Connecticut Department of Energy and Environmental Protection License*

Structures, Dredging & Fill and Tidal Wetlands Permit
Section 401 Water Quality Certification

Licensee(s):	Town of Greenwich
Licensee Address(s):	101 Field Point Road Greenwich, CT 06830
License Number(s):	202202266-SDFTWQ
Municipality:	Greenwich
Project Description:	Reconstruct bridge over Binney Park Brook
Project Address/Location:	Wesskum Wood Road over Binney Park Brook
Waters:	Binney Park Brook
Authorizing CT Statute(s) and/or Federal Law:	CGS Section 22a-28 to 35; CGS Section 22a-359 to 363g; CGS Section 22a-90 to 112; Section 401 CWA (33 USC 1341)
Applicable Regulations of CT State Agencies:	22a-426-1 to 9
Agency Contact:	Land & Water Resources Division, Bureau of Water Protection & Land Reuse, 860-424-3019
License Expiration:	Five (5) years from the date of issuance of this license.
Project Site Plan Set:	*A location map and 15 sheets of plans prepared by Stantec Consulting Services, Inc. dated June 24, 2022*
License Enclosures:	LWRD General Conditions; Site Plan Set; Tidal Wetland Mitigation Plan; Land Record Filing; LWRD Work Commencement Form; LWRD Compliance Certification Form

Authorized Activities:

The Licensee is hereby authorized to conduct the following work as described in application # 202202266-SDFTWQ and as depicted on any site plan sheets / sets cited herein:

1. Install (2) temporary 42" RCP culverts and 2 sandbag coffer dams.

*Connecticut's Uniform Administrative Procedure Act defines License to include, "*the whole or part of any agency permit, certificate, approval, registration, charter or similar form of permission required by law . . .*"

2. Remove a 24.2' wide by approximately 32' long section of a 2-lane bridge over Binney Park Brook.
3. Install (2) temporary sheet pile cofferdams around the bridge abutments.
4. Remove the existing bridge abutments.
5. Construct 2 new foundation abutments 18' apart, wingwall footings, and wingwall stems.
6. Install a new 36.1' wide bridge span over Binney Park Brook.
7. Install approximately 22 cubic yards of boulder scour protection adjacent to the bridge abutments in 4 locations.
8. Excavate and grade an approximately 284 SF area adjacent to the Brook and plant freshwater tidal wetlands species to mitigate permanent tidal wetlands losses in accordance with Terms and Conditions, paragraph 3, below and the planting plan on Sheet No. 9, attached hereto.

Failure to comply with the terms and conditions of this license shall subject the Licensee and / or the Licensee's contractor(s) to enforcement actions and penalties as provided by law.

This license is subject to the following Terms and Conditions:

1. **License Enclosure(s) and Conditions.** The Licensee shall comply with all applicable terms and conditions as may be stipulated within the License Enclosure(s) listed above.
2. **Construction Sequencing.** Removal of the existing structure and construction of the new bridge shall proceed in accordance with the project construction phasing and sequence described on sheet No. 11 of the plans attached hereto except as may be authorized by the Commissioner. Any changes to the project sequence shall be requested in writing for review and written approval by the Commissioner at least 60 days prior to the commencement of work.

3. **Tidal Wetlands Mitigation.** The Licensee shall conduct tidal wetlands mitigation, monitoring, and reporting activities in accordance with the Tidal Wetlands Mitigation Plan dated December 17, 2021, attached hereto. Monitoring reports including photographs and a narrative describing corrective actions taken shall be submitted to the Commissioner by no later than December 31st annually for three years beginning in the year following the completion of the plantings.

4. **Water Handling.** If final water handling varies from that shown on the plans approved herein, the Licensee shall submit, at least two weeks prior to the commencement of work and for the Commissioner's review and written approval, a final water handling plan.
5. **Containment System.** Prior to the commencement of work authorized herein, the Licensee shall install a containment system for debris collection. The Licensee shall maintain or modify, as needed, the containment system to ensure optimal operating condition until the authorized work has been completed.

Issued under the authority of the Commissioner of Energy and Environmental Protection on:

_____ _____

Date

Graham J. Stevens
Bureau Chief
Bureau of Water Protection & Land Reuse

LWRD General Conditions

1. **Land Record Filing (for *Structures Dredging & Fill*, *Tidal Wetlands*, *Certificate of Permission*, and *Long Island Sound General Permit* Licenses only).** The Licensee shall file the Land Record Filing on the land records of the municipality in which the subject property is located not later than thirty (30) days after license issuance pursuant to Connecticut General Statutes (CGS) Section 22a-363g. A copy of the Notice with a stamp or other such proof of filing with the municipality shall be submitted to DEEP.LWRDRegulatory@ct.gov no later than sixty (60) days after license issuance. If a Land Record Filing form is not enclosed and the work site is not associated with an upland property, no filing is required.

2. **Contractor Notification.** The Licensee shall give a copy of the license and its attachments to the contractor(s) who will be carrying out the authorized activities prior to the start of construction and shall receive a written receipt for such copy, signed and dated by such contractor(s). The Licensee's contractor(s) shall conduct all operations at the site in full compliance with the license and, to the extent provided by law, may be held liable for any violation of the terms and conditions of the license. At the work site, the contractor(s) shall, whenever work is being performed, have on site and make available for inspection a copy of the license and the authorized plans.

3. **Work Commencement[1].** Not later than two (2) weeks prior to the commencement of any work authorized herein, the Licensee shall submit to DEEP.LWRDRegulatory@ct.gov, on the Work Commencement Form attached hereto, the name(s) and address(es) of all contractor(s) employed to conduct such work and the expected date for commencement and completion of such work, if any.
   - For water diversion activities authorized pursuant to 22a-377(c)-1 of the Regulations of Connecticut State Agencies, the Licensee shall also notify the Commissioner in writing two weeks prior to initiating the authorized diversion.
   - For emergency activities authorized pursuant Connecticut General Statutes Section 22a-6k, the Licensee shall notify the Commissioner, in writing, of activity commencement at least one (1) day prior to construction and of activity completion no later than five (5) days after conclusion.

4. **For Coastal Licenses Only - License Notice.** The Licensee shall post the first page of the License in a conspicuous place at the work area while the work authorized therein is undertaken.

5. **Unauthorized Activities.** Except as specifically authorized, no equipment or material, including but not limited to, fill, construction materials, excavated material or debris, shall be

[1] The Work Commencement condition and the need for a Work Commencement Form is not applicable to Flood Management Certification approvals.

deposited, placed or stored in any wetland or watercourse on or off-site. The Licensee may not conduct work within wetlands or watercourses other than as specifically authorized, unless otherwise authorized in writing by the Commissioner. Tidal wetlands means "wetland" as defined by section 22a-29 and "freshwater wetlands and watercourses" means "wetlands" and "watercourses" as defined by section 22a-38.

6. **Management of Materials.** Any materials removed from the site shall be managed in accordance with all federal, state, and local requirements, including Chapter 446K Water Pollution Control, Chapter 445 Hazardous Waste, and Chapter 446d Solid Waste of the Connecticut General Statutes.

7. **Unconfined Instream Work.** Unless otherwise noted in a condition of the license, the following conditions apply to projects in non-coastal waters:
   - Unconfined instream work is limited to the period June 1 through September 30.
   - Confinement of a work area by cofferdam techniques using sand bag placement, sheet pile installation (vibratory method only), portadam, or similar confinement devices is allowed any time of the year. The removal of such confinement devices is allowed any time of the year.
   - Once a work area has been confined, in-water work within the confined area is allowed any time of the year.
   - The confinement technique used shall completely isolate and protect the confined area from all flowing water. The use of silt boom/curtain or similar technique as a means for confinement is prohibited.

8. **For State Actions Only - Material or Equipment Storage in the Floodplain.** Unless approved by a Flood Management Exemption, the storage of any materials at the site which are buoyant, hazardous, flammable, explosive, soluble, expansive, radioactive, or which could in the event of a flood be injurious to human, animal or plant life, below the elevation of the five-hundred (500) year flood is prohibited. Any other material or equipment stored at the site below said elevation by the Licensee or the Licensee's contractor must be firmly anchored, restrained or enclosed to prevent flotation. The quantity of fuel stored below such elevation for equipment used at the site shall not exceed the quantity of fuel that is expected to be used by such equipment in one day. In accordance with the licensee's Flood Contingency Plan, the Licensee shall remove equipment and materials from the floodplain during periods when flood warnings have been issued or are anticipated by a responsible federal, state or local agency. It shall be the Licensee's responsibility to obtain such warnings when flooding is anticipated.

9. **Temporary Hydraulic Facilities for Water Handling.** If not reviewed and approved as a part of the license application, temporary hydraulic facilities shall be designed by a qualified professional and in accordance with the *Connecticut Guidelines for Soil Erosion and Sediment Control*, the *2004 Connecticut Stormwater Quality Manual*, or the *Department of Transportation's ConnDOT Drainage Manual,* as applicable. Temporary hydraulic facilities may include channels, culverts or bridges which are required for haul roads, channel relocations, culvert installations, bridge construction, temporary roads, or detours.

10. **Excavated Materials.** Unless otherwise authorized, all excavated material shall be staged and managed in a manner which prevents additional impacts to wetlands and watercourses.

11. **Best Management Practices.** The Licensee shall not cause or allow pollution of any wetlands or watercourses, including pollution resulting from sedimentation and erosion. In constructing or maintaining any authorized structure or facility or conducting any authorized activity, or in removing any such structure or facility, the Licensee shall employ best management practices to control storm water discharges, to prevent erosion and sedimentation, and to otherwise prevent pollution of wetlands and other waters of the State. For purposes of the license, "pollution" means "pollution" as that term is defined by CGS section 22a-423. Best Management Practices include, but are not limited, to practices identified in the *Connecticut Guidelines for Soil Erosion and Sediment Control* as revised, *2004 Connecticut Stormwater Quality Manual*, Department of Transportation's *ConnDOT Drainage Manual* as revised, and the Department of Transportation Standard Specifications as revised.

12. **In-Water Work Vessel Staging and Storage. (for Structures Dredging & Fill, Tidal *Wetlands*, *Certificate of Permission*, and *Long Island Sound General Permit* Licenses only).** For any barge, vessel, skiff or floating work platform ("work vessels") utilized in the execution of the work authorized herein, the Licensee shall ensure that such work vessels:
    - do not rest on, or come in contact with, the substrate at any time, unless specifically authorized in the license.
    - are not stored over intertidal flats, submerged aquatic vegetation or tidal wetland vegetation or in a location that interferes with navigation. In the event any work vessel is grounded, no dragging or prop dredging shall occur to free it.

13. **Work Site Restoration.** Upon completion of any authorized work, the Licensee shall restore all areas impacted by construction, or used as a staging area or accessway in connection with such work, to their condition prior to the commencement of such work.

14. **Inspection.** The Licensee shall allow any representative of the Commissioner to inspect the project location at reasonable times to ensure that work is being or has been conducted in accordance with the terms and conditions of this license.

15. **Change of Use. (Applies only if a use is specified within the License "*Project Description*")**
    a. The work specified in the license is authorized solely for the purpose set forth in the license. No change in purpose or use of the authorized work or facilities as set forth in the license may occur without the prior written approval of the Commissioner. The Licensee shall, prior to undertaking or allowing any change in use or purpose from that which is authorized by this license, request permission from the Commissioner for such change. Said request shall be in writing and shall describe the proposed change and the reason for the change.

    b. A change in the form of ownership of any structure authorized herein from a rental/lease commercial marina to a wholly-owned common interest community or dockominium may constitute a change in purpose as specified in paragraph (a) above.

16. **De Minimis Alteration.** The Licensee shall not deviate from the authorized activity without

prior written approval from the Commissioner. The Licensee may request a de minimis change to any authorized structure, facility, or activity. A de minimis alteration means a change in the authorized design, construction or operation that individually and cumulatively has minimal additional environmental impact and does not substantively alter the project as authorized.

- For diversion activities authorized pursuant to 22a-377(c)-2 of the Regulations of Connecticut State Agencies, a de minimis alteration means an alteration which does not significantly increase the quantity of water diverted or significantly change the capacity to divert water.

17. **Extension Request.** The Licensee may request an extension of the license expiration date. Such request shall be in writing and shall be submitted to DEEP.LWRDRegulatory@ct.gov at least thirty (30) days prior to the license expiration. Such request shall describe the work done to date, what work still needs to be completed, and the reason for such extension. The Commissioner may extend the expiration date of this license for a period of up to one year, in order for the Licensee to complete the authorized activities. It shall be at the Commissioner's sole discretion to grant or deny such request. No more than three (3) one-year extensions will be granted under this license.

18. **Compliance Certification.** Not later than 90 days after completion of the authorized work, the Licensee shall prepare and submit to DEEP.LWRDRegulatory@ct.gov, the attached Compliance Certification Form. Such Compliance Certification shall be completed, signed, and sealed by the Licensee and a Connecticut Licensed Design Professional. If non-compliance is indicated on the form, or the Commissioner has reason to believe the activities and/or structures were conducted in non-compliance with the license, the Commissioner may require the Licensee to submit as-built plans as a condition of this license.

19. **Maintenance.** The Licensee shall maintain all authorized structures or work in optimal condition or shall remove such structures or facility and restore the affected waters to their pre-work condition. Any such maintenance or removal activity shall be conducted in accordance with applicable law and any additional approvals required by law.

20. **No Work After License Expiration.** Work conducted after the license expiration date is a violation of the license and may subject the licensee to enforcement action, including penalties, as provided by law.

