameter of no less than 12 inches. Bollards in the lowered position shall be capable of supporting a 16,000-pound wheel load each. Operable bollards shall withstand a 15,000-pound vehicle at impact speed of 50 mph with maximum bollard deflection or vehicle penetration of 3.3

feet. Bollards must be manually operated by hand using a counter-balance or approved equal system requiring 40 pounds or less of force to lift the bollard into position. The bollards must have a mechanism to lock the bollard in the deployed (up) position. The key used to unlock the bollards must be FDNY and NYPD approved.

C. Basis of Design: Delta Scientific DSC720 or approved equal.

D. Bollard covers: Stainless steel, finish as specified in the Contract Drawings.

E. Concrete Base: Concrete shall conform to Section 033000, “Cast-In-Place Concrete”.

F. Welding shall be in accordance with AWS D1.1 for mild steel and AWS D1.6 for stainless steel.

G. Code Compliance: Comply with New York City Building Code.

H. Wind Loading:

1. Wind Exposure Category: C.
2. Design Wind Speed: 130 mph.

I. Non-shrink Grout: Factory-packaged, non-staining, noncorrosive, nongaseous grout complying with ASTM C1107 and specifically recommended by manufacturer for exterior applications.

2.02 FABRICATION

A. General: Fabricate bollards as indicated for design, dimensions, details, finish, and anchorage, but not less than that required to support structural loads.

B. Shop assembled bollards to minimize field assembly. Disassemble units only as necessary for shipping and handling limitations.

1. Clearly mark units for reassembly and coordinated installation.
2. Use connections that maintain structural value of joined pieces.

C. Cut, drill, and punch metals cleanly and accurately.

1. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated.
2. Remove sharp or rough areas on exposed surfaces.

D. Form work true to line and level with accurate angles and surfaces.

E. Fabricate connections that are exposed to weather in a manner that excludes water.

1. Provide weep holes where water may accumulate.
2. Locate weep holes in inconspicuous locations.

F. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.

G. Connections: Fabricate with welded connections unless otherwise indicated.

H. Welds: Grind welds smooth prior to finishing.

I. Form changes in direction as follows:

1. By radius bends of radius indicated or by inserting prefabricated elbow fittings of radius indicated.

2.03 STEEL FINISHES

A. Hot-Dip Galvanized Base Coat: Galvanize steel members and components to ensure product encapsulation to ASTM A123 and ASTM A153. Touch-up damage galvanization in accordance with ASTM A780.

B. Commercial Brush Blast: Brush Blast all steel members and components to ensure inter-coat adhesion to SSPC SP7.

C. Electro-Static Powder Topcoat: Apply Thermo-Set Polyester Powder at 3-5 mils (DFT) at 400 Degree Fahrenheit for 20- 25 minutes to ASTM B117 and ASTM D822 D.

1. Electro statically applied colored polyester powder coating; heat cured to chemically bond finish to metal substrate.
2. Salt spray resistance tested in accordance with ASTM B117: No undercutting, rusting or blistering after 500 hours in 5% salt spray at 95 degrees F and 95% relative humidity and after 1000 hours less than 3 /16” undercutting.
3. Weather ability tested in accordance with ASTM D822: No film failure and 88% gloss retention after 1-year exposure in South Florida with test panels tilted at 45 degrees.

2.04 STAINLESS STEEL FINISHES

A. Surface Preparation: Remove tool and die marks and stretch lines, or blend into finish.

B. Polished Finishes: Grind and polish surfaces to produce uniform finish, free of cross scratches.

1. Run grain with long dimension of each piece.
2. When polishing is completed, passivate and rinse surfaces.
3. Remove embedded foreign matter and leave surfaces chemically clean.

C. Stainless Steel Sheet and Plate Finishes:

1. High-Luster Finish: ASTM A480/A480M, No. 7.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for site clearing, earthwork, pavement work, construction layout, and other conditions affecting performance of the Work.

B. Do not begin installation before final grading is completed unless otherwise permitted by Construction Manager.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Verification dimensions of existing field conditions prior to start of work.

B. Field layout and mark component location prior to fabrication.

3.03 INSTALLATION

A. Perform installation in accordance with manufacturer’s instructions and in the presence of a representative of the manufacturer. Manufacturer's representative shall be experienced in the installation, adjustment, and operation of the equipment provided. The representative shall also be present during adjustment and testing of the equipment. Show on the Drawings proposed layout and anchorage of equipment and appurtenances, and equipment relationship to other parts of the work including foundation and clearances for maintenance and operation. Include with the Detail drawings a copy of the Department of State certificate of bollard performance.

3.04 MANUFACTURER'S SERVICES

A. Provide the services of a manufacturer's representative who is experienced in the installation, adjustment, and operation of the equipment supplied. The representative shall supervise the installation, adjustment, and testing of the equipment.

B. Field Training: Provide a field training course for designated operating staff members. Training shall be provided for a total period of not less than 2 hours of normal working time and shall start after the system is functionally complete but prior to final acceptance tests. Field training shall cover all the items contained in the operating and maintenance instructions. Submit 6 copies of operation and maintenance manuals, a minimum of 2 weeks prior to field training. Manuals shall be approved prior to acceptance. Operation manuals shall outline the step-by-step procedures required for system startup, operation, and shutdown. The manuals shall include the manufacturer's name, model number, service manual, parts list, and brief description of all equipment and their basic operating

features. Maintenance manuals shall include routine maintenance procedures, possible breakdowns, repairs, and troubleshooting guide.

C. Field Testing: Submit test reports in booklet form showing all field tests, including component adjustments and demonstration of compliance with the specified performance criteria, upon completion and testing of the installed system. Indicate with each test report the final position of controls. Upon completion of construction, perform a field test for each installation. The test shall include raising and lowering the bollards its complete range of operation. Notify the Construction Manager at least 7 days prior to the beginning of the field test. Furnish all equipment and make all necessary corrections and adjustments prior to tests witnessed by the Construction Manager. Any conditions that interfere with the proper operation of the barrier disclosed by the test shall be corrected at no additional cost to the BPCA. Adjustments and repairs shall be done by the Contractor under the direction of the Construction Manager. After adjustments are made to assure correct functioning of components, applicable tests shall be completed.

3.05 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

1. Grounding-Resistance Tests: Subject completed grounding system to a megger test at each grounding location. Measure grounding resistance not less than two full days after last trace of precipitation, without soil having been moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural grounding resistance. Perform tests by two-point method according to IEEE 81.
2. Excessive Grounding Resistance: If resistance to grounding exceeds specified value, notify Construction Manager promptly. Include recommendations for reducing grounding resistance and a proposal to accomplish recommended work.
3. Report: Prepare test reports of grounding resistance at each test location certified by a testing agency. Include observations of weather and other phenomena that may affect test results.

3.06 CLEANING

A. Clean stainless steel by washing thoroughly with clean water and soap and rinsing with clean water.

3.07 PROTECTION

A. Protect finishes of bollards from damage during construction period with temporary protective coverings approved by bollard manufacturer. Remove protective coverings at time of Substantial Completion.

B. Restore finishes damaged during installation and construction period, so no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit or provide new units.

END OF SECTION 341713.10

NO TEXT ON THIS PAGE

ATTACHMENT #6
REVISED DRAWING SHEET INDEX
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(ATTACHED)

ANSI D 22" x 34"

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AECOM

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KEY PLAN

REGISTRATION

NYC SBS JOB NUMBER

20220059

ISSUE/REVISION

R	2023-JAN	ADDENDUM 1
I	2022-11-02	BID SET
I/R	DATE	DESCRIPTION

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

SHEET INDEX
3 OF 3

SHEET NUMBER

G003

ATTACHMENT #7
NEW SPECIFICATION 312500 –
EROSION AND SEDIMENT CONTROLS

(ATTACHED)

SECTION 312500 - EROSION AND SEDIMENT CONTROLS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Provide all Work and employ all practices for controlling soil erosion, sedimentation, minimizing the discharge of pollutants, preventing violations of the New York State Water Quality Standards, and implementing Storm Water Pollution Prevention Plans (SWPPP).

1.02 REFERENCES

A. General Permit: The New York State Department of Conservation (NYSDEC) State Pollutant Discharge Elimination System (SSPDES) General Permit for Stormwater Discharges from Construction Activity, Permit No. GP-0-20-001 or latest version.

B. NYS Standards: “New York State Standards and Specifications for Erosion and Sediment Control”, New York State Department of Environmental Conservation, et. al., November 2016, or latest version)

C. New York State Stormwater Management Design Manual (January 2015, or latest version).

D. New York City Department of Transportation (NYCDOT) Standard Highway Specifications (August 1, 2015 or latest version).

