PUBLIC NOTICE

US Army Corps of Engineers ®
New England District
696 Virginia Road
Concord, MA 01742-2751

Comment Period Begins: March 26, 2020
Comment Period Ends: April 27, 2020
File Number: NAE-2017-0289
In Reply Refer To: Paul Sneeringer
Phone: (978) 318-8491
E-mail: paul.j.sneeringer@usace.army.mil

The District Engineer has received a permit application to conduct work in waters of the United States from Joshua Schimmel, Springfield Water and Sewer Commission (SWSC), P.O. Box 995, Springfield, Massachusetts 01101. This work is proposed within the Connecticut River from West York Street in Springfield to 250 M Street Extension in Agawam, Massachusetts. Midpoint site coordinates are: Latitude 42.088405◦ N; Longitude -72.584748◦ W.

The work involves the installation of temporary structures and dredging within the Connecticut River and the discharge of dredged and/or fill material into the Connecticut River as part of the Connecticut River Sewers Crossing Project in Springfield and Agawam, Massachusetts. The purpose for this project is to install new redundant sewer crossings to the Springfield Regional Wastewater Treatment Facility (SRWTF) on Bondi's Island. This project is a part of the Environmental Protection Agency (EPA)–mandated and approved Combined Sewer Overflow (CSO) Long Term Control Plan (LTCP). The applicant states that it is critical to achieving the long term environmental benefit goals outlined in that CSO LTCP and the subsequent Integrated Wastewater Plan developed by the Commission.

This project includes the installation of one 72-inch sewer siphon and two 42-inch sewer force mains. The SWSC plans to install a temporary pile-supported 160-foot long by 40-foot wide work trestle extending into the Connecticut River from the Agawam shore line so that barges, construction materials, and dredged materials can be on-loaded and off-loaded. This temporary work trestle will extend approximately 86 linear feet into the Connecticut River and will be removed post-construction. The SWSC will dredge and maintain a sewer pipeline trench as well as a barge channel throughout the construction phase of this project. An estimated **26,500** cubic yards of dredged material will be removed and dewatered/treated (as necessary) at the Bondi's Island dredged material containment site. Water drained from this material will be treated before it is outfalled into the Connecticut River. Bedding stones, a pre-cast concrete revetment mat, and some suitable dredged material will be used to backfill the new sewer pipelines. Remaining portions of dredged material will be deposited at an approved upland disposal site. The entire limits of disturbance, including the upriver angled sturgeon exclusion barrier area is approximately 10.66 acres. Of this approximately 3.38 acres are the primary construction corridor where the dredging and pipe laydown occurs.

The SWSC proposes a phased work schedule, where they will maintain a construction area within one half of the Connecticut River crossing corridor at a time. The contractor will maintain pile-supported exclusion barriers, bubble curtains, etc. around the in-water construction area, in order to exclude sturgeon and other resident fish species from gaining access to the construction area. Steel pilings installed to support the western angled sturgeon exclusion barrier during Phases #1 and #3, will be left in place when the angled sturgeon

exclusion barrier is moved to the eastern half of the river during construction Phases #2 and #2.1. The SWSC proposes to microtunnel the three sewer lines from the NEW upland West York Street pump station, under the Springfield Local Flood Protection Project floodwalls, the Amtrak railroad corridor, and the Springfield bank of the Connecticut River, exiting at a temporary support of excavation area within the Connecticut River. Temporary support structures will also be installed within the Connecticut River along the Agawam shoreline as the sewer lines transition onto the SRWTF on Bondi's Island. All support of excavation structures, including the steel pilings will be removed once construction is complete.

The work is shown on the enclosed plans entitled "SPRINGFIELD WATER AND SEWER COMMISSION – CONNECTICUT RIVER SEWER FORCE MAINS AND INTERCEPTOR CROSSING," on a total of 16 sheets and dated "MARCH 2020".

As part of the development of the Connecticut River Sewers Crossing Project, the SWSC has attempted to minimize direct and secondary impacts to jurisdictional waters of the United States. The applicant proposes to restore underwater habitat areas post-construction. The Corps continues our evaluation of whether this project will require compensatory mitigation for unavoidable impacts to waters of the United States.

AUTHORITY

Permits are required pursuant to:

XX Section 10 of the Rivers and Harbors Act of 1899
XX Section 404 of the Clean Water Act
____ Section 103 of the Marine Protection, Research and Sanctuaries Act.
XX Section 14 of the Rivers and Harbors Act of 1899 (33 USC 408)

The decision whether to issue a permit will be based on an evaluation of the probable impact 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 may reasonably 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, cultural value, fish and wildlife values, flood hazards, flood plain value, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people.

The U.S. Army Corps of Engineers, New England District (Corps), 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. The Corps will consider all comments received 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 the 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.

Where the activity involves the discharge of dredged or fill material into waters of the United States, the evaluation of the impact of the activity in the public interest will also 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.

SECTION 408 AUTHORITY: The authority to grant permission to alter (including temporary or permanent occupation, use or obstruction) any USACE civil works project is contained in Section 14 of the Rivers and Harbors Act of 1899, as amended, codified at 33 USC 408 ("Section 408"). A requester has the responsibility to acquire all other permissions or authorizations required by federal, state, and local laws or regulations, including, but not limited to, any required permits from the USACE Regulatory Program under Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and/or Section 404 of the Clean Water Act (33 U.S.C. Section 1344). An approval under Section 408 does not grant any property rights or exclusive privileges nor does it authorize any injury to the property or rights of others. A permit pursuant to Section 10 and 404 shall not be granted until the Section 408 permission is issued. Through this public notice we are soliciting information necessary to inform the Corps evaluation and review.

The activities proposed herein will also require permission from the Corps pursuant to 33 U.S.C. 408 because it will permanently alter a Corps federally authorized Civil Works project known as the Connecticut River Floodwall South of Memorial Bridge Levee System. The proposed alteration involves the excavation of an approximately 30-foot-long by 45-foot-wide by 35-foot-deep launching pit approximately 20 feet east of the existing floodwall and mining three tunnels beneath the floodwall from the launching pit using microtunneling methods. One of the tunnels will have a diameter of approximately 96 inches, and the two additional tunnels will each have a diameter of approximately 48 inches. Steel pipes, having similar diameters to the mined tunnels, will be installed within the tunnels as casing pipes for installation of the smaller diameter sewer pipes (as described above). The tunnels will pass beneath the existing floodwall, the railroad tracks east of the floodwall, the riverbank, and terminate beneath the Connecticut River. The microtunneling machine will be removed from beneath the river channel by excavating within the Connecticut River, and the sewer installation will continue from the end of the tunnel to the west side of the river using a dredged excavation. The Section 408 permission is limited to the microtunneling operations beneath the floodwall. The proposed alteration is located as shown on the attached plans (see Sheet 6C***).***

EVALUATION FACTORS: The decision under Section 408 whether to grant the requested permission to alter the USACE civil works project will be based on several factors:

1) Impair the Usefulness of the Project Determination. The USACE will determine if the proposed alteration would limit the ability of the USACE project to function as authorized, or would compromise or change any authorized project conditions, purposes or outputs.