21. **License Transfer.** The license is not transferable without prior written authorization of the Commissioner. A request to transfer a license shall be submitted in writing and shall describe the proposed transfer and the reason for such transfer. The Licensee's obligations under the license shall not be affected by the passage of title to the license site to any other person or municipality until such time as a transfer is approved by the Commissioner.

22. **Document Submission.** Any document required to be submitted to the Commissioner under the license or any contact required to be made with the Commissioner shall, unless otherwise specified in writing by the Commissioner, be directed to:

    DEEP.LWRDRegulatory@ct.gov or

Regulatory Section
Land & Water Resources Division
Department of Energy and Environmental Protection
79 Elm Street
Hartford, Connecticut 06106-5127
860-424-3019

23. **Date of Document Submission.** The date of submission to the Commissioner of any document required by the license shall be the date such document is received by the Commissioner. The date of any notice by the Commissioner under the license, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is personally delivered or the date three (3) days after it is mailed by the Commissioner, whichever is earlier. Except as otherwise specified in the license, the word "day" as used in the license means calendar day. Any document or action which is required by the license to be submitted or performed by a date which falls on a Saturday, Sunday or a Connecticut or federal holiday shall be submitted or performed on or before the next day which is not a Saturday, Sunday, or a Connecticut or federal holiday.

24. **Certification of Documents.** Any document, including but not limited to any notice, which is required to be submitted to the Commissioner under the license shall be signed by the Licensee and by the individual or individuals responsible for actually preparing such document, each of whom shall certify in writing as follows: "I have personally examined and am familiar with the information submitted in this document and all attachments and certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief, and I understand that any false statement made in this document or its attachments may be punishable as a criminal offense."

25. **Accuracy of Documentation.** In evaluating the application for the license, the Commissioner has relied on information and data provided by the Licensee and on the Licensee's representations concerning site conditions, design specifications and the proposed work, including but not limited to representations concerning the commercial, public or private nature of the work or structures, the water-dependency of said work or structures, its availability for access by the general public, and the ownership of regulated structures or filled areas. If such information proves to be false, deceptive, incomplete or inaccurate, the license may be modified, suspended or revoked, and any unauthorized activities may be subject to enforcement action.

26. **Limits of Liability.** In granting the license, the Commissioner has relied on all representations of the Licensee, including information and data provided in support of the Licensee's application. Neither the Licensee's representations nor the issuance of the license shall constitute an assurance by the Commissioner as to the structural integrity, the engineering feasibility or the efficacy of such design.

27. **Reporting of Violations.** In the event that the Licensee becomes aware that they did not or may not comply, or did not or may not comply on time, with any provision of this license or of any document incorporated into the license, the Licensee shall immediately notify the

agency contact specified within the license and shall take all reasonable steps to ensure that any noncompliance or delay is avoided or, if unavoidable, is minimized to the greatest extent possible. In so notifying the agency contact, the Licensee shall provide, for the agency's review and written approval, a report including the following information:

a. the provision(s) of the license that has been violated;

b. the date and time the violation(s) was first observed and by whom;

c. the cause of the violation(s), if known;

d. if the violation(s) has ceased, the duration of the violation(s) and the exact date(s) and times(s) it was corrected;

e. if the violation(s) has not ceased, the anticipated date when it will be corrected;

f. steps taken and steps planned to prevent a reoccurrence of the violation(s) and the date(s) such steps were implemented or will be implemented; and

g. the signatures of the Licensee and of the individual(s) responsible for actually preparing such report.

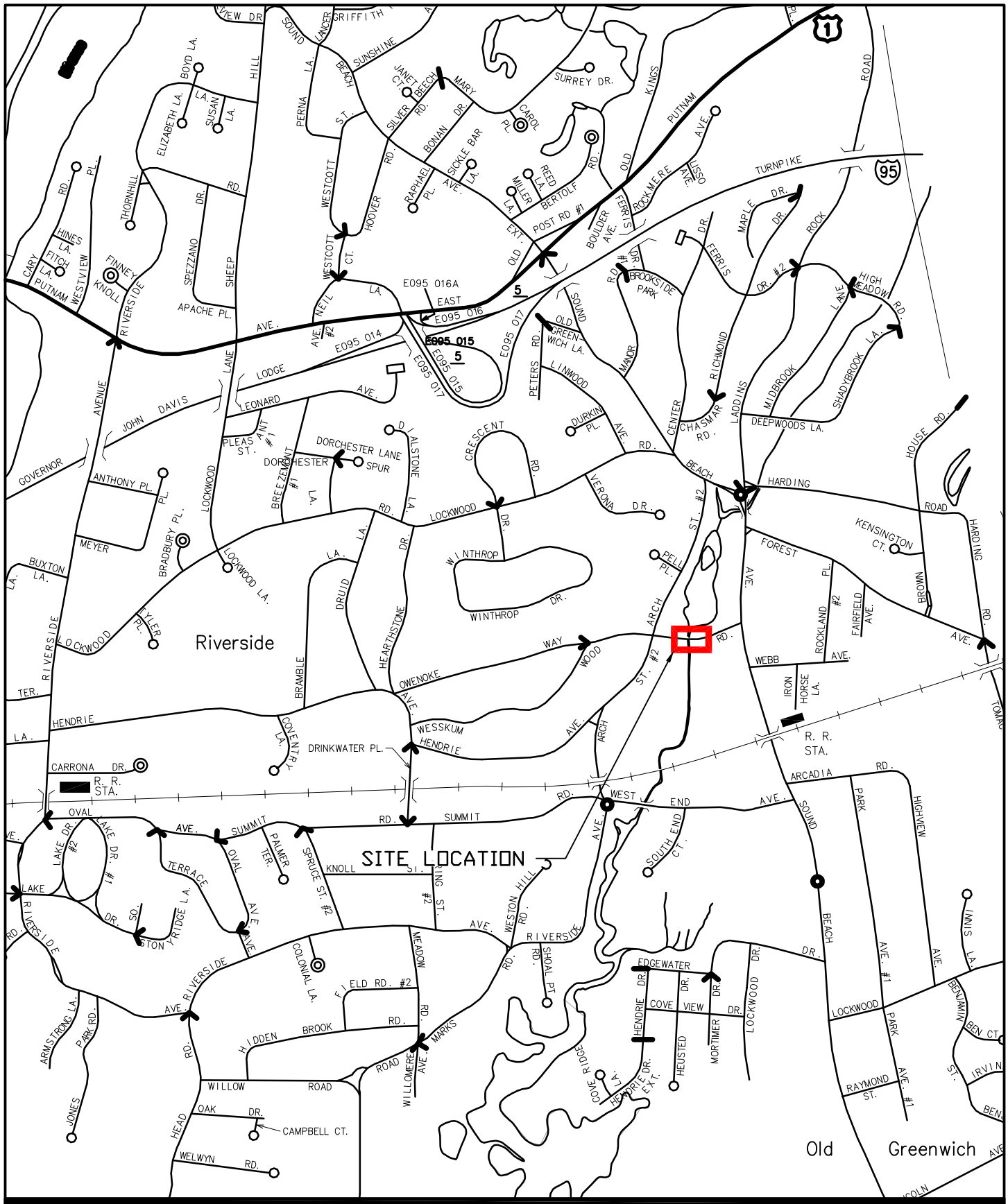
If the violation occurs outside of normal business hours, the Licensee shall contact the Department of Energy and Environmental Protection Emergency Dispatch at 860-424-3333. The Licensee shall comply with any dates which may be approved in writing by the Commissioner.

28. **Revocation/Suspension/Modification.** The license may be revoked, suspended, or modified in accordance with applicable law.

29. **Other Required Approvals.** License issuance does not relieve the Licensee of their obligations to obtain any other approvals required by applicable federal, state and local law.

30. **Rights.** The license is subject to and does not derogate any present or future property rights or powers of the State of Connecticut, and conveys no property rights in real estate or material nor any exclusive privileges, and is further subject to any and all public and private rights and to any federal, state or local laws or regulations pertinent to the property or activity affected hereby.

31. **Condition Conflicts.** In the case where a project specific special condition listed on the license differs from, or conflicts with, one of the general conditions listed herein, the project specific special condition language shall prevail. It is the licensee's responsibility to contact the agency contact person listed on the license for clarification if needed prior to conducting any further regulated activities.



Stantec

Stantec Consulting Services Inc.
55 Church Street Suite 601
New Haven CT 06510-3014
Tel: (203) 495-1645
www.stantec.com

Client/Project
TOWN OF GREENWICH

WESSKUM WOOD ROAD

Project No.
192311006

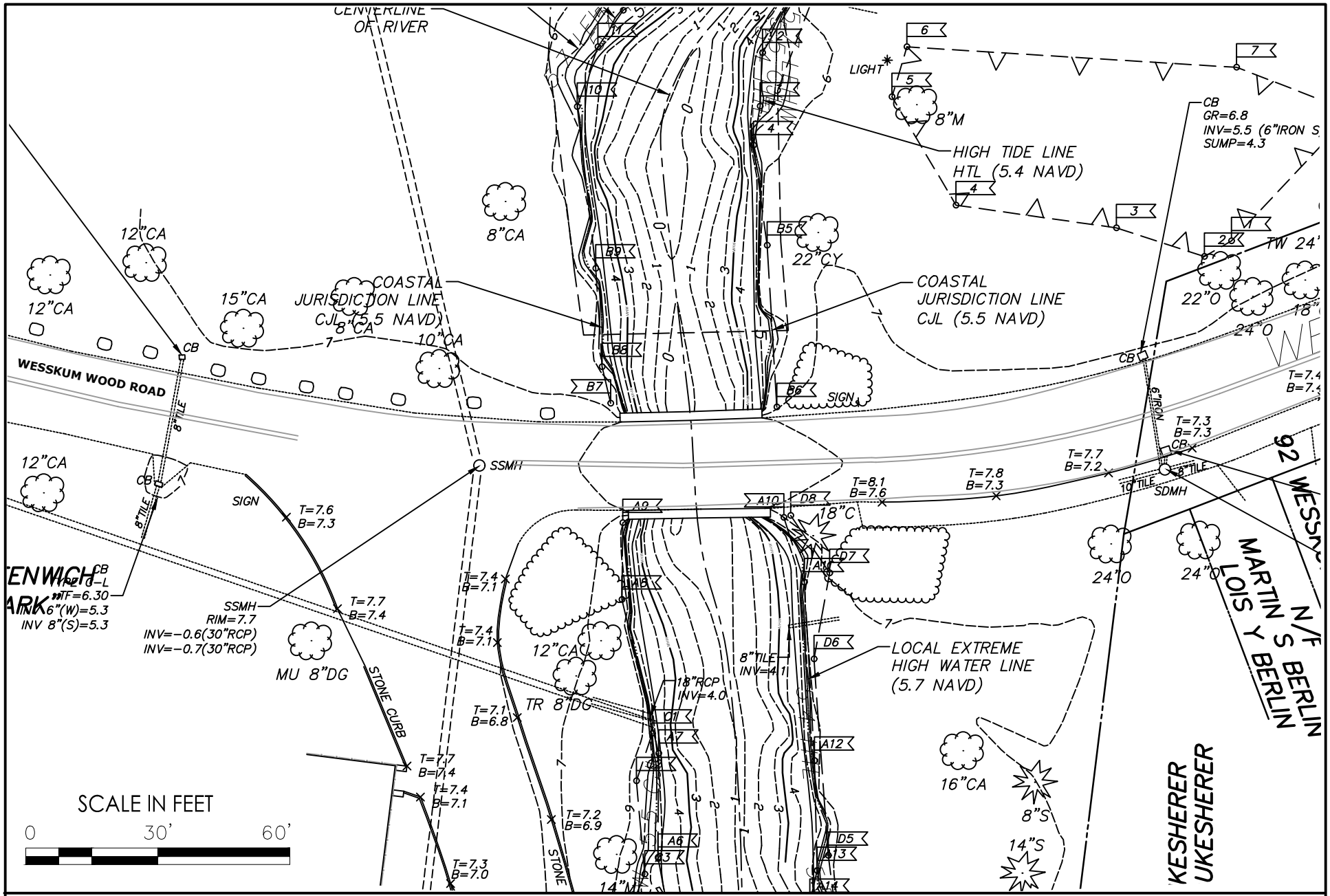
Title
SITE LOCATION

Revision

Date
2020.11.18

Reference Sheet

Figure No.



