



PUBLIC NOTICE

US Army Corps
of Engineers
New York District
Jacob K. Javits Federal Building
New York, N.Y. 10278-0090
ATTN: Regulatory Branch

In replying refer to:

Public Notice Number: **NAN-2022-00237-EBR**

Issue Date: March 15, 2023

Expiration Date: April 14, 2023

The New York District, of the U.S. Army Corps of Engineers has received an application for a Department of the Army permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Section 404 of the Clean Water Act (33 U.S.C. 1344):

APPLICANT: New York City Department of Design and Construction
Attn: Judith M. Coriolan
30-30 Thomson Avenue
Long Island City, New York 11101

ACTIVITY: Discharges off fill material into Waters of the U.S. to facilitate the construction of a new storm sewer

WATERWAY: Thurston Basin and Springfield Creek, tributaries of Jamaica Bay

LOCATION: Idlewild Park and Brookville Park, Borough of Queens, Queens County, City of New York, New York

A detailed description and plans of the applicant's activity are enclosed to assist in your review.

The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

ALL COMMENTS REGARDING THE PERMIT APPLICATION MUST BE PREPARED IN WRITING AND EMAILED TO William.Bruno@usace.army.mil BEFORE THE EXPIRATION DATE OF THIS NOTICE; otherwise, it will be presumed that there are no objections to the activity.

Comments submitted in response to this notice will be fully considered during the public interest review for this permit application. Comments provided will become part of the public record for this permit application. All written comments, including contact information, will be made a part of the administrative record, available to the public under the Freedom of Information Act. The Administrative Record, or portions thereof, may also be posted on a Corps of Engineers internet web site. Due to resource limitations, this office will normally not acknowledge the receipt of comments or respond to individual letters of comment.

Any person may request, in writing, before this public notice expires, that a public hearing be held to collect information necessary to consider this application. Requests for public hearings shall state, with particularity, the reasons why a public hearing should be held. It should be noted that information submitted by mail is considered just as carefully in the permit decision process and bears the same weight as that furnished at a public hearing.

Our preliminary determination is that the activity for which authorization is sought herein is not likely to adversely affect any Federally endangered or threatened species or their critical habitat. However, pursuant to Section 7 of the Endangered Species Act (16 U.S.C. 1531), the District Engineer is consulting with the appropriate Federal agency to determine the presence of and potential impacts to listed species in the project area or their critical habitat.

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act (Public Law 104-267), requires all Federal agencies to consult with the National Oceanic and Atmospheric Administration Fisheries Service (NOAA/FS) on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). The proposed work, fully described in the attached work description, could cause the disruption of habitat for various lifestages of some EFH-designated species as a result of a temporary increase in turbidity during construction. However, the New York District has made the preliminary determination that the site-specific adverse effects are not likely to be substantial because it is expected that fish populations would avoid the small area of disturbance. Further consultation with NOAA/FS regarding EFH impacts and conservation recommendations being conducted and will be concluded prior to the final decision.

Reviews of activities pursuant to Section 404 of the Clean Water Act will include application of the guidelines promulgated by the Administrator, U.S. Environmental Protection Agency, under authority of Section 404 (b) of the Clean Water Act and the applicant has not received a water quality certification from the New York State Department of Environmental Conservation.

Pursuant to Section 307 (c) of the Coastal Zone Management Act of 1972 as amended [16 U.S.C. 1456 (c)], for activities under consideration that are located within the coastal zone of a state which has a federally approved coastal zone management program, the applicant has certified in the permit application that the activity complies with, and will be conducted in a manner that is consistent with, the approved state coastal zone management program. In a letter dated August 11, 2022, New York State Department of State issued a Coastal Zone Management Concurrence with Consistency Certification, F-2022-0126, for the proposed work.

In addition to any required water quality certificate and coastal zone management program concurrence, the applicant has obtained or requested the following governmental authorization for the activity under consideration:

New York State Department of Environmental Conservation

*****PLEASE USE THE 18-CHARACTER FILE NUMBER ON ALL CORRESPONDENCE WITH
THIS OFFICE*****

CENAN-OP-RE
Public Notice NAN-2022-00237-EBR

It is requested that you communicate the foregoing information concerning the activity to any persons known by you to be interested and who did not receive a copy of this notice. If you have any questions concerning this application, you may contact this office at (917) 790-8516 and ask for William T. Bruno.

In order for us to better serve you, please complete our Customer Service Survey located at <http://www.nan.usace.army.mil/Missions/Regulatory/CustomerSurvey.aspx>.

For more information on New York District Corps of Engineers programs, visit our website at <http://www.nan.usace.army.mil>.



FOR AND IN BEHALF OF
Stephan A. Ryba
Chief, Regulatory Branch

Encl

*****PLEASE USE THE 18-CHARACTER FILE NUMBER ON ALL CORRESPONDENCE WITH
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DESCRIPTION OF PROPOSED WORK

The applicant, New York City Department of Design and Construction, has requested Department of the Army authorization for the construction of a new triple barrel concrete storm sewer at Thurston Basin and Springfield Creek, tributaries of Jamaica Bay in Idlewild Park, Borough of Queens, Queens County, City of New York, New York.

The installation of approximately 2,340 linear feet of triple barrel concrete storm sewer. The approximately 12.5-foot-wide by 8-foot-high triple barrel sewer will extend from the intersection of 149th Avenue and 224th Street to Thurston Creek within Kennedy Airport, south of Rockaway Boulevard. At the north bank of Thurston Creek, the triple barrel storm sewer would terminate at a concrete headwall and stormwater would discharge into a 48-foot-wide by 36-foot-long outlet dissipation pool consisting of aggregate riprap. On the south side of the creek, a second headwall and a 16-foot-wide by 8-foot-high triple barrel concrete storm sewer would be constructed to receive flow from Thurston Creek and the proposed triple barrel storm sewer. The 16-foot-wide by 8-foot-high triple barrel concrete storm sewer would connect to the existing 16-foot-wide by 6-foot-high four-barrel storm sewer that carries Thurston Creek flows to Thurston Basin.

The proposed project would include the placement of approximately 3,601 cubic yards (CYs) of material below the Spring High Water (SHW) Line within Waters of the United States (WOTUS). The proposed project would include the excavation of approximately 2,960 CYs of material below the SHW Line within WOTUS. The placed material would include approximately 1,524 CYs of stone riprap placed within the downstream reach of Springfield Creek to attenuate flow within the creek and protect the bed and banks of the creek from erosion, 27 CYs of concrete to construct the headwalls at the sewer outlet and inlets, and approximately 2,050 CYs of concrete and soil for the construction of the storm sewer and site grading.

Temporary disturbances to WOTUS include impacts to approximately 3,893 square feet (0.09 acres) and are associated with the installation of the proposed temporary cofferdam and trenching for the proposed storm sewer. The project proposes permanent impacts to approximately 27,154 square feet (0.62 acres) of WOTUS.

Impact Type	Area of Disturbance or Impact (Sq. Ft.)	Area of Disturbance or Impact (Ac.)
Temporary Disturbance	3,893	0.09
Permanent Impact	27,154	0.62

Impact type within Waters of the U.S.	Cubic Yards
Excavation	4,460
Fill	3,601

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The applicant has stated that they have avoided, minimized, and mitigated for potential impacts proposed to the maximum extent practicable by limiting the project area to the minimum required for the construction of a new triple barrel concrete storm sewer by incorporating the establishment of a total of approximately 3.27 acres of vegetated tidal wetlands within Idlewild Park and Brookville Park. Additionally, within the settling basin approximately 911 SF of *spartina alterniflora* and 65 SF of *Spartina patens* and *Distichlis spicata* will be planted. Construction of the two proposed tidal wetland mitigation sites would include excavation of a total of approximately 1,500 CYs of material within WOTUS and approximately 38,500 CYs of material from adjacent uplands. Material to be removed would be sediment, fill, wrack, and debris. After the excavation, approximately 4,000 CYs of clean sand would be backfilled to a depth of 1 foot throughout the sites to bring the site up to the designed grade and provide a suitable planting medium for tidal wetland plant species.

Site 1 Wetland Mitigation Site

Aquatic Resource Type	Plant Species	Planting Area (Sq. Ft.)	Planting Area (Ac.)
Intertidal Marsh	<i>Spartina alterniflora</i>	29,498	0.68
High Marsh	<i>Distichlis spicata</i> , <i>Spartina patens</i>	25,564	0.59
Upper High Marsh	<i>Distichlis spicata</i> , <i>Juncus gerardii</i> , <i>Solidago sempirvirens</i> , <i>Spartina patens</i> , <i>Baccharis halimifolia</i> and <i>Iva frutescens</i>	12,991	0.30
TOTAL		68,053	1.56

Site 2 Wetland Mitigation Site

Aquatic Resource Type	Plant Species	Planting Area (Sq. Ft.)	Planting Area (Ac.)
Intertidal Marsh	<i>Spartina alterniflora</i>	55,725	1.23
High Marsh	<i>Distichlis spicata</i> , <i>Spartina patens</i>	13,460	0.31
Upper High Marsh	<i>Distichlis spicata</i> , <i>Juncus gerardii</i> , <i>Schoenplectus pungens</i> , <i>Schoenplectus robustus</i> , <i>Solidago sempirvirens</i> , <i>Solidago cynosuroides</i> and <i>Spartina patens</i>	5,145	0.12
TOTAL		74,330	1.71

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USACE FILE: NAN-2022-00237-EBR



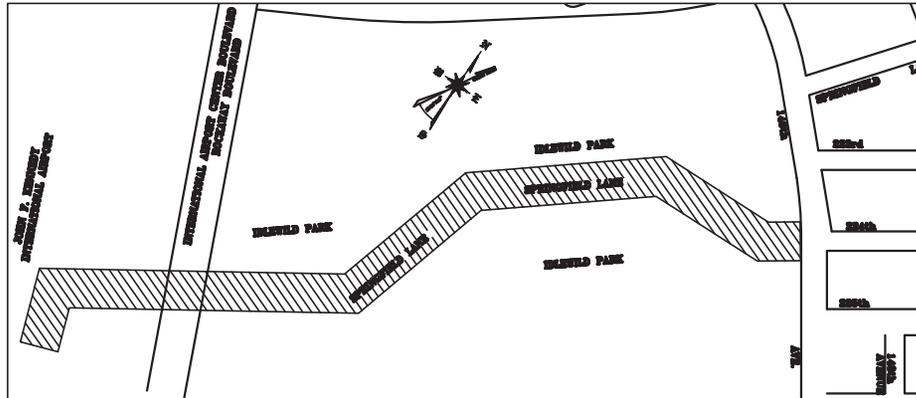
DIVISION OF INFRASTRUCTURE
BUREAU OF DESIGN
PROJECT ID: SE842AI

FARMERS BOULEVARD SPINE - IDLEWILD PARK CROSSING
FOR THE CONSTRUCTION OF STORM SEWERS AND
APPURTENANCES IN: 224TH STREET AND 149TH AVENUE

DRAWING LIST

SHEET	TITLE
1 OF 23	COVER SHEET
2 OF 23	EXISTING CONDITIONS 1 OF 4
3 OF 23	EXISTING CONDITIONS 2 OF 4
4 OF 23	EXISTING CONDITIONS 3 OF 4
5 OF 23	EXISTING CONDITIONS 4 OF 4
6 OF 23	EROSION AND SEDIMENT CONTROL PLAN 1 OF 4
7 OF 23	COFFERDAM PHASING PLAN 1 OF 3
8 OF 23	COFFERDAM PHASING PLAN 2 OF 3
9 OF 23	COFFERDAM PHASING PLAN 3 OF 3
10 OF 23	EROSION AND SEDIMENT CONTROL PLAN 2 OF 4
11 OF 23	EROSION AND SEDIMENT CONTROL PLAN 3 OF 4
12 OF 23	EROSION AND SEDIMENT CONTROL PLAN 4 OF 4
13 OF 23	SITE IMPACTS 1 OF 4
14 OF 23	SITE IMPACTS 2 OF 4
15 OF 23	SITE IMPACTS 3 OF 4
16 OF 23	SITE IMPACTS 4 OF 4
17 OF 23	GRADING PLAN
18 OF 23	PROFILE
19 OF 23	PROFILE
20 OF 23	FINAL SITE PLAN 1 OF 4
21 OF 23	FINAL SITE PLAN 2 OF 4
22 OF 23	FINAL SITE PLAN 3 OF 4
23 OF 23	FINAL SITE PLAN 4 OF 4

BOROUGH OF QUEENS



LOCATION PLAN
N.T.S. PROJECT SITE

CAPITAL PROJECT # SE842A1
FOR CONSTRUCTION OF STORM SEWER AND
APPURTENANCES IN IDLEWILD PARK, ETC.
BOROUGH OF QUEENS

COVER SHEET

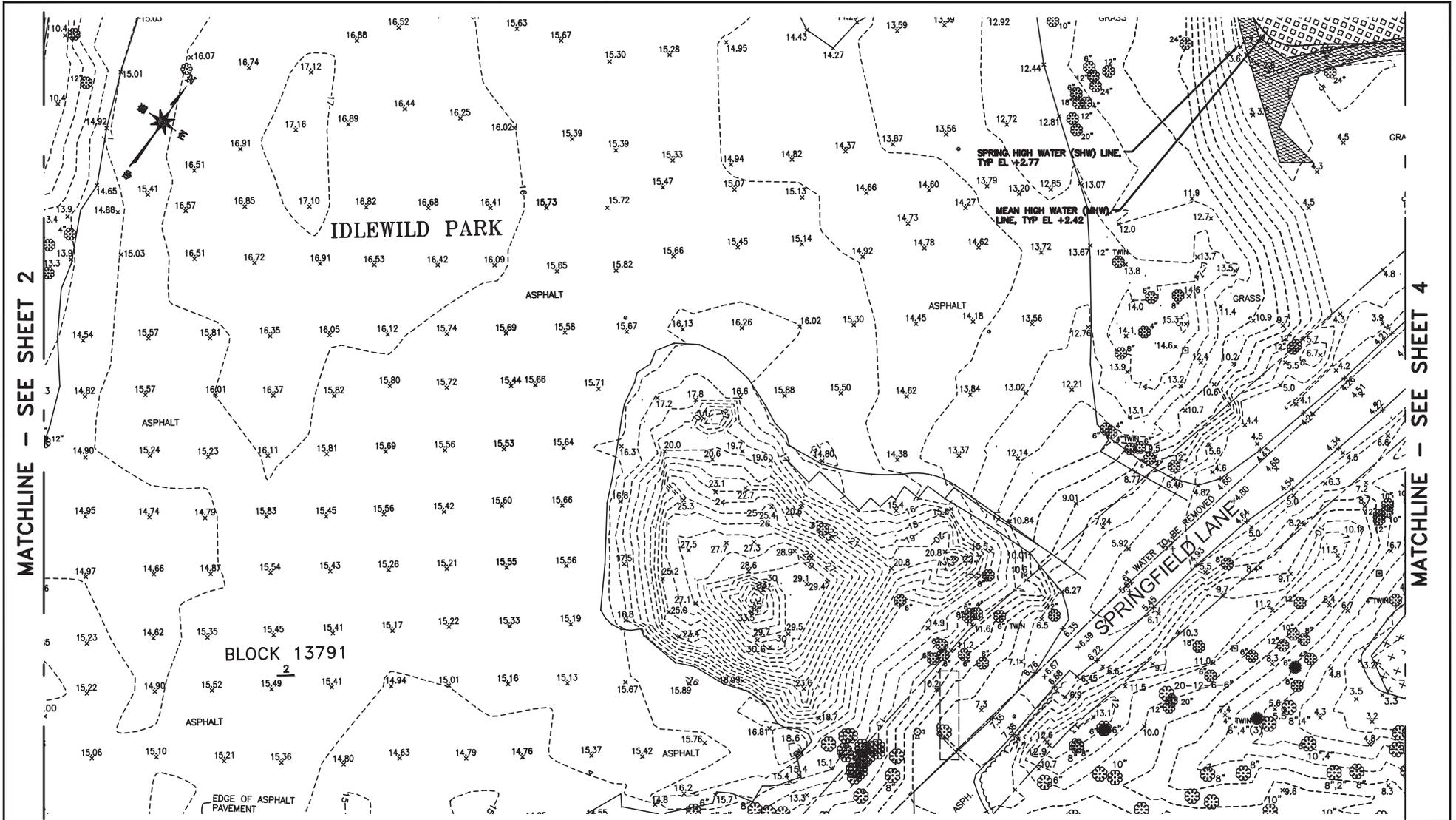
DATE: 3/3/2023

SHEET 1 OF 23



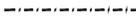
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USACE FILE: NAN-2022-00237-EBR



PLAN
SCALE: 1" = 60'

LEGEND

-  SPRING HIGH WATER (SHW)
-  MEAN HIGH WATER (MHW)
-  EXISTING HIGH MARSH
-  DELINEATED FRESHWATER WETLAND
-  EXISTING INTERTIDAL MARSH

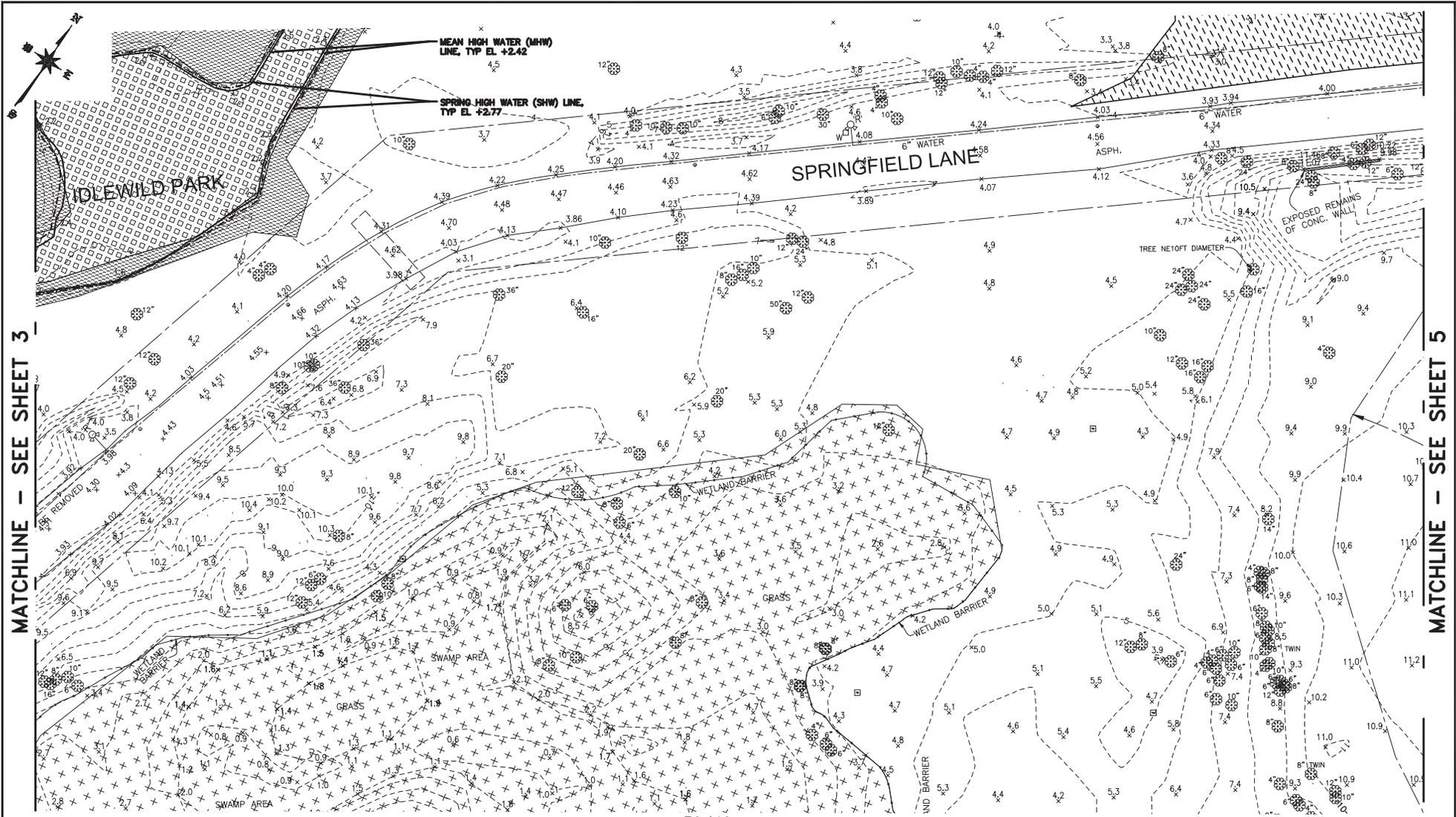


CAPITAL PROJECT # SE842A1
FOR CONSTRUCTION OF STORM SEWER AND APPURTENANCES IN IDLEWILD PARK, ETC.
BOROUGH OF QUEENS

EXISTING CONDITIONS
2 OF 4

DATE: 3/3/2023

SHEET 3 OF 23



MATCHLINE - SEE SHEET 3

MATCHLINE - SEE SHEET 5

PLAN
SCALE: 1" = 60'

LEGEND

- SPRING HIGH WATER (SHW)
- MEAN HIGH WATER (MHW)
- DELINEATED FRESHWATER WETLAND
- EXISTING HIGH MARSH
- EXISTING INTERTIDAL MARSH

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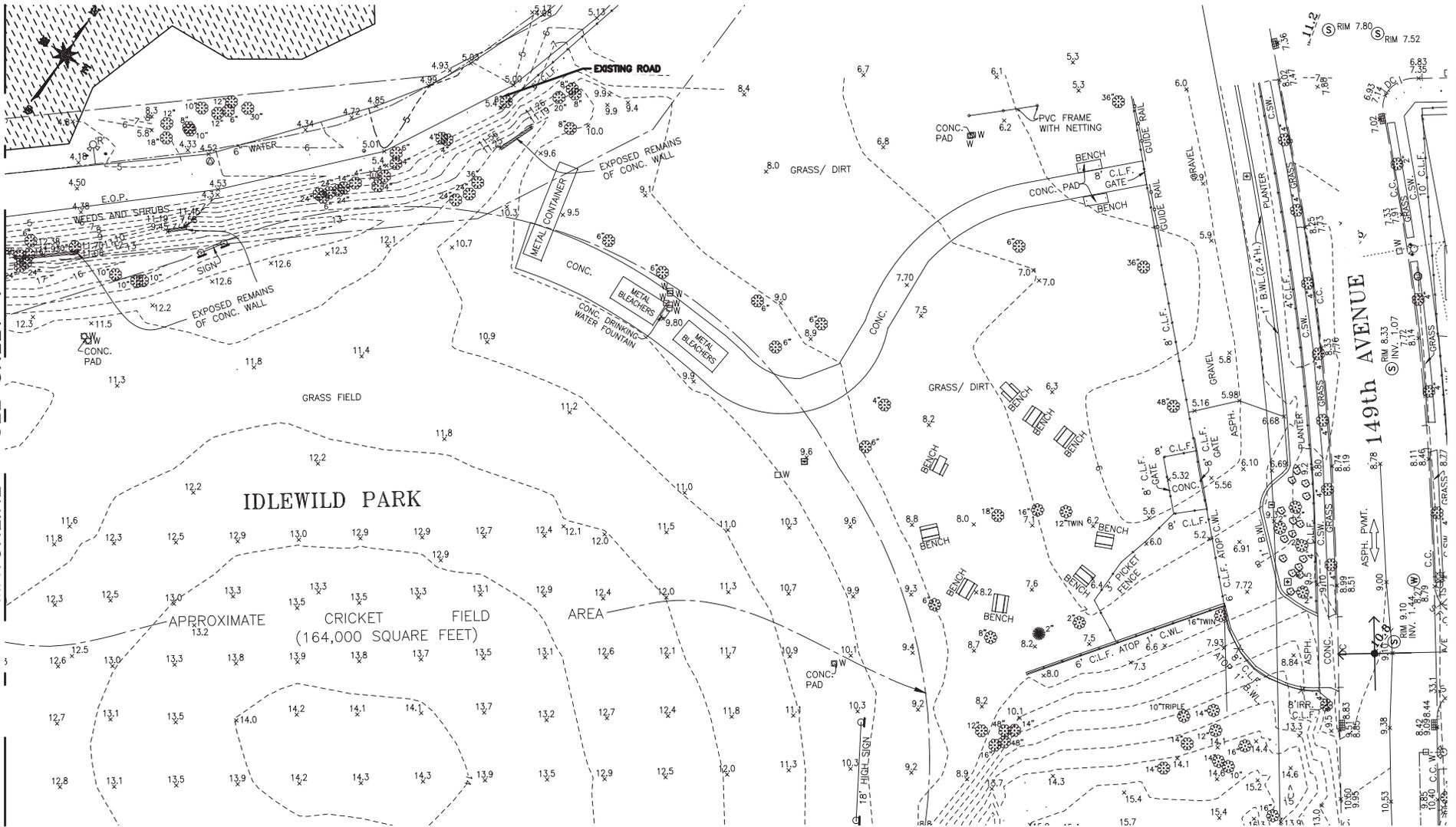
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BOROUGH OF QUEENS

EXISTING CONDITIONS
3 OF 4

DATE: 3/3/2023

SHEET 4 OF 23

MATCHLINE - SEE SHEET 4



PLAN
SCALE: 1" = 60'

CAPITAL PROJECT # SE842A1
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BOROUGH OF QUEENS

EXISTING CONDITIONS
4 OF 4

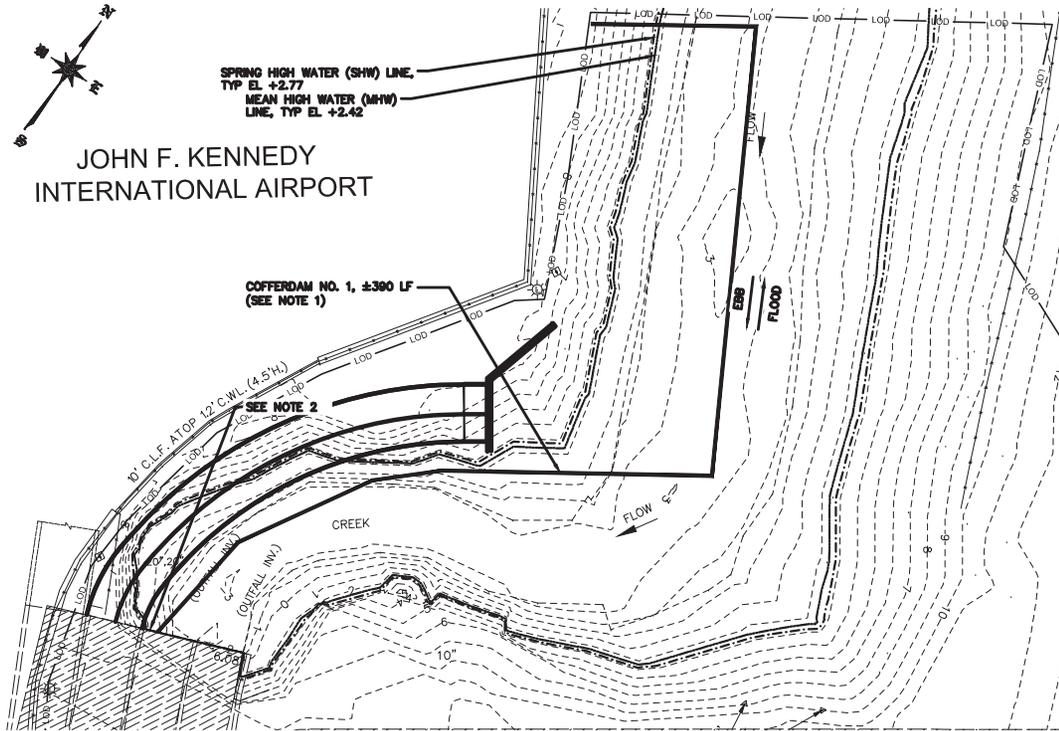
DATE: 3/3/2023

SHEET 5 OF 23

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PHASE-1 PLAN

SCALE: 1" = 60'

LEGEND

- LOD — LOD — LIMIT OF DISTURBANCE
- COFFERDAM
- - - - - SPRING HIGH WATER (SHW)
- MEAN HIGH WATER (MHW)

NOTES:

1. COFFERDAM PHASING SHOWN IS SCHEMATIC. CHANGES TO THE COFFERDAM ALIGNMENT OR CONFIGURATION ASSOCIATED WITH CONTRACTOR'S MEANS AND METHODS SHALL BE MADE AT NO ADDITIONAL COST TO THE CITY. CHANGES TO THE LIMITS OF THE COFFERDAM SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. NOTE CHANGES TO THE COFFERDAM ALIGNMENT WILL REQUIRE NOTIFICATION AND REVIEW BY NYSDEC AND THE ARMY CORPS OF ENGINEERS. CONTRACTOR IS RESPONSIBLE FOR DESIGN OF COFFERDAMS BY A PROFESSIONAL ENGINEER LICENSED IN NEW YORK STATE.
2. TIDAL FLOW MUST BE MAINTAINED THROUGHOUT CONSTRUCTION. COFFERDAM NO. 1 SHALL BE INSTALLED FIRST TO ALLOW EXISTING TIDAL FLOW TO ENTER THE CREEK. ONCE NEW SEWER AND HEADWALL ARE INSTALLED AND CAN BE PUT INTO SERVICE, COFFERDAM NO. 1 SHALL BE REMOVED TO START CONSTRUCTION OF SEWER WITHIN COFFERDAM NO. 2. SEWERS ASSOCIATED WITH COFFERDAMS NO. 1 AND 2 SHALL BE COMPLETED PRIOR TO THE INSTALLATION AND ACTIVATION OF THE UPSTREAM SEWER ASSOCIATED WITH COFFERDAM NO. 3. COST FOR INSTALLATION, MAINTENANCE, AND REMOVAL OF COFFERDAMS SHALL BE INCLUDED IN THE PRICE BID FOR ALL WORK.
3. CONTRACTOR SHALL PROVIDE TEMPORARY BULKHEAD FOR PREVENTING TIDAL FLOW FROM ENTERING THE CONFINES OF THE COFFERDAM AND EXCAVATION DURING CONSTRUCTION OF THE NEW SEWER AND ASSOCIATED HEADWALL STRUCTURE. COST FOR INSTALLATION, MAINTENANCE, AND REMOVAL OF TEMPORARY BULKHEAD SHALL BE INCLUDED IN THE PRICE BID FOR ALL WORK.
4. THE TOP OF THE COFFERDAM SHALL BE AT LEAST 2 FEET ABOVE THE MEAN HIGHER HIGH WATER LINE TO ISOLATE THE WORK AREA FROM TIDAL INFLUENCE. THE WORK AREA SHALL CONTAIN NO STANDING WATER AND ALL WORK BELOW THE MEAN HIGHER HIGH WATER LINE SHALL BE CONDUCTED WITHIN THE CONFINES OF A COFFERDAM OR OTHER APPROVED METHOD. CONSTRUCTION MATERIALS INCLUDING BUT NOT LIMITED TO DEBRIS, SEDIMENT, AND FRESH CONCRETE SHALL BE PREVENTED FROM ENTERING THE WATERWAYS.
5. A PORTABLE SEDIMENT TANK, OR APPROVED EQUAL, SHALL BE USED TO TREAT DEWATERING EFFLUENT PRIOR TO DISCHARGE. DISCHARGE LOCATION SHALL BE IN A LOCATION THAT WILL NOT CAUSE EROSION AND MUST BE APPROVED BY THE ENGINEER. THE ENGINEER MAY DIRECT THE CONTRACTOR TO INSTALL AN APPROVED EROSION CONTROL MEASURE SUCH AS A RIPRAP APRON FOR DEWATERING EFFLUENT IF NECESSARY TO PREVENT EROSION. INSTALLATION OF SUCH A MEASURE WILL BE AT NO ADDITIONAL COST AND INCLUDED IN THE PRICE BID FOR ALL WORK.
6. FINAL GRADING AND GROUND COVER NOT SHOWN ON THIS DRAWING FOR CLARITY. SEE FINAL GRADING AND FINAL SITE PLAN.