2) Injurious to the Public Interest Determination. The proposed alteration will be reviewed to determine the probable impacts, including cumulative impacts, on the public interest. This evaluation will consider information received from the interested parties, including tribes, agencies, and the public. The benefits that reasonably may be expected to accrue from the proposed alteration will be compared against its reasonably foreseeable detriments. The decision whether to grant permission for the proposed alteration will be determined by the consideration of whether benefits are commensurate with risks and by the net impact of the alteration has on the public interest.

3) Environmental Compliance. A decision on a Section 408 request is a federal action, and therefore subject to the National Environmental Policy Act (NEPA) and other environmental compliance requirements.

ESSENTIAL FISH HABITAT

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires all federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). Essential Fish Habitat describes waters and substrate necessary for fish for spawning, breeding, feeding or growth to maturity.

This project will impact over 4 acres of EFH. This habitat consists of sandy or cobble dominated sediment. Loss of this habitat may adversely affect species that use these waters and substrate. However, the District Engineer has made a preliminary determination that the site-specific adverse effect will not be substantial. Further consultation with the National Marine Fisheries Service regarding EFH conservation recommendations is being conducted and will be concluded prior to the final decision.

NATIONAL HISTORIC PRESERVATION ACT

Based on his initial review, the District Engineer has determined that the proposed work may impact properties listed in, or eligible for listing in, the National Register of Historic Places. Additional review and consultation to fulfil requirements under Section 106 of the National Historic Preservation Act of 1966, as amended, will be ongoing as part of the permit review process.

ENDANGERED SPECIES CONSULTATION

The Corps has reviewed the application for the potential impact on Federally-listed threatened or endangered species and their designated critical habitat pursuant to section 7 of the Endangered Species Act as amended. It is our preliminary determination that the proposed activity for which authorization is being sought is designed, situated or will be operated/used in such a manner that it is not likely to adversely affect a listed species or their critical habitat. We are coordinating with the National Marine Fisheries Service and/or U.S. Fish and Wildlife Service on listed species under their jurisdiction and the ESA consultation will be concluded prior to the final decision.

OTHER GOVERNMENT AUTHORIZATIONS

The following authorizations have been applied for, or have been, or will be obtained:

(XX) Permit, license or assent from State.
(XX) Permit from local wetland agency or conservation commission.
(XX) Water Quality Certification in accordance with Section 401 of the Clean Water Act.

COMMENTS

In order to properly evaluate the proposal, we are seeking public comment. Anyone wishing to comment is encouraged to do so. Comments should be submitted in writing by the above date. If you have any questions, please contact Paul Sneeringer at **(978) 318-8491**, (800) 343-4789 or (800) 362-4367, if calling from within Massachusetts.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for a public hearing shall specifically state the reasons for holding a public hearing. The Corps holds public hearings for the purpose of obtaining public comments when that is the best means for understanding a wide variety of concerns from a diverse segment of the public.

The initial determinations made herein will be reviewed in light of facts submitted in response to this notice. All comments will be considered a matter of public record. Copies of letters of objection will be forwarded to the applicant who will normally be requested to contact objectors directly in an effort to reach an understanding.

THIS NOTICE IS NOT AN AUTHORIZATION TO DO ANY WORK.

Barbara Newman
Chief, Permits and Enforcement Branch
Regulatory Division

If you would prefer not to continue receiving Public Notices by email, please contact Ms. Tina Chaisson at (978) 318-8058 or e-mail her at bettina.m.chaisson@usace.army.mil. You may also check here ( ) and return this portion of the Public Notice to: Bettina Chaisson, Regulatory Division, U.S. Army Corps of Engineers, 696 Virginia Road, Concord, MA 01742-2751.

NAME: _____
ADDRESS: _____
PHONE: _____

SPRINGFIELD WATER AND SEWER COMMISSION

CONNECTICUT RIVER SEWER FORCE MAINS AND INTERCEPTOR CROSSING

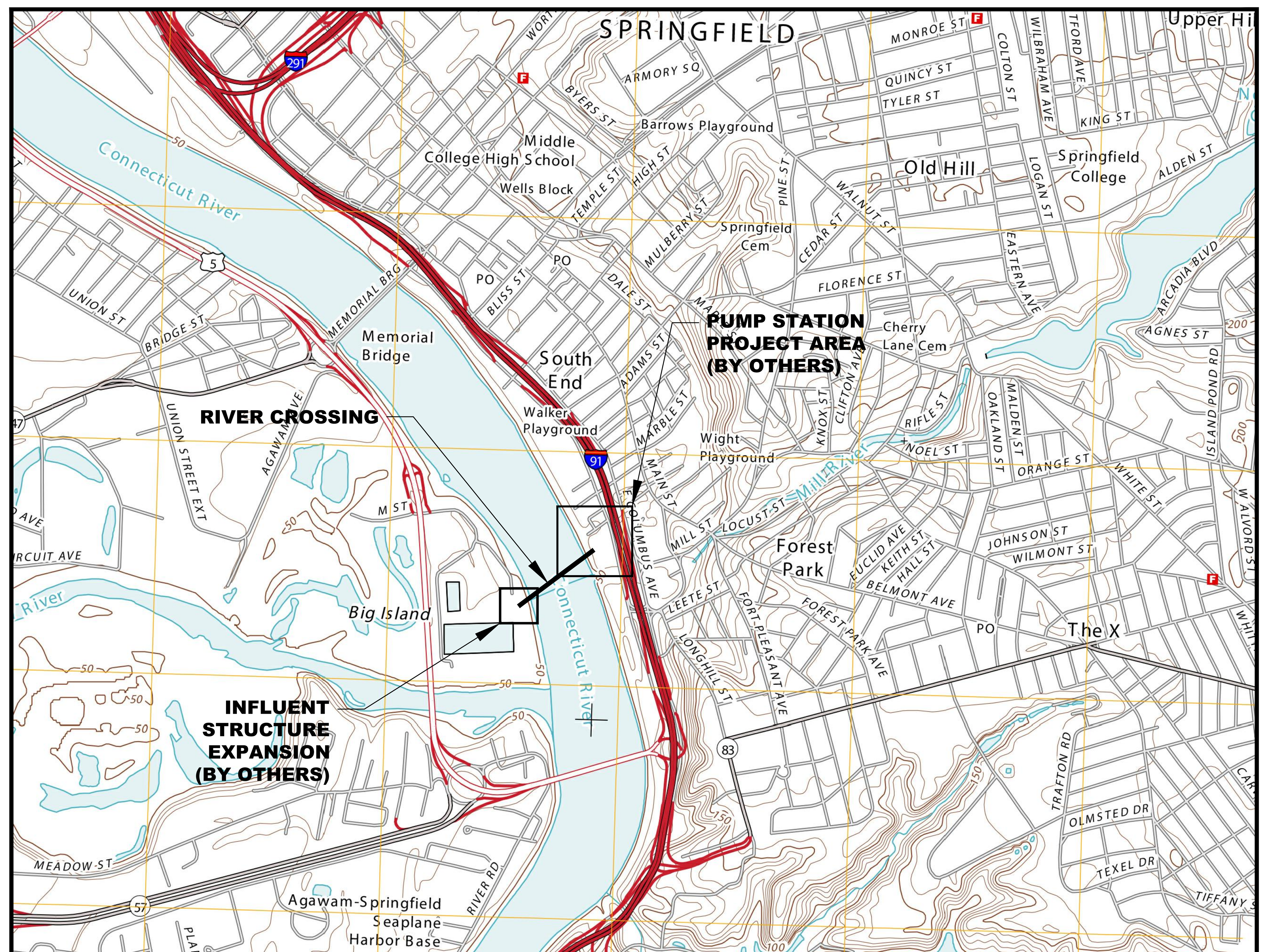
GMP 2 - PERMIT DOCUMENTS

SWSC PROJECT NO. CA-1807-18/CWSRF-4455
MARCH 2020

PROJECT DESIGN TEAM

KLEINFELDER
Bright People. Right Solutions.