Stantec

Stantec Consulting Services Inc.
55 Church Street Suite 601
New Haven CT 06510-3014
Tel: (203) 495-1645
www.stantec.com

Notes

EXISTING HYDRAULIC INFORMATION

DESCRIPTION	LINE TYPE	ELEVATION
LOCAL EXTREME HIGH WATER		5.7
COASTAL JURISDICTION LINE		5.5
HIGH TIDE LINE		5.4
MEAN HIGH WATER	MHW	3.4
LIMIT OF WATERCOURSE		-

NOTE: ENTIRE PROJECT IS WITHIN FEMA 100-YEAR FLOOD ZONE

Client/Project

REPLACEMENT OF THE WESSKUM WOOD ROAD BRIDGE OVER BINNEY PARK BROOK (BRIDGE NO. 056019)

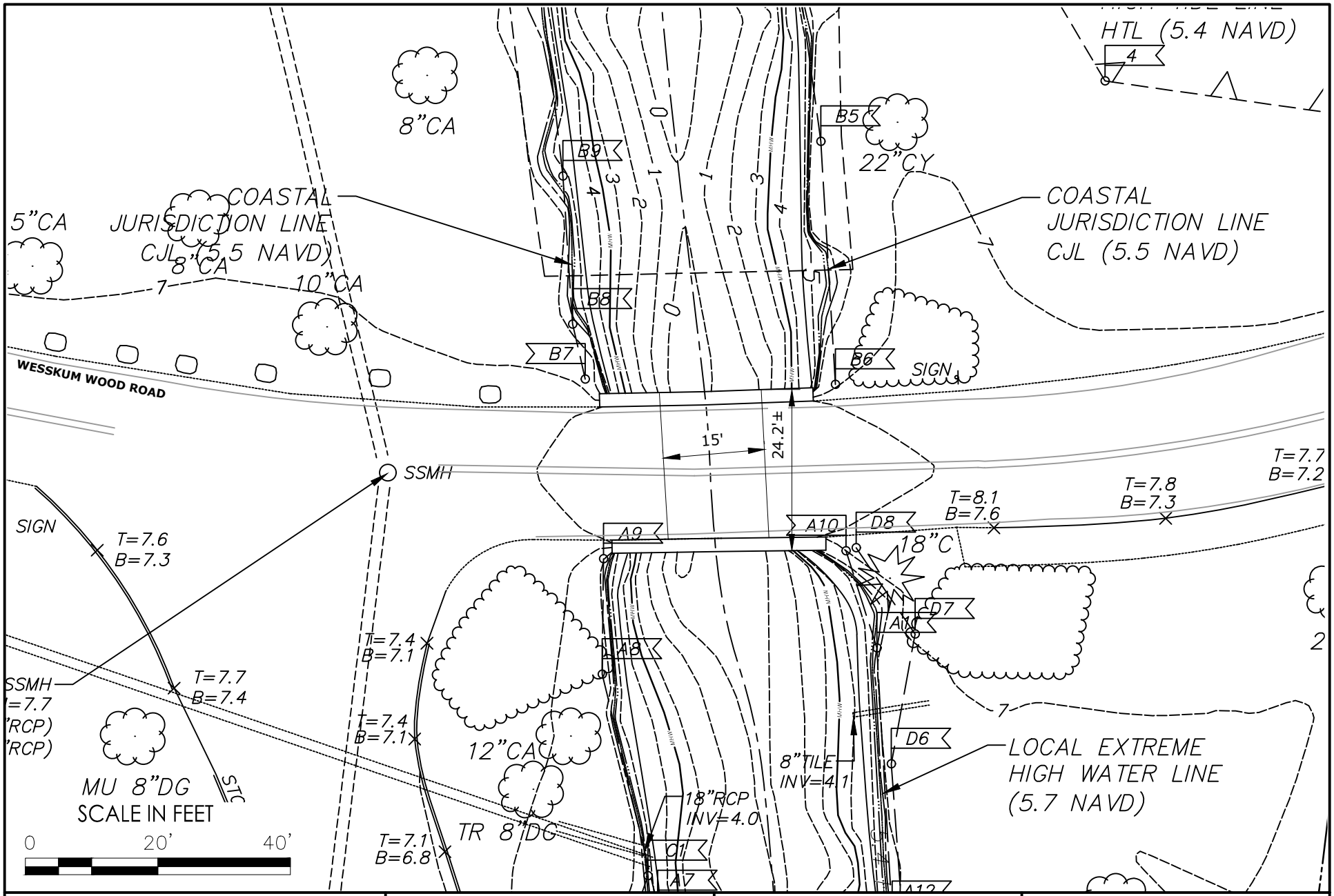
Project No.
192311005

Title
EXISTING CONDITION

Sheet No.
01

Date
06/24/2022

Drawing No.
EX-01



Stantec

Stantec Consulting Services Inc.
55 Church Street Suite 601
New Haven CT 06510-3014
Tel: (203) 495-1645
www.stantec.com

Notes

EXISTING HYDRAULIC INFORMATION

DESCRIPTION	LINE TYPE	ELEVATION
LOCAL EXTREME HIGH WATER		5.7
COASTAL JURISDICTION LINE		5.5
HIGH TIDE LINE		5.4
MEAN HIGH WATER	MHW	3.4
LIMIT OF WATERCOURSE		-

NOTE: ENTIRE PROJECT IS WITHIN FEMA 100-YEAR FLOOD ZONE

Client/Project

REPLACEMENT OF THE WESSKUM WOOD ROAD BRIDGE OVER BINNEY PARK BROOK (BRIDGE NO. 056019)

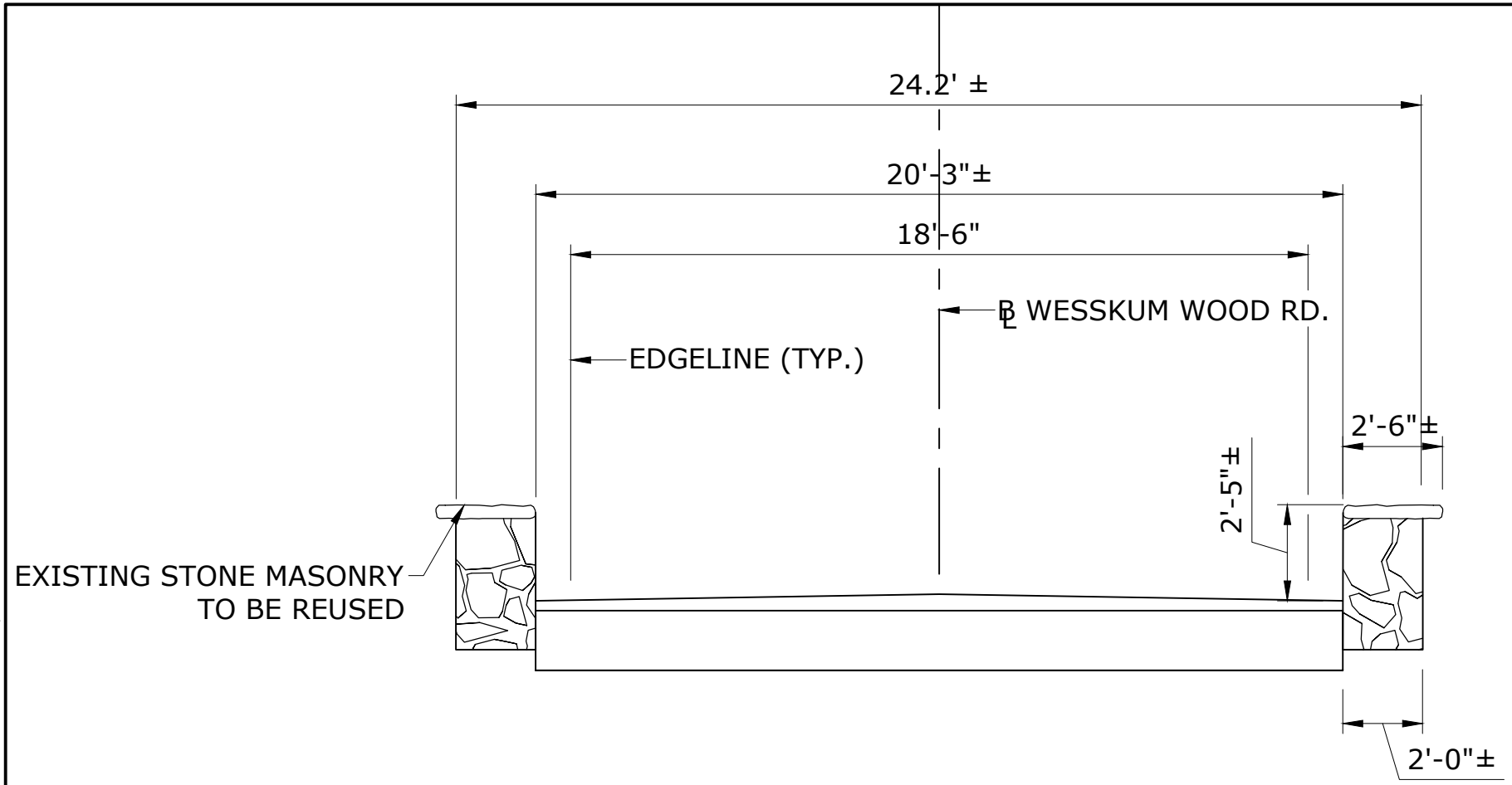
Project No.
192311005

Title
EXISTING CONDITION

Sheet No.
02

Date
06/24/2022

Drawing No.
EX-01



EXISTING SECTION

SCALE: ¼"=1'-0"

u:\192311005\permits\deep\20220602_revised per comments\s-02 general plan

2022.06.23 12:29:00 PM

Stantec

Stantec Consulting Services Inc.
55 Church Street Suite 601
New Haven CT 06510-3014
Tel: (203) 495-1645
www.stantec.com

Notes

Client/Project

REPLACEMENT OF THE WESSKUM WOOD ROAD BRIDGE OVER BINNEY PARK BROOK (BRIDGE NO. 056019)

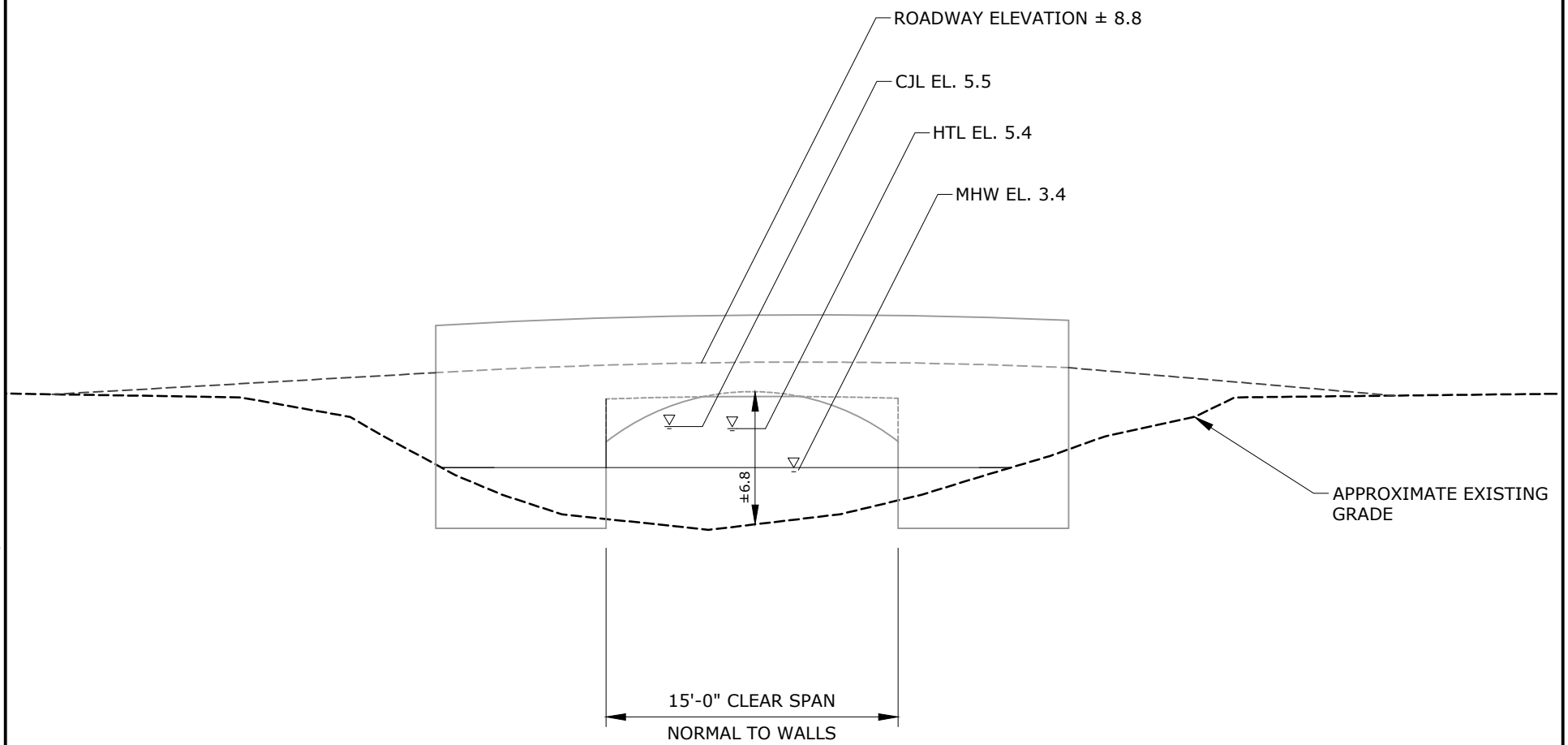
Project No.
192311005

Title
EXISTING SECTION

Sheet No.
03

Date
06/24/2022

Drawing No.