SUGGESTED SEQUENCE OF CONSTRUCTION:

1. INSTALL PERIMETER EROSION CONTROL MEASURES INCLUDING CONSTRUCTION LIMIT FENCING AND SILT FENCING, AROUND THE WORK AREA. IF CLEARING IS REQUIRED FOR INSTALLATION OF A PARTICULAR MEASURE, ALL MEASURES NOT REQUIRING CLEARING SHALL BE INSTALLED FIRST. CLEARING OF THE NECESSARY LAND FOR INSTALLATION OF THE PARTICULAR MEASURE MAY THEN PROCEED.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
3. PERFORM SITE CLEARING, GRUBBING, AND DEBRIS REMOVAL.
4. INSTALL COFFERDAM AND BULKHEADS, OR OTHER APPROVED METHOD AS PHASED ON THIS SHEET.
5. INSTALL APPROVED DEWATERING MEASURES.
6. INSTALL SEWER, STRUCTURE NO. 2 AND ASSOCIATED STREAMBED RIPRAP AND BANK STABILIZATION RIPRAP WITHIN THE COFFERDAM LIMITS SHOWN IN PHASE 1 AND 2 ON THIS SHEET. REMOVE COFFERDAM AT EACH PHASE.
7. INSTALL SEWER, STRUCTURE NO. 1 AND ASSOCIATED OUTLET STILLING BASIN, STREAMBED RIPRAP AND BANK STABILIZATION RIPRAP WITHIN THE COFFERDAM LIMITS SHOWN IN PHASE 3 ON THIS SHEET. REMOVE COFFERDAM.
8. PERFORM SITE GRADING AS NECESSARY TO ESTABLISH FINAL GRADES AS SHOWN ON THE CONTRACT DRAWINGS.
9. INSTALL THE DEBRIS EXCLUSION FENCE AS SHOWN ON THE CONTRACT DRAWINGS AND AS DIRECTED BY THE ENGINEER.
10. LANDSCAPE THE NEW INTERTIDAL MARSH, HIGH MARSH, AND MARITIME GRASSLAND AREAS PER THE CONTRACT DRAWINGS AND AS DIRECTED BY THE RESTORATION SPECIALIST. GOOSE EXCLUSION FENCE SHALL BE INSTALLED AS LANDSCAPING OCCURS SUCH THAT ALL NEW PLANTINGS ARE PROTECTED BY GOOSE EXCLUSION FENCE ON THE SAME DAY.
11. PERFORM SITE RESTORATION.
12. ONCE ALL AREAS HAVE BEEN STABILIZED, REMOVE TEMPORARY COFFERDAM AND ALL TEMPORARY PERIMETER EROSION AND SEDIMENT CONTROL MEASURES. STABILIZE AREAS WITHIN THE FOOTPRINT OF THE TEMPORARY PERIMETER EROSION AND SEDIMENT CONTROL MEASURES.

CAPITAL PROJECT # SE842A1
FOR CONSTRUCTION OF STORM SEWER AND
APPURTENANCES IN IDLEWILD PARK, ETC.
BOROUGH OF QUEENS

COFFERDAM PHASING PLAN
1 OF 3

DATE: 3/3/2023

SHEET 7 OF 23

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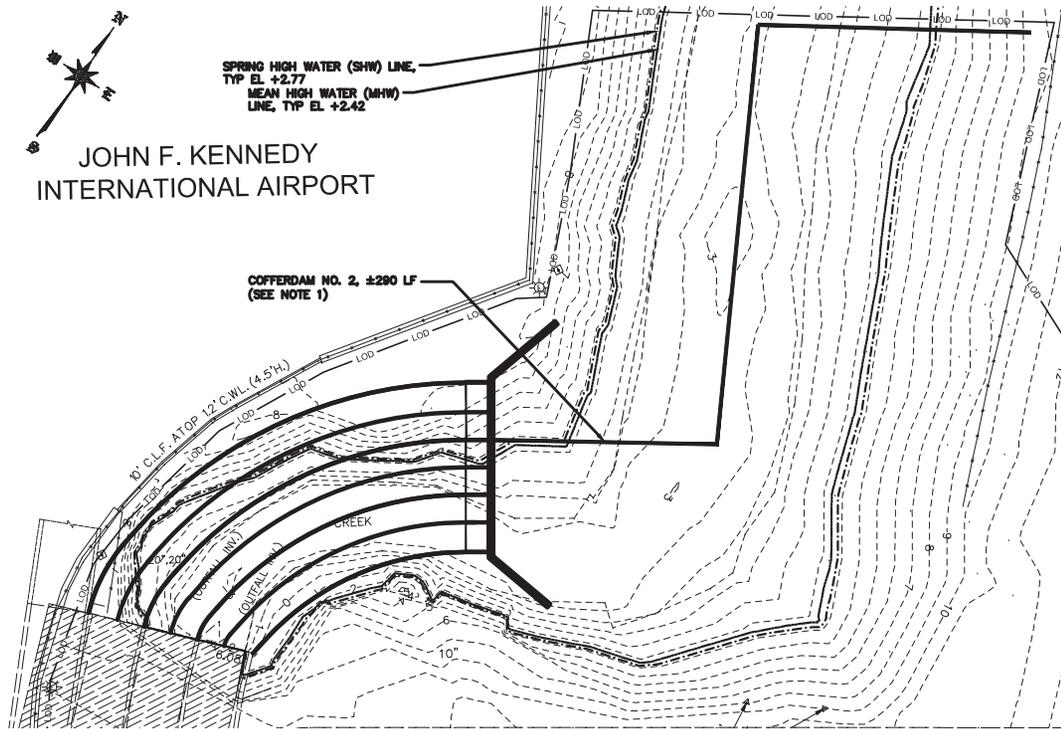
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JOHN F. KENNEDY
INTERNATIONAL AIRPORT

SPRING HIGH WATER (SHW) LINE,
TYP. EL. +2.77
MEAN HIGH WATER (MHW)
LINE, TYP. EL. +2.42

COFFERDAM NO. 2, ±280 LF
(SEE NOTE 1)



PHASE-2 PLAN

SCALE: 1" = 80'

LEGEND

— LOD — LOD —	LIMIT OF DISTURBANCE
=====	COFFERDAM
- - - - -	SPRING HIGH WATER (SHW)
-----	MEAN HIGH WATER (MHW)

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SUGGESTED SEQUENCE OF CONSTRUCTION:

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- INSTALL STABILIZED CONSTRUCTION ENTRANCE.
- PERFORM SITE CLEARING, GRUBBING, AND DEBRIS REMOVAL.
- INSTALL COFFERDAM AND BULKHEADS, OR OTHER APPROVED METHOD AS PHASED ON THIS SHEET.
- INSTALL APPROVED DEWATERING MEASURES.
- INSTALL SEWER, STRUCTURE NO. 2 AND ASSOCIATED STREAMBED RIPRAP AND BANK STABILIZATION RIPRAP WITHIN THE COFFERDAM LIMITS SHOWN IN PHASE 1 AND 2 ON THIS SHEET. REMOVE COFFERDAM AT EACH PHASE.
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AKRF Engineering, P.C.

a joint venture

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BOROUGH OF QUEENS

COFFERDAM PHASING PLAN
2 OF 3

DATE: 3/3/2023

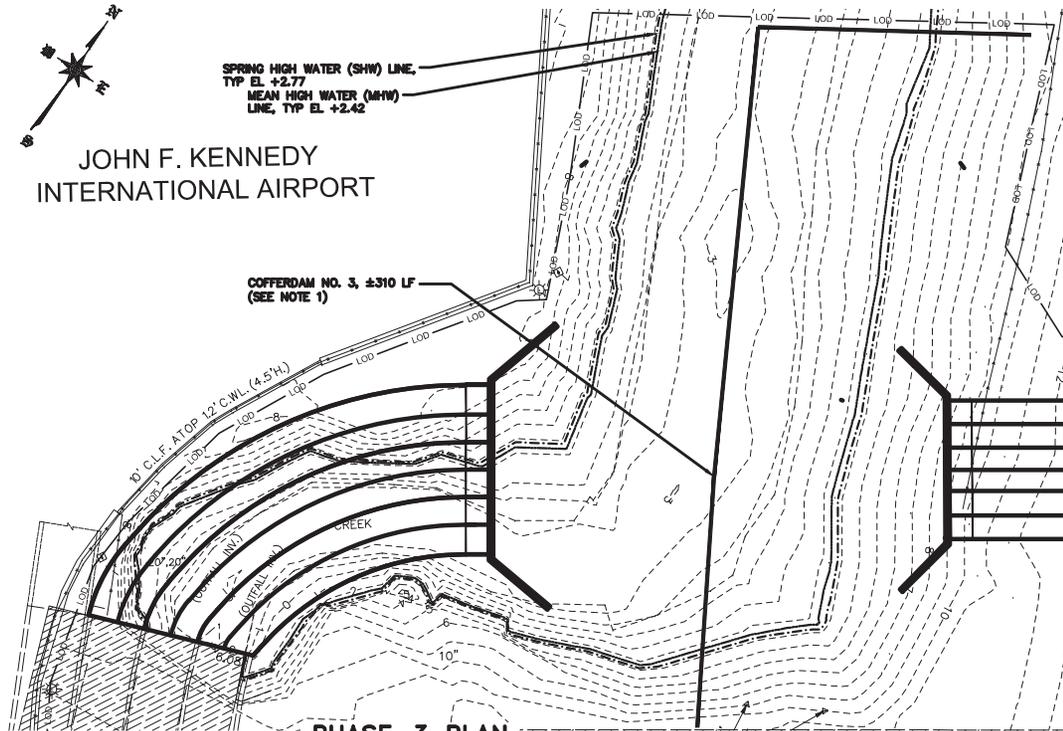
SHEET 8 OF 23



JOHN F. KENNEDY
INTERNATIONAL AIRPORT

SPRING HIGH WATER (SHW) LINE,
TYP. EL. +2.77
MEAN HIGH WATER (MHW)
LINE, TYP. EL. +2.42

COFFERDAM NO. 3, ±310 LF
(SEE NOTE 1)



PHASE-3 PLAN

SCALE: 1" = 60'

LEGEND

- LOD — LOD — LIMIT OF DISTURBANCE
- COFFERDAM
- - - - - SPRING HIGH WATER (SHW)
- MEAN HIGH WATER (MHW)

NOTES:

1. COFFERDAM PHASING SHOWN IS SCHEMATIC. CHANGES TO THE COFFERDAM ALIGNMENT OR CONFIGURATION ASSOCIATED WITH CONTRACTOR'S MEANS AND METHODS SHALL BE MADE AT NO ADDITIONAL COST TO THE CITY. CHANGES TO THE LIMITS OF THE COFFERDAM SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. NOTE CHANGES TO THE COFFERDAM ALIGNMENT WILL REQUIRE NOTIFICATION AND REVIEW BY NYSDEC AND THE ARMY CORPS OF ENGINEERS. CONTRACTOR IS RESPONSIBLE FOR DESIGN OF COFFERDAMS BY A PROFESSIONAL ENGINEER LICENSED IN NEW YORK STATE.
2. TIDAL FLOW MUST BE MAINTAINED THROUGHOUT CONSTRUCTION. COFFERDAM NO. 1 SHALL BE INSTALLED FIRST TO ALLOW EXISTING TIDAL FLOW TO ENTER THE CREEK. ONCE NEW SEWER AND HEADWALL ARE INSTALLED AND CAN BE PUT INTO SERVICE, COFFERDAM NO. 1 SHALL BE REMOVED TO START CONSTRUCTION OF SEWER WITHIN COFFERDAM NO. 2. SEWERS ASSOCIATED WITH COFFERDAMS NO. 1 AND 2 SHALL BE COMPLETED PRIOR TO THE INSTALLATION AND ACTIVATION OF THE UPSTREAM SEWER ASSOCIATED WITH COFFERDAM NO. 3. COST FOR INSTALLATION, MAINTENANCE, AND REMOVAL OF COFFERDAMS SHALL BE INCLUDED IN THE PRICE BID FOR ALL WORK.
3. CONTRACTOR SHALL PROVIDE TEMPORARY BULKHEAD FOR PREVENTING TIDAL FLOW FROM ENTERING THE COFFINES OF THE COFFERDAM AND EXCAVATION DURING CONSTRUCTION OF THE NEW SEWER AND ASSOCIATED HEADWALL STRUCTURE. COST FOR INSTALLATION, MAINTENANCE, AND REMOVAL OF TEMPORARY BULKHEAD SHALL BE INCLUDED IN THE PRICE BID FOR ALL WORK.
4. THE TOP OF THE COFFERDAM SHALL BE AT LEAST 2 FEET ABOVE THE MEAN HIGHER HIGH WATER LINE TO ISOLATE THE WORK AREA FROM TIDAL INFLUENCE. THE WORK AREA SHALL CONTAIN NO STANDING WATER AND ALL WORK BELOW THE MEAN HIGHER HIGH WATER LINE SHALL BE CONDUCTED WITHIN THE COFFINES OF A COFFERDAM OR OTHER APPROVED METHOD. CONSTRUCTION MATERIALS INCLUDING BUT NOT LIMITED TO DEBRIS, SEDIMENT, AND FRESH CONCRETE SHALL BE PREVENTED FROM ENTERING THE WATERWAYS.
5. A PORTABLE SEDIMENT TANK, OR APPROVED EQUAL, SHALL BE USED TO TREAT DEWATERING EFFLUENT PRIOR TO DISCHARGE. DISCHARGE LOCATION SHALL BE IN A LOCATION THAT WILL NOT CAUSE EROSION AND MUST BE APPROVED BY THE ENGINEER. THE ENGINEER MAY DIRECT THE CONTRACTOR TO INSTALL AN APPROVED EROSION CONTROL MEASURE SUCH AS A RIPRAP APRON FOR DEWATERING EFFLUENT IF NECESSARY TO PREVENT EROSION. INSTALLATION OF SUCH A MEASURE WILL BE AT NO ADDITIONAL COST AND INCLUDED IN THE PRICE BID FOR ALL WORK.
6. FINAL GRADING AND GROUND COVER NOT SHOWN ON THIS DRAWING FOR CLARITY. SEE FINAL GRADING AND FINAL SITE PLAN.

SUGGESTED SEQUENCE OF CONSTRUCTION:

1. INSTALL PERIMETER EROSION CONTROL MEASURES INCLUDING CONSTRUCTION LIMIT FENCING AND SILT FENCING, AROUND THE WORK AREA. IF CLEARING IS REQUIRED FOR INSTALLATION OF A PARTICULAR MEASURE, ALL MEASURES NOT REQUIRING CLEARING SHALL BE INSTALLED FIRST. CLEARING OF THE NECESSARY LAND FOR INSTALLATION OF THE PARTICULAR MEASURE MAY THEN PROCEED.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
3. PERFORM SITE CLEARING, GRUBBING, AND DEBRIS REMOVAL.
4. INSTALL COFFERDAM AND BULKHEADS, OR OTHER APPROVED METHOD AS PHASED ON THIS SHEET.
5. INSTALL APPROVED DEWATERING MEASURES.
6. INSTALL SEWER, STRUCTURE NO. 2 AND ASSOCIATED STREAMBED RIPRAP AND BANK STABILIZATION RIPRAP WITHIN THE COFFERDAM LIMITS SHOWN IN PHASE 1 AND 2 ON THIS SHEET. REMOVE COFFERDAM AT EACH PHASE.
7. INSTALL SEWER, STRUCTURE NO. 1 AND ASSOCIATED OUTLET STILLING BASIN, STREAMBED RIPRAP AND BANK STABILIZATION RIPRAP WITHIN THE COFFERDAM LIMITS SHOWN IN PHASE 3 ON THIS SHEET. REMOVE COFFERDAM.
8. PERFORM SITE GRADING AS NECESSARY TO ESTABLISH FINAL GRADES AS SHOWN ON THE CONTRACT DRAWINGS.
9. INSTALL THE DEBRIS EXCLUSION FENCE AS SHOWN ON THE CONTRACT DRAWINGS AND AS DIRECTED BY THE ENGINEER.
10. LANDSCAPE THE NEW INTERTIDAL MARSH, HIGH MARSH, AND MARITIME GRASSLAND AREAS PER THE CONTRACT DRAWINGS AND AS DIRECTED BY THE RESTORATION SPECIALIST. GOOSE EXCLUSION FENCE SHALL BE INSTALLED AS LANDSCAPING OCCURS SUCH THAT ALL NEW PLANTINGS ARE PROTECTED BY GOOSE EXCLUSION FENCE ON THE SAME DAY.
11. PERFORM SITE RESTORATION.
12. ONCE ALL AREAS HAVE BEEN STABILIZED, REMOVE TEMPORARY COFFERDAM AND ALL TEMPORARY PERIMETER EROSION AND SEDIMENT CONTROL MEASURES. STABILIZE AREAS WITHIN THE FOOTPRINT OF THE TEMPORARY PERIMETER EROSION AND SEDIMENT CONTROL MEASURES.

CAPITAL PROJECT # SE842A1
FOR CONSTRUCTION OF STORM SEWER AND
APPURTENANCES IN IDLEWILD PARK, ETC.
BOROUGH OF QUEENS

COFFERDAM PHASING PLAN
3 OF 3

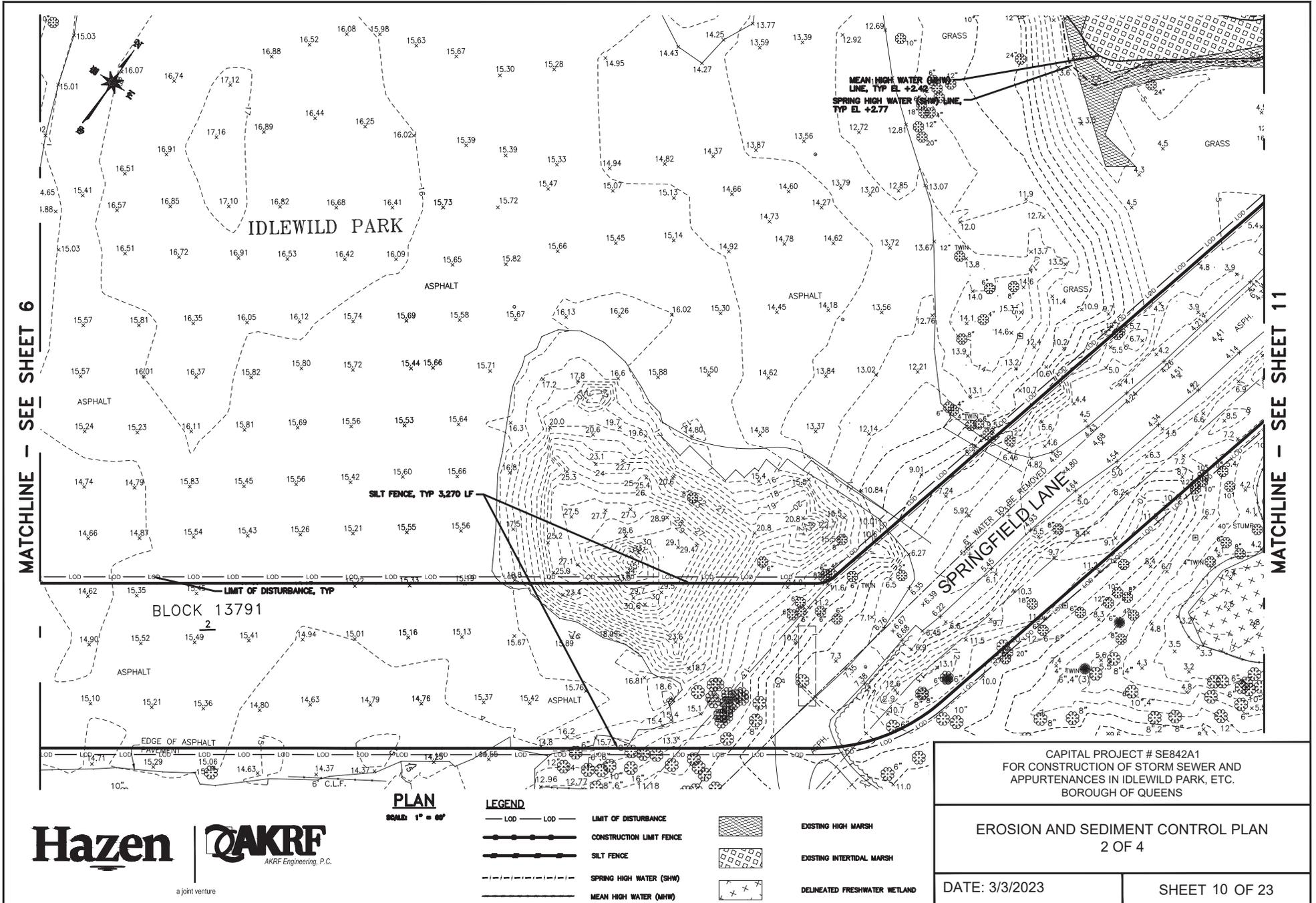
DATE: 3/3/2023

SHEET 9 OF 23

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PLAN
SCALE: 1" = 60'

LEGEND

- LOD — LOD — LIMIT OF DISTURBANCE
- CONSTRUCTION LIMIT FENCE
- SILT FENCE
- - - - - SPRING HIGH WATER (SHW)
- MEAN HIGH WATER (MHW)
- [Hatched Box] EXISTING HIGH MARSH
- [Grid Box] EXISTING INTERTIDAL MARSH
- [Cross-hatched Box] DELINEATED FRESHWATER WETLAND

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FOR CONSTRUCTION OF STORM SEWER AND
APPURTENANCES IN IDLEWILD PARK, ETC.
BOROUGH OF QUEENS

EROSION AND SEDIMENT CONTROL PLAN
2 OF 4

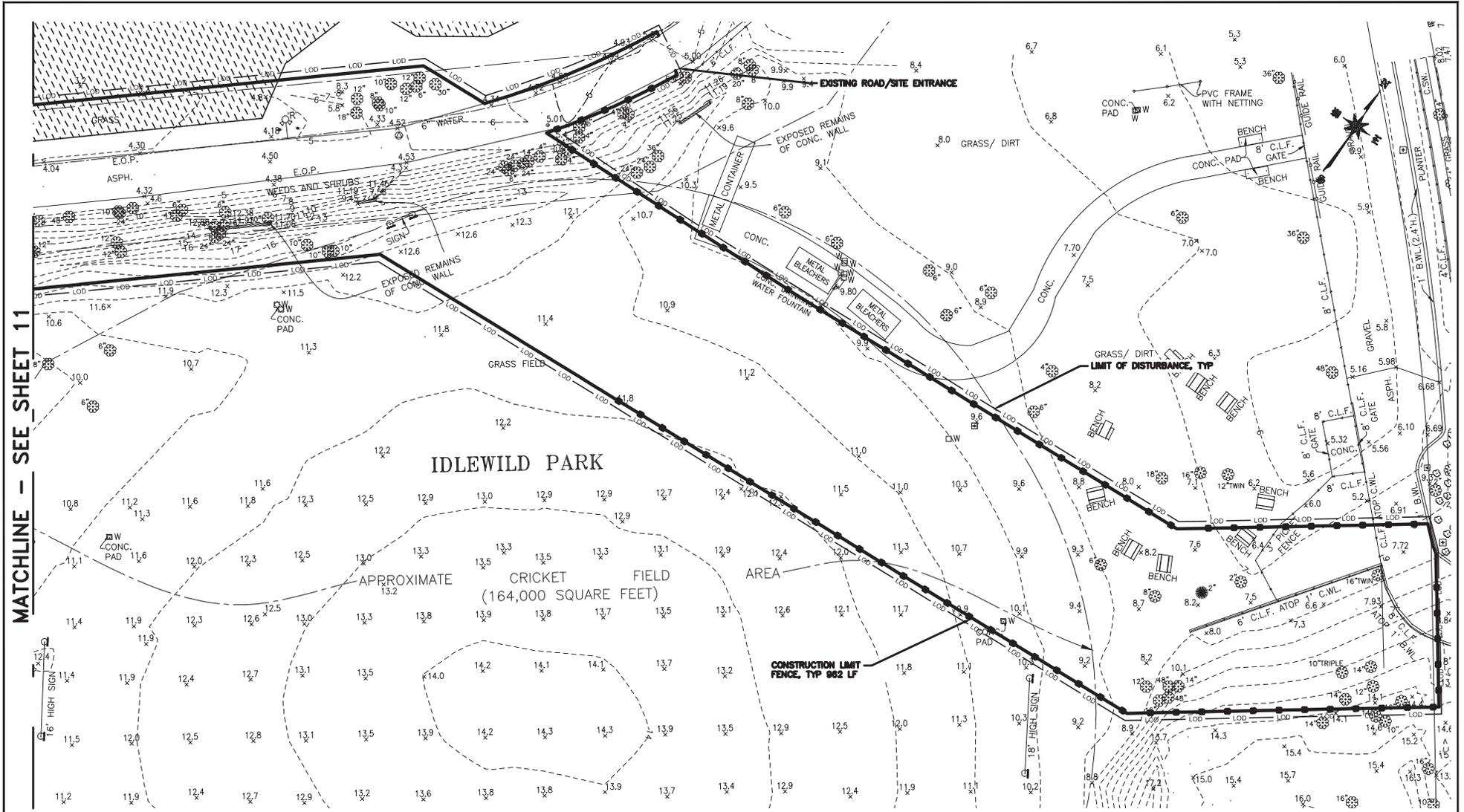
DATE: 3/3/2023

SHEET 10 OF 23

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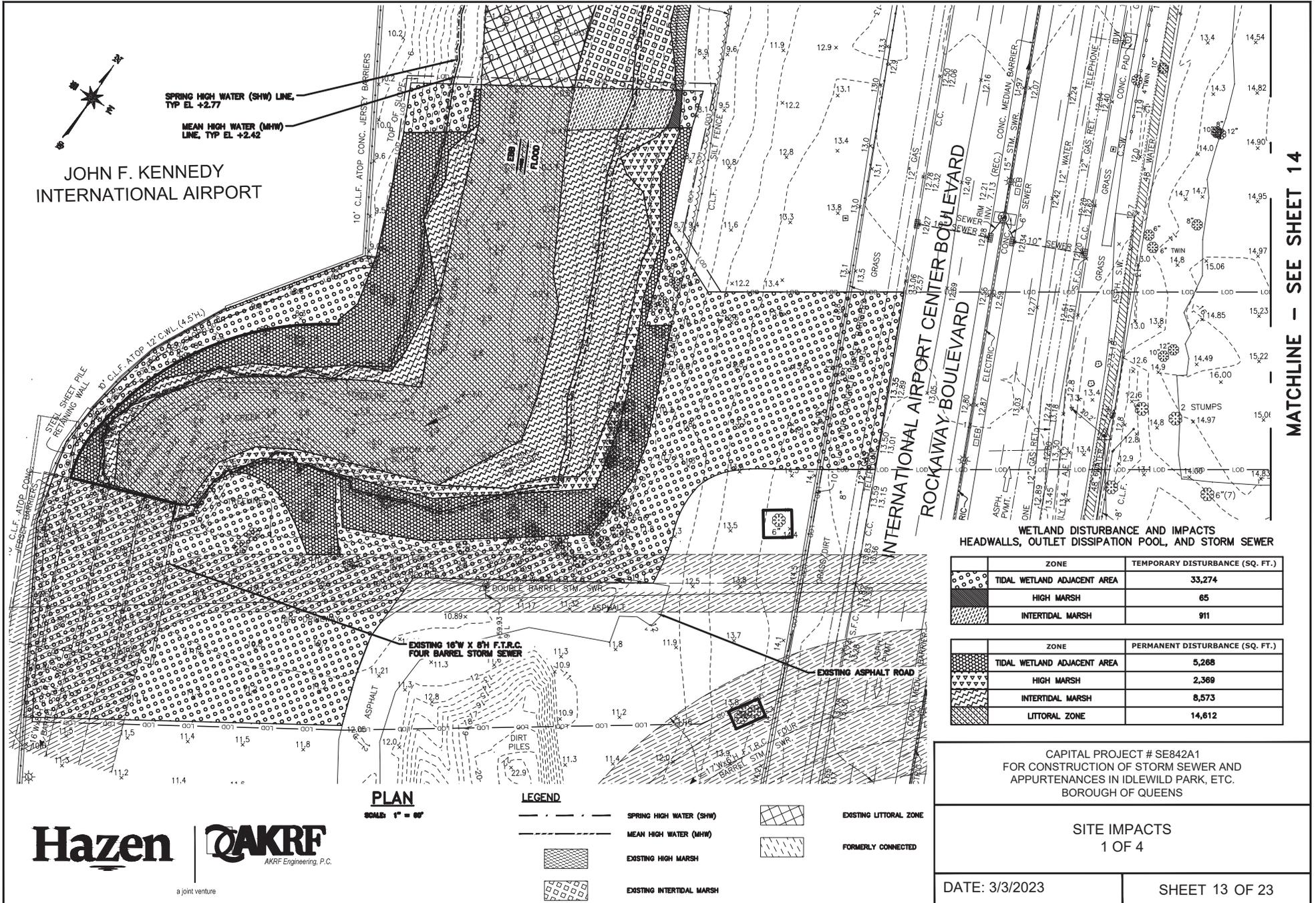
MATCHLINE - SEE SHEET 11