Stantec



LOCUS PLAN
NOT TO SCALE

SPRINGFIELD WATER AND SEWER COMMISSION

COMMISSIONERS: VANESSA OTERO, CHAIRPERSON
WILLIAM E. LEONARD
DANIEL RODRIGUEZ

EXECUTIVE DIRECTOR: JOSHUA SCHIMMEL

PERMIT SET

SCALE	AS NOTED				
DATE	MARCH 2020				
JOB NO.	20161801.058				
DESIGNED BY	D CHENG				
DRAWN BY	A SILVERI				
CHECKED BY	B FREDERICK	No.	Description	Date	
APPROVED BY	G O'LEARY		REVISIONS		

Client: SPRINGFIELD WATER AND SEWER COMMISSION
SWSC PROJECT NO. CA-1807-18/CWSRF-4455

Project: CONNECTICUT RIVER SEWER FORCE MAINS AND INTERCEPTOR CROSSING

Drawing: COVER AND LOCUS PLAN

Sheet: 1

CAD FILE: C:\pwworking\kleinfelder\pw01\asilveri\d0196804\G-Cover And Locus_Title.dwg LAYOUT: COVER AND LOCUS PLAN PLOTTED: 3/20/2020 5:57 PM BY: alex silveri

LEGEND

- LAND UNDER WATER ASSOCIATED WITH THE CONNECTICUT RIVER
- TEMPORARY EXCAVATION AND IN SITU RESTORATION LANDWARD OF THE OHWM
- FOOTPRINT OF ARTICULATED CONCRETE BLOCK REVETMENT MAT
- FIELD-CONFIRMED EXTENT OF COAL TAR DEPOSITS
- OHWM-1 — GEOREFERENCED POSITION OF OHWM NUMBERED FLAGS
- MUNICIPAL BOUNDARY
- LOW — LOW — LIMIT OF WORK
- LOD — LOD — LIMIT OF DISTURBANCE
- 30 — BATHYMETRIC COUNTOUR INTERVALS EXPRESSED AS FEET (NAVD88)
- ORDINARY HIGH WATER MARK (OHWM), HIGH WATER MARK AND MEAN ANNUAL HIGH WATER LINE
- MAXIMUM EXTENT OF DREDGING, INCLUDING TRENCH EXCAVATION WITH SIDE SLOPES AND TRENCH EXCAVATION FOR BARGE DRAFT
- MAXIMUM EXTENT OF TRENCH EXCAVATION FOR PIPE INSTALLATION
- DEEPEST LEVEL OF TRENCH EXCAVATION
- 25-FOOT RIVERFRONT AREA (SPRINGFIELD)
- BORDERING LAND SUBJECT TO FLOODING (ELEVATION 60)
- 105+00 — CENTERLINE OF PIPE ALIGNMENT
- TEMPORARY SUPPORT OF EXCAVATION
- TEMPORARY RAMP AND TRESTLE
- S — S — EXISTING SEWER PIPELINE

GENERAL NOTES

1. TO PRINT TO SCALE, USE 22-INCH BY 34-INCH PAPER (1" = 50') OR PRINT TO 11-INCH BY 17-INCH PAPER AND NOTE HALF SCALE (1" = 100').
2. NO VEGETATED WETLANDS OCCUR WITHIN THE LIMIT OF WORK.
3. ALL BARGES AND SUPPORT VESSELS WILL BE OPERATED WITHIN THE LIMIT OF DISTURBANCE (LOD) BOUNDARY SHOWN, BUT ONLY SOUTH (DOWNSTREAM) OF THE LIMIT OF WORK (LOW) BOUNDARY.
4. AREA BOUNDED BY THE LIMIT OF WORK (LOW) AND MAXIMUM EXTENT OF DREDGING IS AREA NECESSARY FOR BARGES AND SUPPORT VESSELS TO OPERATE WHERE NO DISCHARGES OF DREDGED OR FILL MATERIAL WILL OCCUR.
5. ELEVATIONS SHOWN REFER TO NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88).
6. HORIZONTAL COORDINATE BASE IS NORTH AMERICAN DATUM 1983 (NAD 83).
7. SURFACE FEATURES ARE THE RESULT OF AERIAL PHOTOGRAMMETRY AND FIELD SURVEY CONDUCTED FEBRUARY AND AUGUST OF 2014 BY HERITAGE SURVEYS, INC. OF SOUTHAMPTON, MA, SUPPLEMENTED BY FIELD SURVEY CONDUCTED BY WSP IN DECEMBER 2016.
8. RIVER BOTTOM FEATURES ARE THE RESULT OF HYDROGRAPHIC SURVEY PERFORMED BY WSP IN NOVEMBER 2018. HYDROGRAPHY WAS COLLECTED WITH A SEAFLOOR SYSTEMS INC. "HYDROLITE SEA1000" SINGLE BEAM ECHO SOUNDER PAIRED WITH A LEICA DUAL FREQUENCY GPS UNIT.
9. WETLAND DELINEATION WAS PERFORMED IN THE FIELD USING A MULTIPLE PARAMETER METHOD APPROACH FOLLOWING THE MASSACHUSETTS WETLANDS PROTECTION ACT REGULATIONS AT 310 CMR 10.00 AND THE CORPS OF ENGINEERS WETLAND MANUAL (TECHNICAL REPORT Y-87-1). MEAN ANNUAL HIGH WATER WAS LOCATED AT ELEVATION 41.7 BASED ON SEDIMENT DEPOSITION, SCOUR, CHANGE IN VEGETATION, AND FIRST BREAK IN SLOPE. MEAN ANNUAL HIGH WATER HAS BEEN DETERMINED TO ALSO BE THE ORDINARY HIGH WATER MARK.
10. PROPOSED TRESTLE IS ANTICIPATED TO BE STEEL PILE SUPPORTED WITH WOODEN DECK:
    - 10.1. MAX PILE DIMENSION: 24"
    - 10.2. APPROXIMATE PILE BENT SPACING: 20' OC
    - 10.3. APPROXIMATE NUMBER OF PILINGS: 40
    - 10.4. TOP OF TRESTLE ELEVATION: 50.0
    - 10.5. LOWEST HORIZONTAL MEMBER ELEVATION: 47.0 (5.3' ABOVE OHWM EL 41.7)
11. REFER TO PHASING PLANS FOR ENVIRONMENTAL CONTROLS AND NAVIGATIONAL AND FISH PASSAGE CHANNELS AT DIFFERENT PHASES OF WORK.
12. THE MAXIMUM EXTENT OF TRENCHING FOR PIPE INSTALLATION IS 75,300 SQUARE FEET. THE MAXIMUM EXTENT OF DREDGING INCLUDING TRENCH EXCAVATION FOR PIPE INSTALLATION AND BARGE DRAFT IS 98,500 SQUARE FEET.
13. TEMPORARY SUPPORT OF EXCAVATION IS ANTICIPATED TO CONSIST OF SOLDIER PILES AND LAGGING. TEMPORARY SUPPORT OF EXCAVATION WILL BE INSTALLED FROM BARGES WITHIN THE RIVER. REFER TO PHASE 1 AND PHASE 2.1 OF PHASING PLANS. ALL TEMPORARY SUPPORT OF EXCAVATION BELOW THE ORDINARY HIGH WATER MARK WILL BE REMOVED AT THE COMPLETION OF WORK.