E. MS4CP Program: New York City Department of Environmental Protection (NYCDEP) MS4 Construction Permitting Program

1.03 DEFINITIONS / EXPLANATION OF TERMS

A. Practices: Physical, structural, and/or managerial practices that, when used singly or in combination, prevent or reduce pollution of water.

B. Erosion: The wearing away of the land surface by running water, wind, ice, or other geological agents, including such processes as geological creep, detachment, movement of soil or rock fragments by water, wind, ice, or gravity.

C. Erosion/Sediment Control: Any temporary or permanent measures taken to reduce erosion, control siltation and sedimentation, and ensure that sediment-laden water does not leave the Site.

D. All definitions in Appendix A of the General Permit are hereby incorporated into this section.

1.04 SUBMITTALS

A. Submit all notices, certifications, and forms required under the General Permit and meeting all requirements thereto, with all required information and signatures, including but not necessarily limited to those listed below this paragraph.
   1. SWPPP Preparer certification
   2. Notice of Intent (NOI)
   3. Notice of Termination (NOT)
   4. MS4 Acceptance Form

B. Submit amendments to the SWPPP as required to keep the SWPPP current per Part III A. 4. of the General Permit.

C. Submit all Inspection Reports and other documentation necessary to comply with the General Permit.

D. Submit product data for proprietary control devices.

PART 2 - PRODUCTS

2.01 GENERAL

A. Contractor shall identify and propose products as needed for meeting the requirements of the General Permit and other requirements specified in this section.

B. The following control measures shall conform with the below-listed appendices of the NYCDOT Standard Highway Specifications.
   1. Silt Fence: Either Appendix A or Appendix B
   2. Inlet Protection Measures: Appendix F

PART 3 - EXECUTION

3.01 GENERAL

A. Comply with all requirements specified in NYCDOT Standard Highway Specifications, Section 9.30, as modified and supplemented in this Section.
   1. References therein to "NYCDDC Infrastructure-Engineering Support", "Resident Engineer", and "Project Manager" shall instead mean "Construction Manager".
   2. 9.30.8 "Measurement and Payment" is deleted.

B. In addition to the minimum practices specified in NYCDOT Standard Highway Specifications, Section 9.30.2, employ the following practices, at minimum, as set forth in the NYS Standards:
   1. Planning and Management
      a. Dust Control – see NYS Standards, Page 2.25
      b. Protecting Vegetation During Construction – see NYS Standards, Page 2.26
   2. Soil Stabilization
      a. Anchored Stabilization Matting – see NYS Standards, Page 4.5
      b. Mulching – see NYS Standards, Page 4.39
      c. Topsoiling – see NYS Standards, Page 4.59
   3. Sediment Control
      a. Turbidity Curtain – see NYS Standards, Page 5.65

C. Notwithstanding the requirements specified and referenced in this Section, the Contractor shall at all times minimize the discharge of pollutants and prevent any violations of the New York State Water Quality Standards in accordance with the New York State Department of Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (General Permit).
   1. Provide all Work and employ all practices necessary to conform to the terms and conditions of the General Permit including but not limited to those specified and refenced in this section.
   2. Prepare, implement, and maintain Stormwater Pollution Prevention Plans (SWPPP) in accordance with the General Permit.
   3. Provide all personnel having necessary qualifications to prepare and implement the SWPPP, including but not limited to Trained Contractor(s), Qualified Inspector(s), and Qualified Professional(s).
   4. Inspect all erosion and sediment control practices and measures to ensure effectiveness and implement any corrective measures per Part IV. B. of the General Permit.
   5. Prevent stormwater runoff from the work area to flow off site areas or to percolate into the groundwater. Any soils that have been contaminated by such overflow shall be removed, tested and analyzed if necessary, and disposed of by the Contractor at no additional cost to the BPCA.
   6. Silt and Sediment Disposal: All silt and sediment which accumulates at sediment control practices/devices shall be removed and disposed of off-site in accordance with all applicable Federal, State and local regulations.
   7. The Contractor shall clean the work site and equipment consistent with requirements of the SWPPP and the NYS Standards.

D. New York City Department of Environmental Protection (NYCDEP) MS4 Requirements
   1. The majority of the work area is located within regulated MS4 (Municipal Separate Storm Sewer System) areas.

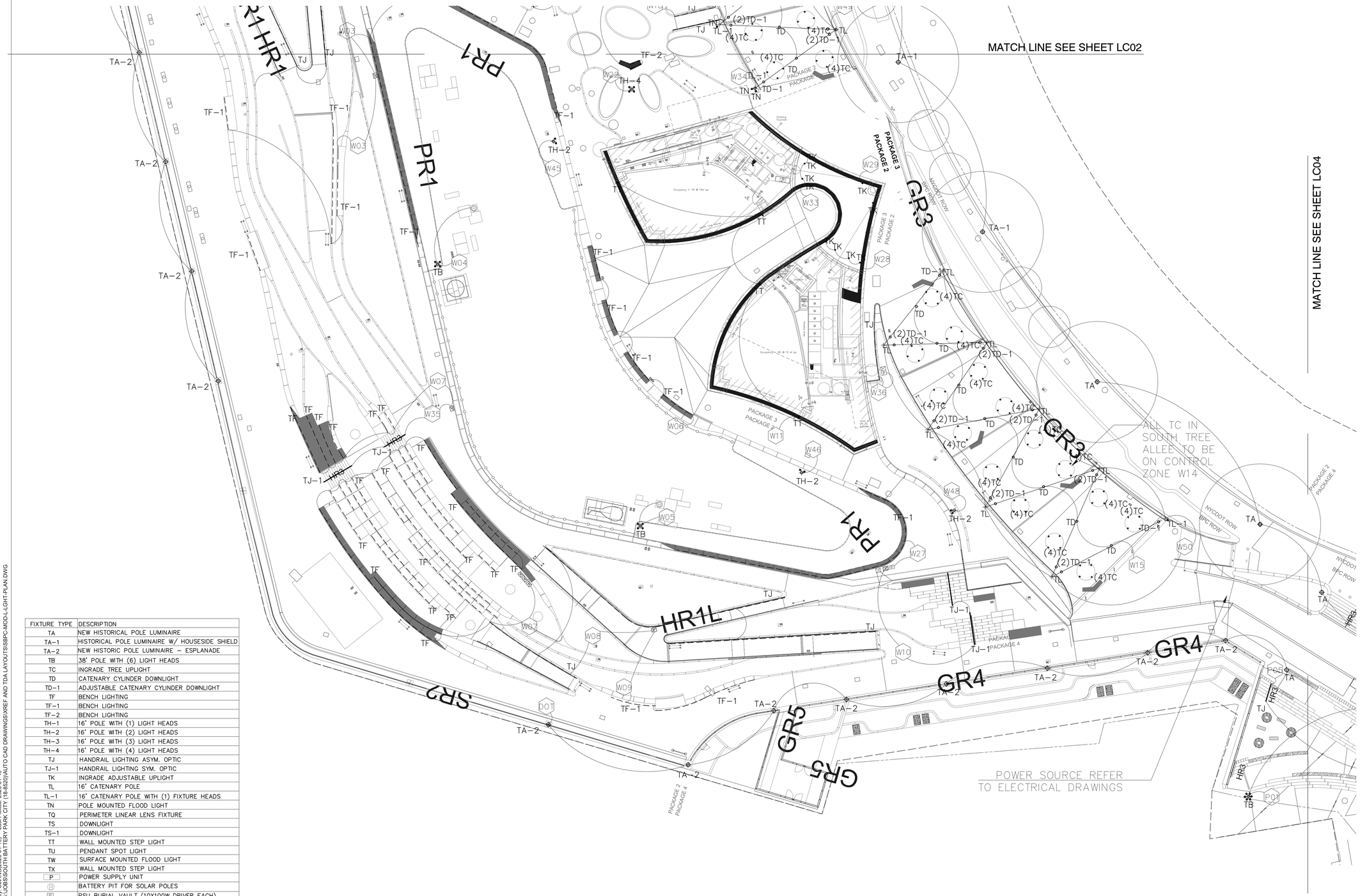
2. The Contractor shall comply with the requirements of the New York City Department of Environmental Protection (NYCDEP) MS4 Construction Permitting (MS4CP) Program.
3. The Project is a "Covered Development Project" as defined by the with Rules of the City of New York (RCNY) Title 15 Chapter 19.1.
4. The Contractor shall implement a SWPPP that complies with RCNY Title 15 Chapter 19.1.