PLAN
SCALE: 1" = 60'

- LEGEND**
- LOD --- LOD --- LIMIT OF DISTURBANCE
 - CONSTRUCTION LIMIT FENCE
 - ▲--- SILT FENCE

CAPITAL PROJECT # SE842A1 FOR CONSTRUCTION OF STORM SEWER AND APPURTENANCES IN IDLEWILD PARK, ETC. BOROUGH OF QUEENS	
EROSION AND SEDIMENT CONTROL PLAN 4 OF 4	
DATE: 3/3/2023	SHEET 12 OF 23





JOHN F. KENNEDY
INTERNATIONAL AIRPORT

MATCHLINE - SEE SHEET 14

**WETLAND DISTURBANCE AND IMPACTS
HEADWALLS, OUTLET DISSIPATION POOL, AND STORM SEWER**

ZONE	TEMPORARY DISTURBANCE (SQ. FT.)
TIDAL WETLAND ADJACENT AREA	33,274
HIGH MARSH	65
INTERTIDAL MARSH	911

ZONE	PERMANENT DISTURBANCE (SQ. FT.)
TIDAL WETLAND ADJACENT AREA	5,268
HIGH MARSH	2,369
INTERTIDAL MARSH	8,573
LITTORAL ZONE	14,612

CAPITAL PROJECT # SE842A1
FOR CONSTRUCTION OF STORM SEWER AND
APPURTENANCES IN IDLEWILD PARK, ETC.
BOROUGH OF QUEENS

SITE IMPACTS
1 OF 4

DATE: 3/3/2023 SHEET 13 OF 23

Hazen

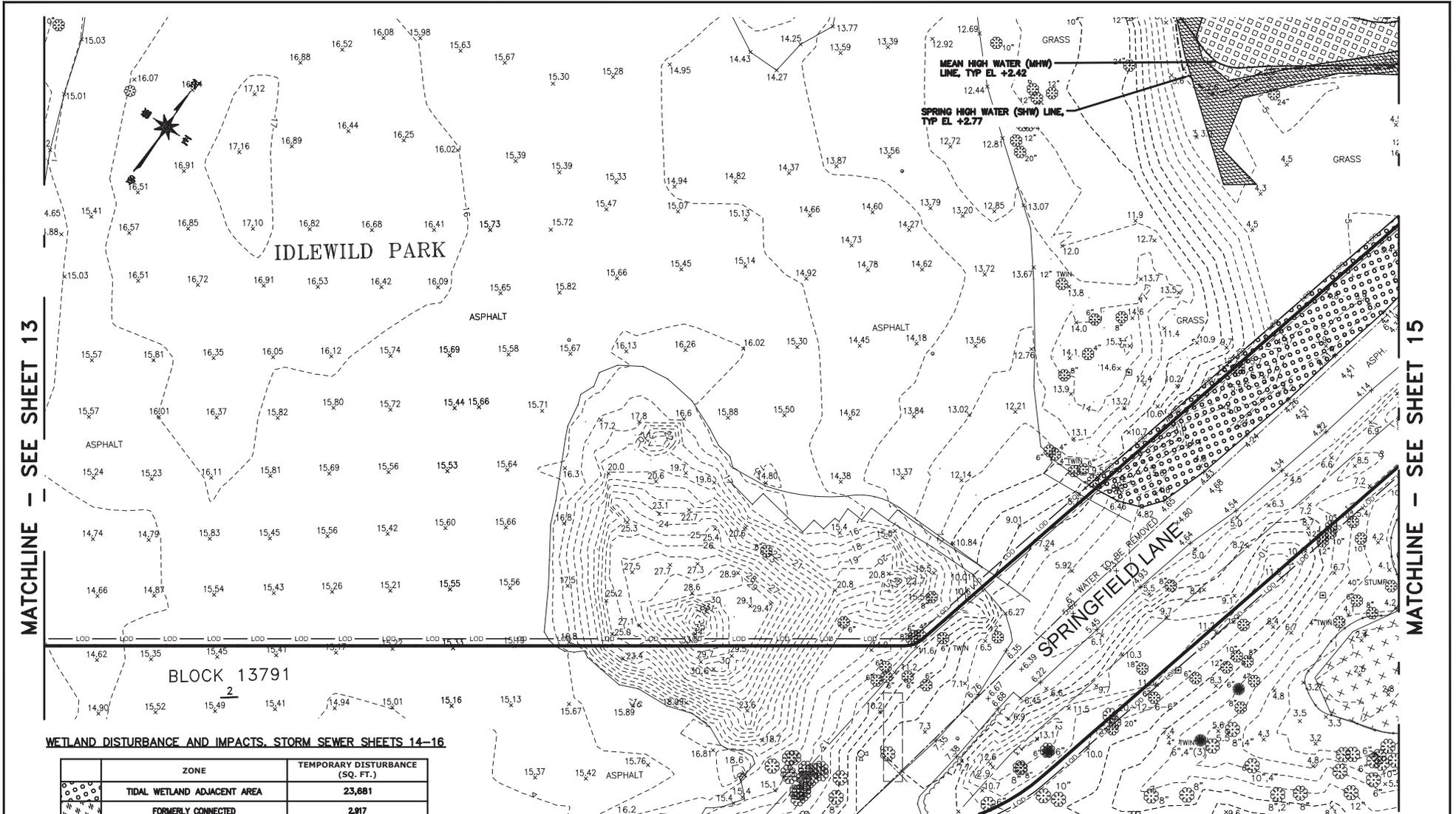
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PLAN
SCALE: 1" = 60'

LEGEND

- SPRING HIGH WATER (SHW)
- MEAN HIGH WATER (MHW)
- EXISTING HIGH MARSH
- EXISTING INTERTIDAL MARSH
- EXISTING LITTORAL ZONE
- FORMERLY CONNECTED



WETLAND DISTURBANCE AND IMPACTS, STORM SEWER SHEETS 14-16

ZONE	TEMPORARY DISTURBANCE (SQ. FT.)
TIDAL WETLAND ADJACENT AREA	23,681
FORMERLY CONNECTED	2,917
ZONE	PERMANENT DISTURBANCE (SQ. FT.)
HIGH MARSH	154
FORMERLY CONNECTED	1,446

PLAN
SCALE: 1" = 60'

LEGEND

-  SPRING HIGH WATER (SHW)
-  MEAN HIGH WATER (MHW)
-  EXISTING HIGH MARSH
-  EXISTING INTERTIDAL MARSH
-  DELINEATED FRESHWATER WETLAND
-  FORMERLY CONNECTED

CAPITAL PROJECT # SE842A1
FOR CONSTRUCTION OF STORM SEWER AND
APPURTENANCES IN IDLEWILD PARK, ETC.
BOROUGH OF QUEENS

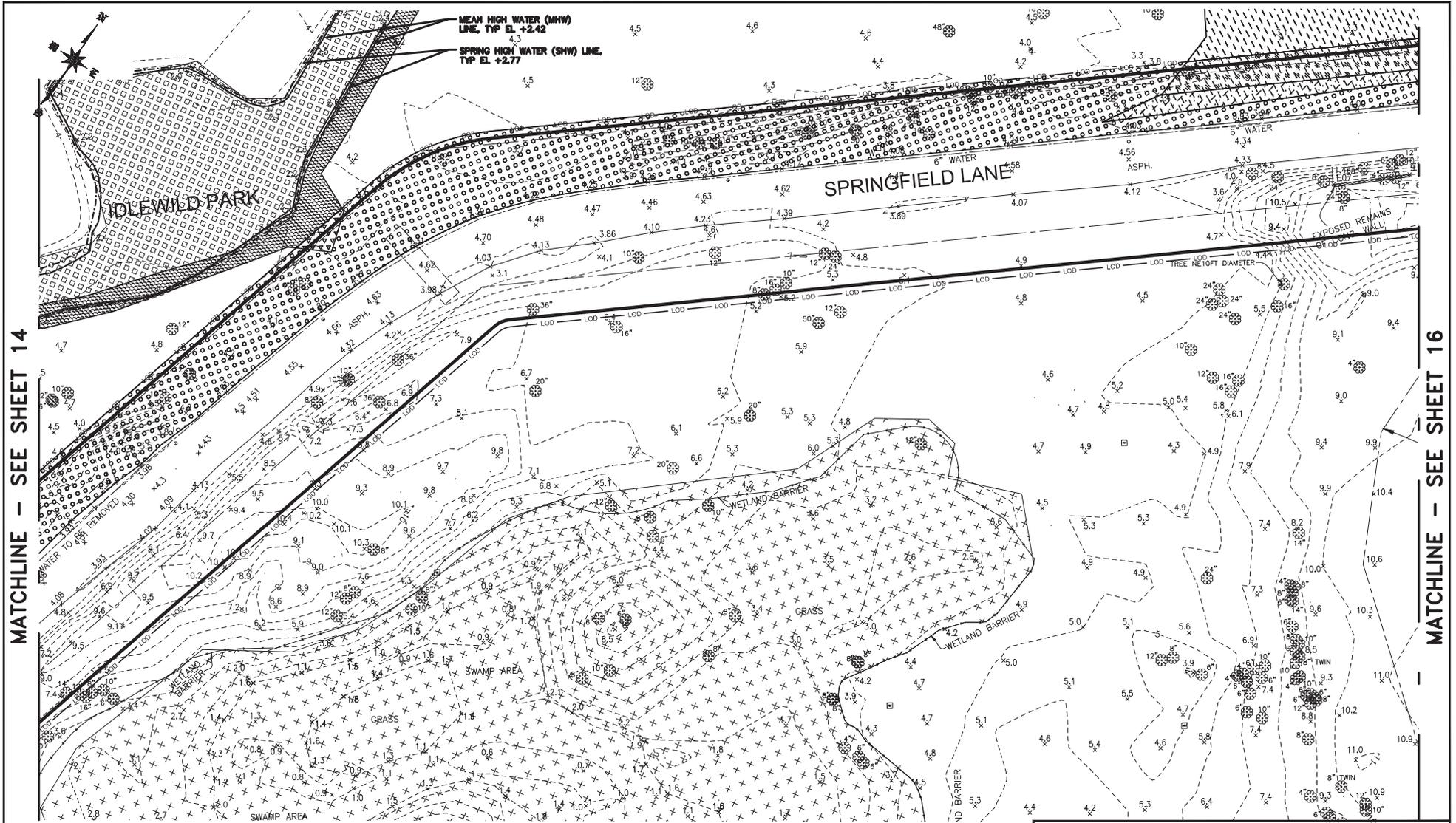
SITE IMPACTS
2 OF 4

DATE: 3/3/2023

SHEET 14 OF 23



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PLAN
SCALE: 1" = 60'

LEGEND

- SPRING HIGH WATER (SHW)
- MEAN HIGH WATER (MHW)
- EXISTING HIGH MARSH
- DELINEATED FRESHWATER WETLAND
- EXISTING INTERTIDAL MARSH
- FORMERLY CONNECTED

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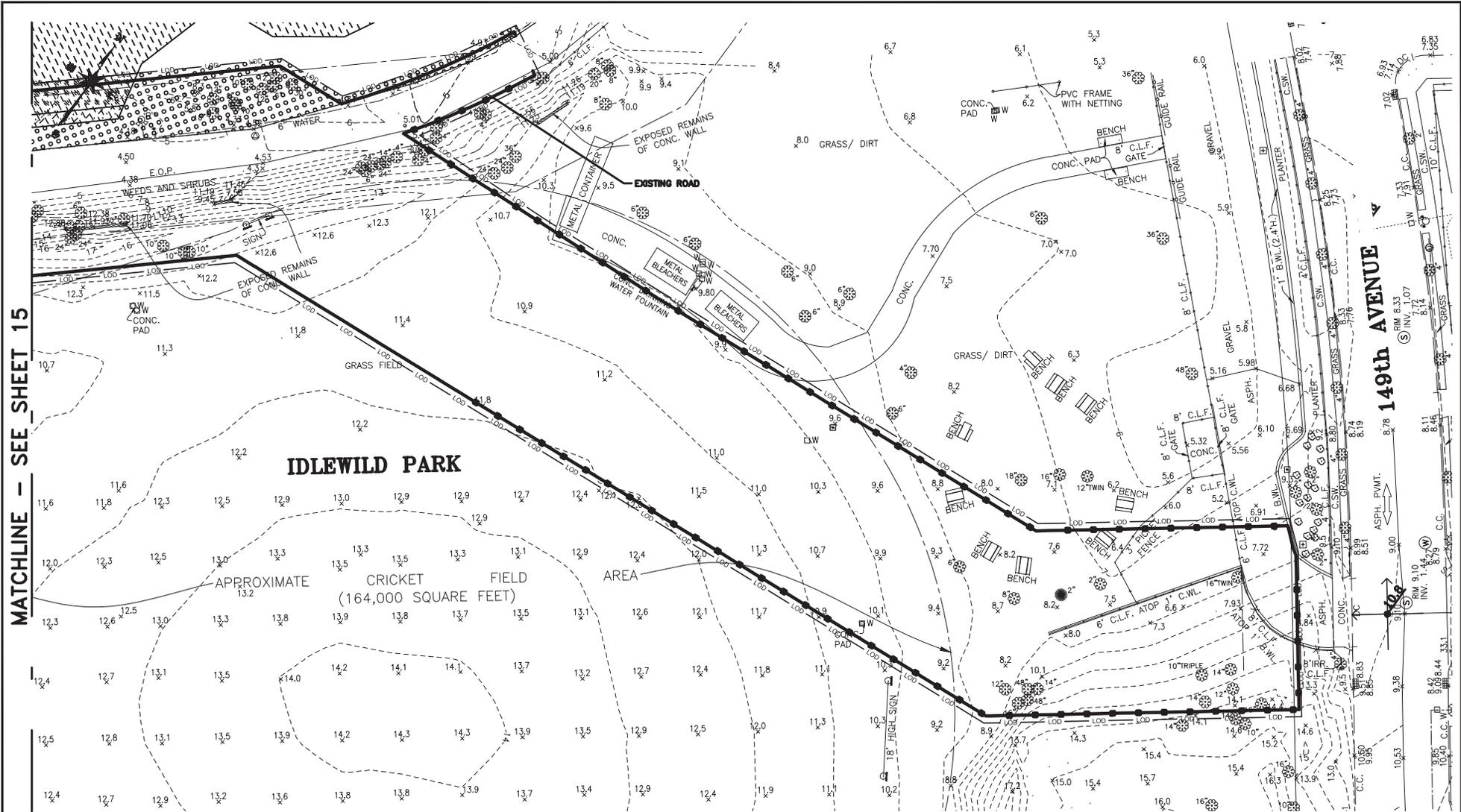
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FOR CONSTRUCTION OF STORM SEWER AND
APPURTENANCES IN IDLEWILD PARK, ETC.
BOROUGH OF QUEENS

SITE IMPACTS
3 OF 4

DATE: 3/3/2023

SHEET 15 OF 23

MATCHLINE - SEE SHEET 15



PLAN

SCALE: 1" = 60'

LEGEND

- SPRING HIGH WATER (SHW)
- MEAN HIGH WATER (MHW)
- FORMERLY CONNECTED

NOTE: NO IMPACTS THIS SHEET

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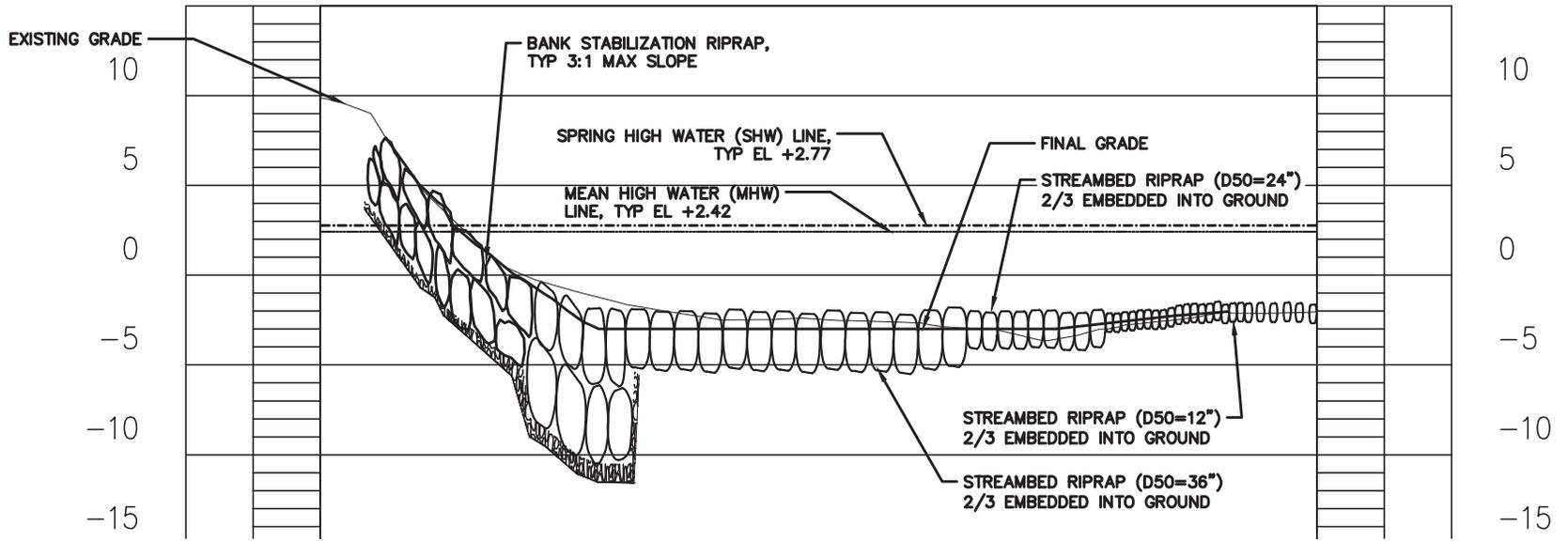
CAPITAL PROJECT # SE842A1
FOR CONSTRUCTION OF STORM SEWER AND
APPURTENANCES IN IDLEWILD PARK, ETC.
BOROUGH OF QUEENS

SITE IMPACTS
4 OF 4

DATE: 3/3/2023

SHEET 16 OF 23

USACE FILE: NAN-2022-00237-EBR



SECTION A
 HORIZONTAL SCALE: 1" = 40'
 VERTICAL SCALE: 1" = 10'

CAPITAL PROJECT # SE842A1
 FOR CONSTRUCTION OF STORM SEWER AND
 APPURTENANCES IN IDLEWILD PARK, ETC.
 BOROUGH OF QUEENS

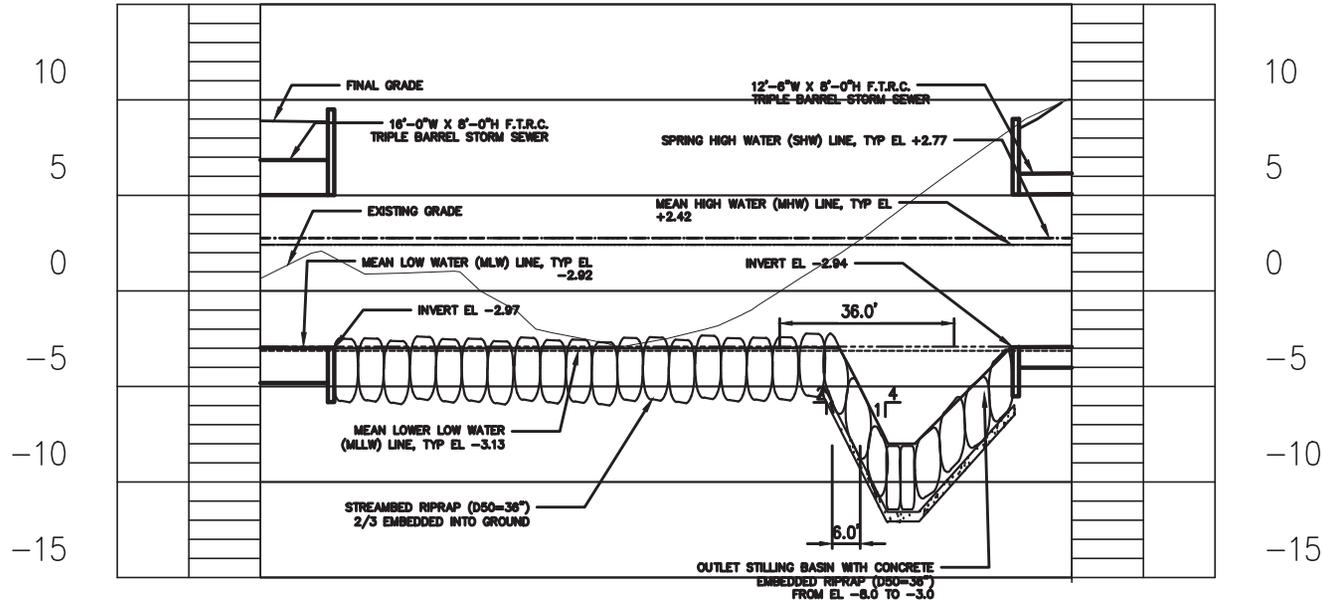
PROFILE

DATE: 3/3/2023

SHEET 19 OF 23



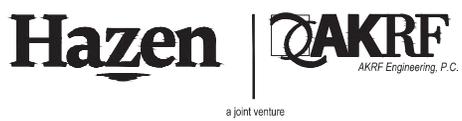
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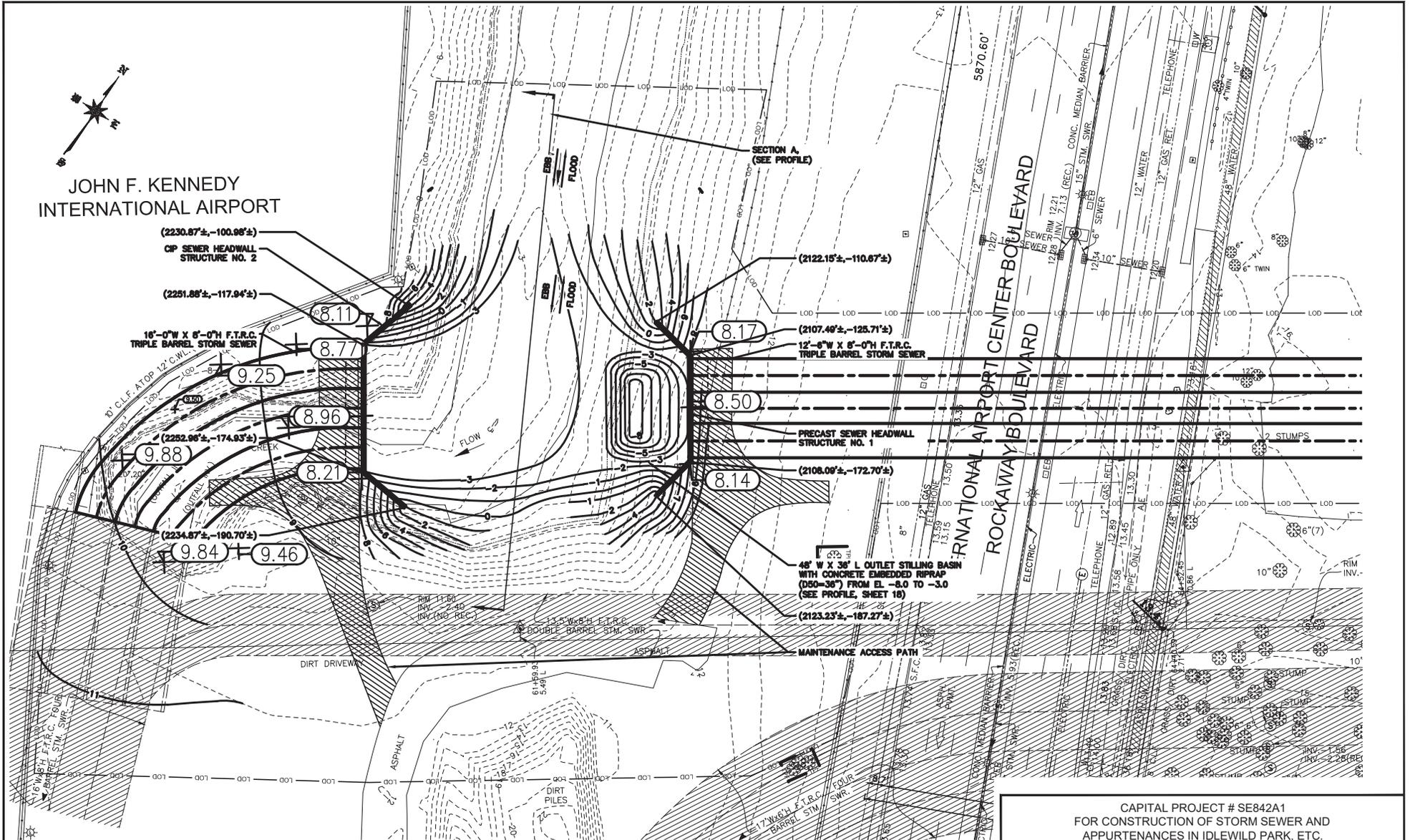


PROFILE

HORIZONTAL SCALE: 1" = 40'
 VERTICAL SCALE: 1" = 10'

CAPITAL PROJECT # SE842A1 FOR CONSTRUCTION OF STORM SEWER AND APPURTENANCES IN IDLEWILD PARK, ETC. BOROUGH OF QUEENS	
PROFILE	
DATE: 3/3/2023	SHEET 18 OF 23





PLAN

SCALE: 1" = 60'