PERMITS

401 WATER QUALITY CERTIFICATION (MADEP)
TRANSMITTAL NUMBER: X276837

404 SECTION 10 (USACE)

CONSERVATION MANAGEMENT PLAN (NHESP)

CHAPTER 91 LICENSE (MADEP)
TRANSMITTAL NUMBER: X276836

NOTICE OF INTENT (AGAWAM CONSERVATION COMMISSION)

NOTICE OF INTENT (SPRINGFIELD CONSERVATION COMMISSION)

PLAN

0 50 100
SCALE IN FEET

OHWM-200
OHWM-201
OHWM-202
OHWM-203
OHWM-204
OHWM-205
OHWM-01
OHWM-02
OHWM-03
OHWM-04
OHWM-05
OHWM-06
OHWM-07
OHWM-08
OHWM-09
OHWM-10

CONNECTICUT RIVER

FLOW DIRECTION OF THE RIVER

EXISTING SEWER PIPELINE WATERWAYS LICENSE DPW 2063

EXISTING SEWER PIPELINE WATERWAYS LICENSE DPW 6016

APPROXIMATE LIMIT OF TEMPORARY TRESTLE

APPROXIMATE LIMITS OF SUPPORT OF EXCAVATION

APPROXIMATE LIMITS OF SUPPORT OF EXCAVATION

AGAWAM

SPRINGFIELD

102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00

PERMIT SET

KLEINFELDER
Bright People. Right Solutions.

Stantec

SCALE	AS NOTED			
DATE	MARCH 2020			
JOB NO.	20161801.058			
DESIGNED BY	D CHENG			
DRAWN BY	A SILVERI			
CHECKED BY	B FREDERICK	No.	Description	Date
APPROVED BY	G O'LEARY	REVISIONS		

Client: SPRINGFIELD WATER AND SEWER COMMISSION
SWSC PROJECT NO. CA-1807-18/CWSRF-4455

Project: CONNECTICUT RIVER SEWER FORCE MAINS AND INTERCEPTOR CROSSING

Drawing: PROJECT OVERVIEW PLAN

Sheet: 2

CAD FILE: C:\pwworking\kleinfelderpw01\asilveri\d0198716\C-Base Plan.dwg LAYOUT: 22x34Horiz (50 Scale) PLOTTED: 3/23/2020 9:54 AM BY: alex silveri

LEGEND

- LAND UNDER WATER ASSOCIATED WITH THE CONNECTICUT RIVER
- TEMPORARY EXCAVATION AND IN SITU RESTORATION LANDWARD OF THE OHWM
- FOOTPRINT OF ARTICULATED CONCRETE BLOCK REVETMENT MAT
- FIELD-CONFIRMED EXTENT OF COAL TAR DEPOSITS
- COBBLE AREAS
- OHWM-1 — GEOREFERENCED POSITION OF OHWM NUMBERED FLAGS
- MUNICIPAL BOUNDARY
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- LOD LOD — LIMIT OF DISTURBANCE
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- 105+00 — CENTERLINE OF PIPE ALIGNMENT
- TEMPORARY SUPPORT OF EXCAVATION
- TEMPORARY RAMP AND TRESTLE
- S S — EXISTING SEWER PIPELINE
- STURGEON EXCLUSION BARRIER AND TURBIDITY CURTAIN WITH PILINGS SPACED A MAXIMUM OF 50-FEET APART ON CENTER
- STURGEON EXCLUSION BARRIER AND TURBIDITY CURTAIN WITH INTERIOR BUBBLE CURTAIN CONTAINED WITHIN STURGEON EXCLUSION BARRIER AND TURBIDITY CURTAIN AND PILINGS SPACED A MAXIMUM OF 50-FEET APART ON CENTER
- 200-FOOT CLEAR NAVIGABLE PASSAGEWAY FOR BOAT TRAFFIC, LIGHTED AND MARKED IN ACCORDANCE WITH US COAST GUARD REQUIREMENTS.
- 1 — 40' X 60' DREDGING BARGE FOR EXCAVATOR AND SUPPORT
- 2 — 40' X 60' MATERIAL BARGE FOR SPOIL HANDLING AND MATERIAL SUPPORT
- 3 — CREW BOAT FOR CREW TRANSPORTATION
- 4 — 40' X 60' EQUIPMENT BARGE WITH EQUIPMENT FOR INSTALLATION OF PILES, STURGEON BARRIERS AND SUPPORT OF EXCAVATION

PHASE 1: CONSTRUCTION OF ACCESS TRESTLE, INITIAL EXCAVATION
JUNE 2020 - AUGUST 2020

1. INSTALL TEMPORARY ACCESS TRESTLE USING LAND BASED EQUIPMENT.
2. PERFORM MUSSEL SWEEP IN AREAS OF ACCESS TRESTLE, SUPPORT OF EXCAVATION, AND PHASE 1 DREDGE AREA.
3. INSTALL UPLAND EROSION CONTROL MEASURES.
4. MOBILIZE MARINE EQUIPMENT.
5. SET TURBIDITY BARRIERS, NAVIGATIONAL AIDS, IMPLEMENT STURGEON PROTECTION MEASURES.
6. INSTALL SUPPORT OF EXCAVATION ON WEST BANK.
7. PERFORM INITIAL DREDGING.

GENERAL NOTES

1. RIVERBED SUBSTRATE CHARACTERIZATION AND DELINEATION PERFORMED 09/08/17 BY SWCA. HABITAT SURVEY DIVE TEAM OBTAINED GPS COORDINATES TO IDENTIFY SUBSTRATE, SUBSTRATE TRANSITIONS AND OBSERVATIONS OF RARE SPECIES.
2. EXISTING UTILITIES TO BE MARKED WITH LIGHTED BUOYS, GPS MARKERS.
3. ALL TEMPORARY STRUCTURES, VESSELS, BUOYS TO BE MARKED AND LIGHTED IN ACCORDANCE WITH US COAST GUARD REQUIREMENTS.
4. PROPOSED TEMPORARY PILES ANTICIPATED TO BE 12" STEEL. APPROXIMATELY 90 PILES ANTICIPATED.