EXISTING ELEVATION

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

u:\192311005\permits\deep\20220602_revised per comments\s-02 general plan

2022.06.23 1:17:14 PM

Stantec

Stantec Consulting Services Inc.
55 Church Street Suite 601
New Haven CT 06510-3014
Tel: (203) 495-1645
www.stantec.com

Notes

Client/Project

REPLACEMENT OF THE WESSKUM WOOD ROAD BRIDGE OVER BINNEY PARK BROOK (BRIDGE NO. 056019)

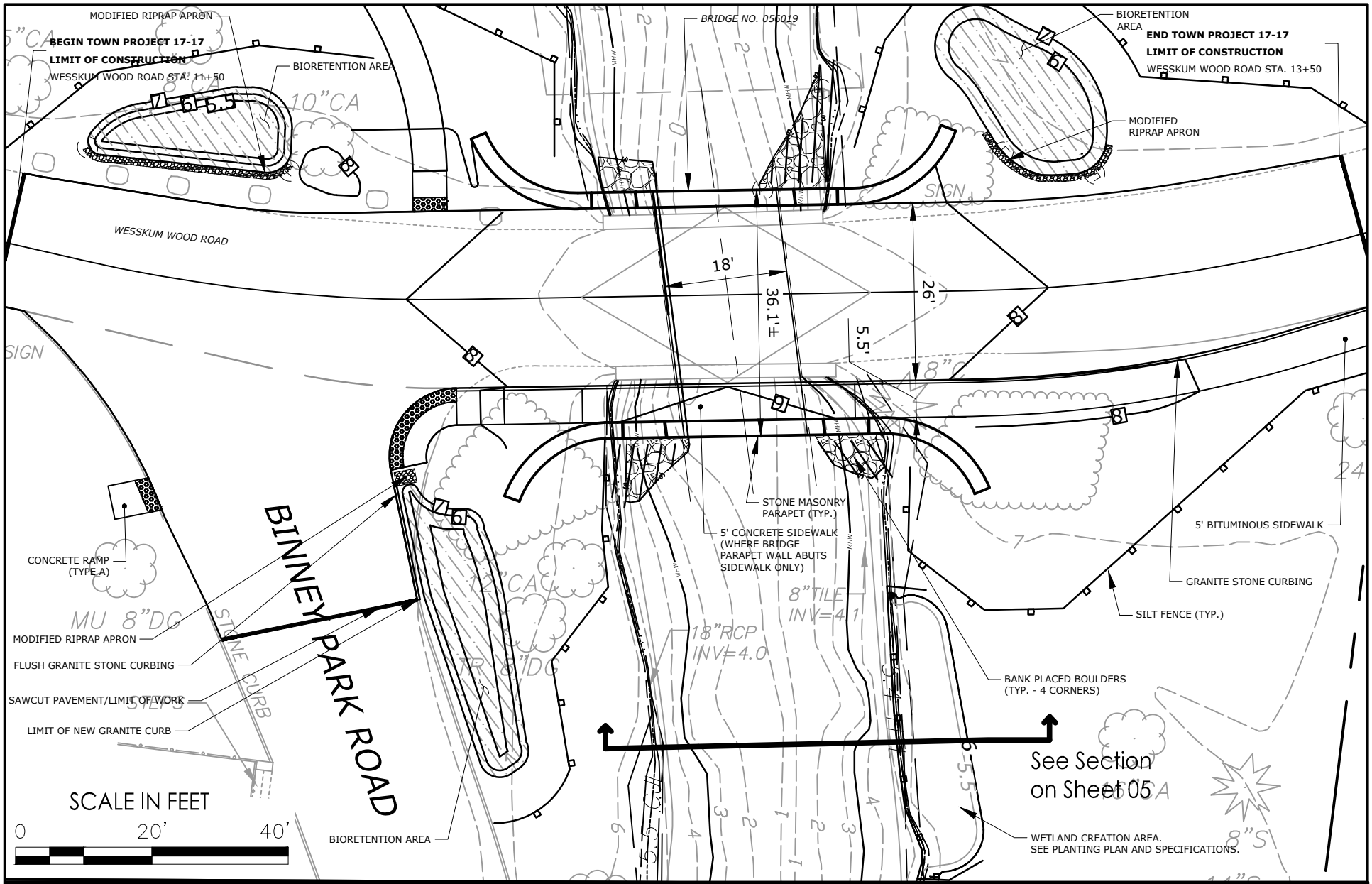
Project No.
192311005

Title
EXISTING ELEVATION

Sheet No.
04

Date
06/24/2022

Drawing No.



Stantec

Stantec Consulting Services Inc.
55 Church Street Suite 601
New Haven CT 06510-3014
Tel: (203) 495-1645
www.stantec.com

EXISTING HYDRAULIC INFORMATION

DESCRIPTION	LINE TYPE	ELEVATION
LOCAL EXTREME HIGH WATER		5.7
COASTAL JURISDICTION LINE		5.5
HIGH TIDE LINE		5.4
MEAN HIGH WATER	MHW	3.4
LIMIT OF WATERCOURSE		-

NOTE: ENTIRE PROJECT IS WITHIN FEMA 100-YEAR FLOOD ZONE

Client/Project

REPLACEMENT OF THE WESSKUM WOOD ROAD BRIDGE OVER BINNEY PARK BROOK (BRIDGE NO. 056019)

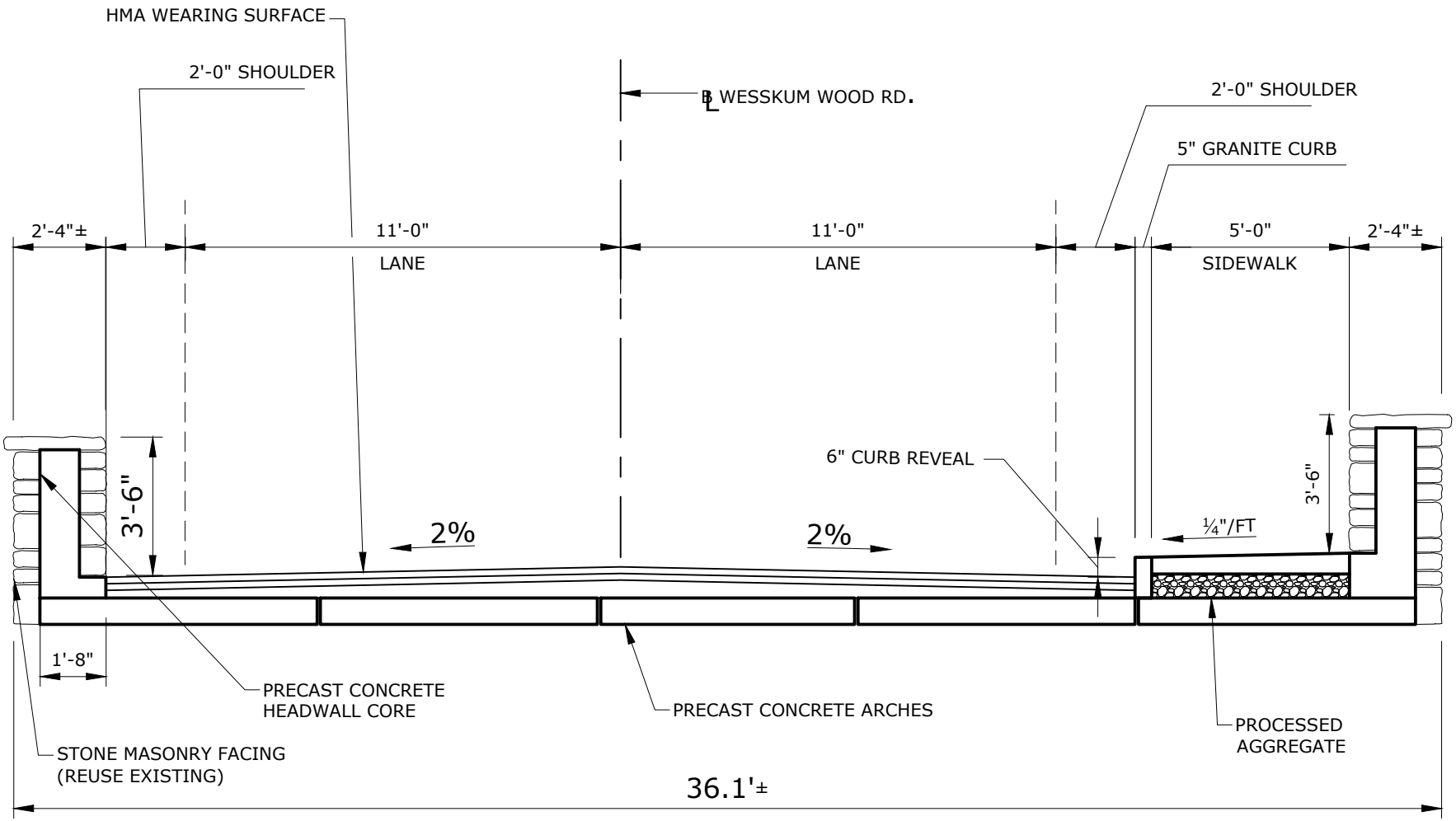
Project No.
192311005

Title
PROPOSED PLAN

Sheet No.
05

Date
06/24/2022

Drawing No.



PROPOSED SECTION

SCALE: ¼"=1'-0"

u:\192311005\permits\deep\20220602_revised per comments\s-02 general plan

2022.06.23 2:09:48 PM

Stantec

Stantec Consulting Services Inc.
55 Church Street Suite 601
New Haven CT 06510-3014
Tel: (203) 495-1645
www.stantec.com

Notes

Client/Project

REPLACEMENT OF THE WESSKUM WOOD ROAD BRIDGE OVER BINNEY PARK BROOK (BRIDGE NO. 056019)

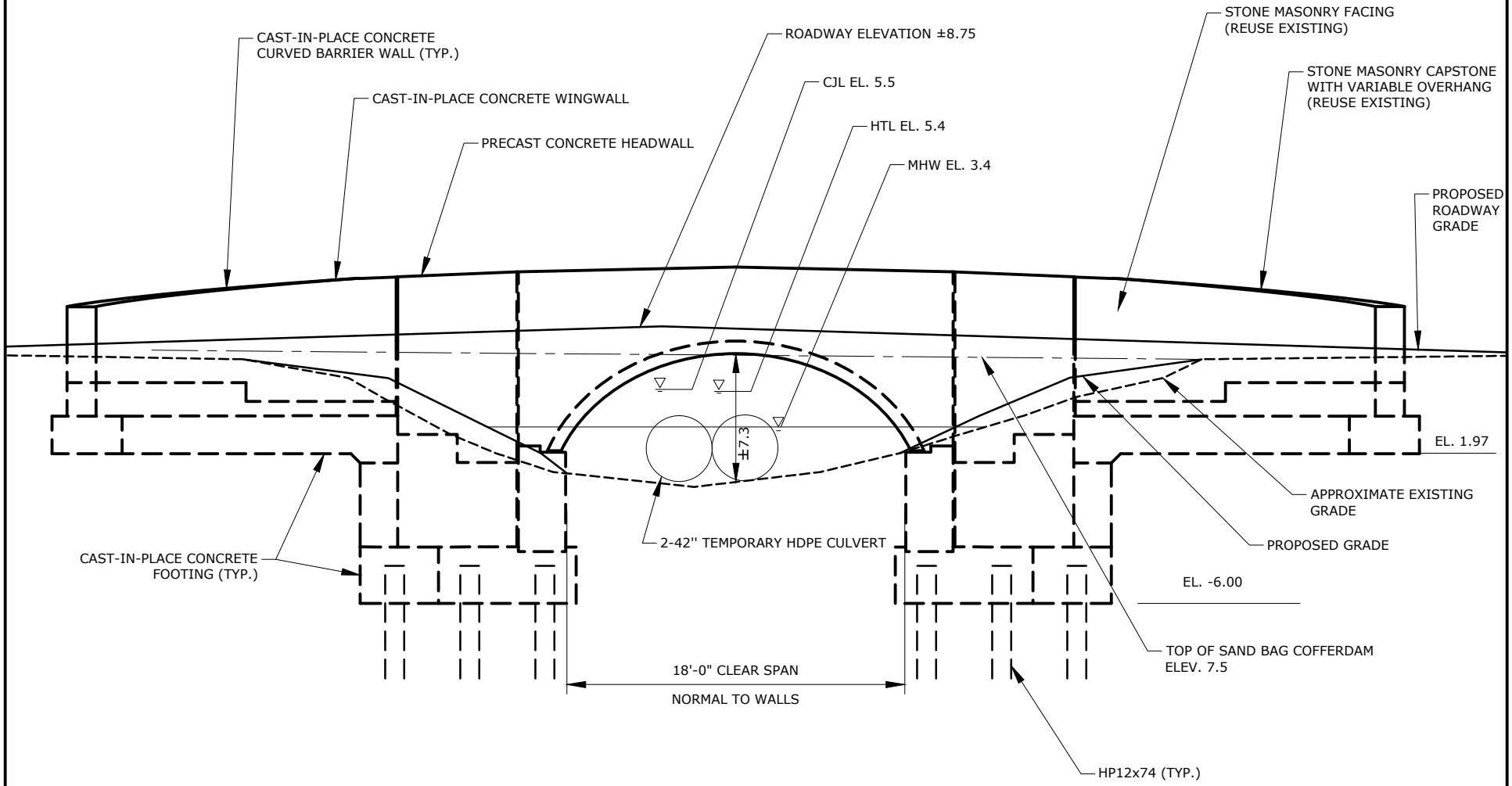
Project No.
192311005

Title
PROPOSED SECTION

Sheet No.
06

Date
06/24/2022

Drawing No.