LEGEND

- LOD — LOD — LIMIT OF DISTURBANCE
- - - - - SPRING HIGH WATER (SHW)
- — — — — MEAN HIGH WATER (MHW)
- — — — — MEAN LOW WATER (MLW)
- — — — — MEAN LOWER LOW WATER (MLLW)
- 9.25 SPOT GRADE ELEVATION

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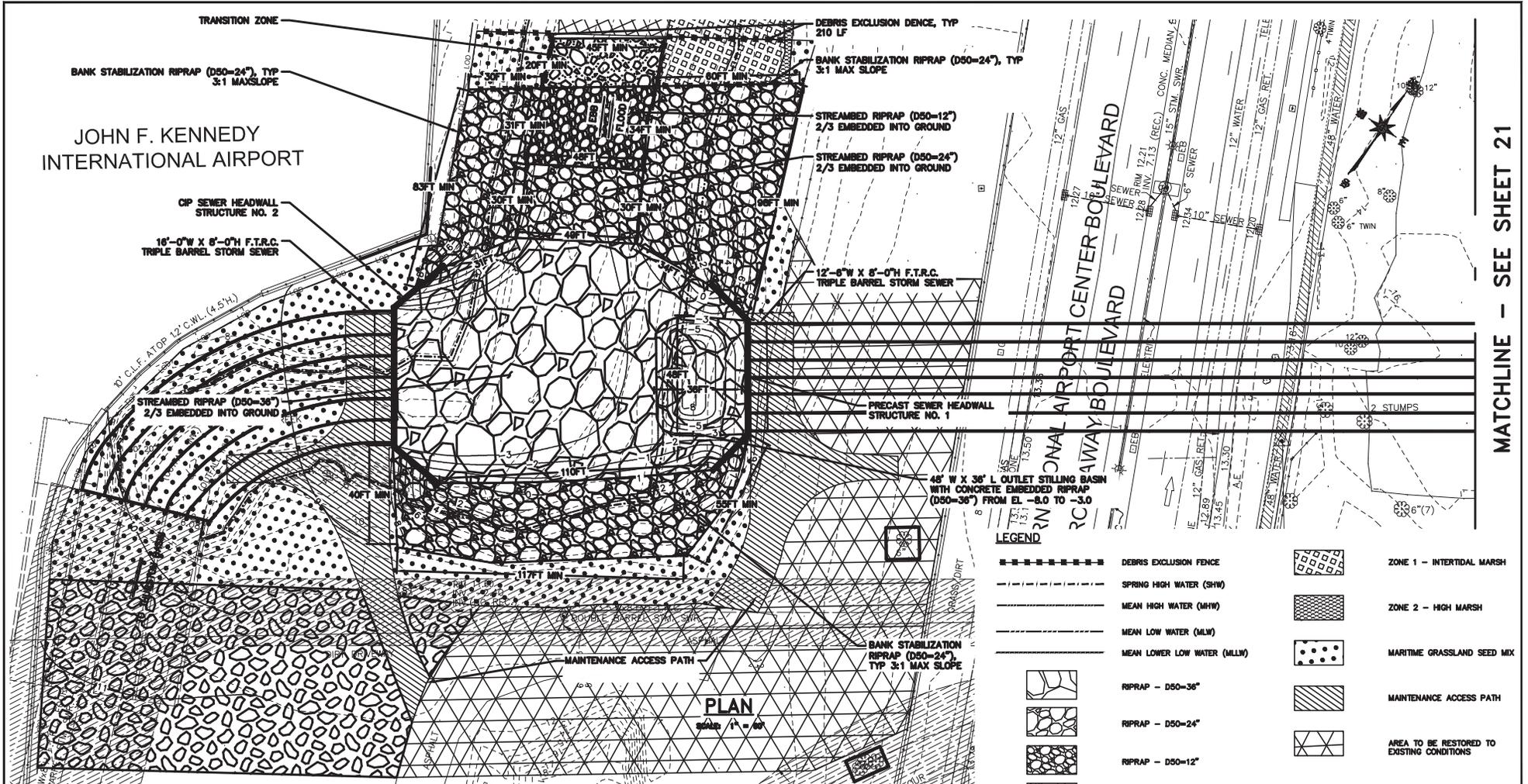
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CAPITAL PROJECT # SE842A1
FOR CONSTRUCTION OF STORM SEWER AND
APPURTENANCES IN IDLEWILD PARK, ETC.
BOROUGH OF QUEENS

GRADING PLAN

DATE: 3/3/2023

SHEET 17 OF 23



MATCHLINE - SEE SHEET 21

ZONE 1 - INTERTIDAL MARSH (PLANTING AREA: 911 SF)

COMMON NAME	BOTANICAL NAME	QUANTITY	SIZE	FORM	SPACING	REMARKS
SMOOTH CORDGRASS	SPARTINA ALTERNIFLORA	500	2"	PLUG	EVENLY SPACED - 1'-6" O.C.	PLANT BETWEEN ELEV. -0.5 AND 6

ZONE 2 - HIGH MARSH (PLANTING AREA: 65 SF)

COMMON NAME	BOTANICAL NAME	QUANTITY	SIZE	FORM	SPACING	REMARKS
SALTMEADOW CORDGRASS	SPARTINA PATENS	30	2"	PLUG	EVENLY SPACED - 1'-6" O.C.	PLANT BETWEEN ELEV. 6 AND 7
SPIKEGRASS	DISTICHLIS SPICATA	20	2"	PLUG	EVENLY SPACED - 1'-6" O.C.	PLANT BETWEEN ELEV. 6 AND 7

SEEDING SCHEDULE - MARITIME GRASSLAND SEED MIX (SEEDING AREA = 15,688 SF)

COMMON NAME	BOTANICAL NAME	PERCENTAGE
LITTLE BLUESTEM	SCHIZACHYRIUM SCOPARIUM	15
SAND DROPSEED	SPOROBOLUS CRYPTANDRUS	10
GRASSLEAVED GOLDENROD	EUTHAMIA GRAMINIFOLIA	10
BUTTERFLY WEED	ASCLEPIAS TUBEROSA	10
SEASIDE GOLDENROD	SOLIDAGO SEMIPERVIRENS	5
SWITCHGRASS	PANICUM VIRGATUM	5
INDIAN GRASS	SORGHASTRUM NUTANS	5
PURPLE LOVE GRASS	ERAGROSTIS SPECTABILIS	5
WHITE SNAKEROOT	AGERATINA ALTISSIMA	5
SMOOTH ASTER	SYMPHYOTRICHUM LAEVE	5
EARLY GOLDENROD	SOLIDAGO JUNCEA	5
INDIAN HEMP	APOCYNUM CANNIBINUM	5
BROWN-EYED SUSAN	RUDEBECKIA HIRTA	5
WILD BERGAMOT	MONARDA FISTULOSA	5
PATRIDGE PEA	CHAMAECRISTA FASCICULARIS	3
SWEET EVERLASTING	PSUEDOGNAPHALIUM OBTUSIFOLIUM	2

LEGEND

- DEBRIS EXCLUSION FENCE
- SPRING HIGH WATER (SHW)
- MEAN HIGH WATER (MHW)
- MEAN LOW WATER (MLW)
- MEAN LOWER LOW WATER (MLLW)
- ZONE 1 - INTERTIDAL MARSH
- ZONE 2 - HIGH MARSH
- MARITIME GRASSLAND SEED MIX
- MAINTENANCE ACCESS PATH
- AREA TO BE RESTORED TO EXISTING CONDITIONS
- RIPRAP - D50=36"
- RIPRAP - D50=24"
- RIPRAP - D50=12"
- TRANSITION ZONE
- NYSDOT SIZE NO. 3 AGGREGATE SURFACE - 6" MIN.

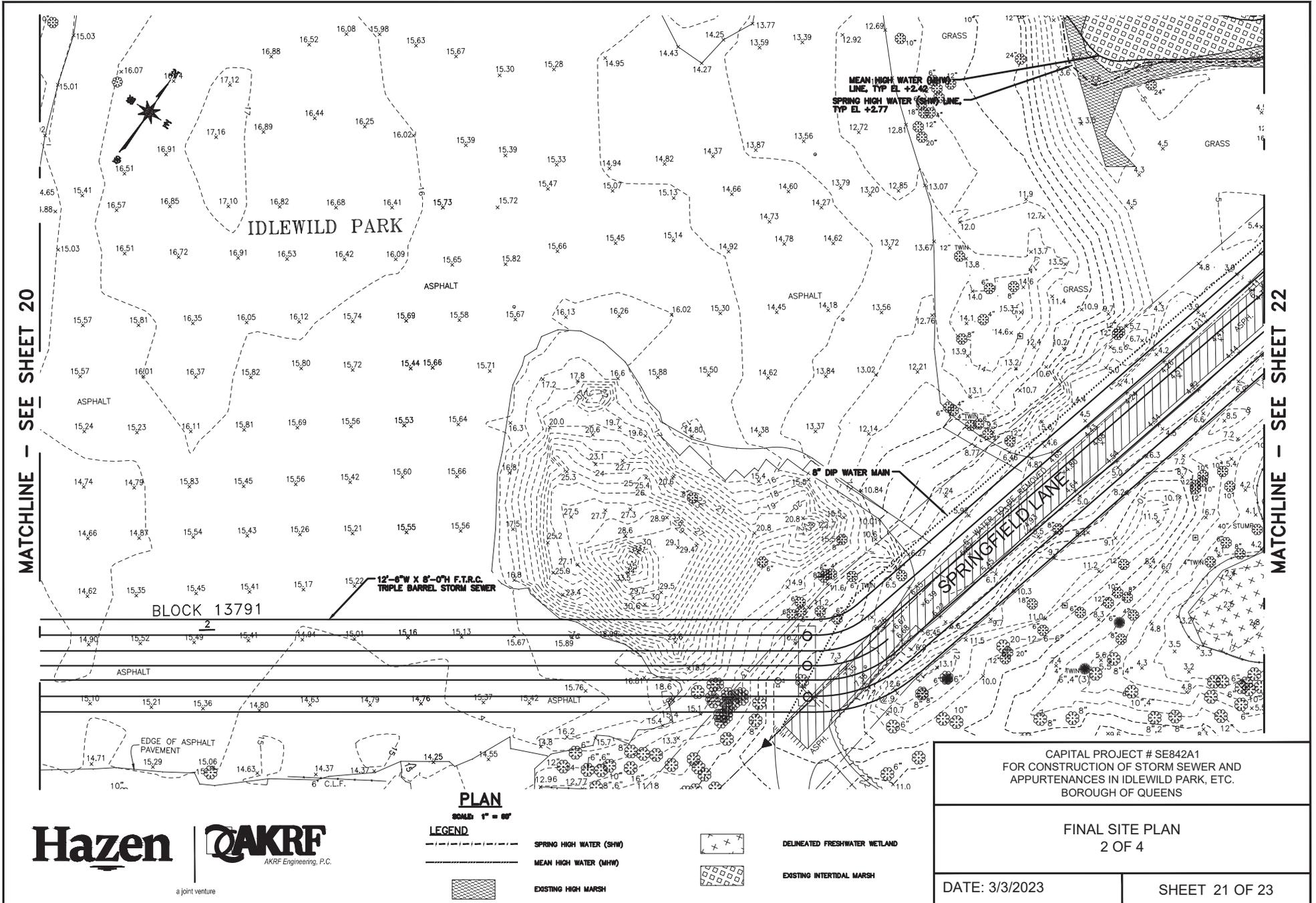


CAPITAL PROJECT # SE842A1
FOR CONSTRUCTION OF STORM SEWER AND APPURTENANCES IN IDLEWILD PARK, ETC. BOROUGH OF QUEENS

FINAL SITE PLAN
1 OF 4

DATE: 3/3/2023

SHEET 20 OF 23



MATCHLINE - SEE SHEET 20

MATCHLINE - SEE SHEET 22

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PLAN

SCALE: 1" = 60'

LEGEND

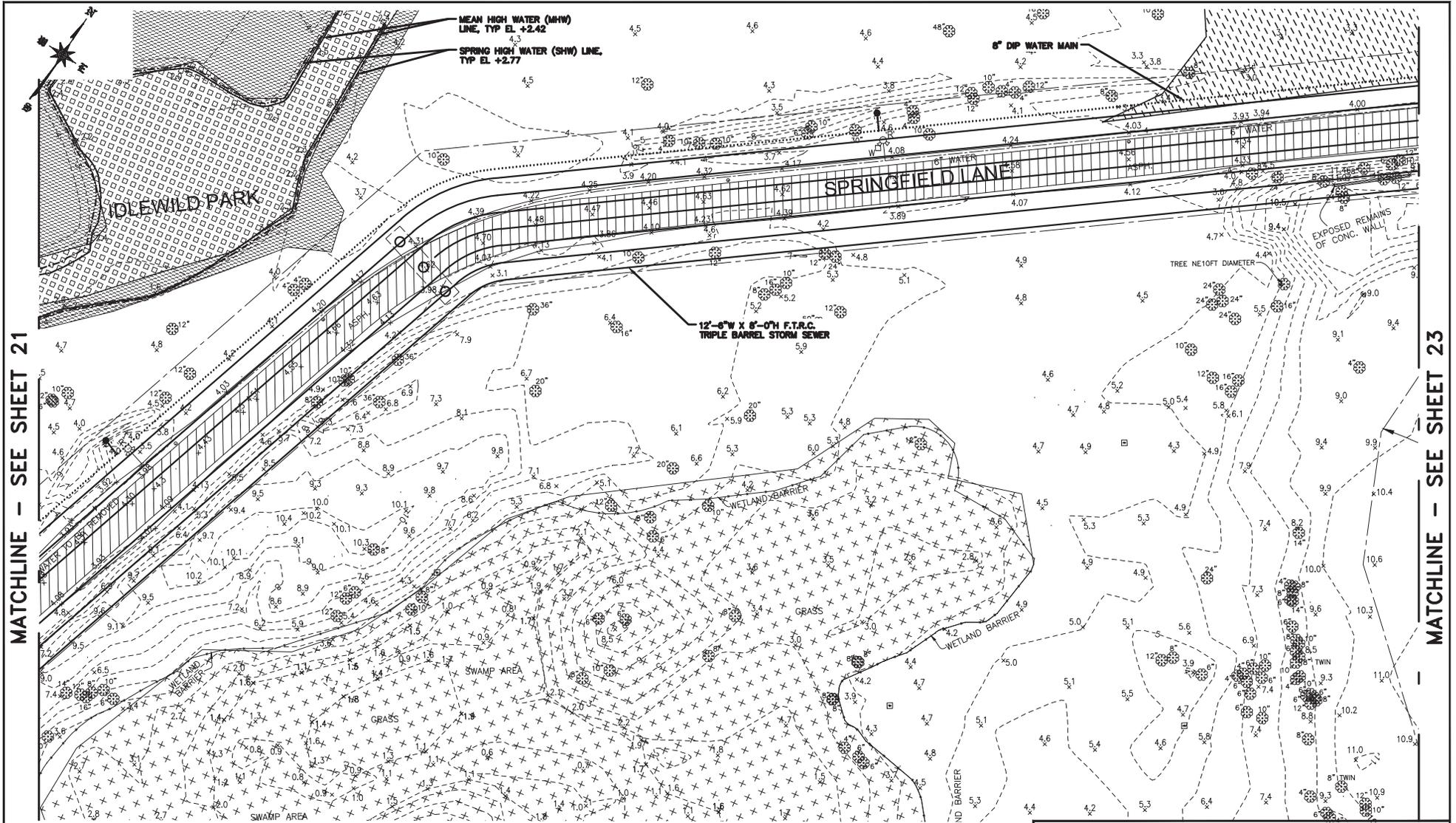
- SPRING HIGH WATER (SHW)
- MEAN HIGH WATER (MHW)
- EXISTING HIGH MARSH
- DELINEATED FRESHWATER WETLAND
- EXISTING INTERTIDAL MARSH

CAPITAL PROJECT # SE842A1
FOR CONSTRUCTION OF STORM SEWER AND
APPURTENANCES IN IDLEWILD PARK, ETC.
BOROUGH OF QUEENS

FINAL SITE PLAN
2 OF 4

DATE: 3/3/2023

SHEET 21 OF 23



MATCHLINE - SEE SHEET 21

MATCHLINE - SEE SHEET 23

PLAN
SCALE: 1" = 60'

LEGEND

- SPRING HIGH WATER (SHW)
- MEAN HIGH WATER (MHW)
- DELINEATED FRESHWATER WETLAND
- EXISTING HIGH MARSH
- EXISTING INTERTIDAL MARSH



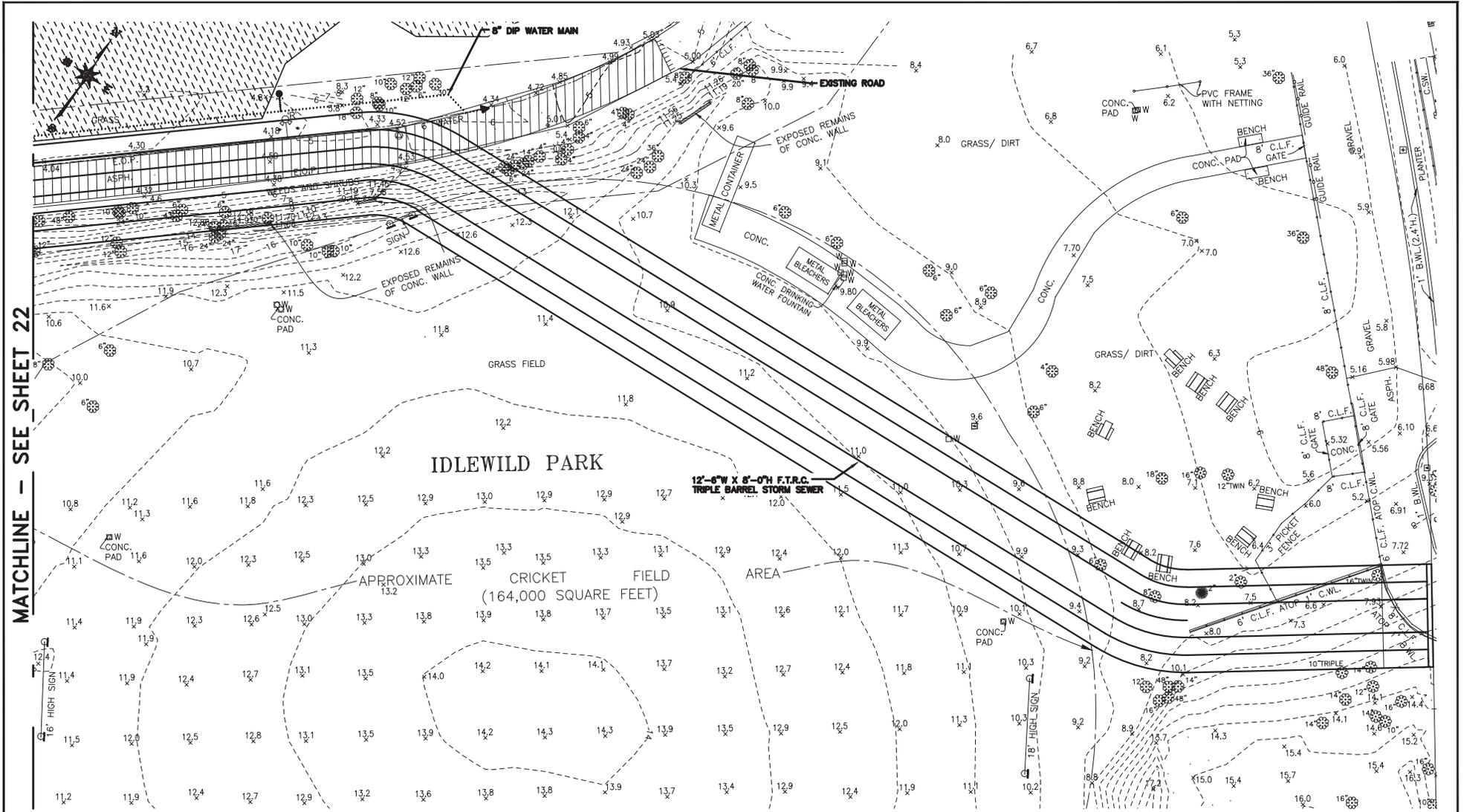
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CAPITAL PROJECT # SE842A1
FOR CONSTRUCTION OF STORM SEWER AND APPURTENANCES IN IDLEWILD PARK, ETC.
BOROUGH OF QUEENS

FINAL SITE PLAN
3 OF 4

DATE: 3/3/2023

SHEET 22 OF 23



PLAN
SCALE: 1" = 60'

CAPITAL PROJECT # SE842A1 FOR CONSTRUCTION OF STORM SEWER AND APPURTENANCES IN IDLEWILD PARK, ETC. BOROUGH OF QUEENS	
FINAL SITE PLAN 4 OF 4	
DATE: 3/3/2023	SHEET 23 OF 23



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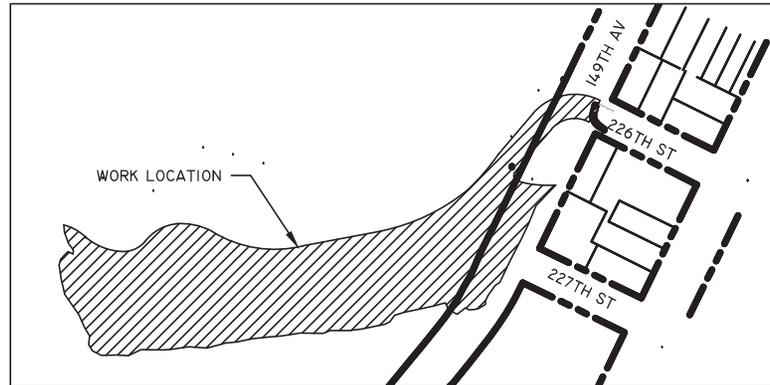
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DIVISION OF INFRASTRUCTURE
BUREAU OF DESIGN
PROJECT ID: SE-842A1

FOR CONSTRUCTION OF STORM SEWER AND
APPURTENANCES IN IDLEWILD PARK, ETC.

BOROUGH OF QUEENS



LOCATION PLAN
N.T.S. PROJECT SITE

DRAWING LIST

SHEET	TITLE
P-1	COVER SHEET
P-2	EXISTING CONDITIONS (1 OF 3)
P-3	EXISTING CONDITIONS (2 OF 3)
P-4	EXISTING CONDITIONS (3 OF 3)
P-5	ESC & DEMO PLAN (1 OF 3)
P-6	ESC & DEMO PLAN (2 OF 3)
P-7	ESC & DEMO PLAN (3 OF 3)
P-8	FINAL SITE PLAN (1 OF 3)
P-9	FINAL SITE PLAN (2 OF 3)
P-10	FINAL SITE PLAN (3 OF 3)
P-11	PROFILES (1 OF 2)
P-12	PROFILES (2 OF 2)
P-13	CROSS-SECTIONS (1 OF 2)
P-14	CROSS-SECTIONS (2 OF 2)
P-15	PLANTING PLAN (1 OF 4)
P-16	PLANTING PLAN (2 OF 4)
P-17	PLANTING PLAN (3 OF 4)
P-18	PLANTING PLAN (4 OF 4)

PROJECT ID: SE-842A1
FOR CONSTRUCTION OF STORM SEWER AND
APPURTENANCES IN IDLEWILD PARK, ETC.
NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
BROOKVILLE CREEK, BOROUGH & COUNTY OF QUEENS, NEW YORK

COVER SHEET

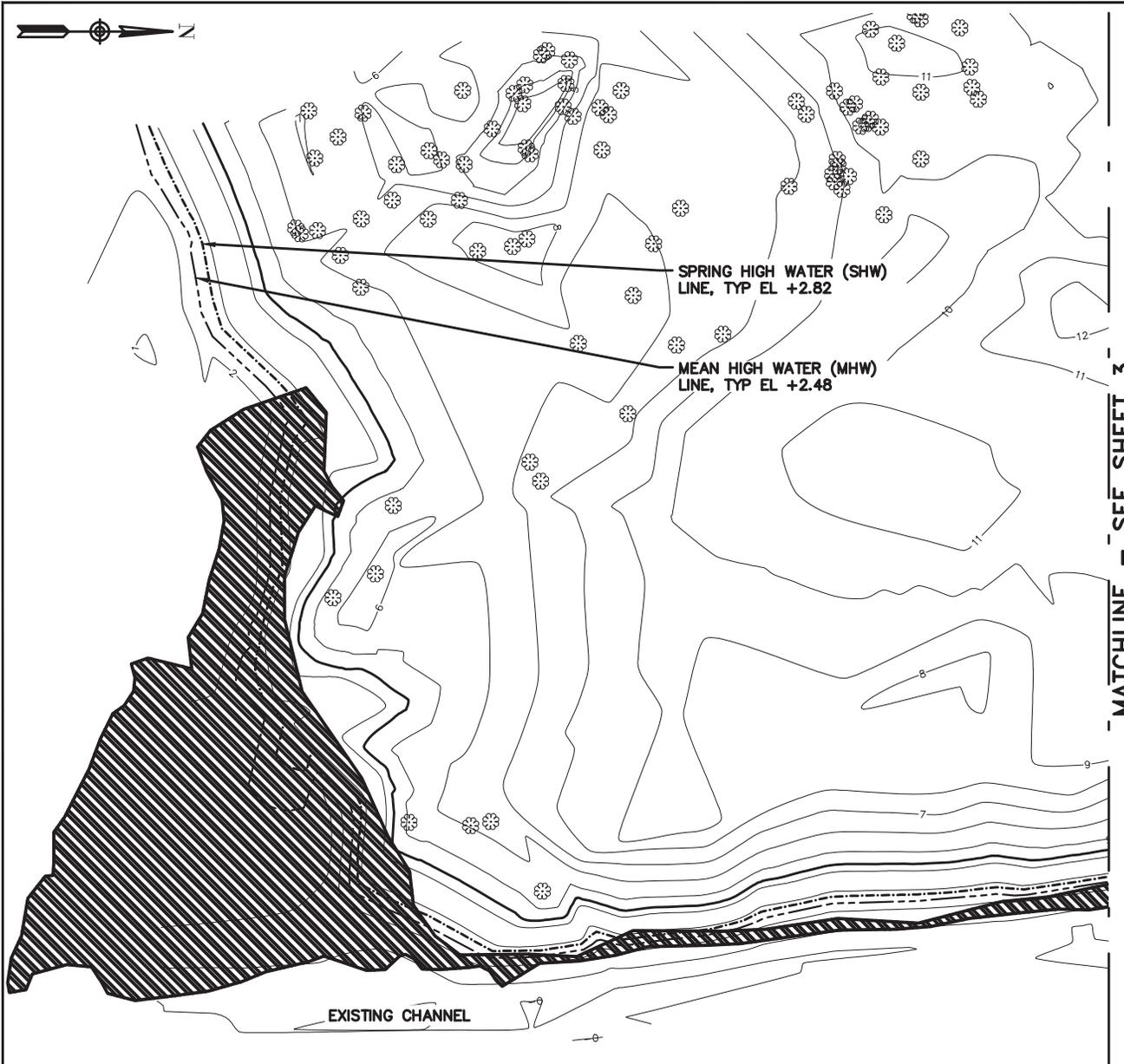
DATE: 3/7/2023

SHEET 1 OF 18



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LEGEND

-  SPRING HIGH WATER (SHW)
-  MEAN HIGH WATER (MHW)
-  EXISTING HIGH MARSH
-  EXISTING INTERTIDAL MARSH
-  12" EXISTING TREE

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 NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
 BROOKVILLE CREEK, BOROUGH & COUNTY OF QUEENS, NEW YORK

EXISTING CONDITIONS (1 OF 3)