END OF SECTION 312500

ATTACHMENT #8
NEW LIGHTING DRAWING
LC03 – Wagner Park Lighting Layout

(ATTACHED)

ANSI D 22" x 34"



SCALE 1"=20'-0"

FIXTURE TYPE	DESCRIPTION
TA	NEW HISTORICAL POLE LUMINAIRE
TA-1	HISTORICAL POLE LUMINAIRE W/ HOUSESIDE SHIELD
TA-2	NEW HISTORIC POLE LUMINAIRE – ESPLANADE
TB	38' POLE WITH (6) LIGHT HEADS
TC	INGRADE TREE UPLIGHT
TD	CATENARY CYLINDER DOWNLIGHT
TD-1	ADJUSTABLE CATENARY CYLINDER DOWNLIGHT
TF	BENCH LIGHTING
TF-1	BENCH LIGHTING
TF-2	BENCH LIGHTING
TH-1	16' POLE WITH (1) LIGHT HEADS
TH-2	16' POLE WITH (2) LIGHT HEADS
TH-3	16' POLE WITH (3) LIGHT HEADS
TH-4	16' POLE WITH (4) LIGHT HEADS
TJ	HANDRAIL LIGHTING ASYM. OPTIC
TJ-1	HANDRAIL LIGHTING SYM. OPTIC
TK	INGRADE ADJUSTABLE UPLIGHT
TL	16' CATENARY POLE
TL-1	16' CATENARY POLE WITH (1) FIXTURE HEADS
TN	POLE MOUNTED FLOOD LIGHT
TQ	PERIMETER LINEAR LENS FIXTURE
TS	DOWNLIGHT
TS-1	DOWNLIGHT
TT	WALL MOUNTED STEP LIGHT
TU	PENDANT SPOT LIGHT
TW	SURFACE MOUNTED FLOOD LIGHT
TX	WALL MOUNTED STEP LIGHT
P	POWER SUPPLY UNIT
	BATTERY PIT FOR SOLAR POLES
P	PSU BURIAL VAULT (10X100W DRIVER EACH)
XXX	LIGHTING CONTROL ZONE

Last saved by: SJIANG(2023-01-19) Last Plotted: 2023-01-19
Filename: G:\JOBS\SOUTH BATTERY PARK CITY (18-8520)\AUTO CAD DRAWINGS\XREF AND TDA LAYOUTS\SBPC-MOD-LLGHT-PLAN.DWG

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AECOM

PROJECT

SOUTH BATTERY PARK CITY RESILIENCY DESIGN SERVICES

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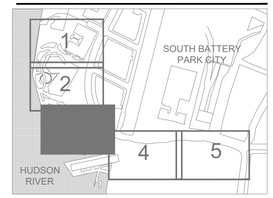
KEY PLAN



REGISTRATION

ISSUE/REVISION

I/R	DATE	DESCRIPTION
R	JULY2022	FIRST PLACE ADDENDUM

Designed By:	**SUZAN TILLOTSON**
Drawn By:	**CHANDNI AZEEZ**
Checked By:	**SHAN JIANG**
Approved By:	**MARK KUBICKI**

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

WAGNER PARK LIGHTING LAYOUT PART 03

SHEET NUMBER

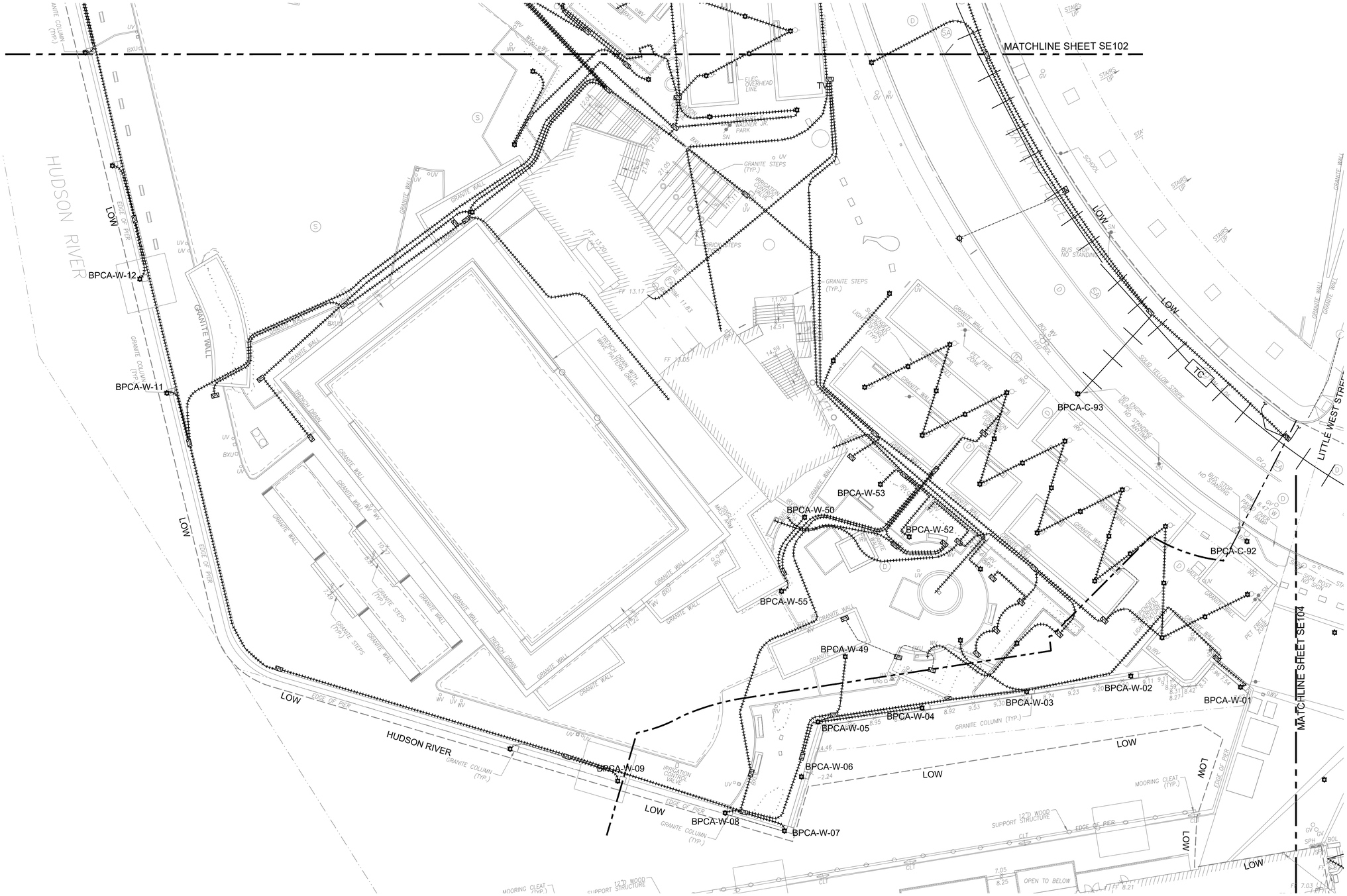
LC03

ATTACHMENT #9

NEW SITE ELECTRICAL DRAWING

SE103 – Wagner Park and Pier A Plaza Site Electrical Demolition Plan

(ATTACHED)



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GRAPHIC SCALE: 1" = 20'-0"
20' 10' 0 10' 20' 40' 60'

NOTES:

1. SEE SHEET SE001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. LIGHT POLES THAT ARE BEING DEMOLISHED AND ARE BEING FED THROUGH THE ROW OR ARE CROSSING THE STREET ARE TO BE ABANDONED IN PLACE.

1 / SE103 WAGNER PARK AND PIER A PLAZA SITE ELECTRICAL DEMOLITION PLAN
SCALE: 1"=20'-0"

AECOM

PROJECT

SOUTH BATTERY PARK CITY RESILIENCY DESIGN SERVICES

CLIENT

HUGH L. CAREY BATTERY PARK CITY AUTHORITY

CONSULTANT

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New York, NY 10001 212.255.8350 siteworkscm.com

MILHOUSE
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Chicago, Il 60604 313.987.0061 milhouseinc.com

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212.575.2701 naikgroup.com

OWEIS
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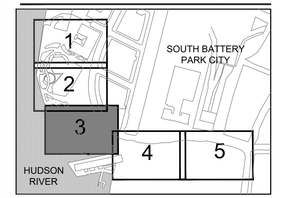
973.539.440 oweisengineering.com