OHWM-200 OHWM-201 OHWM-202 OHWM-203 OHWM-204 OHWM-205 OHWM-01 OHWM-02 OHWM-03 OHWM-04 OHWM-05 OHWM-06 OHWM-07 OHWM-08 OHWM-09 OHWM-10

45° LIMIT OF ENVIRONMENTAL CONTROL DISTURBANCE

EXISTING SEWER PIPELINE WATERWAYS LICENSE DPW 2063

EXISTING SEWER PIPELINE WATERWAYS LICENSE DPW 6016

APPROXIMATE LIMIT OF TEMPORARY TRESTLE

APPROXIMATE LIMITS OF SUPPORT OF EXCAVATION

APPROXIMATE LIMITS OF SUPPORT OF EXCAVATION

CONNECTICUT RIVER

FLOW DIRECTION OF THE RIVER

AGAWAM

SPRINGFIELD

102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00

PLAN

0 50 100

SCALE IN FEET

PERMIT SET

KLEINFELDER
Bright People. Right Solutions.

Stantec

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DESIGNED BY	D CHENG			
DRAWN BY	A SILVERI			
CHECKED BY	B FREDERICK	No.	Description	Date
APPROVED BY	G O'LEARY	REVISIONS		

Client: SPRINGFIELD WATER AND SEWER COMMISSION
SWSC PROJECT NO. CA-1807-18/CWSRF-4455

Project: CONNECTICUT RIVER SEWER FORCE MAINS AND INTERCEPTOR CROSSING

Drawing: RIVER CROSSING - PLAN ENVIRONMENTAL CONTROLS - PHASE 1

Sheet: 3A

CAD FILE: C:\pwworking\kleinfelder\pnw01\alexveri\d0196864\C-Phasing Plans.dwg LAYOUT: RIVER CROSSING - PLAN ENVIRONMENTAL CONTROLS PHASE 1 PLOTTED: 3/23/2020 1:08 PM BY: alex silveri

LEGEND

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- TEMPORARY SUPPORT OF EXCAVATION
- TEMPORARY RAMP AND TRESTLE
- S — S — EXISTING SEWER PIPELINE
- STURGEON EXCLUSION BARRIER AND TURBIDITY CURTAIN WITH PILINGS SPACED A MAXIMUM OF 50-FEET APART ON CENTER
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- 2 — 40' X 60' MATERIAL BARGE, LINED FOR CONTAMINATED SPOIL HANDLING
- 3 — CREW BOAT FOR CREW TRANSPORTATION
- 4 — 40' X 60' EQUIPMENT BARGE WITH EQUIPMENT FOR INSTALLATION OF PILES, STURGEON BARRIERS AND SUPPORT OF EXCAVATION
- 5 — 40' X 50' WATER TREATMENT BARGE
- ENVIRONMENTAL DREDGE AREA
- OIL BOOM

PHASE 2: ENVIRONMENTAL DREDGE LOGISTICS PLAN
SEPTEMBER 2020 - OCTOBER 2020

1. PERFORM MUSSEL SWEEP IN AREAS OF EAST SIDE SUPPORT OF EXCAVATION AND PHASE 2 DREDGE AREA
2. REPOSITION TURBIDITY BARRIERS, NAVIGATIONAL AIDS, EXPAND/ADJUST STURGEON PROTECTION MEASURES.
3. INSTALL OIL BOOMS DOWNSTREAM OF DREDGE AREA.
4. INSTALL ENVIRONMENTAL CONTAINMENT ON MATERIAL SCOW.
5. MOBILIZE WATER TREATMENT BARGE.
6. INSTALL SKID PLATE AND ENVIRONMENTAL CONTAINMENT MEASURES ON TRESTLE.
7. COMMENCE DREDGING UTILIZING ENVIRONMENTAL BUCKET.
8. DREDGE SPOILS TO BE TRANSPORTED ON CONTAINMENT BARGE TO TRESTLE.
9. DEWATER DREDGE SPOILS INTO WATER TREATMENT BARGE.
10. LOAD DEWATERED SPOILS INTO LINED CONTAINERS FOR TRANSPORT ON UPLAND ROADS TO THE CONTAINMENT AREA ON BONDI'S ISLAND.
11. UPON COMPLETION OF ENVIRONMENTAL DREDGE, CLEAN ALL EQUIPMENT AND BREAKDOWN CONTAINMENT AREAS.

GENERAL NOTES

1. RIVERBED SUBSTRATE CHARACTERIZATION AND DELINEATION PERFORMED 09/08/17 BY SWCA. HABITAT SURVEY DIVE TEAM OBTAINED GPS COORDINATES TO IDENTIFY SUBSTRATE, SUBSTRATE TRANSITIONS AND OBSERVATIONS OF RARE SPECIES.
2. EXISTING UTILITIES TO BE MARKED WITH LIGHTED BUOYS, GPS MARKERS.
3. ALL TEMPORARY STRUCTURES, VESSELS, BUOYS TO BE MARKED AND LIGHTED IN ACCORDANCE WITH US COAST GUARD REQUIREMENTS.
4. PROPOSED TEMPORARY PILES ANTICIPATED TO BE 12" STEEL. APPROXIMATELY 90 PILES ANTICIPATED.

PLAN

0 50 100

SCALE IN FEET

OHWM-200
OHWM-201
OHWM-202
OHWM-203
OHWM-204
OHWM-205
OHWM-01
OHWM-02
OHWM-03
OHWM-04
OHWM-05
OHWM-06
OHWM-07
OHWM-08
OHWM-09
OHWM-10

45° LIMIT OF ENVIRONMENTAL CONTROL DISTURBANCE

CONNECTICUT RIVER

FLOW DIRECTION OF THE RIVER

EXISTING SEWER PIPELINE WATERWAYS LICENSE DPW 2063

EXISTING SEWER PIPELINE WATERWAYS LICENSE DPW 6016

APPROXIMATE LIMIT OF TEMPORARY TRESTLE

APPROXIMATE LIMITS OF SUPPORT OF EXCAVATION

APPROXIMATE LIMITS OF SUPPORT OF EXCAVATION

AGAWAM

SPRINGFIELD

102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00

PERMIT SET

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SCALE	AS NOTED			
DATE	MARCH 2020			
JOB NO.	20161801.058			
DESIGNED BY	D CHENG			
DRAWN BY	A SILVERI			
CHECKED BY	B FREDERICK	No.	Description	Date
APPROVED BY	G O'LEARY	REVISIONS		