DATE: 3/7/2023

SHEET 2 OF 18

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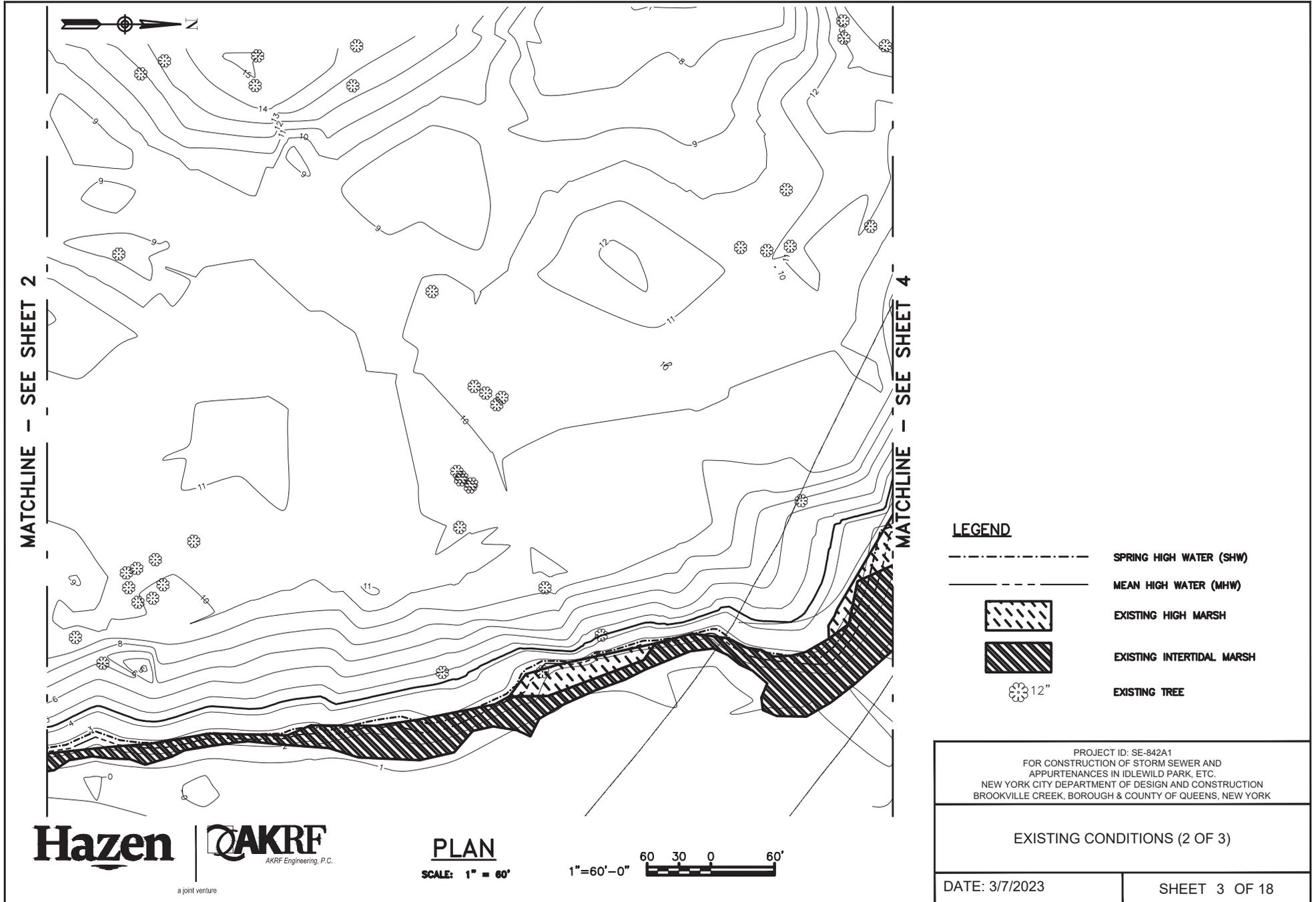
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PLAN

SCALE: 1" = 60'



USACE FILE: NAN-2022-00237-EBR



LEGEND

-  SPRING HIGH WATER (SHW)
-  MEAN HIGH WATER (MHW)
-  EXISTING HIGH MARSH
-  EXISTING INTERTIDAL MARSH
-  EXISTING TREE

PROJECT ID: SE-842A1
 FOR CONSTRUCTION OF STORM SEWER AND
 APPURTENANCES IN IDLEWILD PARK, ETC.
 NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
 BROOKVILLE CREEK, BOROUGH & COUNTY OF QUEENS, NEW YORK

EXISTING CONDITIONS (2 OF 3)

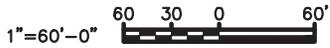
DATE: 3/7/2023

SHEET 3 OF 18

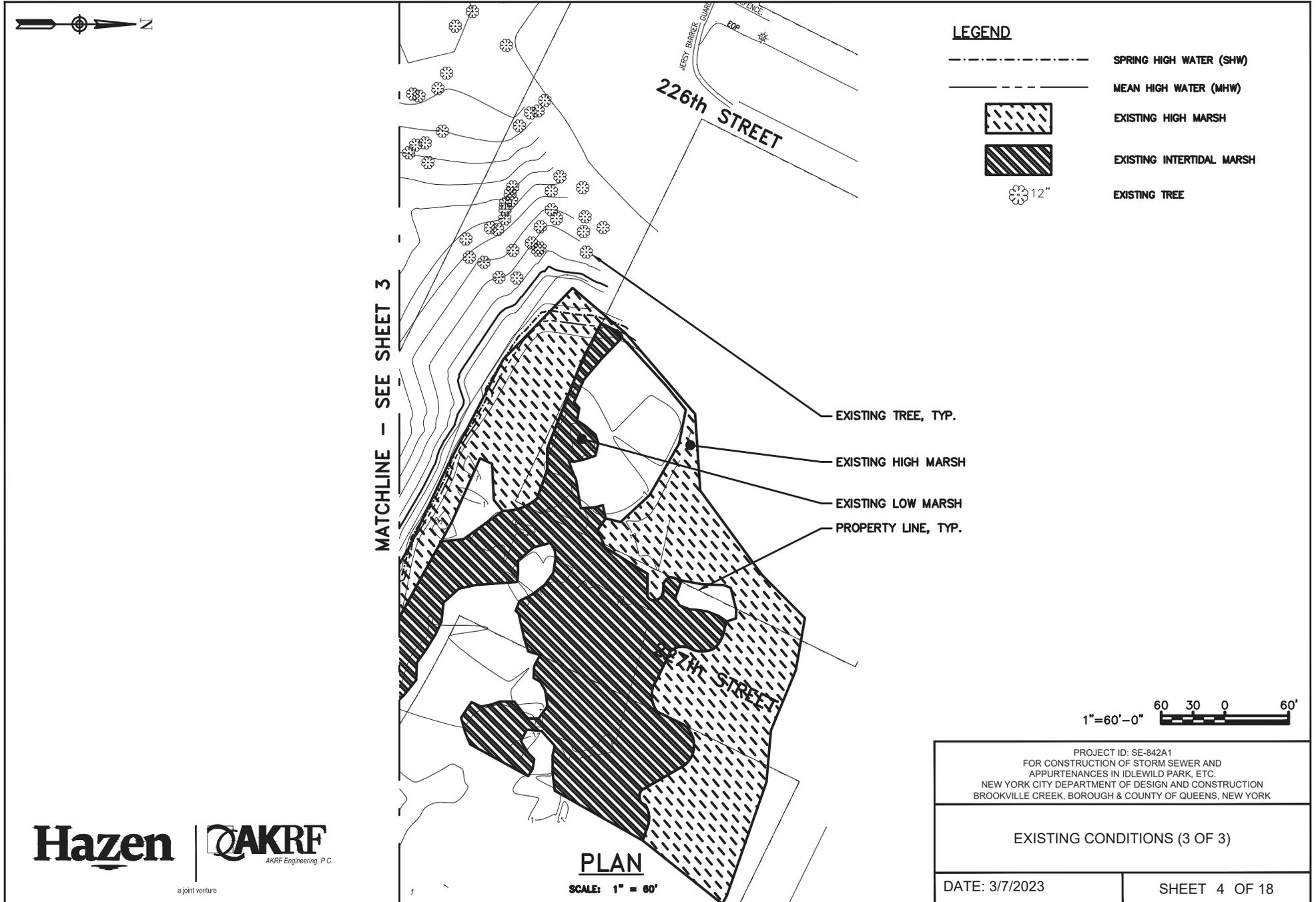


PLAN

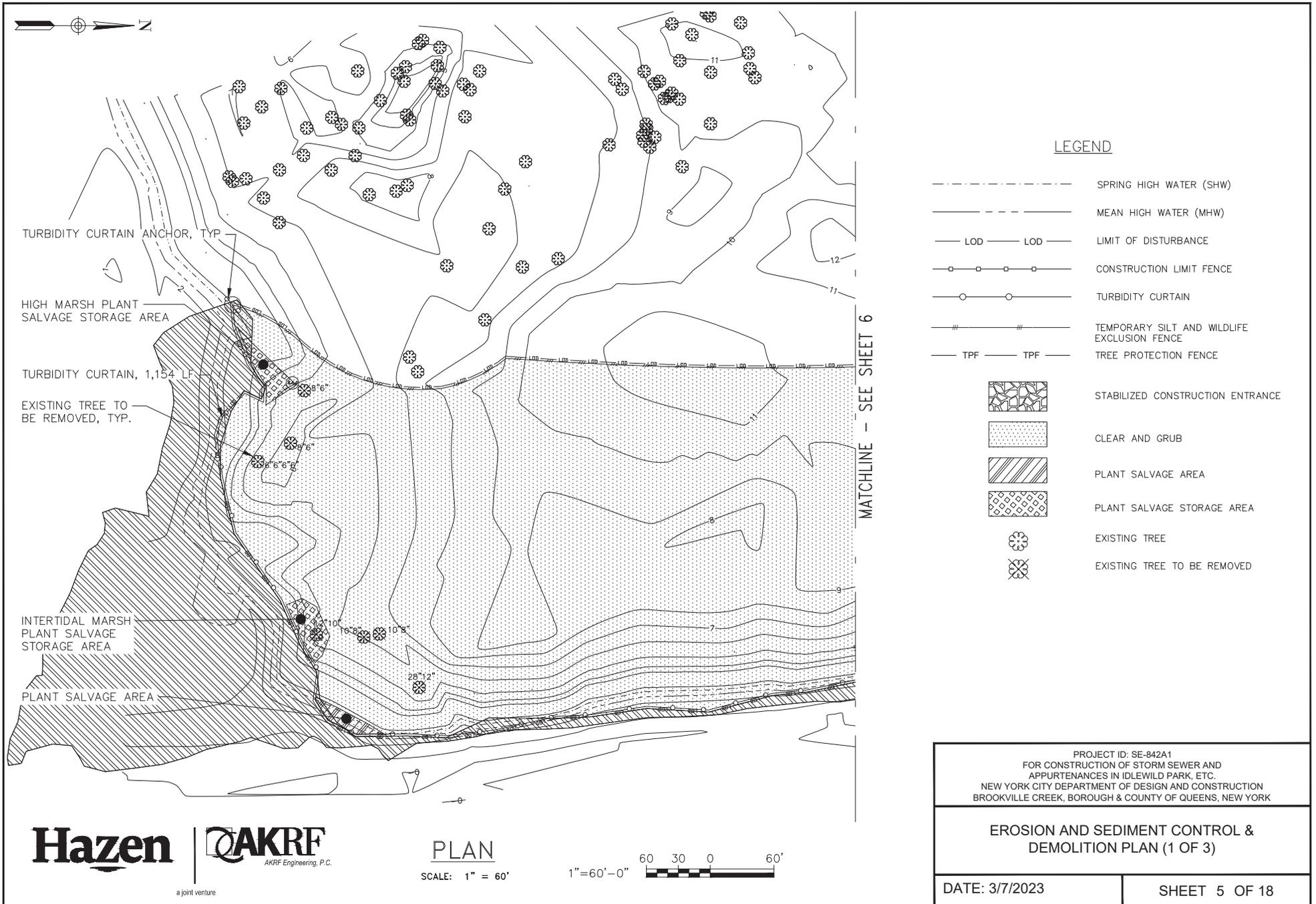
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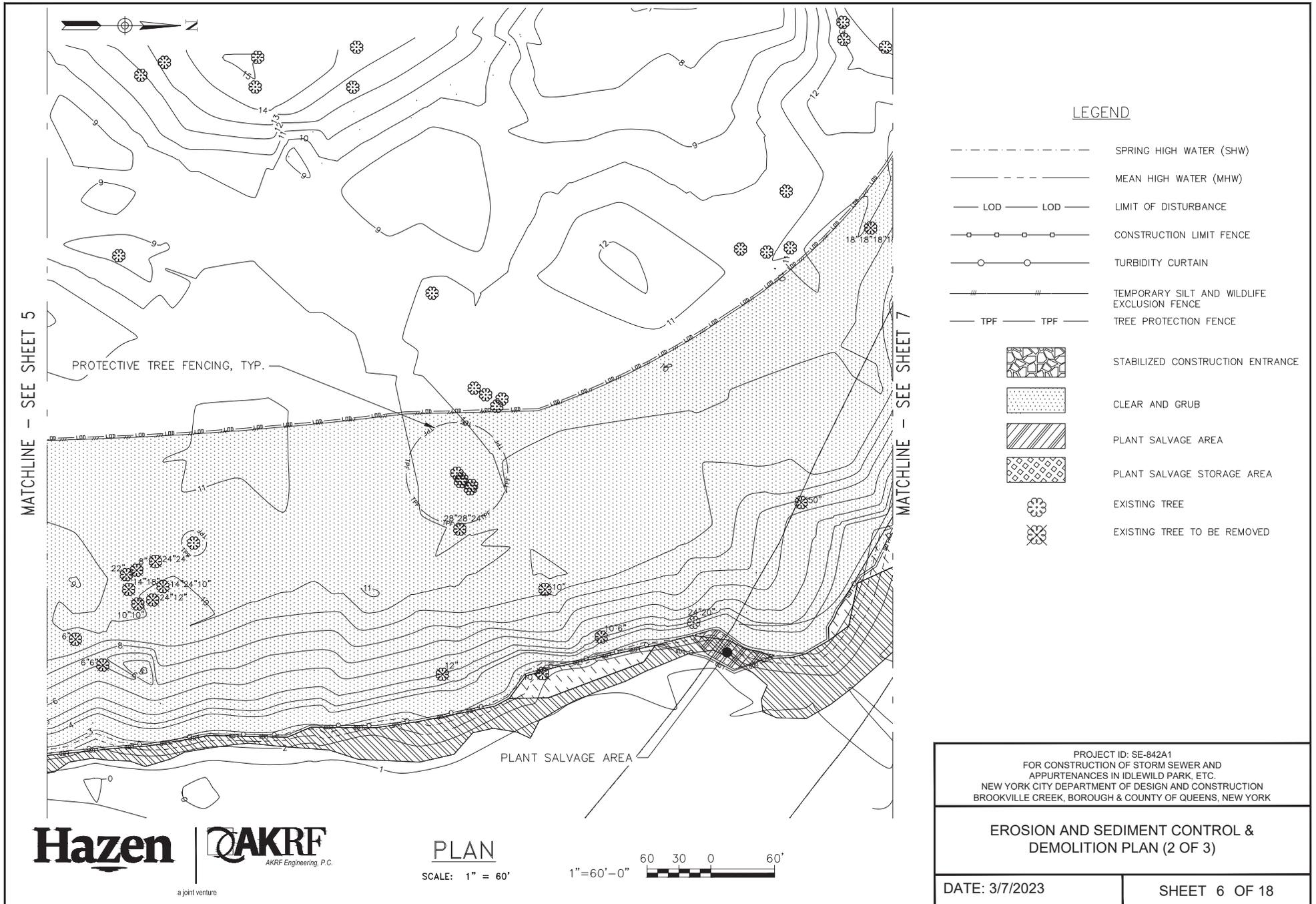
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LEGEND

- SPRING HIGH WATER (SHW)
- - - MEAN HIGH WATER (MHW)
- LOD — LOD — LIMIT OF DISTURBANCE
- □ — □ — CONSTRUCTION LIMIT FENCE
- ○ — ○ — TURBIDITY CURTAIN
- # — # — TEMPORARY SILT AND WILDLIFE EXCLUSION FENCE
- TPF — TPF — TREE PROTECTION FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- CLEAR AND GRUB
- PLANT SALVAGE AREA
- PLANT SALVAGE STORAGE AREA
- EXISTING TREE
- EXISTING TREE TO BE REMOVED

MATCHLINE - SEE SHEET 5

MATCHLINE - SEE SHEET 7

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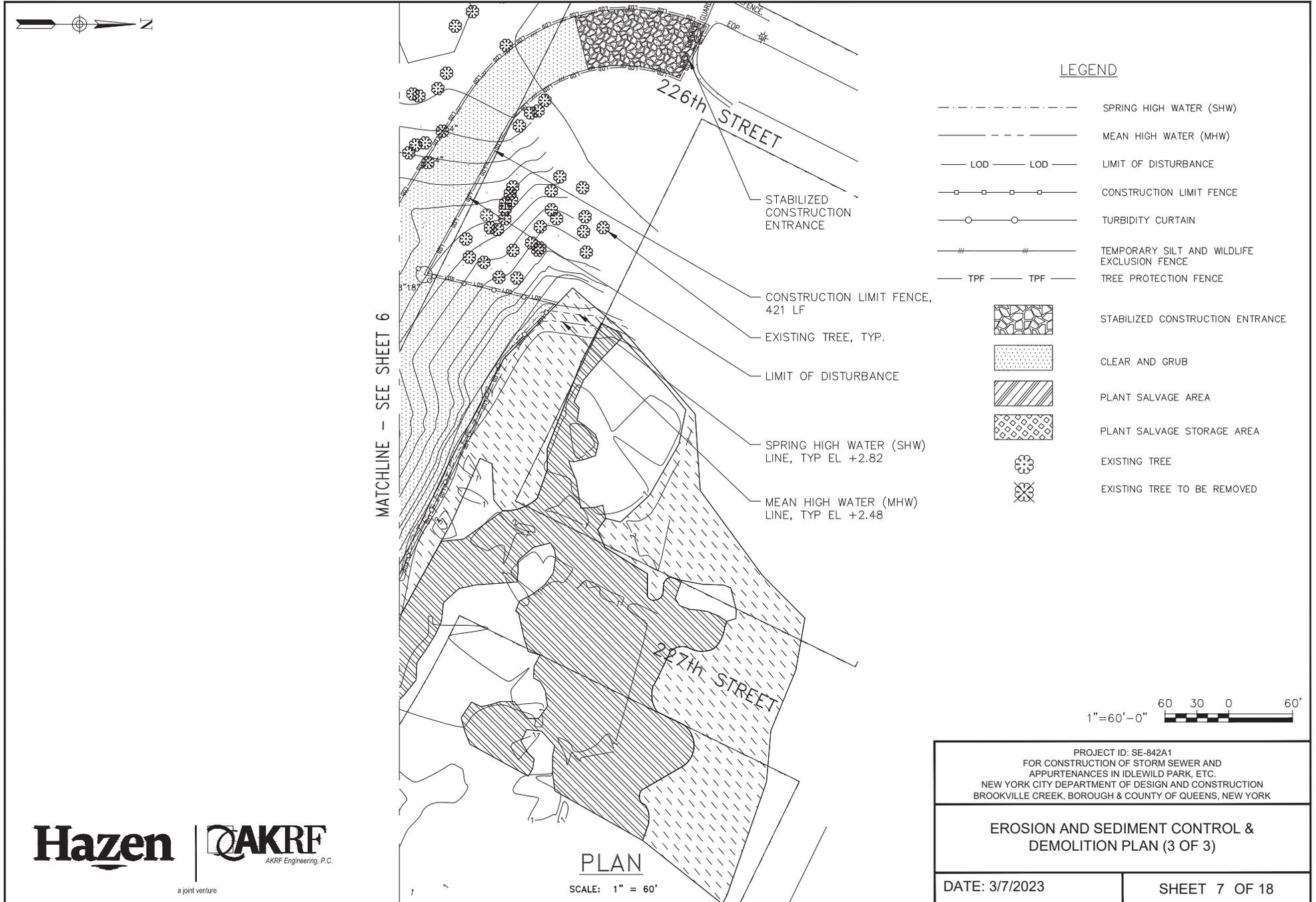
PLAN
 SCALE: 1" = 60'
 1" = 60'-0"

PROJECT ID: SE-842A1
 FOR CONSTRUCTION OF STORM SEWER AND APPURTENANCES IN IDLEWILD PARK, ETC.
 NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
 BROOKVILLE CREEK, BOROUGH & COUNTY OF QUEENS, NEW YORK

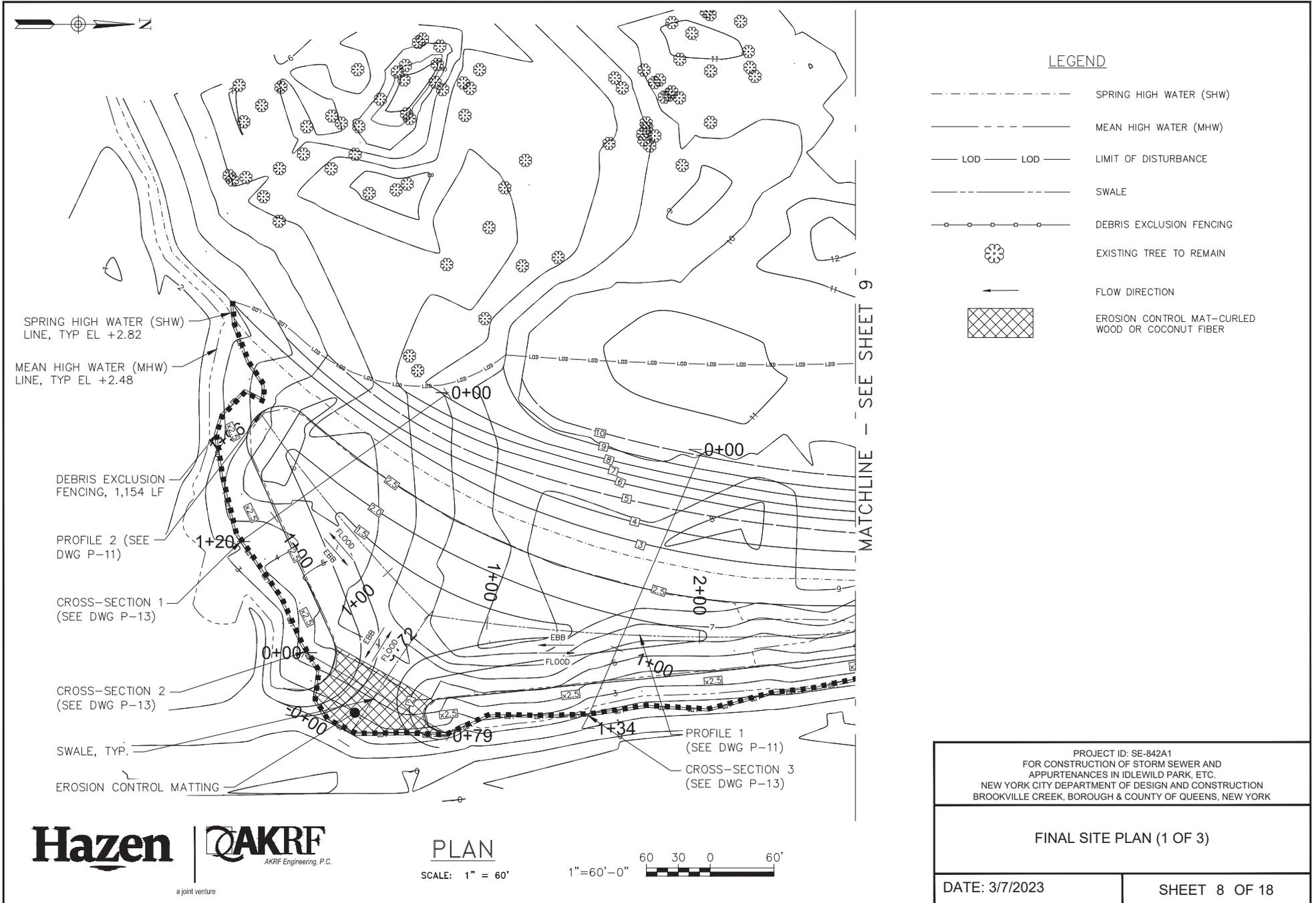
EROSION AND SEDIMENT CONTROL & DEMOLITION PLAN (2 OF 3)

DATE: 3/7/2023 | SHEET 6 OF 18

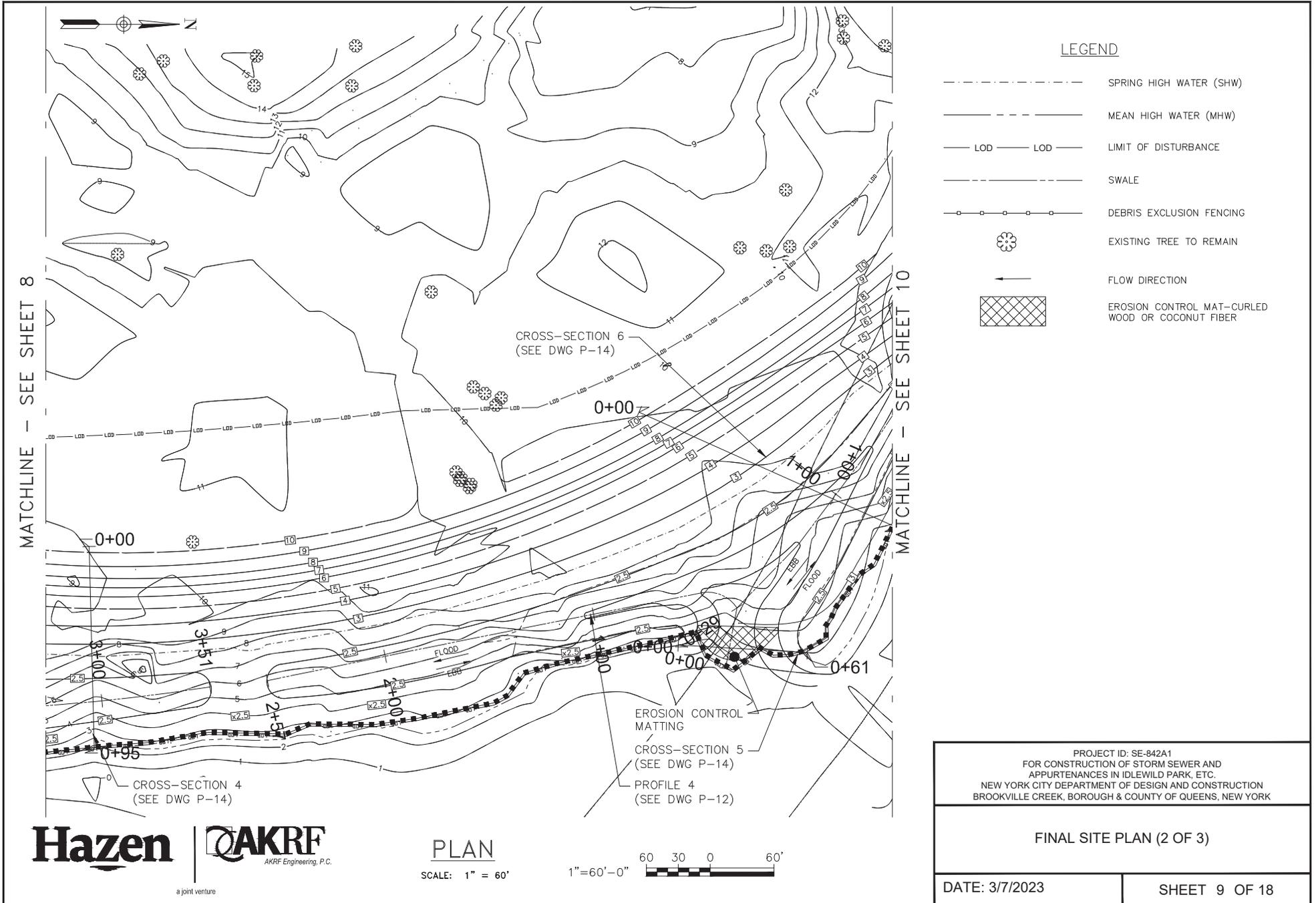
USACE FILE: NAN-2022-00237-EBR



USACE FILE: NAN-2022-00237-EBR



USACE FILE: NAN-2022-00237-EBR



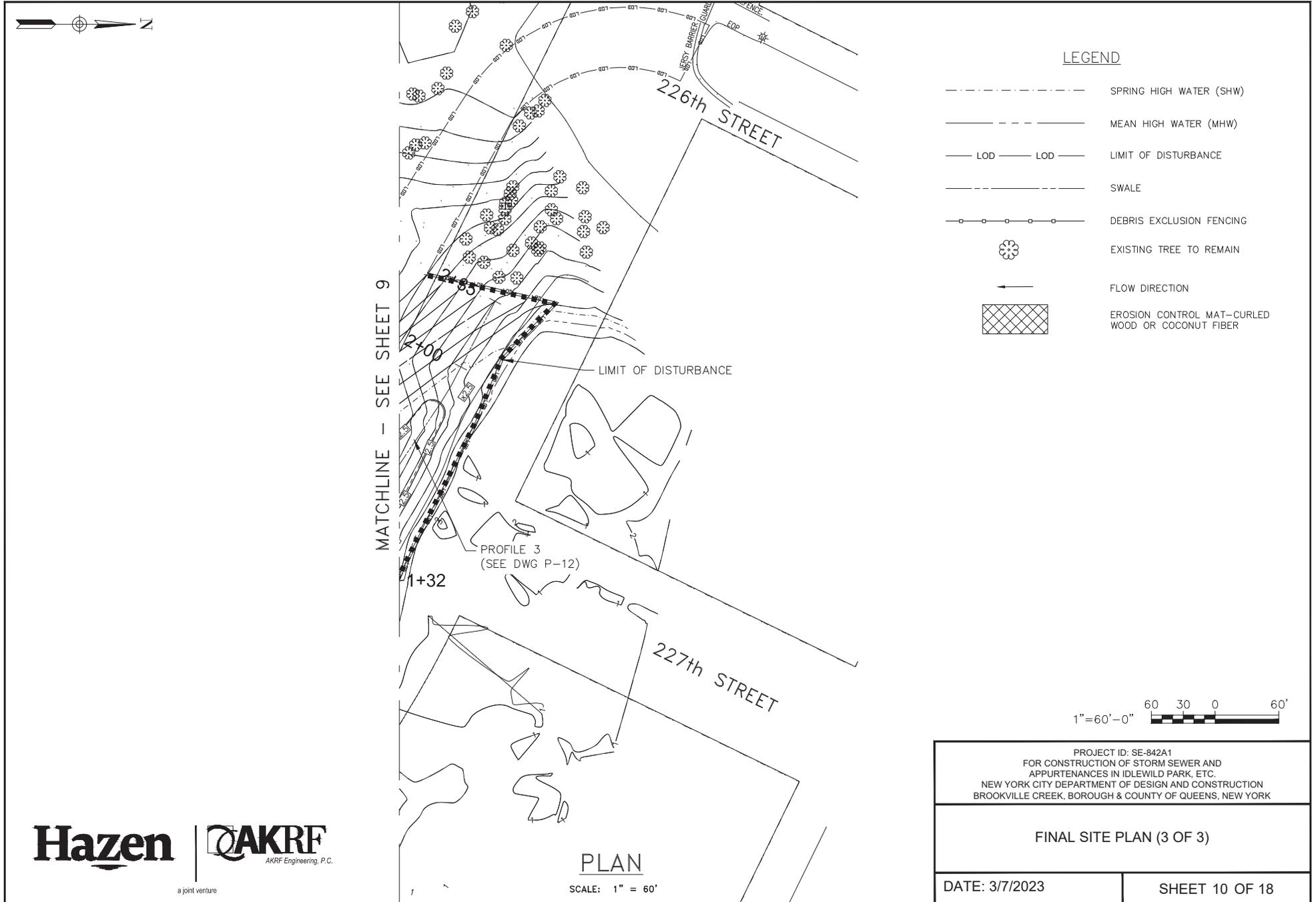
Hazen **AKRF**
 AKRF Engineering, P.C.
 a joint venture