KEY PLAN



REGISTRATION

EXPIRES 4/30/24

ISSUE/REVISION

I/R	DATE	DESCRIPTION
R	JAN 2023	ADDENDUM 1

Designed By:	CD
Drawn By:	CD
Checked By:	PK
Approved By:	JZ

PROJECT/TERM CONTRACT NUMBER

Contract No. 18-2586

SHEET TITLE

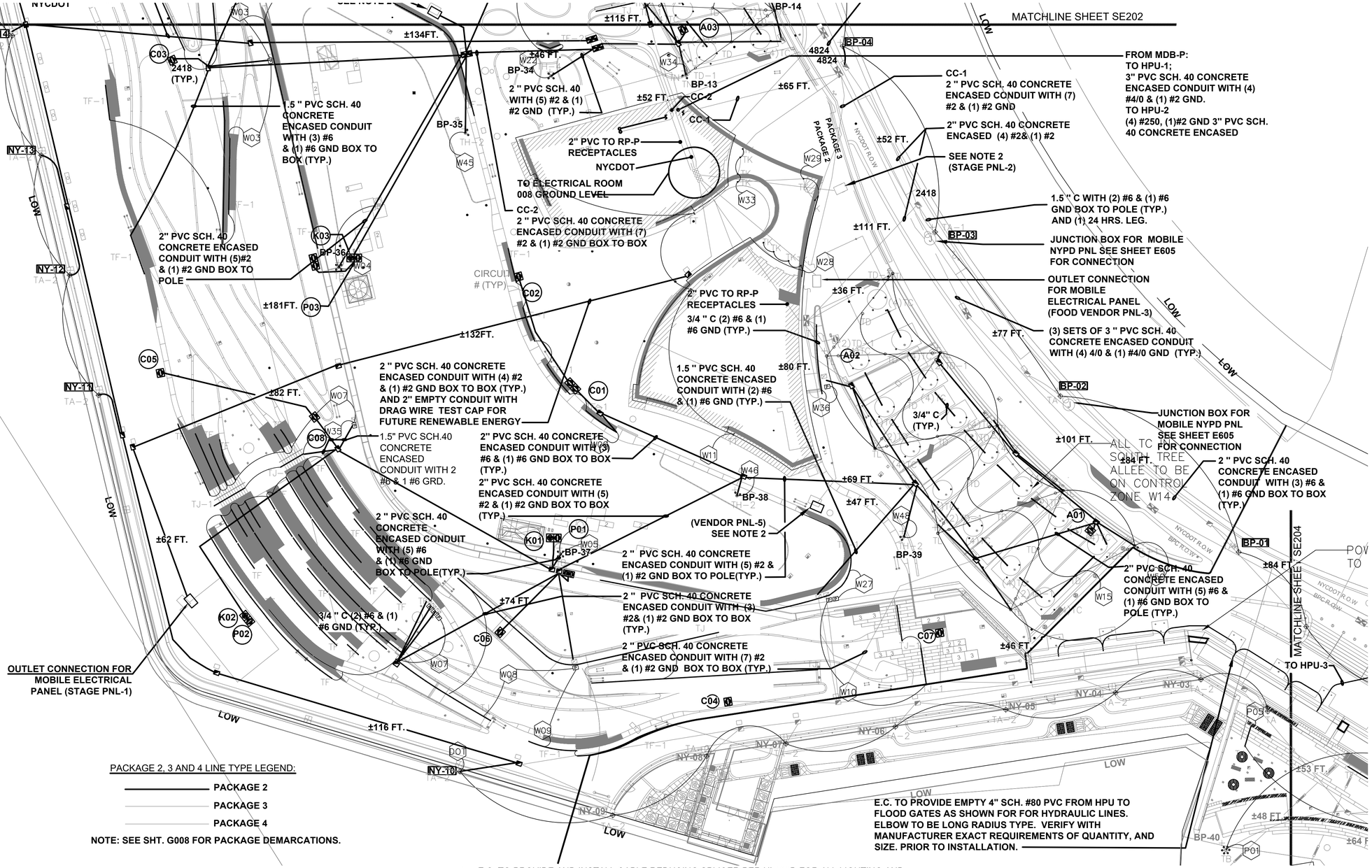
WAGNER PARK AND PIER A PLAZA SITE ELECTRICAL DEMOLITION PLAN

SHEET NUMBER

SE103

ATTACHMENT #10
NEW SITE ELECTRICAL DRAWING
SE203 – Wagner Park and Pier A Plaza Site Electrical Plan

(ATTACHED)



PACKAGE 2, 3 AND 4 LINE TYPE LEGEND:

- PACKAGE 2
- PACKAGE 3
- PACKAGE 4

NOTE: SEE SHT. G008 FOR PACKAGE DEMARCATIONS.

NOTES:

1. SEE SHEET SE001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. STAGE PANELS AND FOOD VENDORS EVENT PANEL WILL BE FED FROM MDB-P IN ELECTRICAL ROOM ON GROUND LEVEL IN PAVILION BUILDING. CONTRACTOR TO PROVIDE KENT T4 POWER IGU, 2NR 63 AMP 3 PHASE SOCKETS FOR THE PORTABLE PANEL CONNECTION. CONTRACTOR TO PROVIDE (5) PORTABLE 60A, 3PHASE PANELS, SEE DRAWINGS FOR PANEL SCHEDULE. CONTRACTOR SHALL COORDINATE EXACT LOCATION FOR STAGE PLUG OUTLET AND VENDOR PORTABLE PANEL WITH ARCHITECT AND CONSTRUCTION MANAGER/RESIDENT ENGINEER.
3. SEE SHEET SE103 FOR EXISTING POLES, BOX AND ELECTRICAL CONDUITS TO REMAIN.
4. E.C.TO PROVIDE EXACT QUANTITY OF CONDUIT, CIRCUITS AND CONTROL CABLES FROM DIMMMER PANELS AND DRIVER(S) TO ALL LIGHTING FIXTURES AS REQUIRED. E.C. TO PROVIDE ALL MEANS METHODS FOR A COMPLETE CODE COMPLIANT INSTALLATION. FOR EXACT ZONING OF LIGHTING FIXTURES REFER TO "LC" SERIES DRAWINGS.
5. CONTRACTOR TO PROVIDE OUTDOOR ELECTRICAL NEMA 4X BOX LEGRAND #XB814C520BN & #XB814C520BK FOR SITE,ALLEY AND CONVENIENT OUTLETS .
6. CONTRACTOR SHALL PROVIDE PULL BOX (HAND HOLE) AS REQUIRED PER CODE FOR SITE OUTLETS.
7. SEE PANEL "RP-P" SHEET E607 FOR SITE , ALLEY AND CONVENIENCE OUTLET POWER CONNECTION.
8. PRIOR TO INSTALLATION E.C.TO COORDINATE ALL CONDUIT ROUTING AND HANDHOLE LOCATIONS WITH LANDSCAPE ELEVATION CHANGES ALONG PROPOSED PATH OF CONDUIT. CONDUIT TAKE-OFF'S SHOWN ARE APPROXIMATE AND FOR REFERENCE ONLY. REFER TO LANDSCAPE SECTION DRAWINGS.
9. E.C. TO PROVIDE AND INSTALL CABLE REDUCING SPLICER PER UL486D FOR ALL LIGHTING AND RECEPTACLE ELECTRICAL CONNECTIONS CONTRACTOR TO PROVIDE ALL MEANS AND METHODS FOR A COMPLETE AND CODE COMPLAINT INSTALLATION.
10. SEE DWG. E704 (PACKAGE 3) FOR LUTRON LIGHTING CONTROLS. ALSO REFER TO SPECIFICATION 260943 "DIGITAL NETWORK LIGHTING CONTROLS" FOR SEQUENCE OF OPERATION. E.C. TO COORDINATE QUANTITY OF CABLES AND CONDUIT(S) FOR SITE LIGHTING CIRCUITRY. PROVIDE AN ALLOWANCE FOR (24) 2" CONDUITS FOR SITE LIGHTING.
11. ELECTRICAL CONTRACTOR (PACKAGE 2) TO COORDINATE BRANCH CIRCUIT WIRING AND QUANTITIES OF CONDUITS FROM POWER SOURCE MDP-P, RP-P AND DIMMER PANELS FEEDING FROM PACKAGE 3. REFER TO PACKAGE 3 SITE ELECTRICAL ROOM 008 SHT. E201, ONE LINE DIAGRAM SHT. E501 AND PANEL SCHEDULES E6 SERIES DRAWINGS FOR ADDITIONAL ELECTRICAL INFORMATION. ELECTRICAL CONTRACTOR (PACKAGE 3) SHALL PROVIDE ALL RACEWAYS TO NEAREST HANDHOLES AS SHOWN ON THIS SHEET (SEE LINE TYPE LEGEND) ELECTRICAL PACKAGE 2 TO PROVIDE ALL CABLING TO POWER SOURCE.