Client: SPRINGFIELD WATER AND SEWER COMMISSION
SWSC PROJECT NO. CA-1807-18/CWSRF-4455

Project: CONNECTICUT RIVER SEWER FORCE MAINS AND INTERCEPTOR CROSSING

Drawing: RIVER CROSSING - PLAN ENVIRONMENTAL CONTROLS - PHASE 2

Sheet: 3B

LEGEND

- LAND UNDER WATER ASSOCIATED WITH THE CONNECTICUT RIVER
- TEMPORARY EXCAVATION AND IN SITU RESTORATION LANDWARD OF THE OHWM
- FOOTPRINT OF ARTICULATED CONCRETE BLOCK REVETMENT MAT
- EXTENT OF COAL TAR DEPOSITS REMOVED
- COBBLE AREAS
- OHWM-1 — GEOREFERENCED POSITION OF OHWM NUMBERED FLAGS
- MUNICIPAL BOUNDARY
- LOW — LOW — LIMIT OF WORK
- LOD — LOD — LIMIT OF DISTURBANCE
- 30 — BATHYMETRIC COUNTOUR INTERVALS EXPRESSED AS FEET (NAVD88)
- ORDINARY HIGH WATER MARK (OHWM), HIGH WATER MARK AND MEAN ANNUAL HIGH WATER LINE
- MAXIMUM EXTENT OF DREDGING, INCLUDING TRENCH EXCAVATION WITH SIDE SLOPES AND TRENCH EXCAVATION FOR BARGE DRAFT
- MAXIMUM EXTENT OF TRENCH EXCAVATION FOR PIPE INSTALLATION
- DEEPEST LEVEL OF TRENCH EXCAVATION
- 25-FOOT RIVERFRONT AREA (SPRINGFIELD)
- BORDERING LAND SUBJECT TO FLOODING (ELEVATION 60)
- 105+00 — CENTERLINE OF PIPE ALIGNMENT
- TEMPORARY SUPPORT OF EXCAVATION
- TEMPORARY RAMP AND TRESTLE
- S — S — EXISTING SEWER PIPELINE
- STURGEON EXCLUSION BARRIER AND TURBIDITY CURTAIN WITH PILINGS SPACED A MAXIMUM OF 50-FEET APART ON CENTER
- STURGEON EXCLUSION BARRIER AND TURBIDITY CURTAIN WITH INTERIOR BUBBLE CURTAIN CONTAINED WITHIN STURGEON EXCLUSION BARRIER AND TURBIDITY CURTAIN AND PILINGS SPACED A MAXIMUM OF 50-FEET APART ON CENTER
- 200-FOOT CLEAR NAVIGABLE PASSAGEWAY FOR BOAT TRAFFIC, LIGHTED AND MARKED IN ACCORDANCE WITH US COAST GUARD REQUIREMENTS.
- 1 — 40' X 60' DREDGING BARGE FOR EXCAVATOR AND SUPPORT
- 2 — 40' X 60' MATERIAL BARGE FOR SPOIL HANDLING AND MATERIAL SUPPORT
- 3 — CREW BOAT FOR CREW TRANSPORTATION
- 4 — 40' X 80' CRANE BARGE FOR INSTALLATION OF PIPES AND REVETMENT MAT

PHASE 2.1: COMPLETE INITIAL DREDGE, START PIPELINE
SEPTEMBER 2020 - OCTOBER 2020

1. INSTALL SUPPORT OF EXCAVATION ON EAST END.
2. COMMENCE TRENCHING, PIPE LINE INSTALLATION AND BACKFILL, WORKING FROM EAST TO WEST.

GENERAL NOTES

1. RIVERBED SUBSTRATE CHARACTERIZATION AND DELINEATION PERFORMED 09/08/17 BY SWCA. HABITAT SURVEY DIVE TEAM OBTAINED GPS COORDINATES TO IDENTIFY SUBSTRATE, SUBSTRATE TRANSITIONS AND OBSERVATIONS OF RARE SPECIES.
2. EXISTING UTILITIES TO BE MARKED WITH LIGHTED BUOYS, GPS MARKERS.
3. ALL TEMPORARY STRUCTURES, VESSELS, BUOYS TO BE MARKED AND LIGHTED IN ACCORDANCE WITH US COAST GUARD REQUIREMENTS.
4. PROPOSED TEMPORARY PILES ANTICIPATED TO BE 12" STEEL. APPROXIMATELY 90 PILES ANTICIPATED.

PLAN

0 50 100

SCALE IN FEET

OHWM-200 OHWM-201 OHWM-202 OHWM-203 OHWM-204 OHWM-205 OHWM-01 OHWM-02 OHWM-03 OHWM-04 OHWM-05 OHWM-06 OHWM-07 OHWM-08 OHWM-09 OHWM-10

45° LIMIT OF ENVIRONMENTAL CONTROL DISTURBANCE

CONNECTICUT RIVER

FLOW DIRECTION OF THE RIVER

EXISTING SEWER PIPELINE WATERWAYS LICENSE DPW 2063

EXISTING SEWER PIPELINE WATERWAYS LICENSE DPW 6016

APPROXIMATE LIMIT OF TEMPORARY TRESTLE

APPROXIMATE LIMITS OF SUPPORT OF EXCAVATION

APPROXIMATE LIMITS OF SUPPORT OF EXCAVATION

AGAWAM SPRINGFIELD

102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00

PERMIT SET

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SCALE	AS NOTED			
DATE	MARCH 2020			
JOB NO.	20161801.058			
DESIGNED BY	D CHENG			
DRAWN BY	A SILVERI			
CHECKED BY	B FREDERICK	No.	Description	Date
APPROVED BY	G O'LEARY	REVISIONS		

Client: SPRINGFIELD WATER AND SEWER COMMISSION
SWSC PROJECT NO. CA-1807-18/CWSRF-4455

Project: CONNECTICUT RIVER SEWER FORCE MAINS AND INTERCEPTOR CROSSING

Drawing: RIVER CROSSING - PLAN ENVIRONMENTAL CONTROLS - PHASE 2.1

Sheet: 3C

CAD FILE: C:\pwworking\kleinfelderpw0\asilveri\d0198804\C-Phasing Plans.dwg LAYOUT: RIVER CROSSING - PLAN ENVIRONMENTAL CONTROLS - PHASE 2.1 PLOTTED: 3/23/2020 1:08 PM BY: alex silveri

LEGEND

- LAND UNDER WATER ASSOCIATED WITH THE CONNECTICUT RIVER
- TEMPORARY EXCAVATION AND IN SITU RESTORATION LANDWARD OF THE OHWM
- FOOTPRINT OF ARTICULATED CONCRETE BLOCK REVETMENT MAT
- EXTENT OF COAL TAR DEPOSITS REMOVED
- COBBLE AREAS
- OHWM-1 — GEOREFERENCED POSITION OF OHWM NUMBERED FLAGS
- MUNICIPAL BOUNDARY
- LOW LOW — LIMIT OF WORK
- LOD LOD — LIMIT OF DISTURBANCE
- 30 — BATHYMETRIC COUNTOUR INTERVALS EXPRESSED AS FEET (NAVD88)
- ORDINARY HIGH WATER MARK (OHWM), HIGH WATER MARK AND MEAN ANNUAL HIGH WATER LINE
- MAXIMUM EXTENT OF DREDGING, INCLUDING TRENCH EXCAVATION WITH SIDE SLOPES AND TRENCH EXCAVATION FOR BARGE DRAFT
- MAXIMUM EXTENT OF TRENCH EXCAVATION FOR PIPE INSTALLATION
- DEEPEST LEVEL OF TRENCH EXCAVATION
- 25-FOOT RIVERFRONT AREA (SPRINGFIELD)
- BORDERING LAND SUBJECT TO FLOODING (ELEVATION 60)
- 105+00 — CENTERLINE OF PIPE ALIGNMENT
- TEMPORARY SUPPORT OF EXCAVATION
- TEMPORARY RAMP AND TRESTLE
- S S — EXISTING SEWER PIPELINE
- STURGEON EXCLUSION BARRIER AND TURBIDITY CURTAIN WITH PILINGS SPACED A MAXIMUM OF 50-FEET APART ON CENTER
- STURGEON EXCLUSION BARRIER AND TURBIDITY CURTAIN WITH INTERIOR BUBBLE CURTAIN CONTAINED WITHIN STURGEON EXCLUSION BARRIER AND TURBIDITY CURTAIN AND PILINGS SPACED A MAXIMUM OF 50-FEET APART ON CENTER
- 200-FOOT CLEAR NAVIGABLE PASSAGEWAY FOR BOAT TRAFFIC, LIGHTED AND MARKED IN ACCORDANCE WITH US COAST GUARD REQUIREMENTS.
- 1 — 40' X 60' DREDGING BARGE FOR EXCAVATOR AND SUPPORT
- 2 — 40' X 60' MATERIAL BARGE FOR SPOIL HANDLING AND MATERIAL SUPPORT
- 3 — CREW BOAT FOR CREW TRANSPORTATION
- 4 — 40' X 80' CRANE BARGE FOR INSTALLATION OF PIPES AND REVETMENT MAT