PLAN

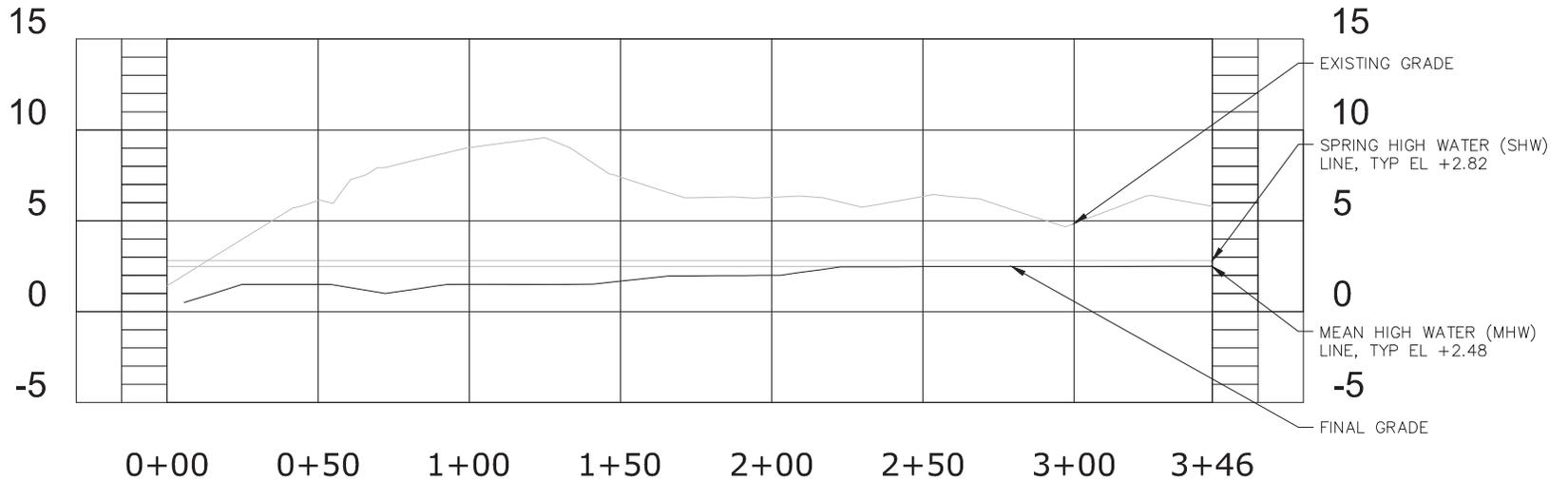
SCALE: 1" = 60'



USACE FILE: NAN-2022-00237-EBR

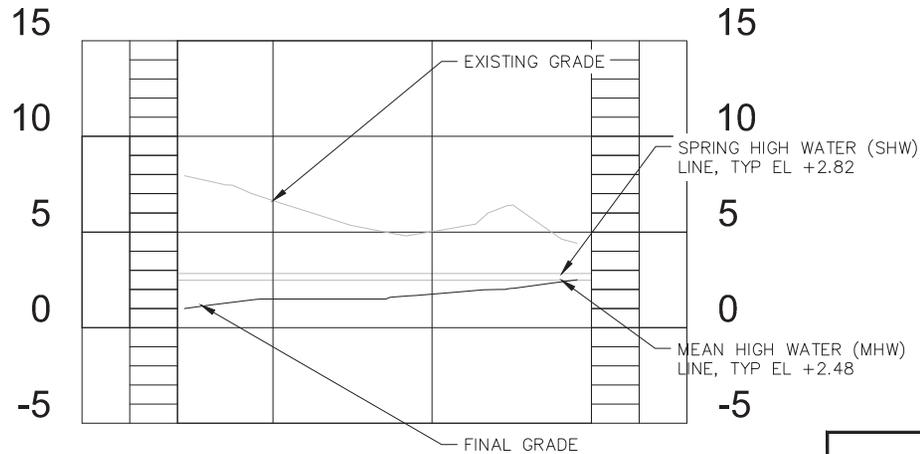


USACE FILE: NAN-2022-00237-EBR



PROFILE 1

HORIZONTAL SCALE: 1" = 60'
VERTICAL SCALE: 1" = 10'



PROFILE 2

HORIZONTAL SCALE: 1" = 60'
VERTICAL SCALE: 1" = 10'

PROJECT ID: SE-842A1
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NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
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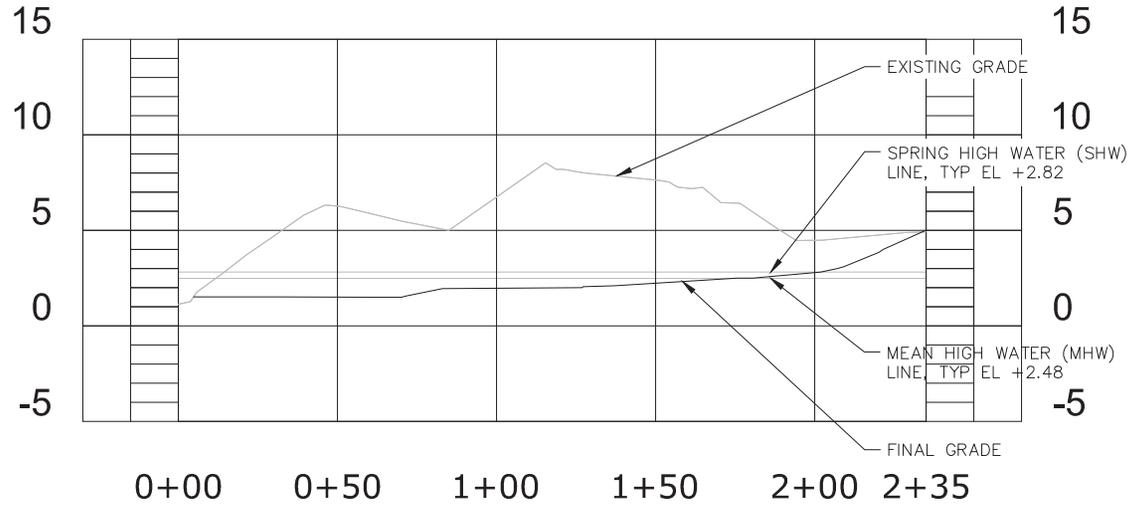
PROFILES (1 OF 2)

DATE: 3/7/2023

SHEET 11 OF 18

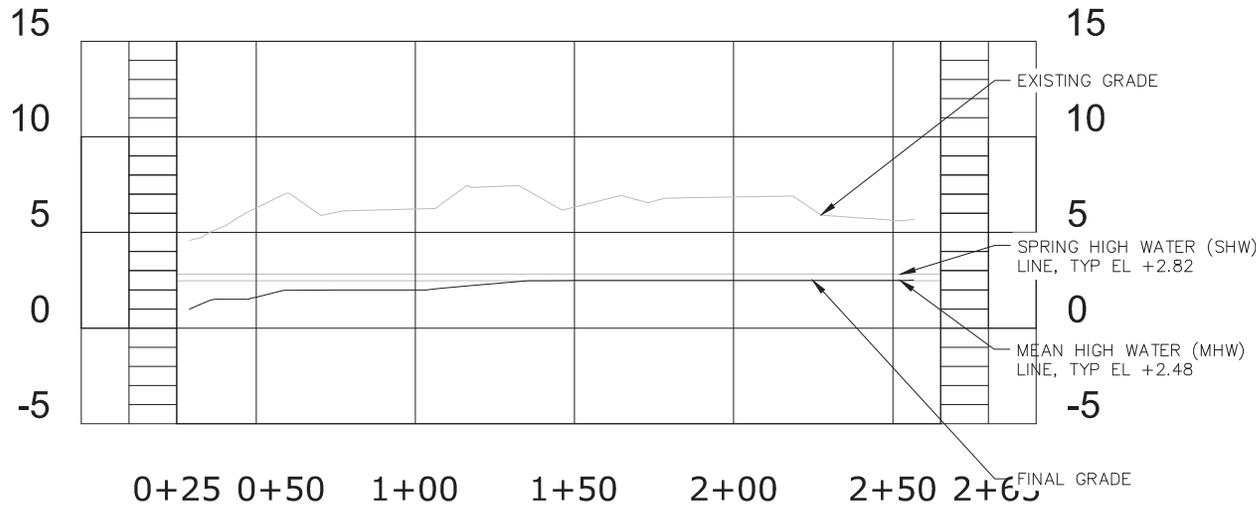


USACE FILE: NAN-2022-00237-EBR



PROFILE 3

HORIZONTAL SCALE: 1" = 60'
VERTICAL SCALE: 1" = 10'



PROFILE 4

HORIZONTAL SCALE: 1" = 60'
VERTICAL SCALE: 1" = 10'

PROJECT ID: SE-842A1
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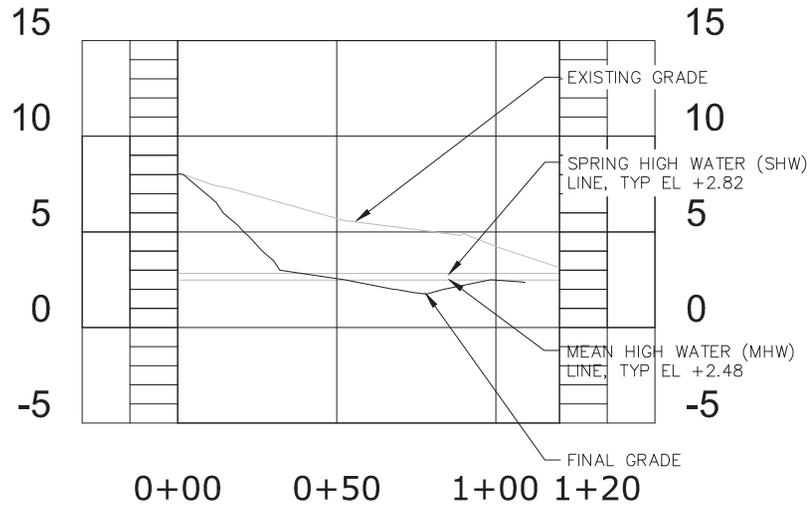
PROFILES (2 OF 2)

DATE: 3/7/2023

SHEET 12 OF 18

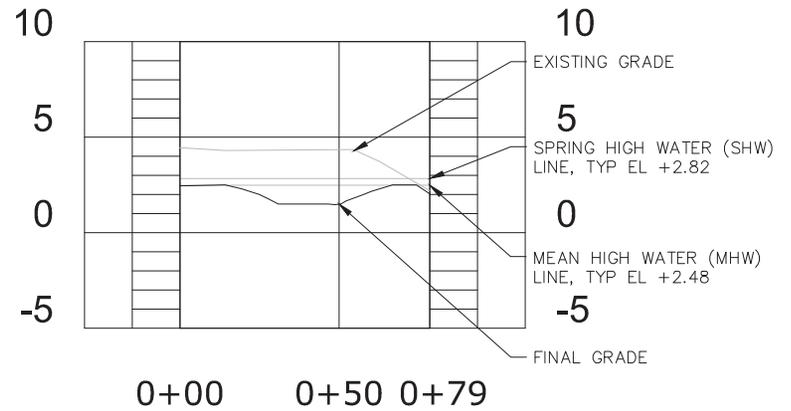


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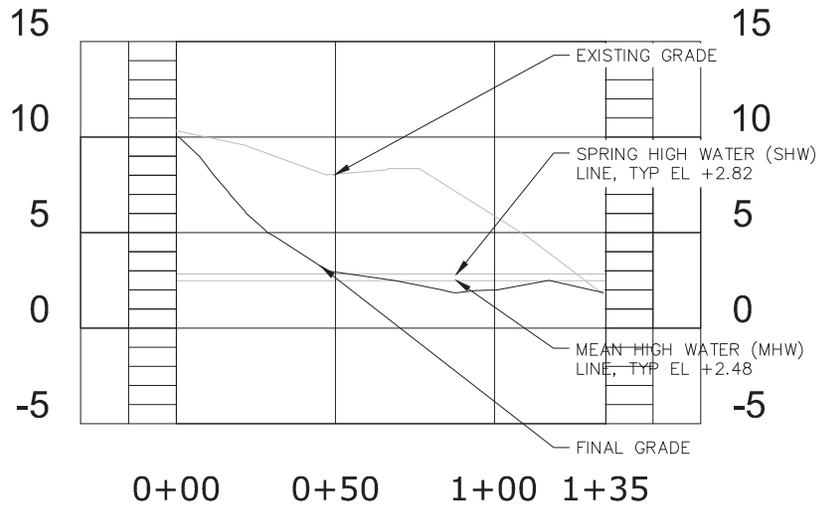
CROSS-SECTION 1

HORIZONTAL SCALE: 1" = 60'
VERTICAL SCALE: 1" = 10'



CROSS-SECTION 2

HORIZONTAL SCALE: 1" = 60'
VERTICAL SCALE: 1" = 10'



CROSS-SECTION 3

HORIZONTAL SCALE: 1" = 60'
VERTICAL SCALE: 1" = 10'

PROJECT ID: SE-842A1
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NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
BROOKVILLE CREEK, BOROUGH & COUNTY OF QUEENS, NEW YORK

CROSS-SECTIONS (1 OF 2)

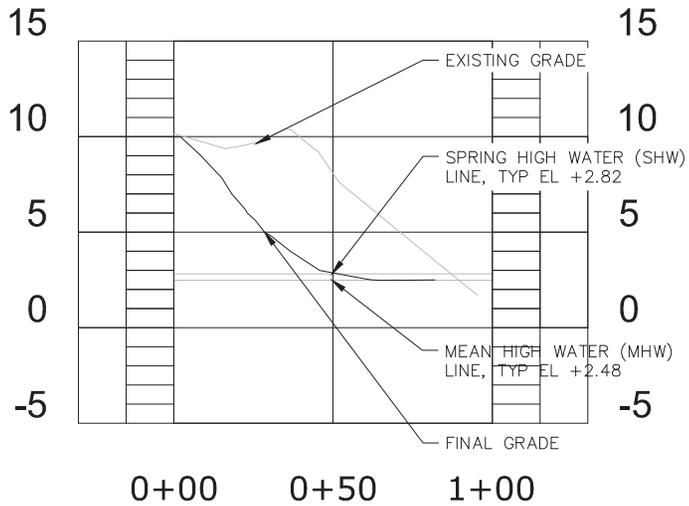
DATE: 3/7/2023

SHEET 13 OF 18



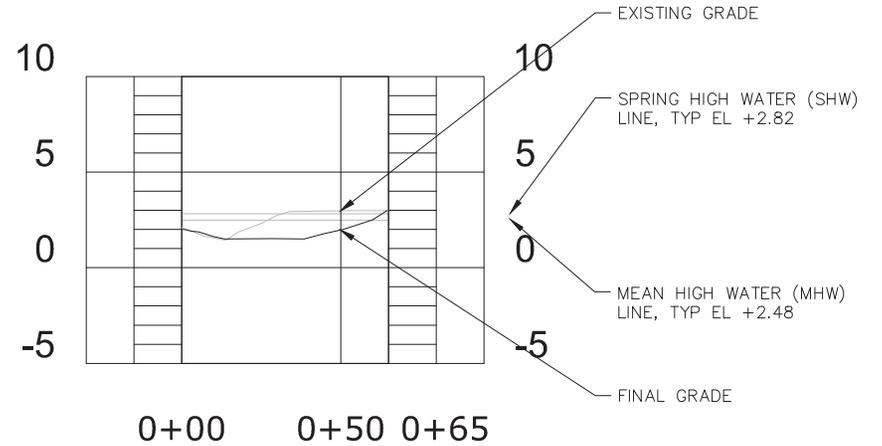
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USACE FILE: NAN-2022-00237-EBR



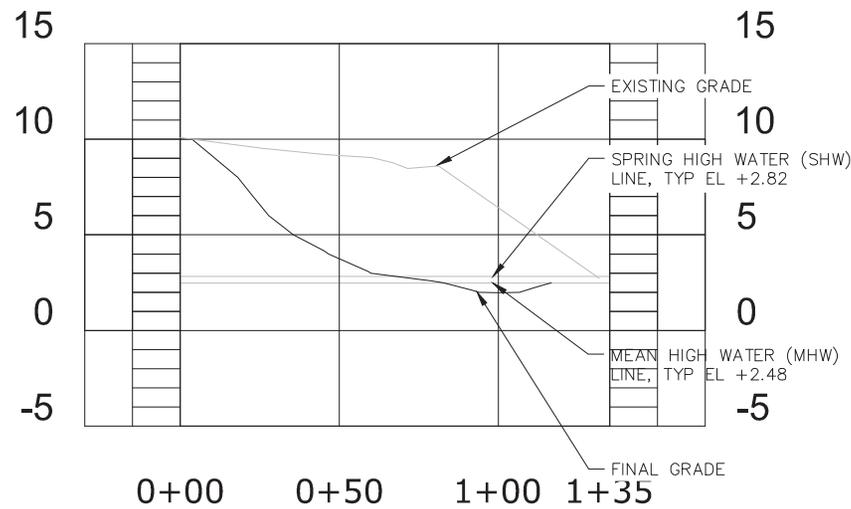
CROSS-SECTION 4

HORIZONTAL SCALE: 1" = 60'
 VERTICAL SCALE: 1" = 10'



CROSS-SECTION 5

HORIZONTAL SCALE: 1" = 60'
 VERTICAL SCALE: 1" = 10'



CROSS-SECTION 6

HORIZONTAL SCALE: 1" = 60'
 VERTICAL SCALE: 1" = 10'

PROJECT ID: SE-842A1
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 NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
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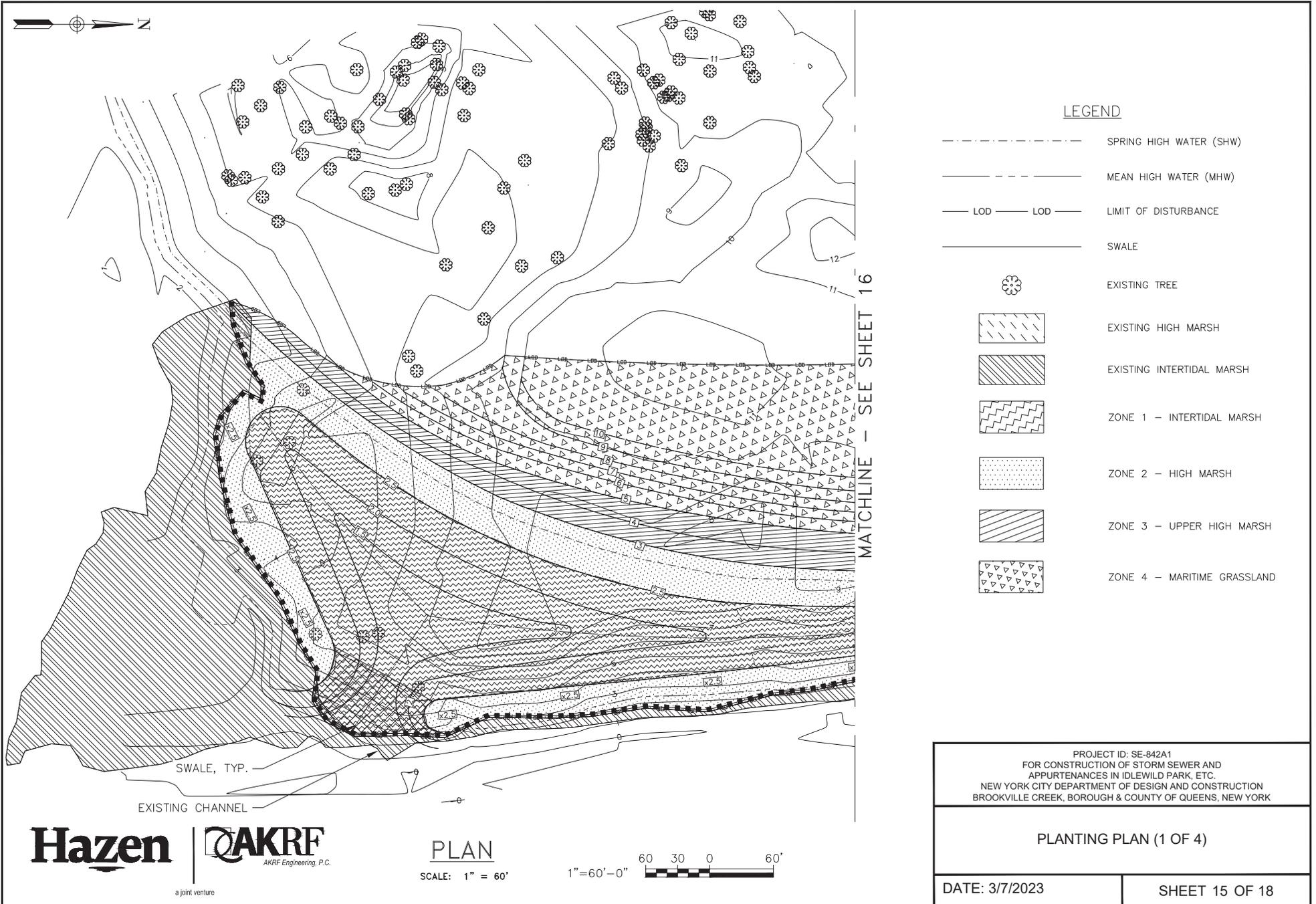
CROSS-SECTIONS (2 OF 2)

DATE: 3/7/2023

SHEET 14 OF 18



USACE FILE: NAN-2022-00237-EBR



LEGEND

- SPRING HIGH WATER (SHW)
- MEAN HIGH WATER (MHW)
- LOD — LOD — LIMIT OF DISTURBANCE
- SWALE
- ✿ EXISTING TREE
- [diagonal lines] EXISTING HIGH MARSH
- [diagonal lines] EXISTING INTERTIDAL MARSH
- [wavy lines] ZONE 1 - INTERTIDAL MARSH
- [dotted pattern] ZONE 2 - HIGH MARSH
- [diagonal lines] ZONE 3 - UPPER HIGH MARSH
- [triangular pattern] ZONE 4 - MARITIME GRASSLAND

MATCHLINE - SEE SHEET 16

PROJECT ID: SE-842A1
 FOR CONSTRUCTION OF STORM SEWER AND
 APPURTENANCES IN IDLEWILD PARK, ETC.
 NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
 BROOKVILLE CREEK, BOROUGH & COUNTY OF QUEENS, NEW YORK

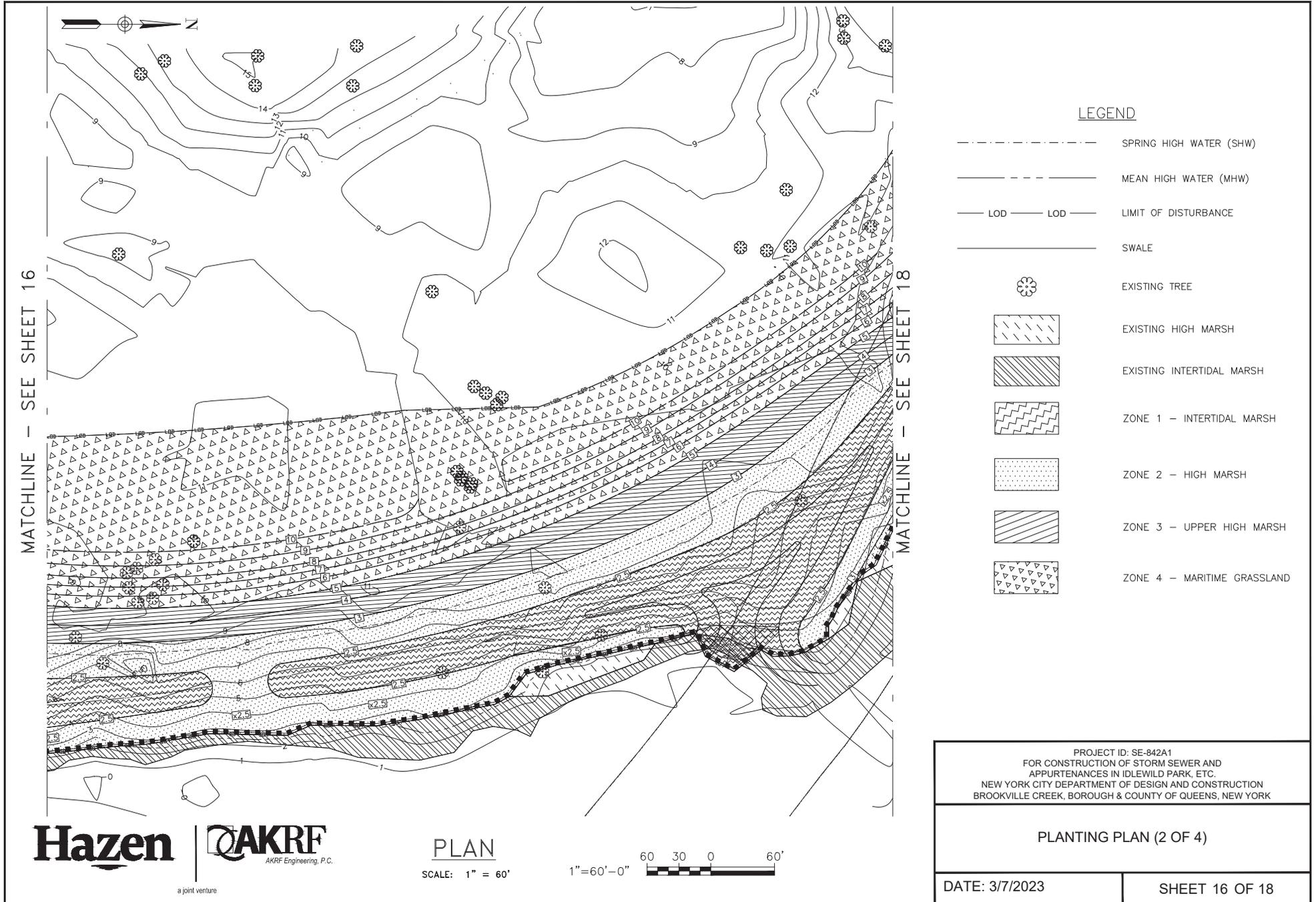
PLANTING PLAN (1 OF 4)

DATE: 3/7/2023 SHEET 15 OF 18

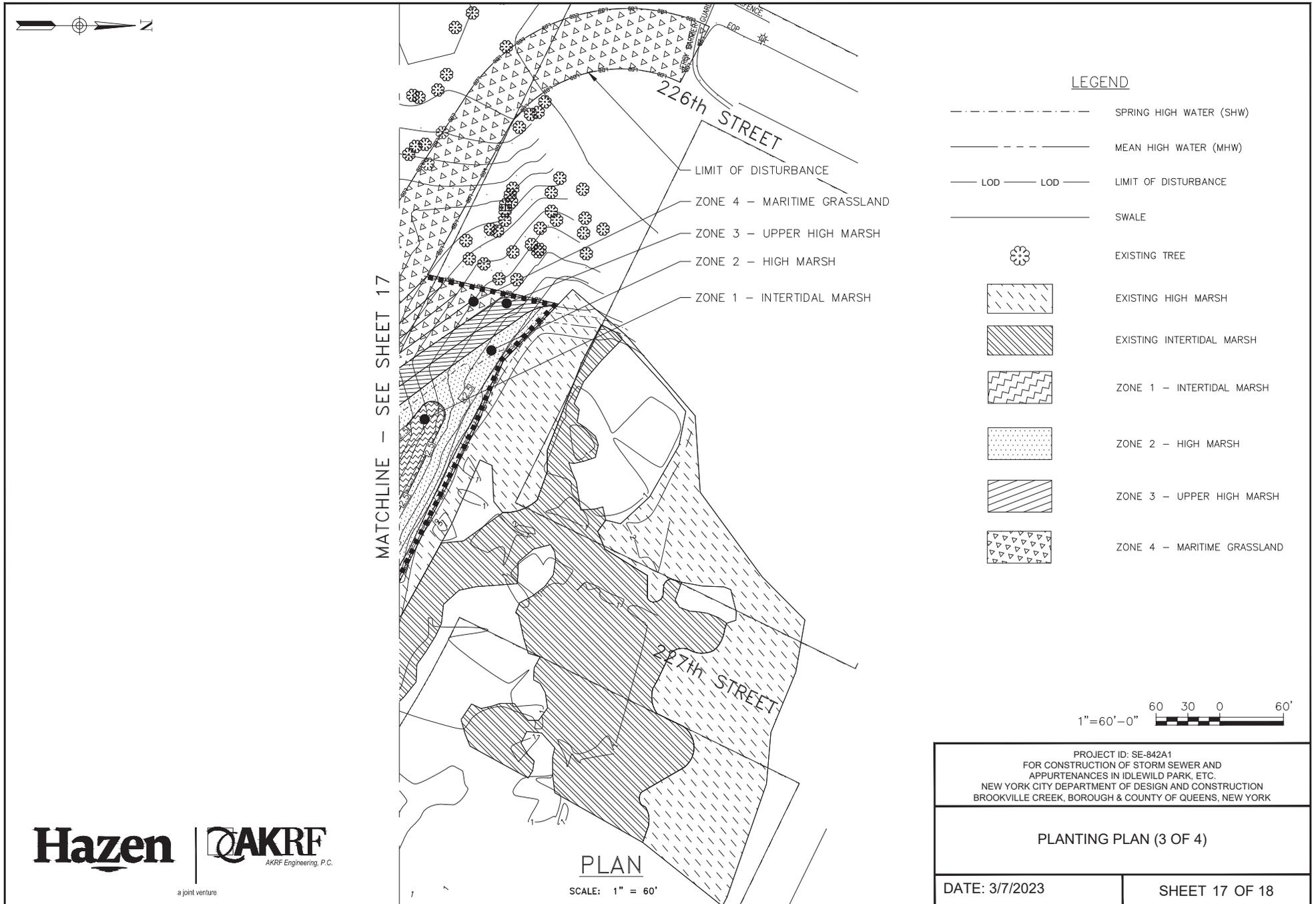
Hazen | **AKRF**
 a joint venture AKRF Engineering, P.C.