1 SE203 — WAGNER PARK AND PIER A PLAZA SITE ELECTRICAL PLAN
SCALE: 1"=20'-0"

GRAPHIC SCALE: 1" = 20'-0"
20' 10' 0 10' 20' 40' 60'

AECOM

PROJECT
SOUTH BATTERY PARK CITY RESILIENCY DESIGN SERVICES

CLIENT
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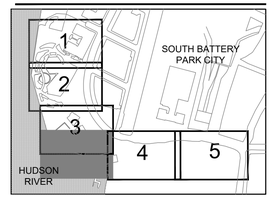
KEY PLAN



REGISTRATION

STATE OF NEW YORK · JOSEPH T ZUPPO · 099967 · LICENSED PROFESSIONAL ENGINEER
EXPIRES 4/30/24

ISSUE/REVISION

I/R	DATE	DESCRIPTION
R	JAN 2023	ADDENDUM 1

Designed By:	CD
Drawn By:	CD
Checked By:	PK
Approved By:	JZ

PROJECT/TERM CONTRACT NUMBER
Contract No. 18-2586

SHEET TITLE
WAGNER PARK AND PIER A PLAZA SITE ELECTRICAL PLAN

SHEET NUMBER
SE203

ATTACHMENT #11
NEW SPECIFICATION
Specification 313224 | Permeation Grouting

(ATTACHED)

SECTION 313224 – PERMEATION GROUTING

PART 1 - GENERAL

1.01 DESCRIPTION

A. The work of this Section consists of permeation grouting that will be used in the flood protection system as a seepage barrier. Be responsible for selecting permeation grouting parameters, equipment, and construction methods to meet the requirements specified herein and indicated on the Contract Drawings. Design parameters for grouting, consisting of area replacement ratio and depth of the elements or structures created by permeation grouting, is as indicated and specified. Detailing to construct the required elements or structures is by the CONTRACTOR.

B. The work consists of providing all labor, equipment, materials, testing, and supplies necessary to design, furnish, and install the permeation grouting to meet the specified performance requirements.

C. BPCA will engage a third-party inspector to review and perform testing and is referred to herein as the AUTHORITY's QA Representative.

D. Related Work Specified Elsewhere

1. Section 017419 - Construction and Demolition Waste Management and Disposal.

2. Section 018113 - Sustainable Design Requirements.

1.02 DEFINITIONS

A. Permeation Grouting: Filling of the pore space within the soil mass and filling open voids and loose zones within the limits of treatment shown on Contract Drawings by injecting fluid cement grout to strengthen the soil and reduce permeability.

B. Cement Grout: A mix of water and either micro-fine/ultra-fine cement, and other admixtures as required. micro-fine and ultra-fine cement grouts are grouts with 100% of particles less than 15 microns. The term micro-fine/ultra-fine cement grout are used interchangeably throughout this Section.

1.03 REFERENCES

A. Unless otherwise noted, the latest edition of the following codes and standards will govern this work. If any conflicts exist between these codes and standards the more stringent requirements will govern.

B. American Society for Testing and Materials International (ASTM):

1. ASTM C109: Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-Inch or 50-mm Cube Specimens).

2. ASTM D2113: Standard Practice for Rock Core Drilling and Sampling of Rock for Site Exploration.

3. ASTM D5084: Standard Test Methods for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter

1.04 PRICE AND PAYMENT PROCEDURES

A. Payment: There is no additional payment for the work of this section.

B. Provide a unit price for grouting at obstructions per cubic yard of grout column as described in Paragraph 1.08B.3.

1.05 SUBMITTALS

A. Submit the following qualifications in accordance with Section 013300.

1. Qualifications, and information regarding similar projects the entity performing the grouting and its superintendents has constructed, where permeation grouting was utilized.

2. Permeation Grouting Work Plan

3. Grout Mix Design

a. Mix design for the project indicating sources and types of grout materials, including (if available) field test data from previous projects.

b. Method for verifying grout mix proportions.

c. Data and proportions for any admixtures.

4. Installation Logs

a. Installation logs of recorded installation and grouting data for each grout hole location for the ENGINEER’s review. Submit installation logs of recorded installation and grouting data for each grout hole location within five (5) working days of grouting at a grout hole location.

5. Quality assurance, quality control and verification procedures to be used for the field test and production work.

a. Closed Circuit Television (CCTV) Inspections in accordance with paragraph 3.04A.

b. Details of the procedures to obtain soil-cement samples; and catalog cuts or shop fabrication drawings of the soil-cement sampling device and curing boxes.

c. Proposed details and formats of all required tabular and graphical data presentations that will be submitted to the ENGINEER during the course of the Work. This will include submittal of a copy of the reports used for data monitoring and recording.

d. Details for hydraulic conductivity testing

e. Details of overlap verification

f. Method for performing grout cube compression tests and results of compression tests per item 3.05D, for the ENGINEER's approval.

g. Method for performing ground heave monitoring and results of monitoring per item 3.04I, for the ENGINEER's review.

1.06 QUALITY ASSURANCE

A. Perform work in accordance with issued permits, New York City, Battery Park City Authority and the State of New York, ordinances, and regulations, in accordance with Section 014000.

B. Permeation grouting shall be performed in accordance with the following:

1. The Contractor performing the permeation grouting shall have a minimum of five (5) years of permeation grouting experience, with the successful completion of a minimum of five (5) permeation grouting projects of similar scope and complexity of this Contract. The Contractor performing the permeation grouting shall be experienced with the use of the specified continuous mixing procedure, automatic data acquisition and recording equipment and cement grout products required herein.

2. Permeation grouting shall be supervised by a Grouting Supervisor with a minimum of five (5) years' experience in responsible charge of permeation grouting projects of similar scope of this Contract. The Grouting Supervisor shall be experienced with all aspects of permeation grouting including means and methods for drilling of grout holes, installation of grout pipes, mixing of grout, mixing methods, the use of admixtures, grout injection methods, field testing for grout mix and injection quality control, including the use of automatic data acquisition and recording equipment. The Grouting Supervisor shall be present onsite full-time during all permeation grouting and grouting related Work.

3. The required Permeation Grouting Work Plan as shown on the Contract Drawings shall be prepared by a permeation grouting ENGINEER licensed in the state of New

York. The Permeation Grouting Work Plan, as well as shop drawings and calculations, shall be signed and sealed by the permeation grouting ENGINEER. The permeation grouting ENGINEER shall have a minimum of ten (10) years of permeation grouting experience, with the successful design and completion of a minimum of two (2) permeation grouting projects of similar scope of this Contract within the previous ten (10) years.

4. The Contractor performing the permeation grouting shall perform test section(s), exploratory test cores, and cement grout property tests as required herein.

1.07 DELIVERY, STORAGE AND HANDLING

A. Containment, Collection, and Disposal of Spoil Return

1. At all times during permeation grouting operations, keep the site clear of all debris and water. Pipe or channel spoil returns to tanks or other collection structures. Regularly dispose of all waste materials in accordance with the requirements of the DEP and all other agencies having jurisdiction.

2. All permeation grout collection, containment, and disposal methods must be shown on the shop drawings. Be responsible for and incorporate all sedimentation and turbidity control measures required by applicable federal, state, and city regulations.

3. Take all necessary precautions and implement measures to prevent any spoil return, other spoil material or stockpiles materials from entering the storm drain structures, drainage courses, and other utility lines or from leaving the site via surface runoff. Prevent the migration of spoil return, spoil material, or stockpiled materials into any surface water body, beyond the immediate limits of permeation grouting operations.

1.08 SITE CONDITIONS

A. Confirm location of utilities and subsurface obstructions shown on Contract Drawings prior to developing grout hole pattern.

B. Obstructions

1. Subsurface strata may contain rubble, concrete, reinforced concrete slabs, timber piles, steel, bricks, stones, seawalls, abandoned foundations, utilities and other materials that can obstruct permeation grouting operations. Where unknown obstructions are encountered during the permeation grouting, remove the obstruction or install additional permeation grout columns to encapsulate the obstruction, as directed by the ENGINEER.

2. If drilling for permeation grouting cannot proceed due to an obstruction, the CONTRACTOR may elect to remove the object or submit an alternate permeation grouting layout pattern to avoid or encapsulate the object, subject to the acceptance

of the ENGINEER. Alternately, the CONTRACTOR may drill through the obstruction. Removal of the obstruction or drilling through the obstruction will be paid at the obstruction rate, while offsetting the column location will be paid at the standard rate for permeation grouting in subsurface soils.

3. Each instance of obstruction will be resolved on a case-by-case basis. Payment will be based on an agreed upon unit rate for handling obstructions when the permeation grouting cannot proceed. If such conditions are encountered, notify the ENGINEER in writing, and provide all pertinent information relating to the nature, depth, plan location coordinates, expected extent of the obstruction, and proposed procedures to overcome the obstruction.