ELEVATION

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

Stantec

Stantec Consulting Services Inc.
55 Church Street Suite 601
New Haven CT 06510-3014
Tel: (203) 495-1645
www.stantec.com

Notes

Client/Project

REPLACEMENT OF THE WESSKUM WOOD ROAD BRIDGE OVER BINNEY PARK BROOK (BRIDGE NO. 056019)

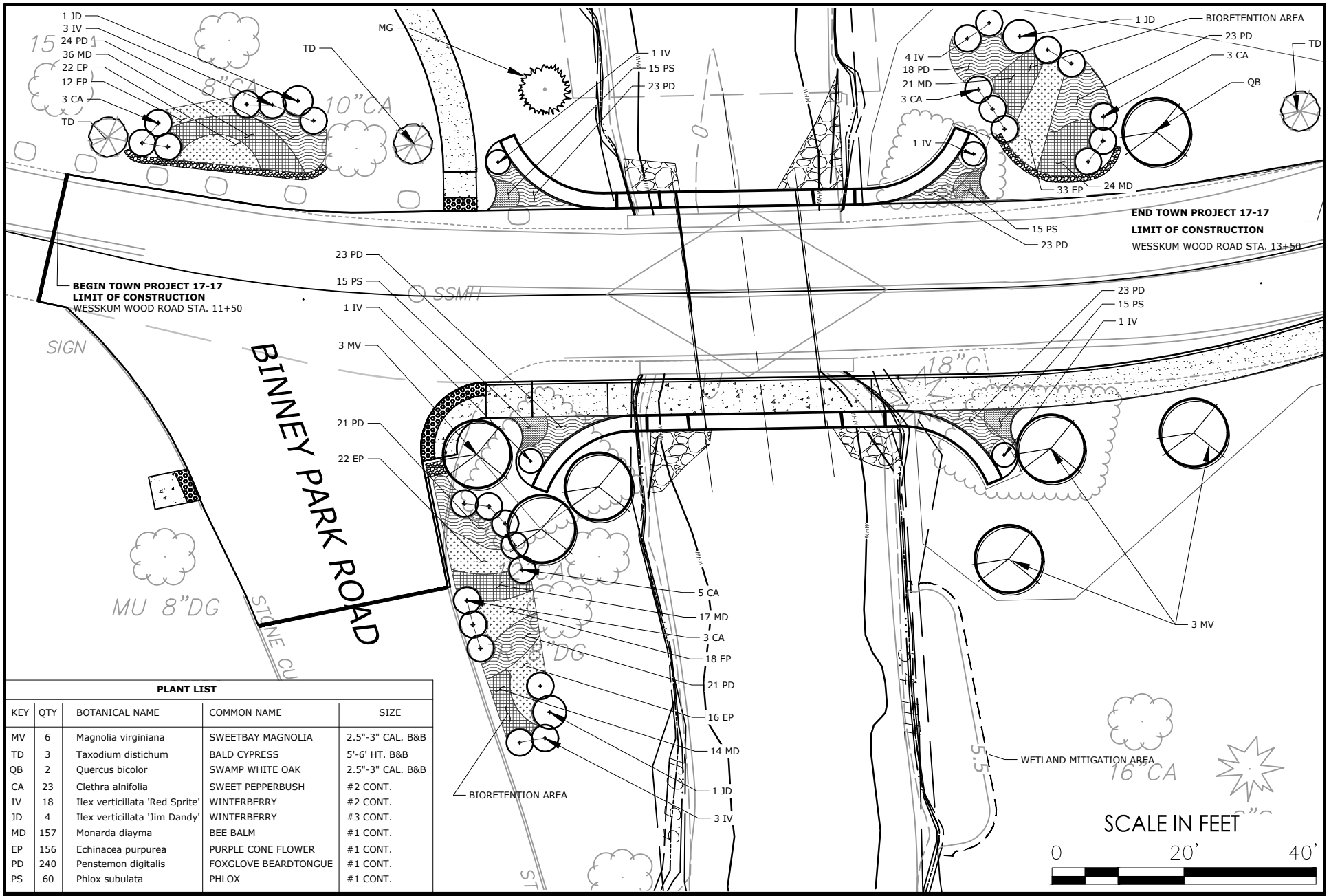
Project No.
192311005

Title
PROPOSED ELEVATION

Sheet No.
07

Date
06/24/2022

Drawing No.



PLANT LIST

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE
MV	6	Magnolia virginiana	SWEETBAY MAGNOLIA	2.5"-3" CAL. B&B
TD	3	Taxodium distichum	BALD CYPRESS	5'-6' HT. B&B
QB	2	Quercus bicolor	SWAMP WHITE OAK	2.5"-3" CAL. B&B
CA	23	Clethra alnifolia	SWEET PEPPERBUSH	#2 CONT.
IV	18	Ilex verticillata 'Red Sprite'	WINTERBERRY	#2 CONT.
JD	4	Ilex verticillata 'Jim Dandy'	WINTERBERRY	#3 CONT.
MD	157	Monarda diayma	BEE BALM	#1 CONT.
EP	156	Echinacea purpurea	PURPLE CONE FLOWER	#1 CONT.
PD	240	Penstemon digitalis	FOXGLOVE BEARDTONGUE	#1 CONT.
PS	60	Phlox subulata	PHLOX	#1 CONT.

Stantec

Stantec Consulting Services Inc.
55 Church Street Suite 601
New Haven CT 06510-3014
Tel: (203) 495-1645
www.stantec.com

Notes

Client/Project

REPLACEMENT OF THE WESSKUM WOOD ROAD BRIDGE OVER BINNEY PARK BROOK (BRIDGE NO. 056019)

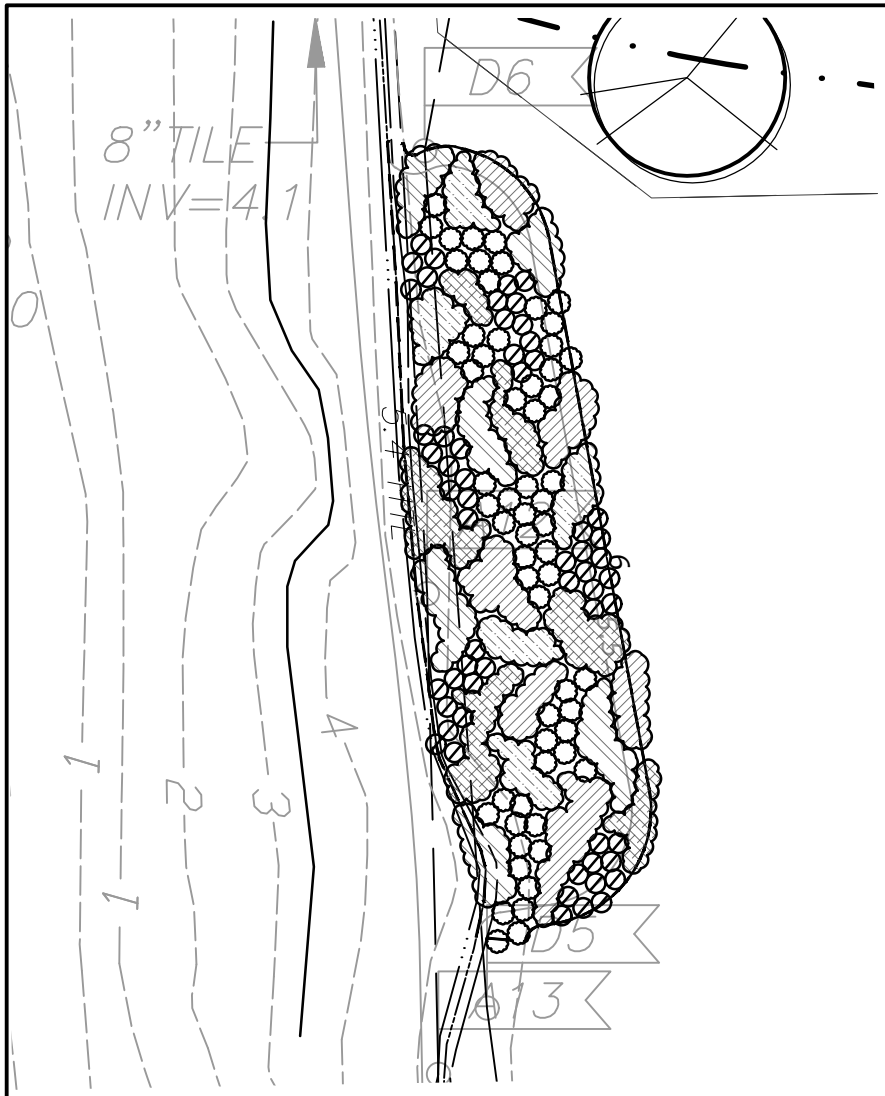
Project No.
192311005

Title
PLANTING PLAN

Sheet No.
08

Date
06/24/2022

Drawing No.



ENLARGEMENT 1
SCALE: 1" = 10'

PLANT LIST - ENLARGEMENT 1

SYM	KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENT
	JE	58	Juncus effusus	SOFT RUSH	4" PLUG	
	CC	50	Carex crinita	FRINGE SEDGE	4" PLUG	
	IV	75	Iris versicolor	BLUE IRIS	4" PLUG	PLANT AT 12" O.C.
	EM	55	Eutrochium maculatum	JOE-PYE WEED	4" PLUG	
	SA	61	Solidago sempervirens	SEASIDE GOLDENROD	4" PLUG	
	BC	74	Bidens cernua	NODDING BEGGARTICK	4" PLUG	

NOTES:

1. ALL COSTS ASSOCIATED WITH FURNISHING, STORING AND INSTALLING PLANTINGS SHALL BE PAID FOR UNDER THE ITEM "FURNISHING, PLANTING AND MULCHING TREES, SHRUBS, VINES AND GROUND COVER PLANTS".

2. ALL BIORETENTION AREAS SHALL BE SEEDED WITH BIORETENTION SEED MIX AND HAVE JUTE NETTING FOR EROSION PREVENTION

Stantec

Stantec Consulting Services Inc.
55 Church Street Suite 601
New Haven CT 06510-3014
Tel: (203) 495-1645
www.stantec.com

Notes

Client/Project

REPLACEMENT OF THE WESSKUM WOOD ROAD BRIDGE OVER BINNEY PARK BROOK (BRIDGE NO. 056019)

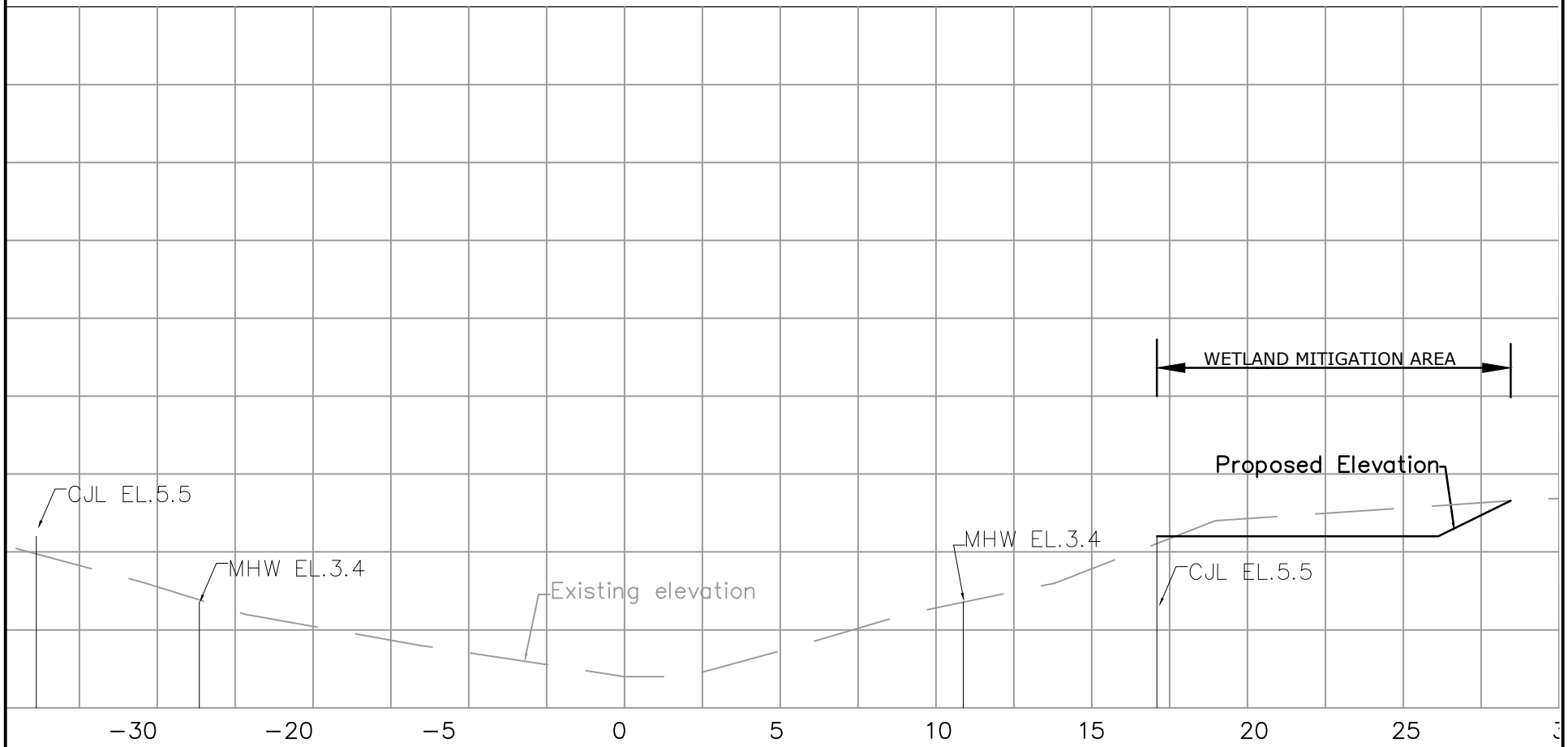
Project No.
192311005

Title
WETLAND MITIGATION AREA

Sheet No.
09

Date
06/24/2022

Drawing No.



SCALE IN FEET

0 5 10

SCALE 1"=5'

Stantec

Stantec Consulting Services Inc.
55 Church Street Suite 601
New Haven CT 06510-3014
Tel: (203) 495-1645
www.stantec.com

Notes

Client/Project

REPLACEMENT OF THE WESSKUM WOOD ROAD BRIDGE OVER BINNEY PARK BROOK (BRIDGE NO. 056019)

Project No.
192311005

Title

WETLAND MITIGATION SECTION

Sheet No.
10

Date
06/24/2022

Drawing No.