PLAN
 SCALE: 1" = 60'
 1" = 60'-0" 60 30 0 60'

USACE FILE: NAN-2022-00237-EBR



USACE FILE: NAN-2022-00237-EBR



USACE FILE: NAN-2022-00237-EBR

PLANTING SCHEDULE

ZONE 1 - PLANTING SCHEDULE - INTERTIDAL MARSH (PLANTING AREA: 29,498 SF / 0.68 AC)

QTY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	FORM	SPACING	REMARKS
15,100	SA	<i>Spartina alterniflora</i>	smooth cordgrass	2"	plug	Alternating rows 1.5' O.C.	Plant up to elev. 2.5

ZONE 2 - PLANTING SCHEDULE - HIGH MARSH (PLANTING AREA: 25,564 SF / 0.59 AC)

QTY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	FORM	SPACING	REMARKS
Herbaceous Plants							
6,550	DS	<i>Distichlis spicata</i>	spikegrass	2"	plug	Alternating rows 1.5' O.C.	Plant between elev. 2.5 and 3.0
6,550	SP	<i>Spartina patens</i>	saltmeadow cordgrass	2"	plug	Alternating rows 1.5' O.C.	Plant between elev. 2.5 and 3.0

ZONE 3 - PLANTING SCHEDULE - UPPER HIGH MARSH (PLANTING AREA: 12,991 SF / 0.30 AC)

QTY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	FORM	SPACING	REMARKS
Herbaceous Plants							
1,100	DS	<i>Distichlis spicata</i>	spikegrass	2"	plug	Naturalistic clusters of 3 to 5 alternating rows 1.5' O.C.	Plant between elev. 3.0 and 5.0
1,100	JG	<i>Juncus gerardii</i>	saltmarsh rush	2"	plug	Naturalistic clusters of 3 to 5 alternating rows 1.5' O.C.	Plant between elev. 3.0 and 5.0
1,100	SS	<i>Solidago sempervirens</i>	seaside goldenrod	2"	plug	Naturalistic clusters of 3 to 5 alternating rows 1.5' O.C.	Plant between elev. 3.0 and 5.0
1,100	SP	<i>Spartina patens</i>	saltmeadow cordgrass	2"	plug	Naturalistic clusters of 3 to 5 alternating rows 1.5' O.C.	Plant between elev. 3.0 and 5.0
Shrubs							
100	BH	<i>Baccharis halimifolia</i>	groundsel-tree	8"	tubeling	Naturalistic clusters of 3 to 5 at 2.5' O.C.	Plant between elev. 4.0 and 5.0
100	IF	<i>Iva frutescens</i>	marsh elder	8"	tubeling	Naturalistic clusters of 3 to 5 at 2.5' O.C.	Plant between elev. 3.0 and 4.0

ZONE 4 - PLANTING SCHEDULE - (PLANTING AREA: 46,990 SF / 1.08 AC)

QTY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	FORM	SPACING	REMARKS
Herbaceous Plants							
725	AG	<i>Andropogon gerardii</i>	big bluestem	2"	plug	Naturalistic clusters of 3 to 5 at 2.5' O.C.	
725	AT	<i>Asclepias tuberosa</i>	butterfly weed	2"	plug	Naturalistic clusters of 3 to 5 at 2.5' O.C.	
725	DF	<i>Deschampsia flexuosa</i>	wavy hairgrass	2"	plug	Naturalistic clusters of 3 to 5 at 2.5' O.C.	
725	MF	<i>Monarda fistulosa</i>	wild bergamot	2"	plug	Naturalistic clusters of 3 to 5 at 2.5' O.C.	
725	SZ	<i>Schizachyrium scoparium</i>	little bluestem	2"	plug	Naturalistic clusters of 3 to 5 at 2.5' O.C.	
725	SE	<i>Symphotrichum ericoides</i>	heath aster	2"	plug	Naturalistic clusters of 3 to 5 at 2.5' O.C.	

ZONE 4 - SEEDING SCHEDULE - PK-465 A SEED MIX (SEEDING AREA = 46,990 SF / 1.08 AC)

BOTANICAL NAME	COMMON NAME	POUNDS PLS/ACRE
<i>Andropogon virginicus</i>	broomsedge	4.8
<i>Asclepias incarnata</i>	swamp milkweed	0.9
<i>Eupatorium fistulosum</i>	hollow Joe-Pye-Weed	0.9
<i>Euthamia graminifolia</i>	grass-leaved goldenrod	2.7
<i>Panicum virgatum</i>	switchgrass	4.8
<i>Solidago juncea</i>	early goldenrod	0.8
<i>Solidago nemoralis</i>	gray goldenrod	0.8
<i>Solidago rugosa</i>	wrinkled-leaf goldenrod	2.0
<i>Sorghastrum nutans</i>	Indian grass	4.8
<i>Symphotrichum novae-angliae</i>	New England aster	1.1
<i>Symphotrichum laeve</i>	smooth blue American-aster	0.8
<i>Symphotrichum pilosus</i>	frost aster	0.8
<i>Tridens flavus</i>	purpletop	4.8

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BROOKVILLE CREEK, BOROUGH & COUNTY OF QUEENS, NEW YORK

PLANTING PLAN (4 OF 4)

DATE: 3/7/2023

SHEET 18 OF 18



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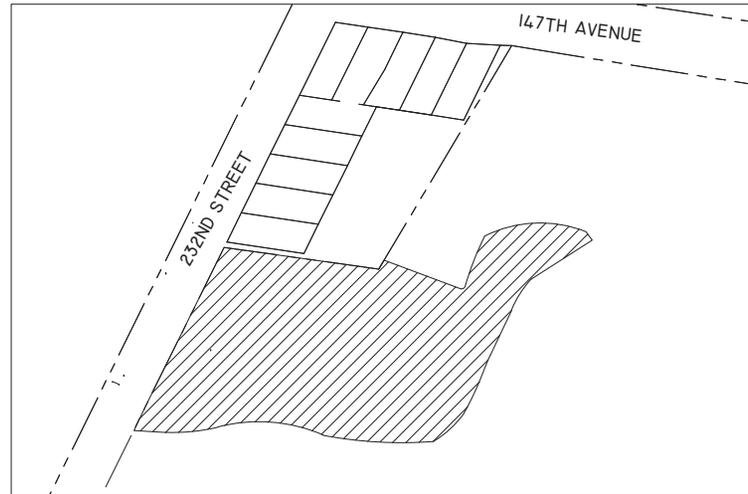
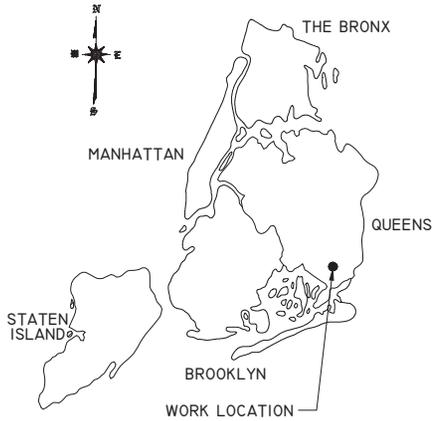
USACE FILE: NAN-2022-00237-EBR



DIVISION OF INFRASTRUCTURE
BUREAU OF DESIGN
PROJECT ID: SE-842A1

FOR CONSTRUCTION OF STORM SEWER AND
APPURTENANCES IN IDLEWILD PARK, ETC.

BOROUGH OF QUEENS



LOCATION PLAN
N.T.S. PROJECT SITE

DRAWING LIST	
SHEET	TITLE
P-1	COVER SHEET
P-2	EXISTING CONDITIONS 1 OF 2
P-3	EXISTING CONDITIONS 2 OF 2
P-4	EROSION AND SEDIMENT CONTROL PLAN 1 OF 2
P-5	EROSION AND SEDIMENT CONTROL PLAN 2 OF 2
P-6	FINAL SITE PLAN 1 OF 2
P-7	FINAL SITE PLAN 2 OF 2
P-8	PROFILES 1 OF 2
P-9	PROFILES 2 OF 2
P-10	CROSS-SECTIONS 1 OF 2
P-11	CROSS-SECTIONS 2 OF 2
P-12	PLANTING PLAN 1 OF 3
P-13	PLANTING PLAN 2 OF 3
P-14	PLANTING PLAN 3 OF 3

PROJECT ID: SE-842A1
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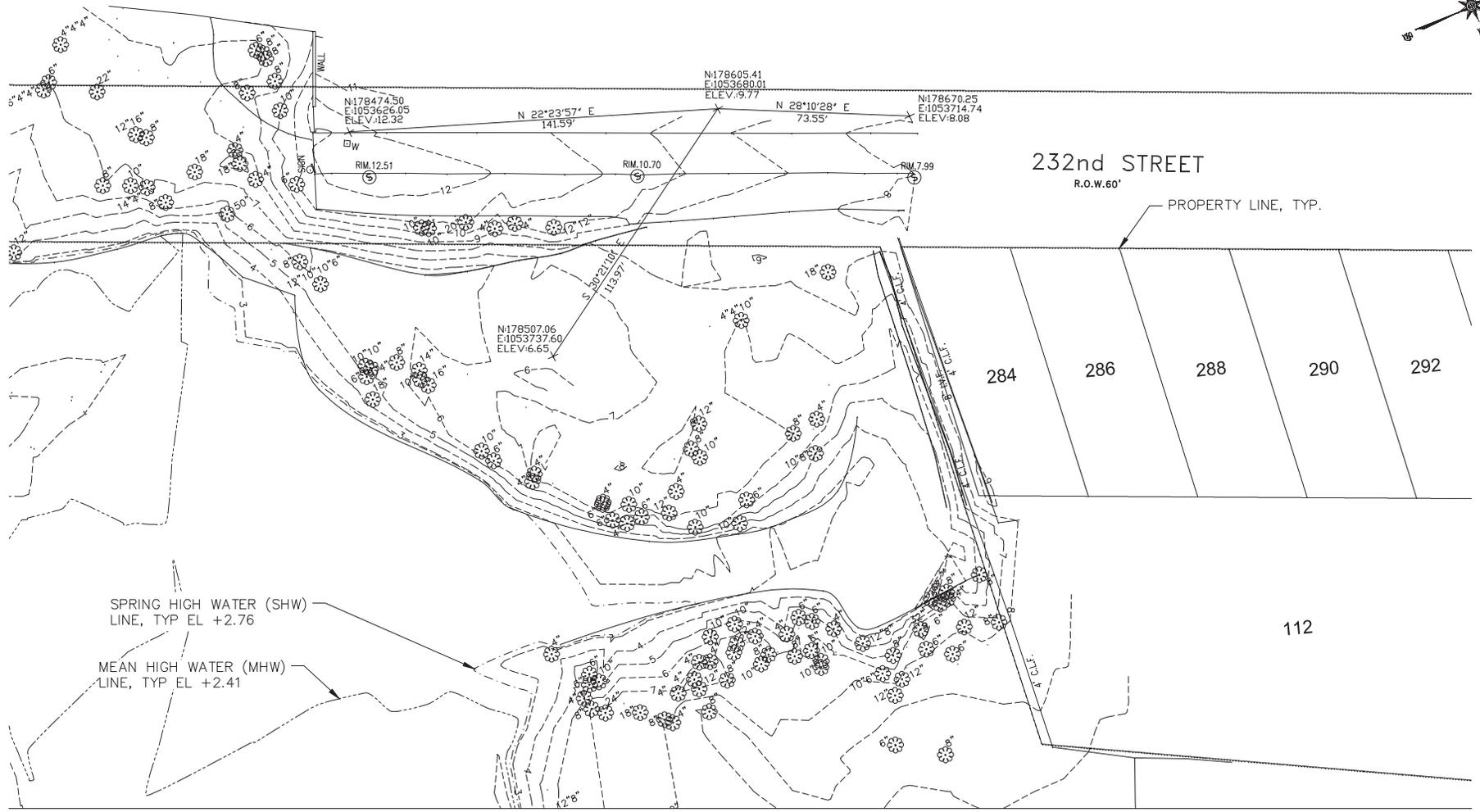
COVER SHEET

DATE: 3/7/2023

SHEET 1 OF 14



USACE FILE: NAN-2022-00237-EBR



SCALE: 1" = 60'

LEGEND

- SPRING HIGH WATER (SHW)
- MEAN HIGH WATER (MHW)
- ⊗ EXISTING TREE

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 BROOKVILLE CREEK, BOROUGH & COUNTY OF QUEENS, NEW YORK

EXISTING CONDITIONS
 1 OF 2

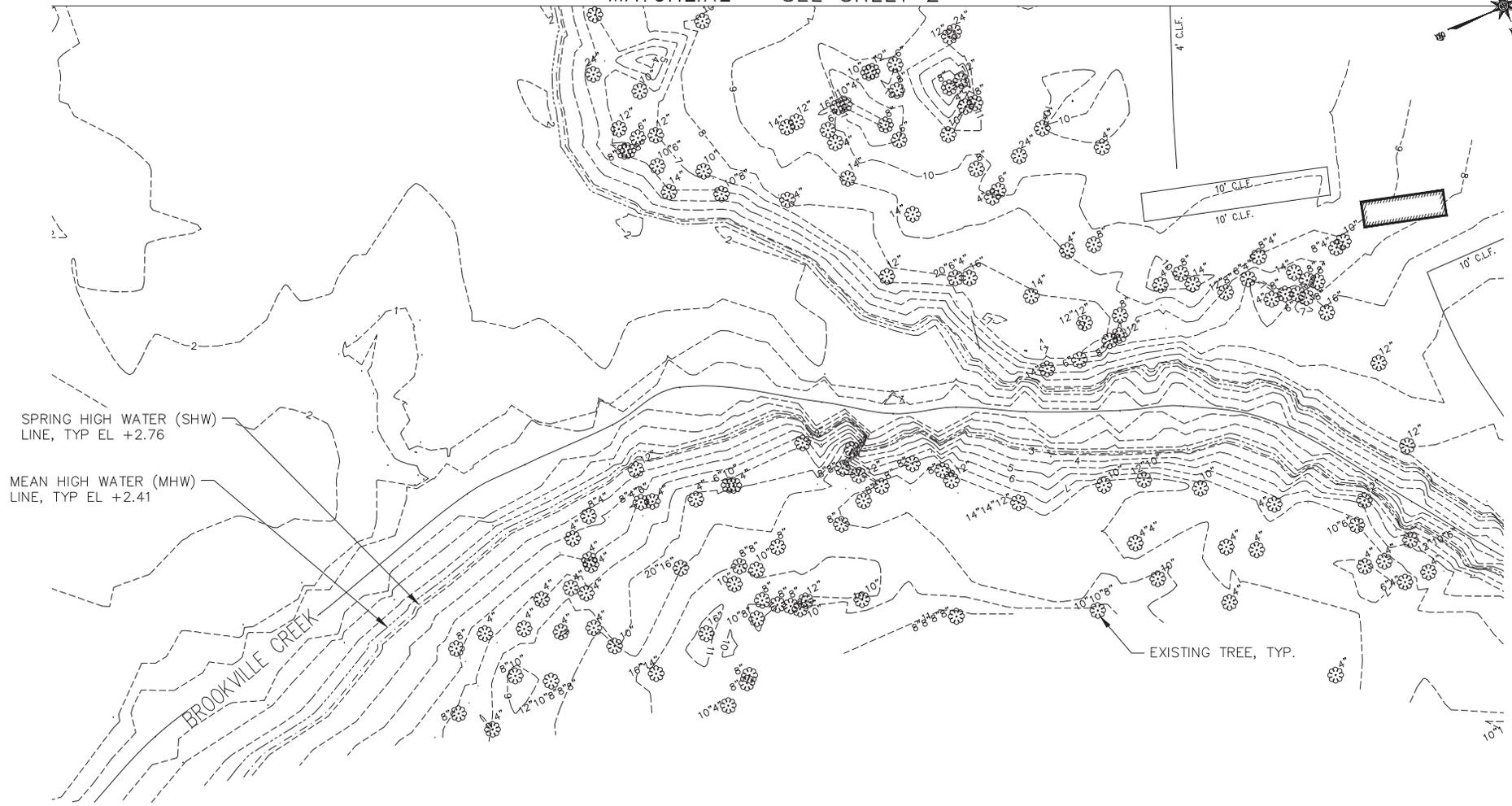
DATE: 3/7/2023

SHEET 2 OF 14



USACE FILE: NAN-2022-00237-EBR

MATCHLINE - SEE SHEET 2



PLAN

SCALE: 1" = 60'

LEGEND

- SPRING HIGH WATER (SHW)
- MEAN HIGH WATER (MHW)
- EXISTING TREE

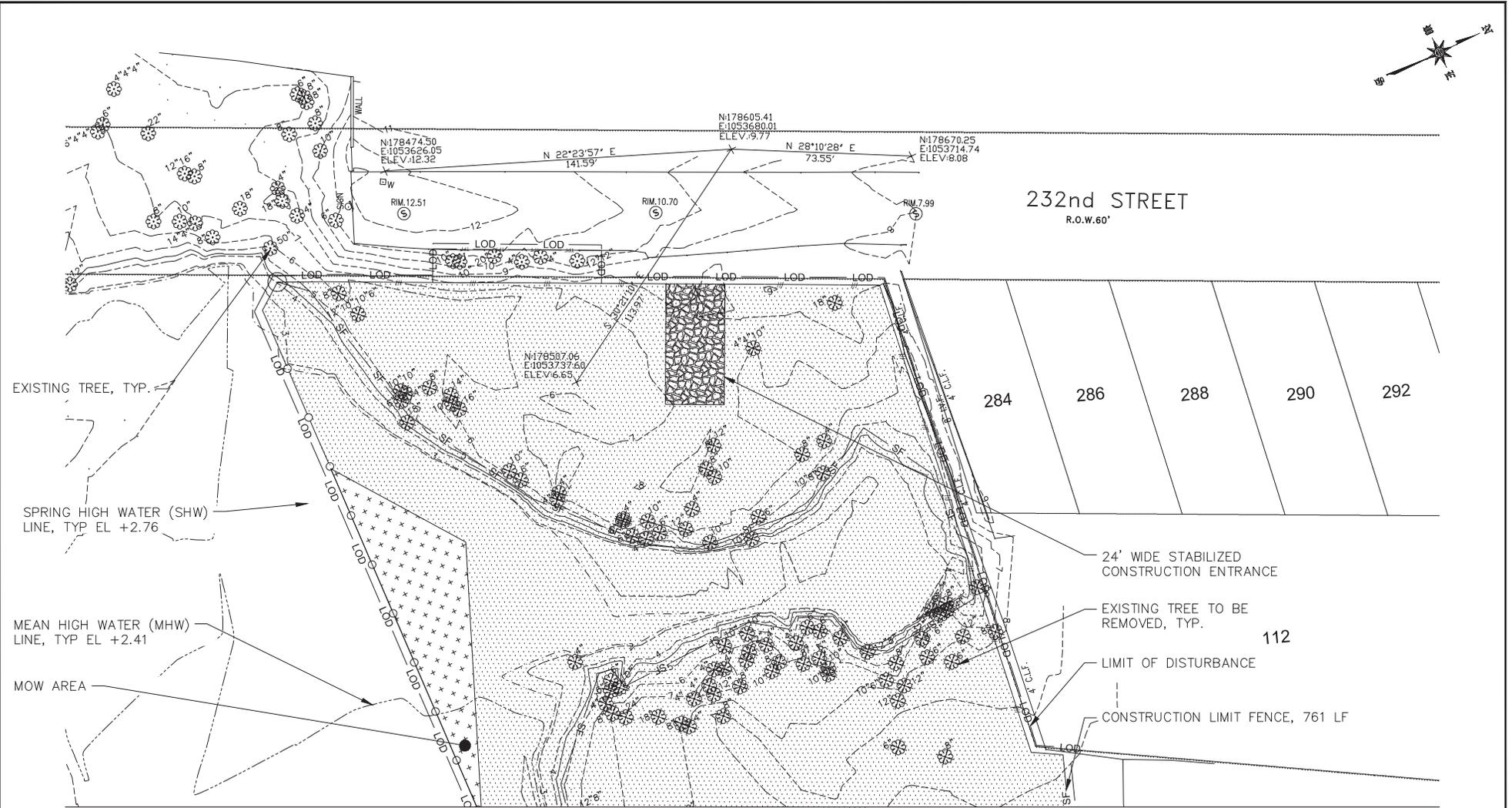
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 BROOKVILLE CREEK, BOROUGH & COUNTY OF QUEENS, NEW YORK

EXISTING CONDITIONS
 2 OF 2

DATE: 3/7/2023

SHEET 3 OF 14





PLAN

SCALE: 1" = 60'

LEGEND

- LOD — LOD — LIMIT OF DISTURBANCE
- ○ — ○ — CONSTRUCTION LIMIT FENCE
- ○ — ○ — TURBIDITY CURTAIN
- --- --- SPRING HIGH WATER (SHW)
- --- --- MEAN HIGH WATER (MHW)
- # — # — WILDLIFE EXCLUSION FENCE
- SF — SF — TEMPORARY SILT AND WILDLIFE EXCLUSION FENCE
-  STABILIZED CONSTRUCTION ENTRANCE
-  CLEAR AND GRUB
-  MOW
-  EXISTING TREE
-  EXISTING TREE TO BE REMOVED

MATCHLINE - SEE SHEET 5



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 BROOKVILLE CREEK, BOROUGH & COUNTY OF QUEENS, NEW YORK

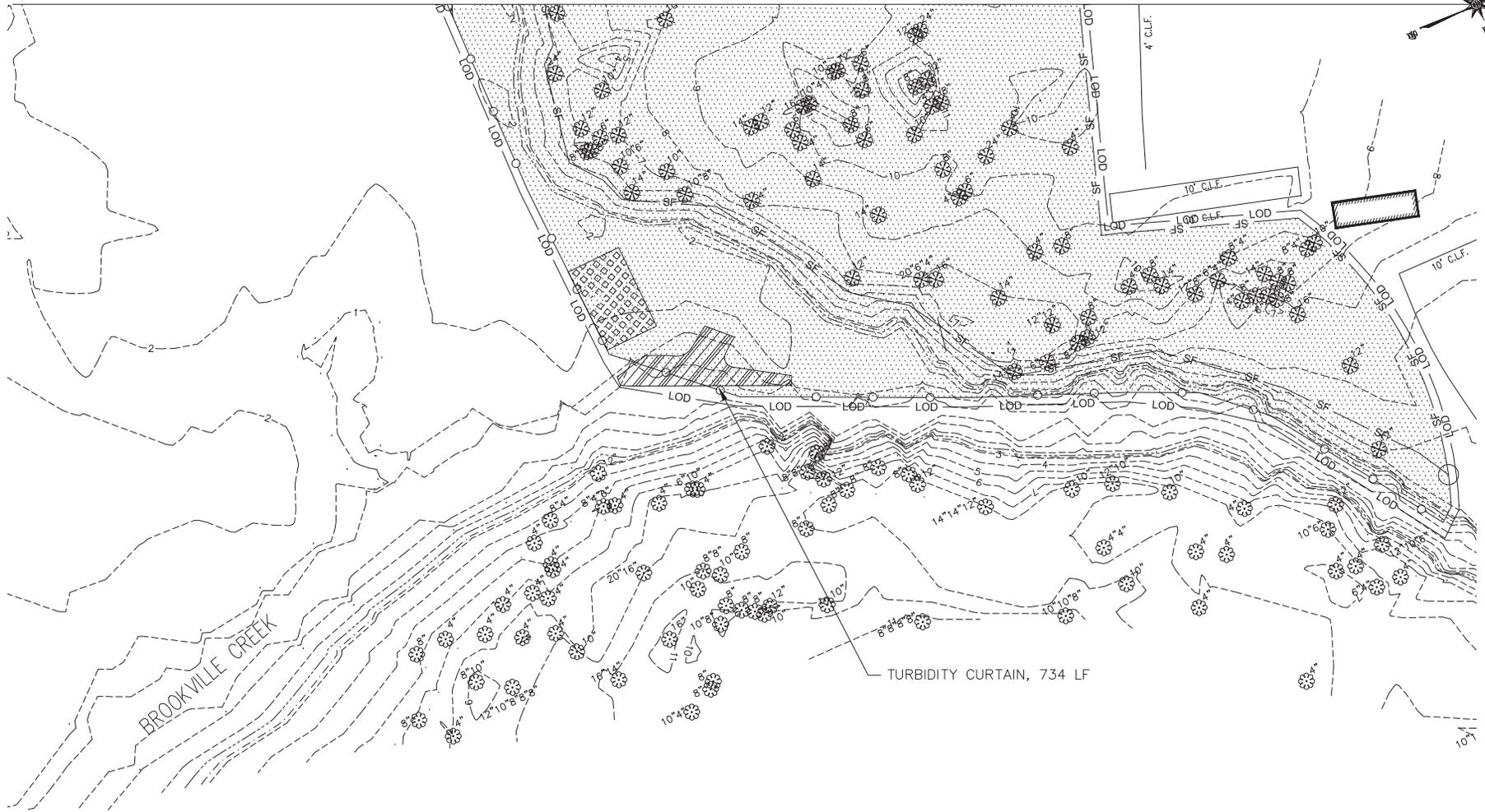
EROSION AND SEDIMENT CONTROL PLAN 1 OF 2

DATE: 3/7/2023

SHEET 4 OF 14

USACE FILE: NAN-2022-00237-EBR

MATCHLINE - SEE SHEET 4



PLAN

SCALE: 1" = 60'

LEGEND

	LOD	LOD	LIMIT OF DISTURBANCE		STABILIZED CONSTRUCTION ENTRANCE
			CONSTRUCTION LIMIT FENCE		CLEAR AND GRUB
			TURBIDITY CURTAIN		MOW
			SPRING HIGH WATER (SHW)		EXISTING TREE
			MEAN HIGH WATER (MHW)		EXISTING TREE TO BE REMOVED
			WILDLIFE EXCLUSION FENCE		
	SF	SF	TEMPORARY SILT AND WILDLIFE EXCLUSION FENCE		