C. At completion of Work, restore all areas impacted by permeation grouting as shown on Contract Drawings.

1.09 SUSTAINABLE DESIGN REQUIREMENTS

A. Sustainable Design Requirements: Implement practices and procedures to meet the Project's environmental performance goals, which include achieving ILFI Zero Carbon and WEDG Certification. Refer to Section 018113 - Sustainable Design Requirements for the Project's targets and specific requirements. Ensure that the requirements related to the Project's sustainability design goals are implemented to the fullest extent. Substitutions, or other changes to the work proposed will not be allowed if such changes compromise the Project's sustainability goals and ILFI Zero Carbon or WEDG certification, unless such substitutions or other changes are approved in writing by BPCA.

PART 2 - PRODUCTS

2.01 CEMENT GROUT.

A. Use cement grout composed of micro-fine/ultra-fine cement, water, and other admixtures as required. Cement grout shall be one of the products listed below, or an approved equal.

1. "MasterRoc MP-650" or "MasterRoc MP-900", Manufactured by BASF Construction Chemicals, 23700 Chagrill Blvd., Beachwood, OH 44122 (Tel. 404-386-9236).

2. "Ultrafine SD", Manufactured by Avanti International, 822 Bay Star Blvd. Webster, TX 77598 (Tel. 281-486-5600).

3. "NITTETSU SuperFine", Manufactured by Surecrete Inc., 19705 Scriber Lake Rd., Suite # 103, Lynwood, WA 98036 (Tel. 516-272-3929)

B. Potable water shall be used for mixing grout.

C. The cement grout mix shall be suitable for penetrating the soils to create a grout zone as required by the Contract Drawings.

D. Deliver materials in undamaged containers bearing manufacturer's original labels or if delivered in bulk with certificates of origin. Store and handle cement grout in accordance with manufacturer's recommendations and OSHA Safety Data Sheet (SDS). Furnish and store cement grout in plastic wrapped bags and within covered areas protected from the weather.

E. After reviewed by the ENGINEER, the cement grout mix design shall not be modified without performing another trial mix, laboratory testing, and test section, with results acceptable to the ENGINEER.

2.02 CEMENT GROUT ADMIXTURES

A. Use admixtures (plasticizers or superplasticizers) as required for a cement grout mix suitable for penetrating soil to create a grout zone as required by the Contract Drawings.

B. Other admixtures such as bentonite or fluidifiers may be used as required for the mix design.

C. Store and handle admixtures in accordance with manufacturer's recommendations and SDS. Furnish and store admixtures in moisture resistant bags shipped in sealed containers and handled and stored to avoid moisture adsorption. Materials that has become caked due to moisture absorption will not be permitted for use.

PART 3 - EXECUTION

3.01 WORK PLAN

A. Develop a Permeation Grouting Work Plan to inject grout for the full extent of the test section grout zone and production area grout zone as shown on Contract Drawings. The Contractor shall submit his Permeation Grouting Work Plan for ENGINEER's review prior to beginning grouting. At a minimum the plan shall include:

1. Contractor's grout hole pattern including the spacing as required to inject grout for the full extent of the grout zones.

2. Product and grout mix design, including admixtures. Grout mix shall have a Water – Cement Ratio (W/C) between 3:1 W/C and 1:1 W/C.

3. Grout mix test parameters to be checked onsite to verify proper mix design. Include wet grout mix design parameters, grout cube strength parameters, and frequency of testing.

4. Minimum and maximum pressure criteria and minimum and maximum volume criteria for pumping grout.

5. Method for installing grout tubes, and method for abandoning in place or removing.

6. Procedures and equipment for performing grouting, including the sequence of injection of grout in grout holes.

7. Method for identifying grout hole locations and installation log for each grout hole to record installation and grouting data.

8. Method of numbering grout holes and core holes.

9. Method for monitoring ground heave and movement of adjacent structures and action limits.

10. Storage and disposal of excess grout and grout waste.

B. At the Contractor's option, perform a subsurface investigation and laboratory testing to obtain the soil parameters required to develop the Permeation Grouting Work Plan, at no additional cost to BPCA. The Contractor shall submit details of his subsurface investigation and laboratory testing to the ENGINEER for review prior to initiating the program. If the Contractor chooses to perform a subsurface investigation and laboratory testing, all data shall be submitted to the ENGINEER at the completion of the Work.

C. After the ENGINEER has no further comments regarding the Contractor's submitted Permeation Grouting Work Plan, prior to grouting, the Contractor shall meet with the CONSTRUCTION MANAGER to review noted restrictions and coordination requirements prior to beginning Work. The Contractor shall not proceed with test section of production permeation grouting until notified to proceed by the CONSTRUCTION MANAGER.

D. The AUTHORITY's QA Representative will inspect production grout zone areas with exploratory test cores. If as determined by the ENGINEER the exploratory test cores show that an area is not grouted as required by the Contract Drawings and specifications, as directed by the CONSTRUCTION MANAGER, the Contractor shall modify his Permeation Grouting Work Plan and re-grout the area as required to comply with Contract requirements at no additional cost to BPCA.

3.02 EQUIPMENT

A. Use permeation grouting equipment for micro-fine/ultra fine cement grout mixture type, with the capacity and mechanical capability suitable to perform work specified here and on Contract Drawings. The equipment shall include:

1. Grout proportioning equipment to accurately measure grout ingredients at mixer.

2. A high shear colloidal grout mixer providing a homogenized mix and having an impeller speed of at least 1,500-rpm.

3. An agitator/holding tank of sufficient capacity to ensure uninterrupted supply to grout pump.

4. Pressure gauges to measure pressure at pump and point of injection. Gauges shall have gauge savers to prevent grout from entering gauge.

5. Hoses capable of withstanding maximum water and grout pressure to be used.

6. A calibrated check gauge to check gauges on grout plant daily.

7. Stop valves at the collar hose for maintaining required pressure until cement grout has set, and by-pass valves to prevent sudden increases in cement grout pressure from developing at the grout hole connection.

B. Drilling equipment of a type and capacity suitable for required hole diameters and depths for installing grout pipes at locations shown on approved Drawings.

C. Cement grout testing equipment required to perform quality control testing as required by the Contractor's Permeation Grouting Work Plan. Testing equipment shall include but not be limited to; Marsh Funnel flow cone, Baroid (API) Mud Balance, sedimentation (bleed) test cylinders, scales, molds, and curing equipment.

D. Provide means to increase or decrease the water cement ratio as required by the ground conditions and if accepted by the ENGINEER.

E. Configuration of grouting equipment shall be such that flushing can be accomplished with grout injection valve closed, with water supply valve open, with grout pump running at full speed.

F. Have spare parts, back-up equipment, and maintenance personnel available to maintain permeation grouting equipment in satisfactory operating condition during execution of permeation grouting Work, and to ensure uninterrupted grout injection in case of mechanical breakdown or equipment malfunction during course of Work.

G. Use rotary drilling equipment to obtain post permeation grouting exploratory test cores to verify the cement grout has permeated the full grout zone as shown on Contract Drawings. The type and capacity shall be suitable for obtaining core samples to the diameter and depth specified in paragraph 3.05.D.

3.03 PERMEATION GROUT PIPE INSTALLATION

A. Drill grout holes such that grout columns as shown on Contract Drawings can be installed within 3-in (+) of the locations shown on the Contractor's submitted Permeation Grouting Work Plan, and to the depths shown on the approved Shop Drawings. Grout pipes shall be installed within two (2) percent of vertical.

B. Grout pipes shall be installed flush to the existing grade in order that they do not interfere with facility operations, and have protective caps to prevent soil and debris entering and obstructing the grout tubes. Access to all grout pipes shall be maintained for the full duration of the Contract to allow for follow up permeation grouting if required.

C. Label on-site grout hole locations in accordance with the numbering system included in the Contractor's submitted Permeation Grouting Work Plan.

D. Use of rod-dope, grease or other lubricants will not be allowed on drill rods or in drill holes.

E. Field adjustments to grout pipe locations and depths will be allowed to avoid utilities, tie rods, or any other subsurface obstructions. Prepare sketches showing details of field modifications and submit to CONSTRUCTION MANAGER for review.

F. With the exception of grout pipes which are not installed per Contract requirements due to encountering an unknown subsurface obstruction, additional grout pipes that are required to replace grout pipes which are not installed per Contract requirements, and additional grout pipes required to permeate grout through the full grout zone shown on Contract Drawings, shall be installed by the Contractor at no additional cost to BPCA. As directed by the CONSTRUCTION MANAGER, the Contractor shall be compensated on a Net Cost basis for the installation of additional grout pipes which are required due to encountering subsurface obstructions.

G. Backfill grout tubes as follows:

1. All unused grout tubes which do not meet Contract requirements shall be backfilled with cement grout when abandoned.

2. As determined by the ENGINEER, after exploratory core samples confirm that an area has been fully grouted as required by the Contract documents and that additional permeation grouting is not required, backfill the grout tube in the approved area with cement grout.