SUGGESTED SEQUENCE OF CONSTRUCTION:

DURING REMOVAL OF EXISTING SUPERSTRUCTURE AND SUBSTRUCTURES, THE CONTRACTOR SHALL TAKE ADEQUATE MEASURES TO PREVENT ANY DEBRIS FROM ENTERING INTO WATERCOURSE. THE CONTRACTOR SHALL DESIGN AND INSTALL A TEMPORARY DEBRIS SHIELD.

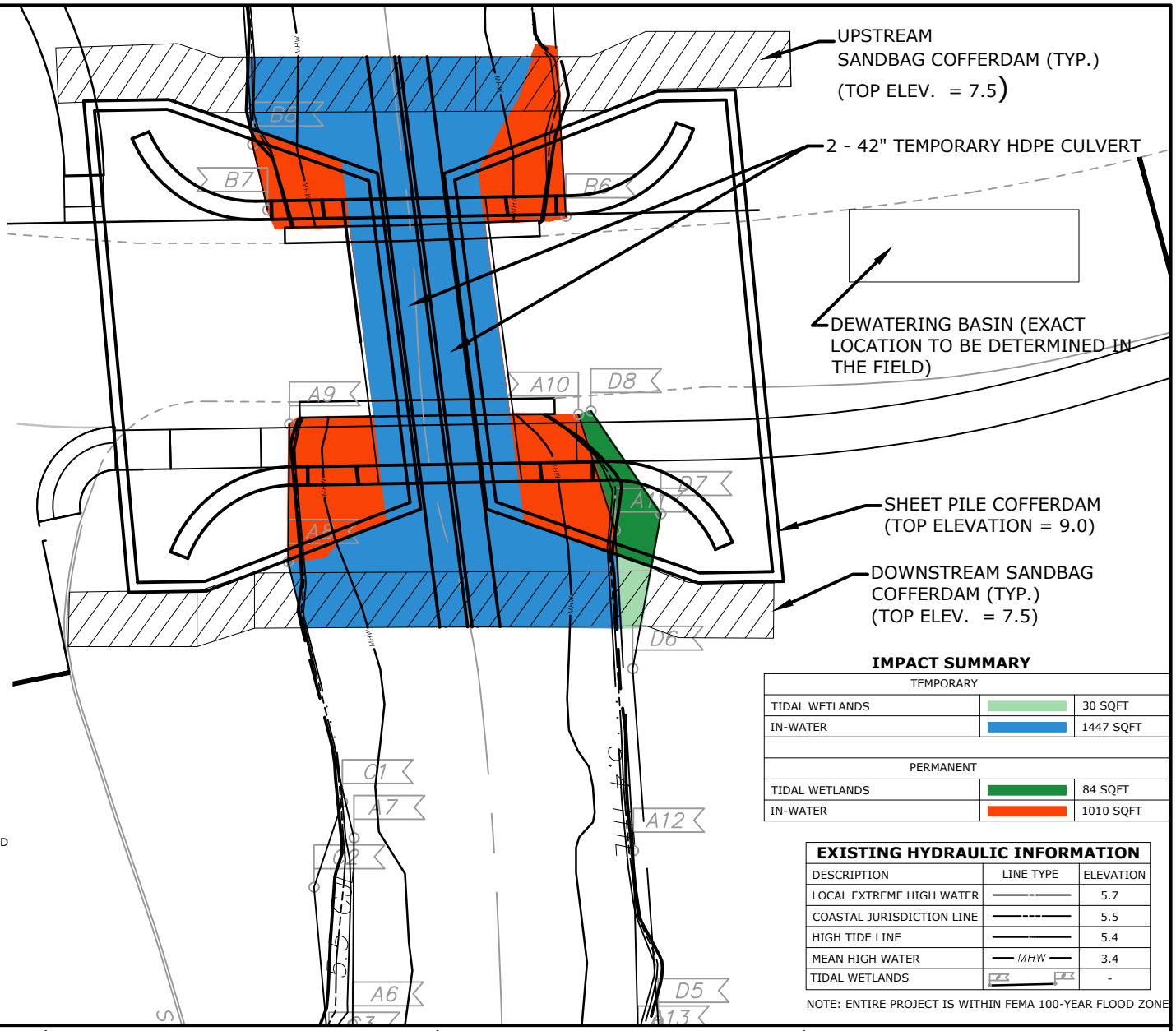
PHASE I:
1. ESTABLISH ROADWAY CLOSURE AND DETOUR.
2. INSTALL SANDBAG COFFERDAMS AND TEMPORARY PIPES.
3. INSTALL DEBRIS SHIELD AND SEDIMENT AND EROSION CONTROL MEASURES.
4. REMOVE SUPERSTRUCTURE INCLUDING THE EXISTING ARCH FASCIAS (UP TO THE BASE OF THE ARCH SHAPE). EXISTING MASONRY STONES SHALL BE CAREFULLY REMOVED AND PROTECTED FOR FUTURE USE.

PHASE IIA:
1. INSTALL SHEET PILE COFFERDAM AROUND BRIDGE ABUTMENTS.
2. REMOVE EXISTING ABUTMENTS. EXISTING MASONRY SHALL BE CAREFULLY REMOVED AND PROTECTED FOR FUTURE USE.
3. INSTALL SHEET PILE COFFER DAMS.
4. CONSTRUCT C.I.P. ABUTMENTS AND WINGWALL FOOTINGS.
5. CONSTRUCT C.I.P. WINGWALL STEMS.
6. REMOVE COFFERDAM.

PHASE IIB:
1. INSTALL PRECAST CONCRETE ARCH SEGMENTS AND SPANDREL WALLS.
2. PARTIALLY BACKFILL TO THE BOTTOM OF ARCH SECTION.
3. APPLY STONE MASONRY BY REUSING THE EXISTING STONES, SUPPLEMENTING WITH NEW APPROVED STONES AS REQUIRED.
4. REMOVE SANDBAGS AND TEMPORARY PIPE.
5. FINALIZE ROADWAY WORK (BACKFILL, CONSTRUCT CONCRETE SIDEWALK, INSTALL GRANITE CURBING, WEARING SURFACE, AND ESTABLISH FINAL GRADES).

SCALE IN FEET

0 20' 40'



IMPACT SUMMARY

TEMPORARY		
TIDAL WETLANDS		30 SQFT
IN-WATER		1447 SQFT
PERMANENT		
TIDAL WETLANDS		84 SQFT
IN-WATER		1010 SQFT

EXISTING HYDRAULIC INFORMATION

DESCRIPTION	LINE TYPE	ELEVATION
LOCAL EXTREME HIGH WATER		5.7
COASTAL JURISDICTION LINE		5.5
HIGH TIDE LINE		5.4
MEAN HIGH WATER	MHW	3.4
TIDAL WETLANDS		-

NOTE: ENTIRE PROJECT IS WITHIN FEMA 100-YEAR FLOOD ZONE

Stantec

Stantec Consulting Services Inc.
55 Church Street Suite 601
New Haven CT 06510-3014
Tel: (203) 495-1645
www.stantec.com

Client/Project

REPLACEMENT OF THE WESSKUM WOOD ROAD BRIDGE OVER BINNEY PARK BROOK (BRIDGE NO. 056019)

Project No.
192311005

Title
WETLAND IMPACT AREA

Sheet No.
11

Date
06/24/2022

Drawing No.

PROJECT DESCRIPTION:

THE PROJECT CONSISTS OF THE REPLACEMENT OF THE WESSKUM WOOD ROAD OVER CIDER MILL BROOK IN GREENWICH, CT. ROADWAY RECONSTRUCTION UTILITY RELOCATION AND DRAINAGE IMPROVEMENTS ARE ALSO PART OF THE PROJECT.

THE INTENT OF THE SEDIMENT AND EROSION CONTROL PLAN IS TO COLLECT SEDIMENT IN RUNOFF DURING CUTTING AND FILLING OPERATIONS BEFORE CONSTRUCTION AREAS ARE STABILIZED. SEDIMENT AND EROSION CONTROL MEASURES AS DESCRIBED HEREIN SHALL BE INSTALLED WHERE SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER OR TOWN INSPECTOR. EXISTING DRAINAGE CHANNELS AND STORM DRAINAGE STRUCTURES WILL BE MAINTAINED AND PROTECTED DURING CONSTRUCTION UNTIL NEW DRAINAGE APPURTENANCES, WHERE PROPOSED, ARE OPERATIONAL.

SUGGESTED SEQUENCE OF CONSTRUCTION:

DURING REMOVAL OF EXISTING SUPERSTRUCTURE AND SUBSTRUCTURES, THE CONTRACTOR SHALL TAKE ADEQUATE MEASURES TO PREVENT ANY DEBRIS FROM ENTERING INTO WATERCOURSE. THE CONTRACTOR SHALL DESIGN AND INSTALL A TEMPORARY DEBRIS SHIELD.

PHASE I:

1. ESTABLISH ROADWAY CLOSURE AND DETOUR.
2. INSTALL SANDBAG COFFERDAMS AND TEMPORARY PIPES.
3. INSTALL DEBRIS SHIELD AND SEDIMENT AND EROSION CONTROL MEASURES.
4. REMOVE SUPERSTRUCTURE INCLUDING THE EXISTING ARCH FASCIAS (UP TO THE BASE OF THE ARCH SHAPE). EXISTING MASONRY STONES SHALL BE CAREFULLY REMOVED AND PROTECTED FOR FUTURE USE.

PHASE IIA:

1. INSTALL SHEET PILE COFFERDAM AROUND BRIDGE ABUTMENTS.
2. REMOVE EXISTING ABUTMENTS. EXISTING MASONRY SHALL BE CAREFULLY REMOVED AND PROTECTED FOR FUTURE USE.
3. INSTALL SHEET PILE COFFER DAMS.
4. CONSTRUCT C.I.P. ABUTMENTS AND WINGWALL FOOTINGS.
5. CONSTRUCT C.I.P. WINGWALL STEMS.
6. REMOVE COFFERDAM.

PHASE IIB:

1. INSTALL PRECAST CONCRETE ARCH SEGMENTS AND SPANDREL WALLS.
2. PARTIALLY BACKFILL TO THE BOTTOM OF ARCH SECTION.
3. APPLY STONE MASONRY BY REUSING THE EXISTING STONES, SUPPLEMENTING WITH NEW APPROVED STONES AS REQUIRED.
4. REMOVE SANDBAGS AND TEMPORARY PIPE.
5. FINALIZE ROADWAY WORK (BACKFILL, CONSTRUCT CONCRETE SIDEWALK, INSTALL GRANITE CURBING, WEARING SURFACE, AND ESTABLISH FINAL GRADES).

SEDIMENTATION AND EROSION CONTROL NOTES:

SILTATION AND EROSION CONTROL MEASURES SHALL BE INSTALLED AS NECESSARY PRIOR TO THE START OF GRADING AND MAINTAINED UNTIL ALL GROUND SURFACES ARE STABILIZED I.E. WITH TURF, PAVEMENT, ETC., AND SHALL CONSIST OF SILT FENCING, HAY BALES, TEMPORARY SEDIMENTATION BASINS AND SWALES, MULCH AND TEMPORARY SEEDING.

THE OWNER HAS THE AUTHORITY TO CONTROL THE SURFACE AREA OF EARTH MATERIALS EXPOSED BY CONSTRUCTION OPERATIONS AND TO DIRECT THE CONTRACTOR TO IMMEDIATEDLY PROVIDE PERMANENT OR TEMPORARY POLLUTION CONTROL MEASURES TO PREVENT CONTAMINATION OF ADJACENT STREAMS, WATERCOURSES, LAKES, PONDS, OR OTHER AREAS OF WATER IMPOUNDMENT. EVERY EFFORT SHALL BE MADE BY THE CONTRACTOR TO PREVENT EROSION ON THE SITE AND ABUTTING PROPERTY.

THE ENGINEER HAS THE AUTHORITY TO DIRECT THE CONTRACTOR TO DIVERT SURFACE WATER RUN-OFF AWAY FROM EXPOSED RAW EARTH SURFACES THROUGH THE USE OF TEMPORARY BERMS, DIKES AND DIVERSION CHANNELS.

THE EROSION CONTROL FEATURES SHALL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR AND SHALL BE CHECKED DAILY AND AFTER EACH SEVERE RAIN STORM FOR DAMAGE, UNTIL SUCH FEATURES ARE, IN THE OPINION OF THE ENGINEER, NO LONGER NEEDED. ALL SEDIMENTATION TRAPS AND SEDIMENTATION BASINS SHALL HAVE THE ACCUMULATED SEDIMENT AND/OR CLEAN WATER REMOVED BEFORE IT SIGNIFICANTLY REDUCES THEIR STORAGE VOLUME OR FUNCTION, PRIOR TO THE NEXT RAIN STORM FORECAST FOR THE REGION.

THE CONTRACTOR SHALL, AT ALL TIMES, HAVE ON HAND THE NECESSARY MATERIALS AND EQUIPMENT TO PROVIDE FOR EARLY SLOPE STABILIZATION AND CORRECTIVE MEASURES TO DAMAGED SLOPES. THE CONTRACTOR SHALL RESPOND TO MAINTENANCE OR ADDITIONAL MEASURES ORDERED BY THE ENGINEER WITHIN 24 HOURS.