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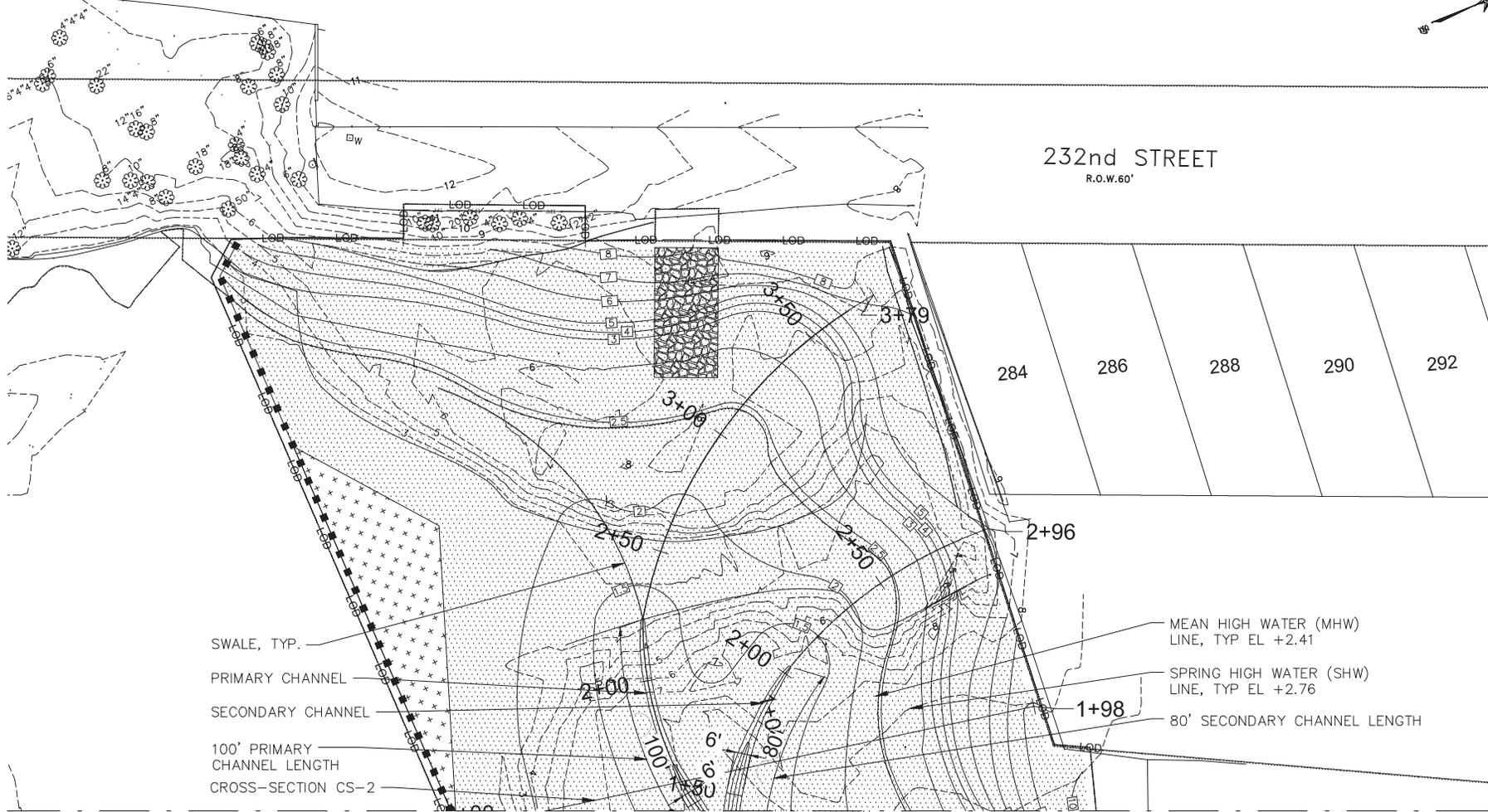
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BROOKVILLE CREEK, BOROUGH & COUNTY OF QUEENS, NEW YORK

EROSION AND SEDIMENT CONTROL PLAN
2 OF 2

DATE: 3/7/2023

SHEET 5 OF 14

USACE FILE: NAN-2022-00237-EBR



SWALE, TYP.
 PRIMARY CHANNEL
 SECONDARY CHANNEL
 100' PRIMARY CHANNEL LENGTH
 CROSS-SECTION CS-2

MEAN HIGH WATER (MHW) LINE, TYP EL +2.41
 SPRING HIGH WATER (SHW) LINE, TYP EL +2.76
 80' SECONDARY CHANNEL LENGTH

MATCHLINE - SEE SHEET 7

PLAN

SCALE: 1" = 60'

LEGEND

— LOD —	LIMIT OF DISTURBANCE
- - - - -	SPRING HIGH WATER (SHW)
- - - - -	MEAN HIGH WATER (MHW)
· · · · ·	SWALE
□ - - - - □	DEBRIS EXCLUSION FENCE

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FINAL SITE PLAN
 1 OF 2

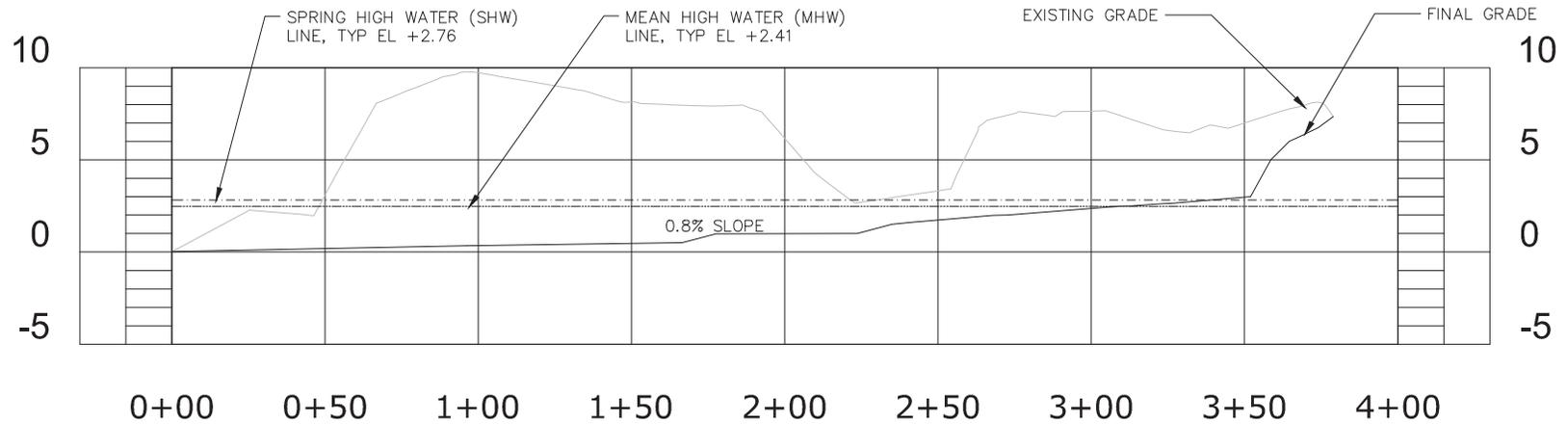
DATE: 3/7/2023

SHEET 6 OF 14



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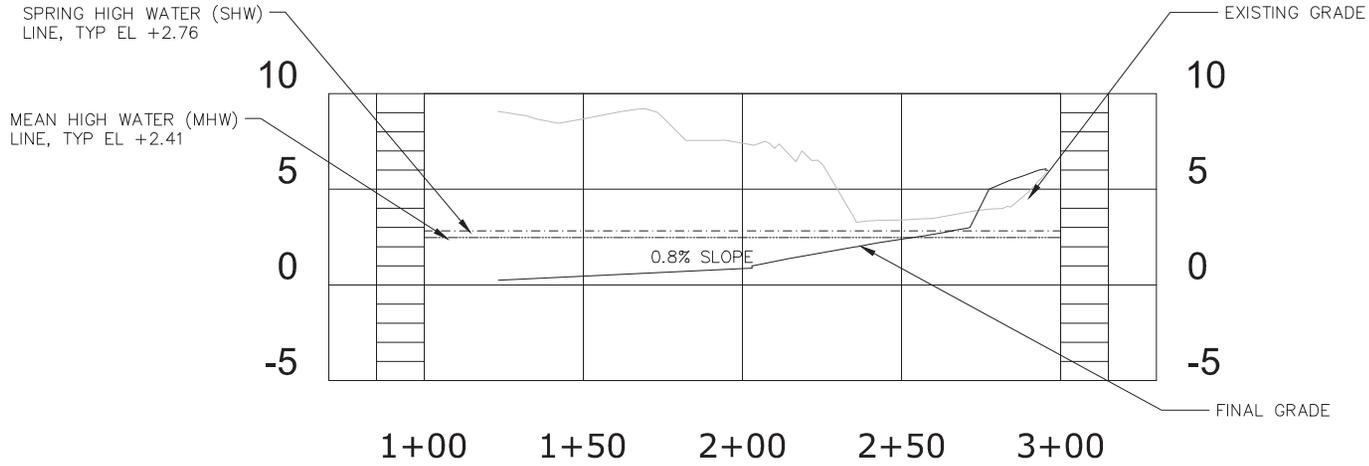
PRIMARY CHANNEL PROFILE

VERTICAL SCALE: 1" = 10'
 HORIZONTAL SCALE: 1" = 60'



PROJECT ID: SE-842A1 FOR CONSTRUCTION OF STORM SEWER AND APPURTENANCES IN IDLEWILD PARK, ETC. NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION BROOKVILLE CREEK, BOROUGH & COUNTY OF QUEENS, NEW YORK	
PROFILES 1 OF 2	
DATE: 3/7/2023	SHEET 8 OF 14

USACE FILE: NAN-2022-00237-EBR



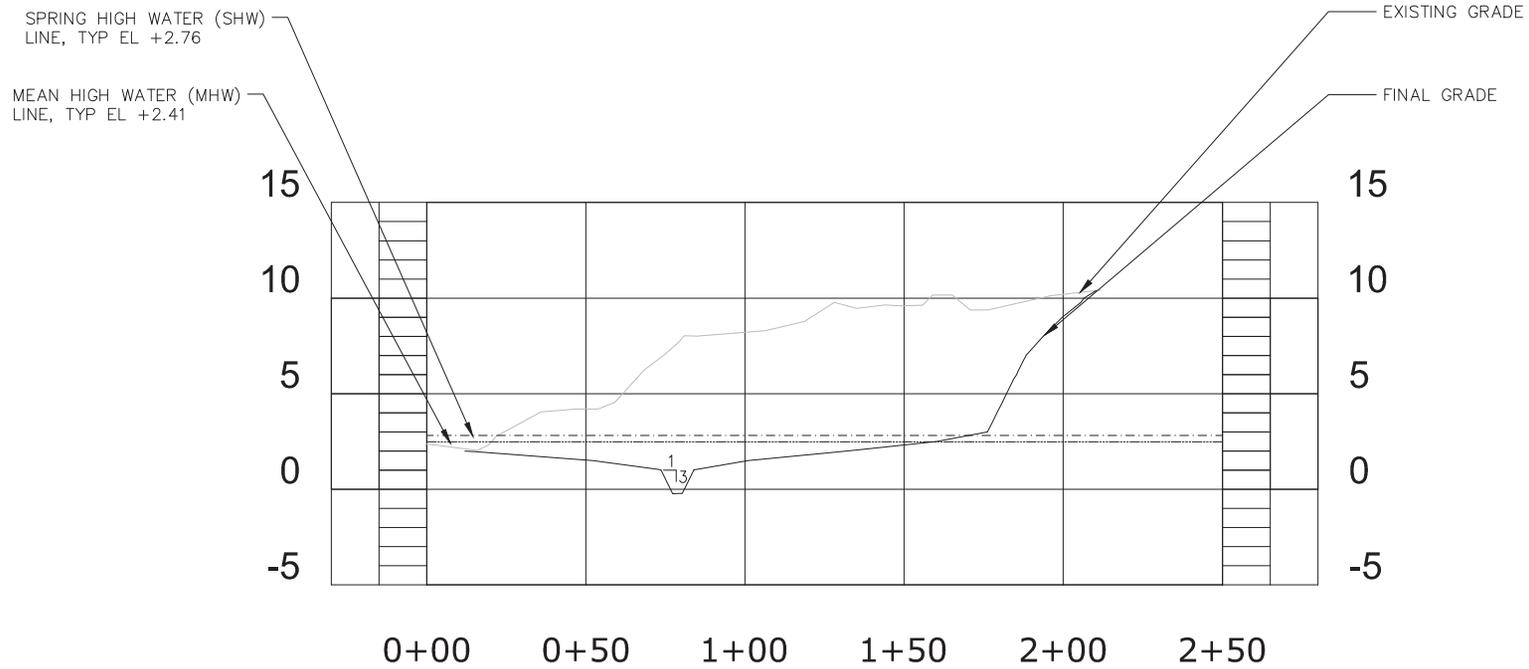
SECONDARY CHANNEL PROFILE

VERTICAL SCALE: 1" = 10'
 HORIZONTAL SCALE: 1" = 60'



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PROFILES 2 OF 2	
DATE: 3/7/2023	SHEET 9 OF 14

USACE FILE: NAN-2022-00237-EBR



CS-1

VERTICAL SCALE: 1" = 10'
HORIZONTAL SCALE: 1" = 60'

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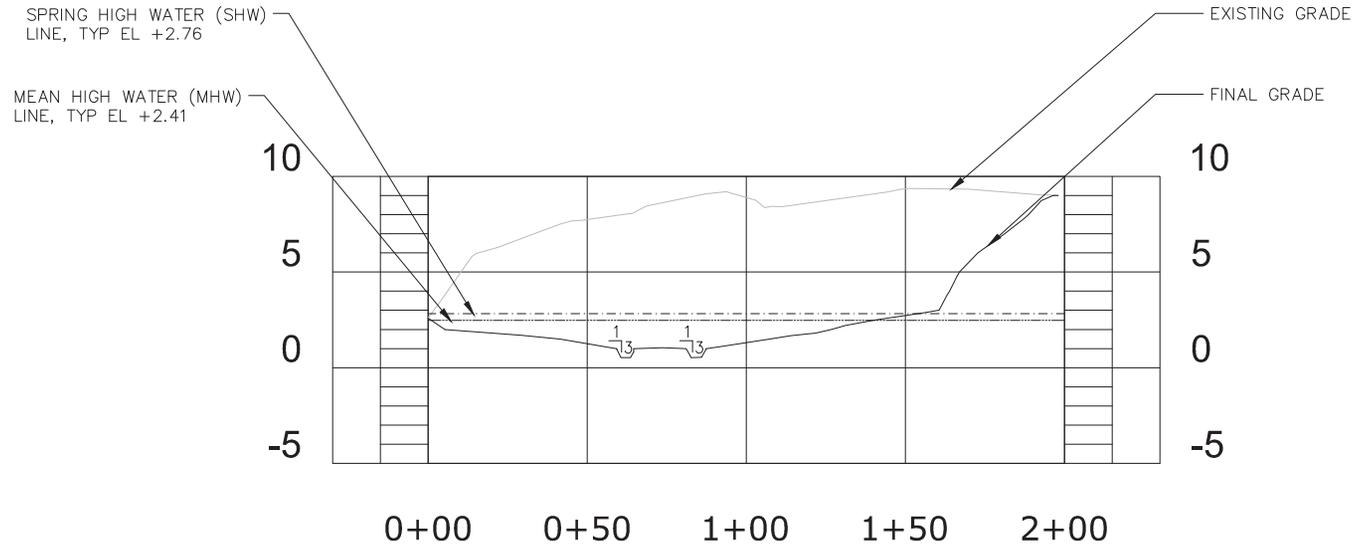
CROSS-SECTIONS
1 OF 2

DATE: 3/7/2023

SHEET 10 OF 14



USACE FILE: NAN-2022-00237-EBR



CS-2

VERTICAL SCALE: 1" = 10'
HORIZONTAL SCALE: 1" = 60'

PROJECT ID: SE-842A1
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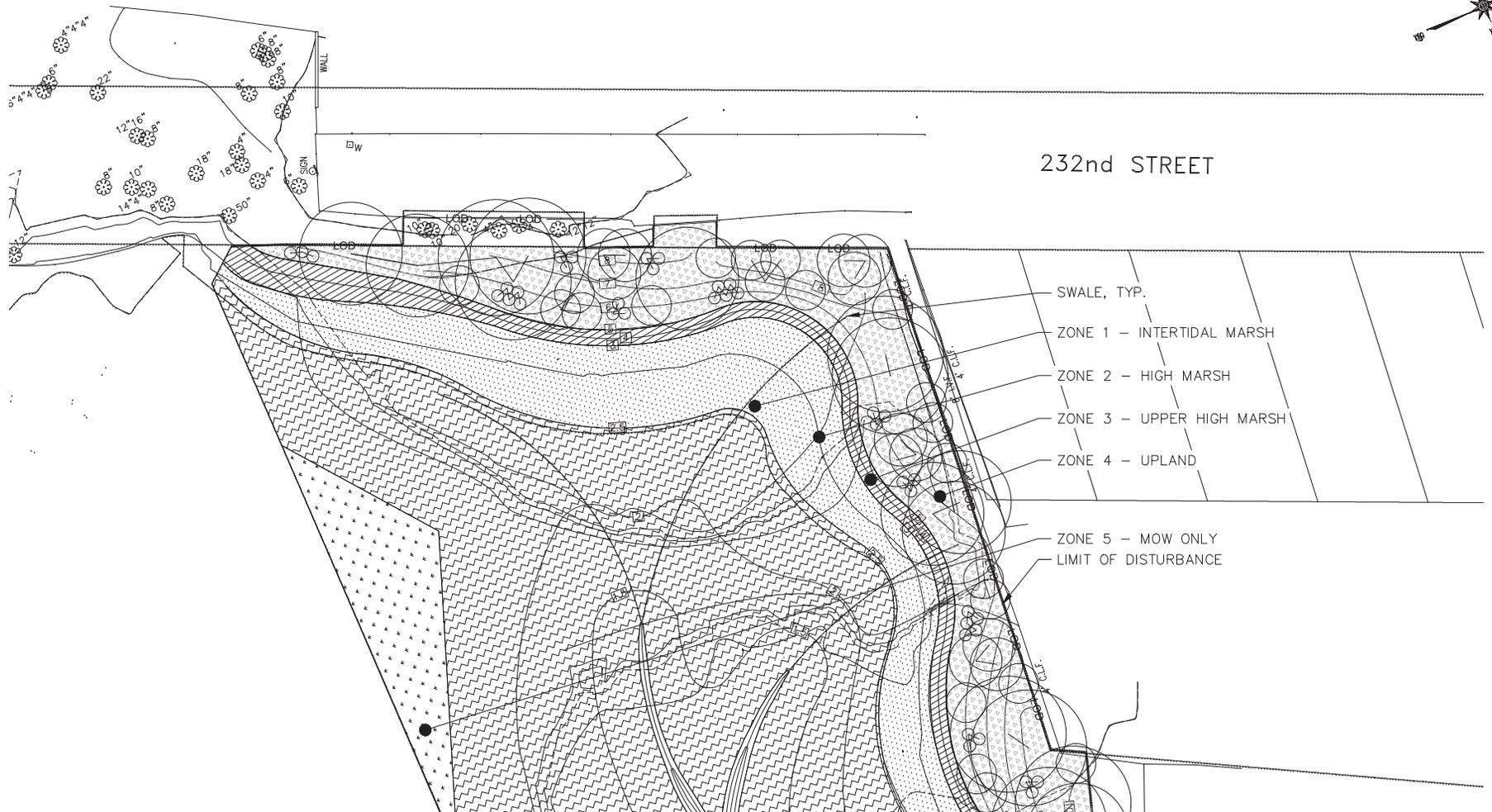
CROSS-SECTIONS
2 OF 2

DATE: 3/7/2023

SHEET 11 OF 14



USACE FILE: NAN-2022-00237-EBR



232nd STREET

- SWALE, TYP.
- ZONE 1 - INTERTIDAL MARSH
- ZONE 2 - HIGH MARSH
- ZONE 3 - UPPER HIGH MARSH
- ZONE 4 - UPLAND
- ZONE 5 - MOW ONLY
- LIMIT OF DISTURBANCE

PLAN

SCALE: 1" = 60'

LEGEND

- LOD —
-
-
-

- LIMIT OF DISTURBANCE
- SPRING HIGH WATER (SHW)
- MEAN HIGH WATER (MHW)
- SWALE

-
-
-
-
-

- ZONE 1 - INTERTIDAL MARSH
AREA: 55,840 SF
PLANTING MEDIUM VOLUME: 2,070 CY
- ZONE 2 - HIGH MARSH
AREA: 11,530 SF
PLANTING MEDIUM VOLUME: 430 CY
- ZONE 3 - UPPER HIGH MARSH
AREA: 5,145 SF
PLANTING MEDIUM VOLUME: 190 CY
- ZONE 4 - UPLAND
AREA: 17,220 SF
PLANTING MEDIUM VOLUME: 640 CY
- ZONE 5 - MOW ONLY
AREA: 3,550 SF
PLANTING MEDIUM VOLUME: 0 CY

MATCHLINE - SEE SHEET 13



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PROJECT ID: SE-842A1
FOR CONSTRUCTION OF STORM SEWER AND APPURTENANCES IN IDLEWILD PARK, ETC.
NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
BROOKVILLE CREEK, BOROUGH & COUNTY OF QUEENS, NEW YORK

PLANTING PLAN
1 OF 3

DATE: 3/7/2023

SHEET 12 OF 14

USACE FILE: NAN-2022-00237-EBR

MATCHLINE – SEE SHEET 13



PLAN

SCALE: 1" = 60'

LEGEND



— LOD — LIMIT OF DISTURBANCE
 - - - SHW SPRING HIGH WATER (SHW)
 - · - · MHW MEAN HIGH WATER (MHW)
 ····· SWALE



ZONE 1 – INTERTIDAL MARSH
 AREA: 55,840 SF
 PLANTING MEDIUM VOLUME: 2,070 CY



ZONE 2 – HIGH MARSH
 AREA: 11,530 SF
 PLANTING MEDIUM VOLUME: 430 CY



ZONE 3 – UPPER HIGH MARSH
 AREA: 5,145 SF
 PLANTING MEDIUM VOLUME: 190 CY



ZONE 4 – UPLAND
 AREA: 17,220 SF
 PLANTING MEDIUM VOLUME: 640 CY



ZONE 5 – MOW ONLY
 AREA: 3,550 SF
 PLANTING MEDIUM VOLUME: 0 CY

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PLANTING SCHEDULE

ZONE 1 - PLANTING SCHEDULE - INTERTIDAL MARSH (PLANTING AREA: 53,725 SF / 1.23 AC)

55732

QTY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	FORM	SPACING	REMARKS
Herbaceous Plants							
27,500	SA	<i>Spartina alterniflora</i>	smooth cordgrass	2"	plug	Alternating rows 1.5' O.C.	Plant between elev. 1.0 and 2.5

ZONE 2 - PLANTING SCHEDULE - HIGH MARSH (PLANTING AREA: 13,460 SF / 0.31 AC)

QTY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	FORM	SPACING	REMARKS
Herbaceous Plants							
3,450	DS	<i>Distichlis spicata</i>	spikegrass	2"	plug	Alternating rows 1.5' O.C.	Plant between elev. 2.5 and 3.0
3,450	SP	<i>Spartina patens</i>	saltmeadow cordgrass	2"	plug	Alternating rows 1.5' O.C.	Plant between elev. 2.5 and 3.0

ZONE 3 - PLANTING SCHEDULE - UPPER HIGH MARSH (PLANTING AREA: 5,145 SF / 0.12 AC)

QTY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	FORM	SPACING	REMARKS
Herbaceous Plants							
400	DS	<i>Distichlis spicata</i>	spikegrass	2"	plug	Naturalistic clusters of 3 to 5 alternating rows 1.5' O.C.	Plant between elev. 3.0 and 5.0
400	JG	<i>Juncus gerardii</i>	saltmarsh rush	2"	plug	Naturalistic clusters of 3 to 5 alternating rows 1.5' O.C.	Plant between elev. 3.0 and 5.0
400	SCP	<i>Schoenoplectus pungens</i>	common threesquare	2"	plug	Naturalistic clusters of 3 to 5 alternating rows 1.5' O.C.	Plant between elev. 3.0 and 5.0
400	SR	<i>Schoenoplectus robustus</i>	salt-marsh bulrush	2"	plug	Naturalistic clusters of 3 to 5 alternating rows 1.5' O.C.	Plant between elev. 3.0 and 5.0
400	SS	<i>Solidago sempivirens</i>	seaside goldenrod	2"	plug	Naturalistic clusters of 3 to 5 alternating rows 1.5' O.C.	Plant between elev. 3.0 and 5.0
400	SC	<i>Spartina cynosuroides</i>	big cordgrass	2"	plug	Naturalistic clusters of 3 to 5 alternating rows 1.5' O.C.	Plant between elev. 3.0 and 5.0
400	SP	<i>Spartina patens</i>	saltmeadow cordgrass	2"	plug	Naturalistic clusters of 3 to 5 alternating rows 1.5' O.C.	Plant between elev. 3.0 and 5.0

ZONE 4 - PLANTING SCHEDULE - UPLAND (PLANTING AREA: 17,440 SF / 0.40 AC)

QTY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	FORM	SPACING	REMARKS
Herbaceous Plants							
100	AS	<i>Asclepias syriaca</i>	common milkweed	2"	plug	Naturalistic clusters of 3 to 5 alternating rows 2.5 O.C.	
300	CP	<i>Carex pensylvanica</i>	Pennsylvania sedge	2"	plug	Naturalistic clusters of 3 to 5 alternating rows 2.5 O.C.	
300	DM	<i>Dryopteris marginalis</i>	wood fern	#sp4	cont.	Naturalistic clusters of 3 to 5 alternating rows 2.5 O.C.	
100	EP	<i>Eutrochium purpureum</i>	purple Joe-Pye-weed	2"	plug	Naturalistic clusters of 3 to 5 alternating rows 2.5 O.C.	
100	ED	<i>Eurybia divaricata</i>	white wood aster	2"	plug	Naturalistic clusters of 3 to 5 alternating rows 2.5 O.C.	
300	SCZ	<i>Schizachyrium scoparium</i>	little bluestem	2"	plug	Naturalistic clusters of 3 to 5 alternating rows 2.5 O.C.	
200	SS	<i>Solidago sempivirens</i>	seaside goldenrod	2"	plug	Naturalistic clusters of 3 to 5 alternating rows 2.5 O.C.	
200	SN	<i>Sorghastrum nutans</i>	indian grass	2"	plug	Naturalistic clusters of 3 to 5 alternating rows 2.5 O.C.	
Shrubs							
43	PM	<i>Prunus maritima</i>	beach plum	#5	cont.	As shown	Multistem (minimum 4 canes)
39	RS	<i>Rosa carolina</i>	pasture rose	#5	cont.	As shown	Multistem (minimum 4 canes)
Understory Trees							
23	AC	<i>Amelanchier canadensis</i>	serviceberry	1.0" CAL.	cont.	As shown	
13	IO	<i>Ilex opaca</i>	American holly	1.0" CAL.	cont.	As shown	
Canopy Trees							
15	JV	<i>Juniper virginiana</i>	eastern red cedar	2.5-3.0" CAL.	B&B	As shown	
13	LS	<i>Liquidambar styraciflua</i>	sweetgum	2.5-3.0" CAL.	B&B	As shown	
10	QV	<i>Quercus velutina</i>	black oak	2.5-3.0" CAL.	B&B	As shown	

ZONE 4 - SEEDING SCHEDULE - UPLAND (SEEDING AREA = 17,440 SF / 0.40 AC)

BOTANICAL NAME	COMMON NAME	PERCENTAGE
<i>Asclepias tuberosa</i>	butterfly weed	10
<i>Sorghastrum nutans</i>	indian grass	10
<i>Sporobolus cryptandrus</i>	sand dropseed	10
<i>Ageratina altissima</i>	white snakeroot	5
<i>Andropogon gerardii</i>	big bluestem	5
<i>Andropogon virginicus</i>	broomsedge	5
<i>Baptisia tinctoria</i>	wild indigo	5
<i>Eurybia divaricata</i>	white wood aster	5
<i>Eragrostis spectabilis</i>	purple lovegrass	5
<i>Euthamia graminifolia</i>	grassleaved goldenrod	5
<i>Eutrochium purpureum</i>	purple Joe-Pye-weed	5
<i>Mnarda fistulosa</i>	wild bergamot	5
<i>Schizachyrium scoparium</i>	little bluestem	5
<i>Symphoricarpos laevis</i>	smooth aster	5
<i>Trandescantia virginiana</i>	Virginia spiderwort	5
<i>Rubicecia hirta</i>	black-eyed susan	3
<i>Solidago serotina</i>	early goldenrod	3
<i>Panicum virgatum</i>	switchgrass	2
<i>Solidago rugosa</i>	wrinkled-leaf goldenrod	2

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