3. Grout tubes shall be removed to a minimum depth of 2-ft below finished grade prior to backfilling or paving.

4. At the Contractor's option and as approved by the ENGINEER, remove the grout tubes and backfill the holes with grout in lieu of abandoning the grout pipes in place as noted above.

H. In areas where grouting cannot be used due to buried obstructions and areas where mixing of soil would be detrimental to existing structures use flowable fill as specified in Section 312323.33 "*Flowable Fill*" and as approved by the ENGINEER. The flowable fill must meet the same hydraulic conductivity requirements outlined on the Contract Drawings.

3.04 GROUTING PROCEDURES

A. Commence permeation grouting around existing DEP sewers that are to remain in-service only after the sewer has been inspected using a CCTV system to verify and record the existing conditions of the sewer at no additional cost to BPCA.

B. Use a continuous mixing method of cement grout for injection into ground. A batch system of mixing is not permitted.

C. Keep equipment, lines, and hoses clean by constant circulation of grout and periodic flushing with water. Provide a return line to assist in grout circulation and to provide more precise grout pressure control.

D. Using double packers, inject cement grout through grout tubes at designated subsurface zones as shown on Contract Drawings. Perform grouting in sequence provided in the submitted Permeation Grouting Work Plan. Inject grout per the parameters included in the submitted Permeation Grouting Plan, and in accordance with pumping pressure and grout volume limits noted on Contract Drawings.

E. Place check valves at required locations to prevent backflow.

F. Monitor the rate and volume of cement grout being injected for higher than expected pumped cement grout volumes indicating that grout is flowing through bulkheads, or into manholes, catch basins, utilities, or into or through any other similar structures. In addition, periodically inspect nearby manholes, catch basins, utilities, and tunnels for evidence of grout leakage. When such conditions are detected, stop grouting immediately and inspect the surrounding area to determine the cause for the excessive grout flow. Report the occurrence to the ENGINEER along with a plan to prevent further excessive grout flow. Do not resume grouting until the method for preventing further grout flow has been implemented to the satisfaction of the ENGINEER. All Work required to clear excessive grout flows, repair existing structures damaged by excessive grout flows, and to prevent similar excessive grout flows occurring again, shall be performed by the Contractor at no additional cost to BPCA.

G. During cement grout injection, inspect nearby grout pipes for grout flow into pipes. If cement grout is found in grout pipes adjacent to an injection point, flush the grout to prevent blockage. If the grout has hardened, drill inside the grout pipe using a rotary tool to clean the grout pipe for future injection. If a blocked grout pipe cannot be cleared or is determined by the CONSTRUCTION MANAGER to be unusable for future cement grout injection, install additional grout pipes as required to replace the unusable grout pipe. Report occurrences of grout flow and blockages in grout pipes adjacent to an injection point to the CONSTRUCTION MANAGER along with the Contractor’s plan for clearing the affected grout pipes and/or installing additional grout pipes. All Work required to clear grout pipes and/or install additional grout pipes, shall be performed by the Contractor at no additional cost to BPCA.

H. As required, provide a remote communication link such as radios or cell phones between the grout plant and injection point in order that the personnel manning both sides of the grouting operation are in direct full time contact in order to properly control the grouting operation.

I. Monitor heave and uplift in adjacent facilities in accordance with the approved work plan.

J. Locate equipment for mixing, holding, and pumping grout in a secure location and operated in such a manner as to minimize the spillage of material. Perform permeation grouting in such a manner to prevent excess cement grout, drill cuttings, wash water, and any other component materials to flow into manholes, catch basins, or any other utilities. When such situations occur, notify the CONSTRUCTION MANAGER along with the Contractor's plan to prevent similar occurrences in the future, to clear excess materials, and repair any damages caused by the flow of excess materials. All Work performed by the Contractor to clear excess materials and repair associated damage shall be performed to the satisfaction of the CONSTRUCTION MANAGER at no additional cost to BPCA.

K. All excess cement grout, drill cuttings, wash water, and any other component materials shall be contained and then disposed of offsite as required by the Contract Drawings.

3.05 FIELD QUALITY CONTROL

A. Daily Reports

1. Within one business day of a work shift, submit summary daily reports during production grouting that provide the information listed below. Submit a sample of the report form proposed for use for approval prior to the start of work.

2. Daily reports must include the following:

a. Equipment and Personnel on site

b. Work initiated and completed

c. Production interruptions

d. Grouting Records

(1) Grout column element number, size, and location.

(2) Time and date of beginning and completion of each grout element, including interruptions to the grouting process or material supply.

(3) Grout mix data, including mix proportions and unit weight density measurements.

(4) Injection pressure of all fluids used to construct each grout element.

(5) Flow rates of all fluids used to construct each grout element.

(6) Total grout quantity used for each element.

(7) Top and bottom elevations of the grout element.

(8) Whether flow of spoils return was continuous.

e. Total quantities of materials used for that day.

f. Observations of any unusual, or unanticipated conditions including obstructions, stoppages, loss of circulation, etc., impacts on instrumentation or monitoring.

3. Applicable verification testing or measurements done.

4. Installation records, daily reports, and other project documentation must demonstrate that the selected parameters from the test program were accurately repeated for the production work.

B. Perform all grouting in the presence of BPCA's QA Representative. Notify BPCA's QA representative at least 72 hours prior to initiating grouting. Monitor and log grouting operations for both test areas and production work.

C. AUTHORITY's QA Representative will perform onsite testing of grout parameters such as wet grout mix design properties and obtain grout cube samples for strength testing as required by the submitted Permeation Grouting Work Plan, and in accordance with requirements on the Contract Drawings.

D. Prepare grout cube samples for compressive strength testing once per day at the start of permeation grouting. Cubes shall be cast and cured in sets of three (3) using molds that are 2-inches by 2-inches by 2-inches in size in accordance with ASTM C109. The minimum unconfined compression strength shall not be less than 50 psi at seven (7) days. The AUTHORITY's QA Representative will perform the testing and submit the results to the ENGINEER within 10 days of obtaining cube samples.

E. Monitor the surrounding ground surface elevations to prevent heave and the movement of surrounding structures. If the measured ground heave and movement of existing structures exceeds the allowable limits agreed to in the approved Work Plan, the Contractor shall modify grouting pressures and/or grouting procedures to prevent further occurrences. Report to the ENGINEER when ground heave and movements of adjacent structures exceeds allowable limits, along with the means for modifying the procedures to avoid further occurrences. All Work associated with modifying grouting procedures and/or repairing damage caused by ground heave and movements of structures beyond allowable limits shall be performed by the Contractor as directed by the ENGINEER at no additional cost to BPCA.

F. Prior to production permeation grouting, conduct a permeation grouting test section, including exploratory test cores to evaluate the effectiveness of the permeation grouting. If it is determined by the ENGINEER after reviewing the test core samples that the cement grout is not fully permeating the grout zone elevations shown on the Contract Drawings, modify the grouting procedures in order to permeate grout through the full grout zone. Perform additional grouting in the test section and grouting in additional test sections as directed by the ENGINEER to verify that the modified procedures are acceptable. All Work associated with modifying grouting procedures, additional test section grouting, additional test sections, and additional exploratory test cores, shall be performed as directed by the ENGINEER at no additional cost to BPCA. As required, submit a modified grouting Work Plan showing the modified grouting procedures based on the test section results.

G. Do not proceed to production permeation grouting until the ENGINEER has given approval based upon acceptable test section results.

H. Drill six exploratory cores per item 3.02G during production permeation grouting evenly distributed over the grouting area to evaluate the effectiveness of the permeation grouting. If it is determined by the ENGINEER after reviewing the test core samples that the cement grout is not fully permeating the grout zone elevations shown on the Contract Drawings, modify the grouting procedures in order to permeate grout through the full grout zone. Perform additional grouting in the test section and grouting in additional test sections as directed by the ENGINEER to verify that the modified procedures are acceptable. All Work associated with modifying grouting procedures, additional test section grouting, additional test sections, and additional exploratory test cores, shall be performed as directed by the ENGINEER at no additional cost to BPCA.

I. Hydraulic Conductivity

1. Testing: Perform testing of production elements where permeation grouting is used as a seepage barrier at the rate of 5% of the installed columns. The number of test locations will be proportional to the linear footage with a minimum of 2 test locations on columns constructed. Permeability tests shall be performed in accordance with ASTM D5084.

2. Acceptance: All of the tests performed must show hydraulic conductivity less than the maximum hydraulic conductivity specified on the Contract Drawings.