THE CONTRACTOR SHALL OPERATE ALL EQUIPMENT AND PERFORM ALL CONSTRUCTION OPERATIONS SO AS TO MINIMIZE POLLUTION TO ADJACENT WATER COURSES OR WETLANDS AREAS. THE CONTRACTOR SHALL CEASE ANY OF HIS OPERATIONS WHICH WILL INCREASE POLLUTION DURING RAIN STORMS.

ALL SLOPES OF STOCKPILE MATERIAL AND OTHER DISTURBED AREAS SHALL BE STABILIZED AND PROTECTED BY SURROUNDING WITH SILT FENCING OR HAY BALES, OR OTHERWISE PROTECTED AS APPROVED BY THE ENGINEER. ALL DAMAGED AREAS SHALL BE REPAIRED AS SOON AS POSSIBLE. THE ENGINEER SHALL LIMIT THE SURFACE AREA OF EACH MATERIAL EXPOSED IF THE CONTRACTOR FAILS TO SUFFICIENTLY PROTECT THE SLOPES TO PREVENT POLLUTION.

MULCHES: SHALL BE HAY, STRAW, WOOD CELLULOSE, WOOD CHIPS, STONE, NETTING, BURLAP OR OTHER SUITABLE MULCH MATERIAL AS APPROVED BY THE ENGINEER. MULCHES SHALL BE REASONABLY CLEAN AND FREE OF NOXIOUS WEEDS AND DELETERIOUS MATERIALS. ASPHALT SPRAYS WILL NOT BE ALLOWED. THE CONTRACTOR SHALL PREVENT STRAW, WOOD CHIPS, ETC., FROM ENTERING ANY RESERVOIRS OR WATERCOURSES.

HAY BALES: SHALL BE PLACED AROUND ALL EXISTING DRAINAGE INLETS OR AS DIRECTED BY THE ENGINEER. THEY SHALL BE HELD IN PLACE BY TWO WOODEN STAKES IN EACH BALE. BALES SHALL BE MAINTAINED OR REPLACED AS ORDERED BY THE ENGINEER UNTIL THEY ARE NO LONGER NECESSARY FOR THE PURPOSE INTENDED OR ARE ORDERED REMOVED BY THE ENGINEER. HAY BALES SHALL BE MADE OF HAY WITH 40 POUNDS MINIMUM WEIGHT AND 120 POUNDS MAXIMUM WEIGHT. WOOD STAKES SHALL BE A MINIMUM OF 1 INCH BY 1 INCH NOMINAL SIZE BY A MINIMUM OF 3 FEET LONG.

SILT FENCE: SHALL CONSIST OF 3-FOOT WIDE GEOSYNTHETIC FABRIC WITH PREFABRICATED WOOD POSTS AS MANUFACTURED BY "MIRAFI" OR EQUAL. THE BOTTOM SIX INCHES OF FABRIC SHALL BE BURIED BY EITHER TRENCHING OR BY LAYING THE SIX INCH SECTION HORIZONTALLY ON THE GROUND AND BURYING BY RAMPING THE TOPSOIL UP TO THE CONTROL FENCE.

- MINIMUM LENGTH OF SILT FENCE IS 15 L.F.
- MAXIMUM POST SPACING IS 10 L.F.
- JOINTS IN FILTER FABRIC SHALL BE ONLY AT SUPPORT POSTS WITH MINIMUM 6" OVERLAP, SECURELY SEALED
- SILT FENCE SHALL NOT BE USED IN A WATER COURSE
- FABRIC SUSCEPTIBLE TO SUNLIGHT DAMAGE SHALL NOT BE USED IN ANY INSTALLATIONS WHERE EXPOSURE TO LIGHT WILL EXCEED 30 DAYS, UNLESS SPECIFICALLY AUTHORIZED IN WRITING BY THE ENGINEER.

TEMPORARY SWALES AND SEDIMENTATION BASINS MAY BE CONSTRUCTED OF RIP-RAP, MULCH, HAY BALES OR JUTE MESH. PORTLAND CONCRETE OR BITUMINOUS CONCRETE WILL NOT BE ALLOWED.

TEMPORARY GRASS SEED SHALL BE PERENNIAL RYE-GRASS (LOLIUM PERENNE) OR AN IMPROVED VARIETY THEROF, SUCH AS MANHATTAN, HAVING A MINIMUM PURITY OF 98 PERCENT AND A MINIMUM GERMINATION OF 90 PERCENT. THE SEEDING MAY BE ALTERED BY THE ENGINEER IF REQUESTED BY THE CONTRACTOR TO SUIT SPECIAL AREAS OR CONDITIONS.

AT THE COMPLETION OF THE PROJECT, AND AFTER ALL DISTURBED AREAS ARE STABILIZED, THE CONTRACTOR SHALL COMPLETELY REMOVE ALL SEDIMENTATION AND EROSION CONTROL MEASURES. SILT FENCING SHALL BE CUT FLUSH WITH THE GROUND AND ANY ACCUMULATED SEDIMENTATION SHALL BE THINLY SPREAD UPON EXISTING GROUND COVER. ALL MULCH, HAY BALES AND RIP-RAP SHALL BE REMOVED FROM THE SITE, UNLESS SPECIFICALLY ORDERED BY THE ENGINEER TO REMAIN IN PLACE.

Stantec

Stantec Consulting Services Inc.
55 Church Street Suite 601
New Haven CT 06510-3014
Tel: (203) 495-1645
www.stantec.com

Notes

Client/Project

REPLACEMENT OF THE WESSKUM WOOD ROAD BRIDGE OVER BINNEY PARK BROOK (BRIDGE NO. 056019)

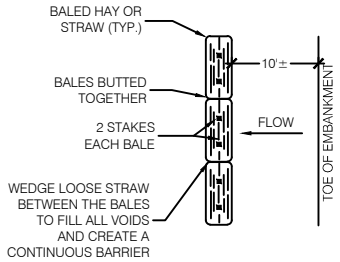
Project No.
192311005

Title
SITE DETAILS

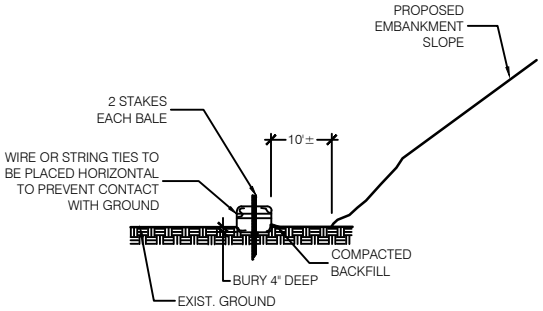
Sheet No.
12

Date
06/24/2022

Drawing No.
Det-01



PLAN

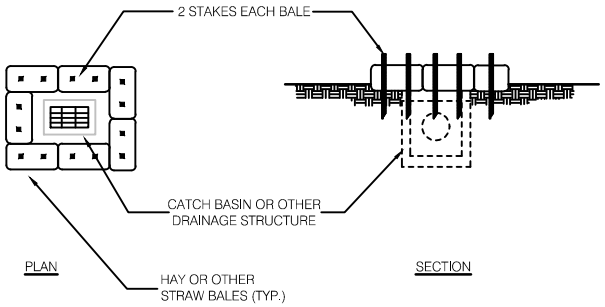


SECTION

"TYPE B" - TO BE USED WHERE THE EXISTING GROUND SLOPES AWAY FROM THE TOE OF THE EMBANKMENT. INSTALL AND MAINTAIN THROUGHOUT CONSTRUCTION PERIOD.

1 HAY BALE DETAIL - TYPE 'B'

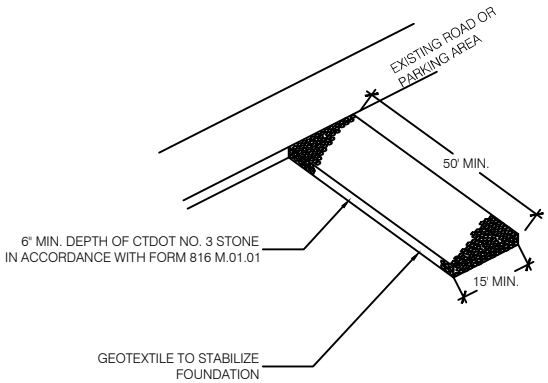
SCALE: N.T.S.



NOTE:
ALL EXISTING OR PROPOSED CATCH BASINS IN AREAS DISTURBED BY CONSTRUCTION SHALL BE PROTECTED BY SEDIMENTATION CONTROLS.

2 HAY BALE DETAIL- CATCH BASIN IN A DEPRESSION - TYPE 'C'

SCALE: N.T.S.



3 ANTI-TRACKING PAD DETAIL

SCALE: N.T.S.

Stantec

Stantec Consulting Services Inc.
55 Church Street Suite 601
New Haven CT 06510-3014
Tel: (203) 495-1645
www.stantec.com

Notes

Client/Project

REPLACEMENT OF THE WESSKUM WOOD ROAD BRIDGE OVER BINNEY PARK BROOK (BRIDGE NO. 056019)

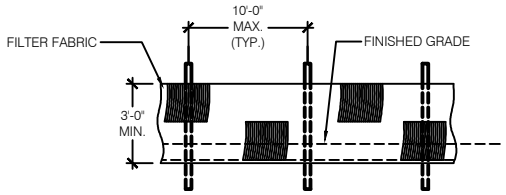
Project No.
192311005

Title
SITE DETAILS

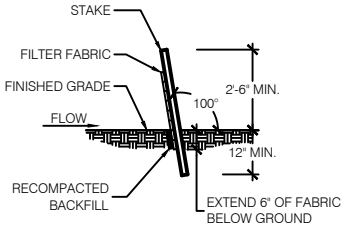
Sheet No.
13

Drawing No.
Det-02

Date
06/24/2022



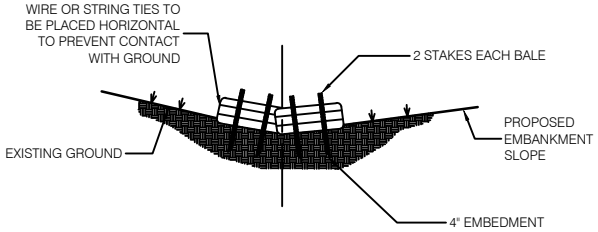
ELEVATION



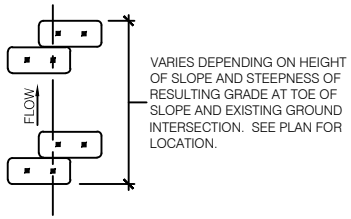
SECTION

4 SILT FENCE DETAIL

SCALE: N.T.S.



SECTION



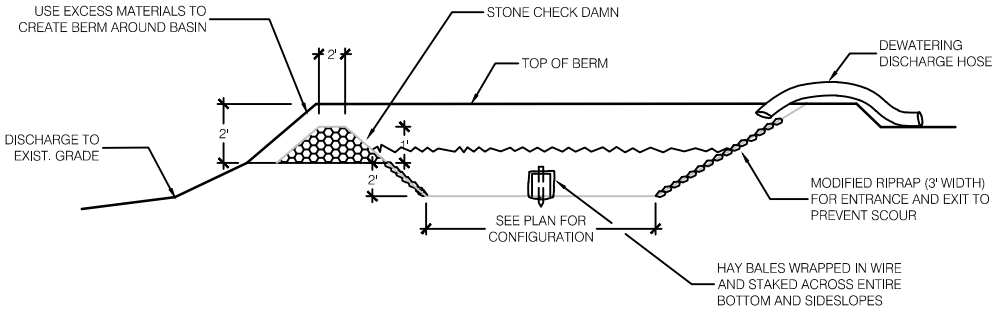
PLAN

"TYPE A" - TO BE USED IN LOCATIONS WHERE THE EXISTING GROUND SLOPES IN TOWARD THE TOE OF THE EMBANKMENT. INSTALL AND MAINTAIN THROUGHOUT CONSTRUCTION PERIOD.

5 HAY BALE DETAIL - TYPE 'A'

SCALE: N.T.S.

NOTE:
CLEANOUT OF ACCUMULATED SEDIMENT SHALL BE ACCOMPLISHED WHEN ONE-HALF OF THE ORIGINAL HEIGHT OF THE SEDIMENTATION CONTROL SYSTEM, AS INSTALLED, BECOMES FILLED WITH SEDIMENT.



6 SEDIMENTATION CONTROL POOL / DEWATERING BASIN

SCALE: N.T.S.