PHASE 3: COMPLETE PIPELINE INSTALLATION, BACKFILL, AND DEMO
NOVEMBER 2020 - JANUARY 2021

1. PERFORM MUSSEL SWEEP IN BALANCE OF PIPELINE AREA.
2. RE-POSITION TURBIDITY BARRIERS, NAVIGATIONAL AIDS, EXPAND/ADJUST STURGEON PROTECTION MEASURES. REMOVE PILINGS FROM PHASE 2 AND PHASE 2.1 WORK.
3. COMPLETE TRENCHING, PIPELINE INSTALLATION AND BACKFILL, WORKING FROM EAST TO WEST.
4. REMOVE TURBIDITY BARRIERS AND TEMPORARY PILINGS.
5. REMOVE ALL MARINE EQUIPMENT.
6. DEMOBILIZE ACCESS TRESTLE.

GENERAL NOTES

1. RIVERBED SUBSTRATE CHARACTERIZATION AND DELINEATION PERFORMED 09/08/17 BY SWCA. HABITAT SURVEY DIVE TEAM OBTAINED GPS COORDINATES TO IDENTIFY SUBSTRATE, SUBSTRATE TRANSITIONS AND OBSERVATIONS OF RARE SPECIES.
2. EXISTING UTILITIES TO BE MARKED WITH LIGHTED BUOYS, GPS MARKERS.
3. ALL TEMPORARY STRUCTURES, VESSELS, BUOYS TO BE MARKED AND LIGHTED IN ACCORDANCE WITH US COAST GUARD REQUIREMENTS.
4. PROPOSED TEMPORARY PILES ANTICIPATED TO BE 12" STEEL. APPROXIMATELY 90 PILES ANTICIPATED.

PLAN

0 50 100

SCALE IN FEET

OHWM-200 OHWM-201 OHWM-202 OHWM-203 OHWM-204 OHWM-205 OHWM-01 OHWM-02 OHWM-03 OHWM-04 OHWM-05 OHWM-06 OHWM-07 OHWM-08 OHWM-09 OHWM-10

45° LIMIT OF ENVIRONMENTAL CONTROL DISTURBANCE

EXISTING SEWER PIPELINE WATERWAYS LICENSE DPW 2063

EXISTING SEWER PIPELINE WATERWAYS LICENSE DPW 6016

APPROXIMATE LIMIT OF TEMPORARY TRESTLE

APPROXIMATE LIMITS OF SUPPORT OF EXCAVATION

APPROXIMATE LIMITS OF SUPPORT OF EXCAVATION

CONNECTICUT RIVER

FLOW DIRECTION OF THE RIVER

AGAWAM

SPRINGFIELD

102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00

PERMIT SET

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SCALE	AS NOTED			
DATE	MARCH 2020			
JOB NO.	20161801.058			
DESIGNED BY	D CHENG			
DRAWN BY	A SILVERI			
CHECKED BY	B FREDERICK	No.	Description	Date
APPROVED BY	G O'LEARY	REVISIONS		

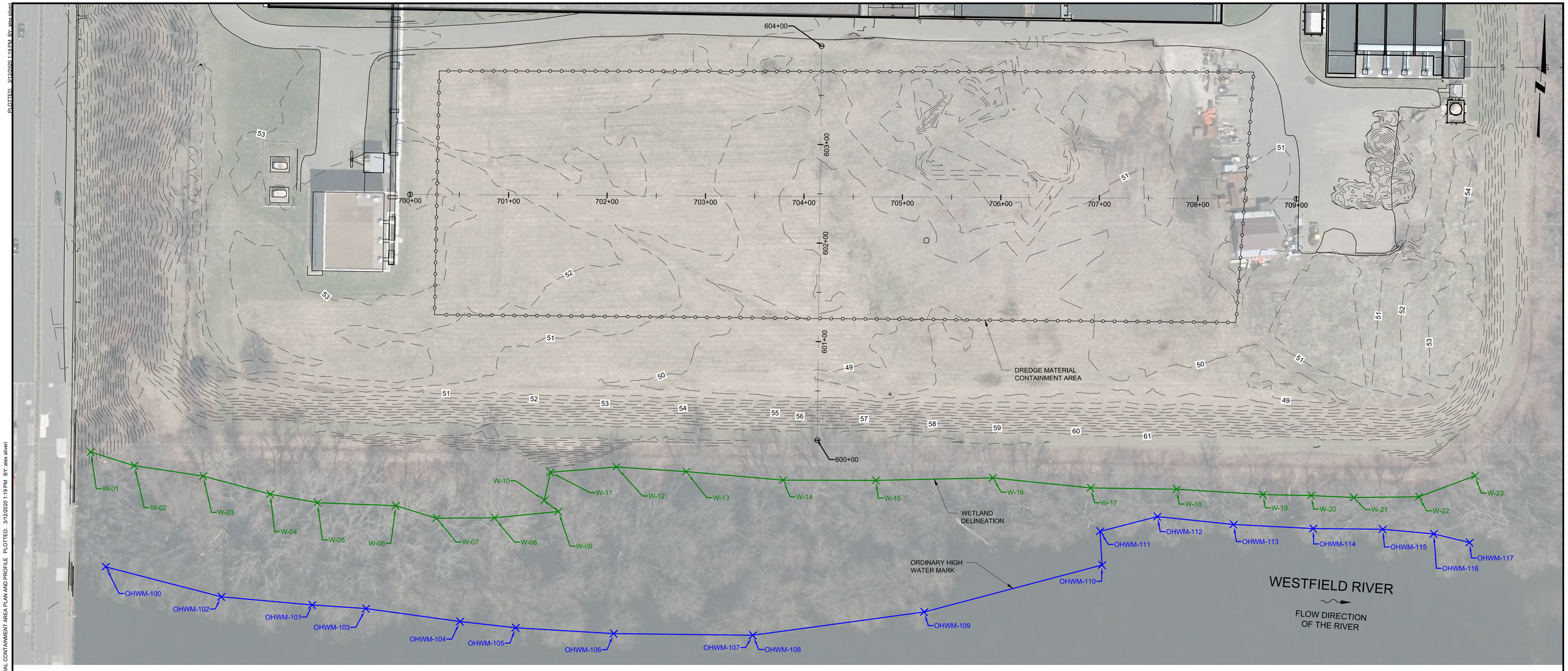
Client: SPRINGFIELD WATER AND SEWER COMMISSION
SWSC PROJECT NO. CA-1807-18/CWSRF-4455