END OF SECTION 313224

NO TEXT ON THIS PAGE

ATTACHMENT #12

NEW REFERENCE SPECIFICATION

Walz & Krenzer Flush Watertight Hatch (WK Model # WTH-F)

(ATTACHED)

Flush Watertight Hatch (WK Model# WTH-F) Specifications

Part 1 – General

1.01 Description: Provide flush watertight hatch factory assembled with frame and all operating components in accordance with contract specifications and approved drawings.

1.02 Acceptable Manufacturers: Watertight hatch shall be as manufactured by Walz & Krenzer, Inc (203-267-5712; sales@wkdoors.com).

1.03 Standards: Comply with the provisions of the following (as applicable):

A. AISC "Specifications for Design, Fabrication, and Erection of Structural Steel for Buildings".
B. The Aluminum Assoc. "Aluminum Design Manual".
C. AWS Structural Welding Code D1, D1.2, D1.3, D1.6.
D. ASME Structural Welding Code Section IX.
E. FEMA Bulletin 3-93, #102 & #114.
F. ASTM A36, D2000.
G. American Iron and Steel Institute (AISI) CL 304, 316, 316L.

1.04 Submittals:

A. Manufacturers Data: Submit installation and maintenance manuals for watertight hatch.
B. Shop Drawings: Submit shop drawings approved by licensed Professional Engineer for watertight hatch including dimensional plans, elevations, sections, details for all mountings/connections, and parts list.
C. Calculations (optional for critical applications): Submit calculations approved by licensed Professional Engineer verifying the watertight hatch's ability to withstand the design pressure loading.
D. QA Submittals: Submit test reports showing compliance with specified performance characteristics.

1.05 Qualifications: Manufacturer shall present evidence attesting to at least five years successful experience in the design and manufacture of similar closures.

Part 2 – Products

2.01 Product Description: Watertight hatch shall be Model WTH-F as manufactured by Walz & Krenzer, Inc.

2.02 Materials:

A. Panel & Frame: ASTM A-36 steel (options include aluminum and 304 or 316 stainless steel).

B. Gasket: ASTM D2000 GR DE neoprene gasket, 25 duro with fully molded corners. Note – 40-duro gasket used for hatches designed to seal against a pressure exceeding 10-psi. Optional gasket material for unusual environmental conditions includes viton, silicon, hypalon, and others. O-rings used for high pressure hatches.
C. Securing dogs: Stainless steel dog assemblies with bronze wedges. Dogs on flush side of hatch to be recessed, and operable via T-wrench. For higher pressure applications, high strength bronze dogs will be used.
D. Hinges: to include bronze oil-impregnated thrust bearing and stainless steel hinge pins.
E. Recessed grab handles included for lifting hatch.
F. Finish: mild steel blasted to near white metal per SSPC-SP-10 and primed with one coat of inorganic zinc primer. Finish coat with epoxy finish is available.
G. Options include spring balancing, panic bar, hold-open braces, and remote operation/indication

2.03 Design:

A. Design Pressure: # (in feet of water). Specify seating (pushing hatch closed) or unseating direction (pushing hatch open).
B. Flush hatches can be operable from one or both sides via individual dogs or from bottom side using a quick-acting handwheel.
C. Round, rectangular, square, and other custom shapes available.
D. Frame: provided for bolt-on or weld-on installation for existing openings, or with masonry subframes for embedding in new pour concrete.
E. Hatch size and design pressure direction shall determine the quantity and type of dog. Dogs are designed to adjust gasket compression in the field.

2.04 Quality Assurance:

A. Perform shop operational test.
B. Perform shop chalk test to ensure 100% watertight/airtight seal.
C. All welding shall be performed in accordance with the requirements of the applicable AWS or ASME standards.
D. Liquid Penetrant Test (for critical applications): Welds in the "potential" leak path shall be liquid penetrant inspected in accordance with Appendix VIII of Section VIII of ASME Code Div. 1.
E. Hydrostatic Test (optional for critical applications only): Provide hydrostatic test data certifying that the closure furnished, or a closure of similar design, has been satisfactorily tested to verify that it will withstand the designed hydrostatic pressure with no visible leakage

Part 3 – Execution

3.01 Fabrication:

A. The finished product shall be rigid, neat in appearance, and free from all defects, warps, and buckles. All exposed joints and corners shall be well rounded.
B. Edge of panel and knife-edge of frame to be flat with 1/8" with a maximum deviation of 1/16" in a 6' length.
C. Knife-edge on frame to be ground to a 3/32" radius with surface roughness not to exceed 125 micro inches.
D. All butt welds in frame to be full penetration welds.

3.02 Installation:

A. Install watertight hatch in accordance with manufacturer's instructions and approved shop drawings.
B. After installation, perform field operational and field chalk test per manufacturer's instructions to verify installation and watertight integrity of hatch.
C. Finish paint (if applicable) after installation.

3.03 Warranty: Watertight hatch shall operate satisfactorily and be free of defects in material and workmanship for a period of not less than one year from the date of delivery.

ATTACHMENT #13
NEW REFERENCE SPECIFICATION
Presray D3HA Watertight Hatch for Infrequent Access

(ATTACHED)

3-Part CSI Specifications

D3HA-Watertight Hatch for Infrequent Access

These specifications are intended to be used as a guideline for architects and engineers as they establish the requirements for a particular project, and may be modified by them as deemed appropriate.

PART 1 - GENERAL

1.01 DESCRIPTION

a.) Work Included: Provide special doors(s) factory assembled with frame(s) and hardware in accordance with the contract documents.

1.02 STANDARDS

a.) Comply with the provisions of (as applicable).

(1) AWS Structural Welding Code.
(2) ASME Structural Welding Code Section IX.

1.03 SUBMITTALS

a.) Manufacturers Data: Submit installation and maintenance instructions for special door(s).
b.) Shop Drawings: Submit shop drawings for special door(s) including dimensioned plans and elevations, details of sections, connections and anchorage, and parts list.
c.) Certificates (Optional): Submit certification that the door(s) furnished, or a door of similar design, has been satisfactorily tested to verify that it will withstand the design hydrostatic pressure.

1.04 QUALIFICATIONS

a.) Experience: The manufacturer of the special door(s) shall present evidence attesting to at least 5 years of successful experience in the design and manufacture of both the door and the door seal of the types specified.

PART 2 - PRODUCTS

2.01 DOOR SHALL BE MODEL D3HA AS MANUFACTURED BY PRESRAY CORPORATION.

2.02 MATERIALS

a.) Structural Steel Plates and Shapes: ASTM A36 (options available are type 304 stainless steel, type 316 stainless steel, and type 6061 aluminum).
b.) Finish: Brush-off blast clean per SSPC-SP7, prime with one coat rust inhibitive, lead free, red primer.

c.) Hatch Gasket: Presray type 25 durometer neoprene molded rather then extruded, with fully molded corners, no mitered joints allowed. (Optional materials include Viton®, consult Presray in cases of unusual environmental conditions).

d.) Hardware:

Hinges: Presray flush heavy-duty low friction hinges with slotted blades to protect the hinges from the pressure load.

Dogs: Presray series with stainless steel rollers, number of dogs dictated by hatch size, spacing to be suitable for distributing loads equally to each. The handle shall be provided with an "o" ring seal and two oil-impregnated bronze flange bearings to maintain shaft alignment. When not in the dogged position, the handles shall be held in the stored position by disk springs. Each dog shall be equipped with a means for adjusting seal compression after installation in the field.

Flush Hatch Design: To avoid interference with personnel, equipment and vehicle traffic (optional).

Gas Spring and/or Counterweight: to facilitate opening/closing (optional).

2.03 DESIGN

a.) Watertight hatch shall be designed with a minimum 2:1 factor of safety based on material yield strength, and shall provide an effective seal against the design pressure.

b.) The design of the hatch shall allow the pressure on the hatch to be transmitted to the frame and/or dogs.

c.) The hatch shall provide a rectangular opening with square corners for easy passage.

d.) Frame shall include suitable anchors for imbedment in concrete (options available include gaskets, bolts and inserts for attachment to existing concrete or block, or the frame ready for welding to existing steel structure).

2.04 FABRICATION

a.) The edge coaming contacting the door gasket shall be machined, rather than as rolled, to maximize sealing.

2.05 INSPECTION AND TEST

a.) All welds on steel assemblies that may be potential "leak path" shall be liquid penetrant inspected in accordance with ASME section VIII Div. of Appendix 8.

b.) Finished assembly, or assembly similar in design shall be factory leak tested to verify that it will withstand the design hydrostatic pressure (optional).

PART 3 - EXECUTION

3.01 INSTALLATION

a.) Install special door in accordance with manufacturer's instructions and approved shop drawings.

PART 4 - WARRANTY

4.01 1-YEAR LIMITED AGAINST DEFECTS AND WORKMANSHIP FROM DATE OF SHIPMENT.