Stantec

Stantec Consulting Services Inc.
55 Church Street Suite 601
New Haven CT 06510-3014
Tel: (203) 495-1645
www.stantec.com

Notes

Client/Project

REPLACEMENT OF THE WESSKUM WOOD ROAD BRIDGE OVER BINNEY PARK BROOK (BRIDGE NO. 056019)

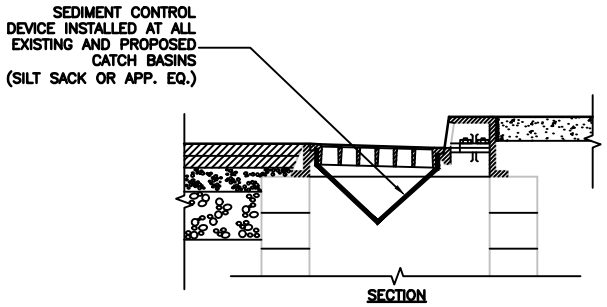
Project No.
192311005

Title
SITE DETAILS

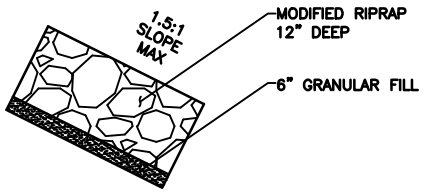
Sheet No.
14

Drawing No.
Det-03

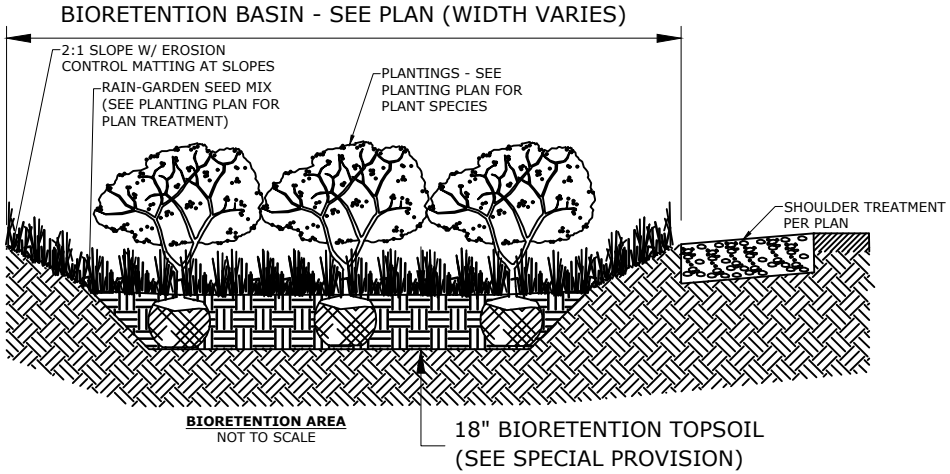
Date
06/24/2022



7 S.E.C. AT CATCH BASINS
SCALE: NTS



8 MODIFIED RIPRAP APRON
SCALE: NTS



9 BIORETENTION AREA
SCALE: NTS

Stantec

Stantec Consulting Services Inc.
55 Church Street Suite 601
New Haven CT 06510-3014
Tel: (203) 495-1645
www.stantec.com

Notes

Client/Project

REPLACEMENT OF THE WESSKUM WOOD ROAD BRIDGE OVER BINNEY PARK BROOK (BRIDGE NO. 056019)

Project No.
192311005

Title
SITE DETAILS

Sheet No.
15

Date
06/24/2022

Drawing No.
Det-04

1.0 INTRODUCTION

The Town of Greenwich (Town) is proposing to replace the existing Wesskum Wood Road bridge over Binney Park Brook (Project), which will result in unavoidable temporary and permanent impacts to tidal wetlands (TW) and areas below mean high water. Based on a pre-application discussion with staff from the Connecticut Department of Energy and Environmental Protection (CTDEEP), Land and Water Resources Division, the Town was advised to prepare a mitigation plan for impacted TW at a 3:1 ratio. This document outlines the processes and procedures for the proposed mitigation.

2.0 MITIGATION PLAN

The project will incur approximately 84 sf of permanent impact to TW. There will be an additional 30 sf of temporary impact to TW that will be restored following construction. CTDEEP's guidance is for a 3:1 mitigation ratio of TW created to permanent TW impacts. Therefore, the Town is proposing approximately 252 sf of created TW.

2.1 OBJECTIVES AND GOALS

The objective of the mitigation is to establish a self-sustaining freshwater TW adjacent to existing freshwater TW on the eastern downstream side of the watercourse to compensate at a 3:1 ratio for permanent project impacts to TW. The goals for the mitigation include the following:

- The TW mitigation area will support greater plant species richness;
- Provide habitat for insects, freshwater aquatic invertebrates (e.g., crayfish, snails, amphipods);
- Provide filtration of upland runoff and improve water quality; and
- Enhance aesthetic and educational opportunities in the park.

2.2 WORK PLAN

The proposed plan for TW mitigation includes the creation of a TW on the east side of the stream, approximately 25 ft downstream of the project impact limits. The proposed TW will expand upon the existing tidal wetlands, located in a narrow buffer strip of wetland to be created along the watercourse (Appendix A, Planting Plan).

2.2.1 Sediment Control and Site Preparation

Prior to the start of construction, the limits of the mitigation area will be demarcated using stakes and/or flagging. The boundaries of the existing TWs will similarly be demarcated with flagging and/or stakes.

Sediment controls will be installed prior to start of grading. Sediment controls will consist of straw wattle or compost socks staked close to water's edge. Waterward of the wattle/rolls turbidity curtain will be

installed in the water and will be tacked into the stream banks at upstream and downstream limits of the mitigation area.

A grid of survey stakes will be installed in the mitigation area to indicate the target cut depths. The cut depths will signify the subgrade target elevations (i.e., elevations before topsoil placement). For this mitigation site, it is proposed to grade to a subgrade that is approximately 6 inches lower than the target final elevation. The final target elevations will be consistent with those of the existing onsite TW near the proposed mitigation area and will be between approximately 5.0 to 6.0 ft NAVD). It is anticipated that this target elevation will provide wetland hydrology consistent with the on-site wetlands and allow for a self-sustaining wetland.

Using a small excavator or skid-steer (e.g., Bobcat) with a bucket, the soil will be removed to the target subgrade and placed in a dump truck or on-site trailer for off-site disposal. Stockpiling and reinstalling on-site topsoil is not recommended as part of this mitigation plan as the existing topsoil is characteristic of an upland community and is likely to contain a seed bank of weedy upland species and soil characteristics that are inconsistent with the wetland areas.

The subgrade elevations will be surveyed and adjusted prior to installation of topsoil. Topsoil should consist of a clean sandy loam with least 10 percent (%) organic material (by dry weight). Topsoil will be spread evenly over the subgrade to reach the target final elevations. The topsoil will be lightly rototilled to mix and loosen the soil and to create a slightly roughened surface. The final elevation will be surveyed prior to planting of vegetation.

2.2.2 Vegetation Establishment

Indigenous, freshwater TW herbaceous ("herbs") plants and shrubs will be planted within the mitigation area using northeastern U.S. ecotypes, to the extent feasible. To the extent possible, the proposed plants will include species that are listed as tidal wetland plant species in the Connecticut Tidal Wetlands Act (CGS 22a-29(2)) with an emphasis on showy flowering plants and graminoid ground covers that are characteristic of the associated Binney Park landscape.

Plugs of the following herbaceous wetland species will be planted in the mitigation area:

- Soft rush (*Juncus effusus*) Wetland status: OBL; listed TW plant
- Nodding beggartick (*Bidens cernua*) Wetland status: OBL
- Fringed sedge (*Carex crinita*) Wetland status: OBL
- Joe-Pye weed *(Eutrochium maculatum)* Wetland status: OBL, listed TW plant
- Blue iris (*Iris versicolor*) Wetland status: OBL, listed TW plant
- Seaside goldenrod (*Solidago sempervirens*) Wetland status: FACW

The herbaceous plugs will be planted in spring or fall at a spacing of 12" on center.

Two to three TW shrub species will be planted along the boundary of the wetland mitigation site. Proposed TW shrub species that provide bird/wildlife food and are aesthetically pleasing include:

- Sweet pepperbush (*Clethra alnifolia*) Wetland status: FAC;
- Swamp rose (*Rosa palustris*) Wetland status: OBL;
- Highbush blueberry (*Vaccinium corymbosum*) Wetland status: FACW; or
- Silky dogwood (*Cornus amomum / obliqua*).

Shrubs will consist of container-grown specimens sourced from northeastern U.S. ecotypes. Plants will be spaced at least 4 ft apart along the outer edge of the wetland and planted per the manufactured recommended planting depths. The plants will be irrigated and a weed-free straw mulch will be applied around the base of the plant. Shrubs will be planted during the spring or fall months. If shrubs are planted during the late spring or summer months, they will be regularly monitored and watered as necessary.

Plant identification labels and an interpretive sign will be placed in the mitigation area to provide educational information on the species diversity and importance of the wetland area.

2.2.3 Monitoring and Performance Standards

Monitoring will commence during the first full growing season following planting. The mitigation site will be monitored for a minimum of three consecutive years following construction and will include an annual site visit during the summer to evaluate overall success of the newly established TW.

Monitoring will include inspecting planted specimens for health and vigor, noting mortality, and photo documentation. It will also assess overall areal coverage of vegetation and species diversity. Performance standards for the mitigation area are:

- TW will support minimum of 70% vegetative cover by the second year and 80% by the third growing season;
- Invasive species coverage will be less than 10% and spatial coverage of common reed will be less than 3% (see 3.2.4 Invasive Species Control); and
- Minimum species diversity of 90% of original plantings diversity, including natural recruitment of additional species.

An annual monitoring report will be prepared for each year of the three years of monitoring and submitted to the CT DEEP. The annual monitoring report will describe the results of the monitoring, present data on survivorship, vegetation coverage, species diversity, and discuss whether the mitigation is meeting the goals, objectives, and performance standards. The annual monitoring report will include representative photographs and recommendations, as appropriate, for corrective actions (e.g, invasive species control, re-planting) or other adaptive management.

2.2.4 Invasive Species Control

Each year during the annual monitoring, the spatial abundance and species of invasive plants in the mitigation area will be assessed. A plant species is deemed invasive if it is on the list of invasive plants in the State of Connecticut found on the Invasive Plant Working Group website: https://cipwg.uconn.edu/invasive_plant_list/#

Due to the size of the mitigation site, the preferred approach for controlling invasive plants in the mitigation area will be hand-pulling of young plants, which will be conducted by Town staff as well as periodically by trained Town landscape staff or contractors during routine landscape maintenance of Binney Park. Chemical applications, if deemed necessary, will be done by a Connecticut-licensed pesticide applicator and will consist of spot treatment of target plants such as common reed. A summary of the annual invasive control efforts will be included in the annual monitoring report.

2.2.5 Long-term Maintenance

The mitigation site will be incorporated into the Binney Park management/maintenance plan and will include management guidelines for the protection and preservation of the mitigation site. The site will not be mowed and invasive species will be removed by hand annually.

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

Bureau of Water Protection & Land Reuse
Land & Water Resources Division

79 Elm Street • Hartford, CT 06106-5127 portal.ct.gov/DEEP Affirmative Action/Equal Opportunity Employer

Land Record Filing*

To: DO NOT FILE

Signature and

NOTE: Due to the electronic delivery of this license and the legal requirement to have a live signature on this document, the "Land Record Filing" as detailed in General Condition #1 will be sent to the Licensee via U.S. Mail for the Licensee to file with the city/town clerk.

~~**Date:**~~

~~**Subject:**~~ ~~_____~~
~~License # _____~~

If you have any questions pertaining to this matter, please contact the Land & Water Resources Division at 860-424-3019.

~~Return to:~~

~~Land & Water Resources Division~~
~~State of Connecticut~~
~~Department of Energy & Environmental Protection~~
~~79 Elm Street~~
~~Hartford, CT 06106-5127~~

*The Licensee shall file the Land Record Filing on the land records of the municipality in which the subject property is located not later than thirty (30) days after license issuance pursuant to Connecticut General Statutes (CGS) Section 22a-363g. A copy of the Notice with a stamp or other such proof of filing with the municipality shall be submitted to the Commissioner no later than sixty (60) days after license issuance.

LWRD Work Commencement Form

To: DEEP.LWRDRegulatory@ct.gov or
Regulatory Section
Department of Energy and Environmental Protection
Land & Water Resources Division
79 Elm Street
Hartford, CT 06106-5127

Licensee Name: ___Town of Greenwich_____
Municipality in which the project is occurring: _____Greenwich_____
DEEP License No(s):_____202202266-SDFTWQ_____

CONTRACTOR(s):

1 Name: _____
Address: _____
Telephone: _____
E-mail: _____

2 Name: _____
Address: _____
Telephone: _____
E-mail: _____

3 Name: _____
Address: _____
Telephone: _____
E-mail: _____

Date Contractor(s) received a copy
of the license and approved plans: _____

EXPECTED DATE OF COMMENCEMENT OF WORK: _____

EXPECTED DATE OF COMPLETION OF WORK: _____

LICENSEE: _____ _____
(Signature) (Date)

Compliance Certification Form

The following certification must be signed by the licensee working in consultation with a Connecticut-licensed design professional and must be submitted to the address indicated at the end of this form within ninety (90) days of completion of the authorized work.

1. Licensee Name: _____Town of Greenwich_____

   DEEP License Number(s):_____202202266-SDFTWQ_____

   Municipality in which project is occurring:____Greenwich_____

2. **Check one:**

   (a) ☐ "I certify that the final site conditions and / or structures are in general conformance with the approved site plans". Identify and describe any deviations and attach to this form.

   (b) ☐ "The final site conditions and / or structures are not in general conformance with the approved site plans. The enclosed "as-built" plans note the modifications".

3. "I understand that any false statement in this certification is punishable as a criminal offence under section 53a-157b of the General Statutes and under any other applicable law."

_____ _____
Signature of Licensee Date

_____
Name of Licensee (print or type)

_____ _____
Signature of CT-Licensed Design Professional Date

_____
Name of CT-Licensed Design Professional (print or type)

_____
Professional License Number (if applicable) Affix Stamp Here

- As-built plans shall include: elevations or tidal datums, as applicable, and structures, including any proposed elevation views and cross sections included in the approved license plans. Such as-built plans shall be the original ones and be signed and sealed by an engineer, surveyor or architect, as applicable, who is licensed in the State of Connecticut.
- The Licensee will be notified by staff of the Land and Water Resources Division (LWRD) if further compliance review is necessary. Lack of response by LWRD staff does not imply compliance.

Submit this completed form to :
DEEP.LWRDRegulatory@ct.gov or
Regulatory Section
Department of Energy and Environmental Protection
Land & Water Resources Division
79 Elm Street
Hartford, CT 06106-5127