Project: CONNECTICUT RIVER SEWER FORCE MAINS AND INTERCEPTOR CROSSING

Drawing: RIVER CROSSING - PLAN ENVIRONMENTAL CONTROLS - PHASE 3

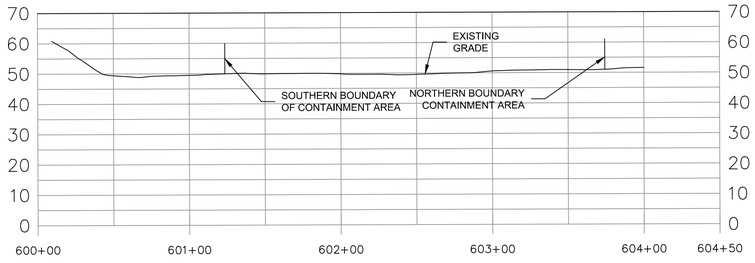
Sheet: 3D

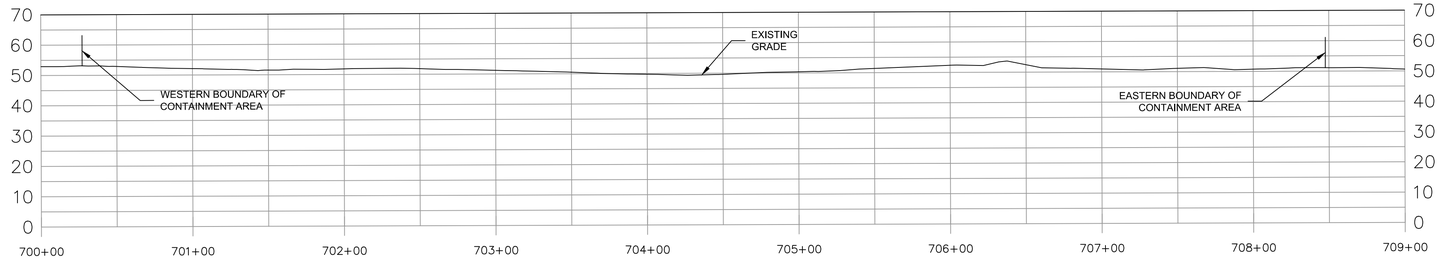
CAD FILE: C:\pwworking\kleinfelderpw0\aalsheri\d0198084\C-Phasing Plans.dwg LAYOUT: RIVER CROSSING - PLAN ENVIRONMENTAL CONTROLS - PHASE 3 PLOTTED: 3/23/2020 1:09 PM BY: alex silveri



PLAN

0 50 100
SCALE IN FEET





GENERAL NOTES

1. WETLAND DELINEATION WAS PERFORMED IN THE FIELD USING A MULTIPLE PARAMETER METHOD APPROACH FOLLOWING THE MASSACHUSETTS WETLANDS PROTECTION ACT REGULATIONS AT 310 CMR 10.00 AND THE CORPS OF ENGINEERS WETLAND MANUAL (TECHNICAL REPORT Y-87-1).

PROFILE

H: 1" = 50'
V: 1" = 25'

HORZ 0 50 100
VERT 0 25 50
SCALE IN FEET

PERMIT SET

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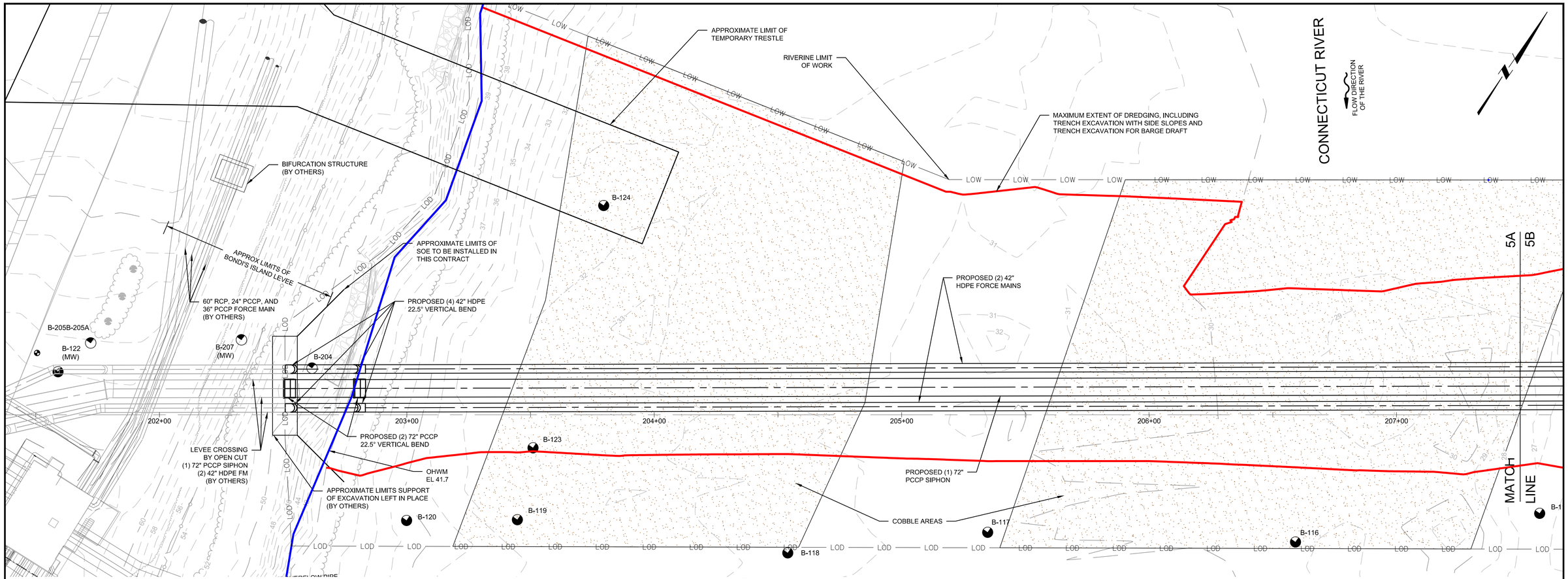
SCALE	AS NOTED			
DATE	MARCH 2020			
JOB NO.	20161801.058			
DESIGNED BY	D CHENG			
DRAWN BY	A SILVERI			
CHECKED BY	S SHEA	No.	Description	Date
APPROVED BY	G O'LEARY	REVISIONS		

Client: SPRINGFIELD WATER AND SEWER COMMISSION
SWSC PROJECT NO. CA-1807-18/CWSRF-4455

Project: CONNECTICUT RIVER SEWER FORCE MAINS AND INTERCEPTOR CROSSING

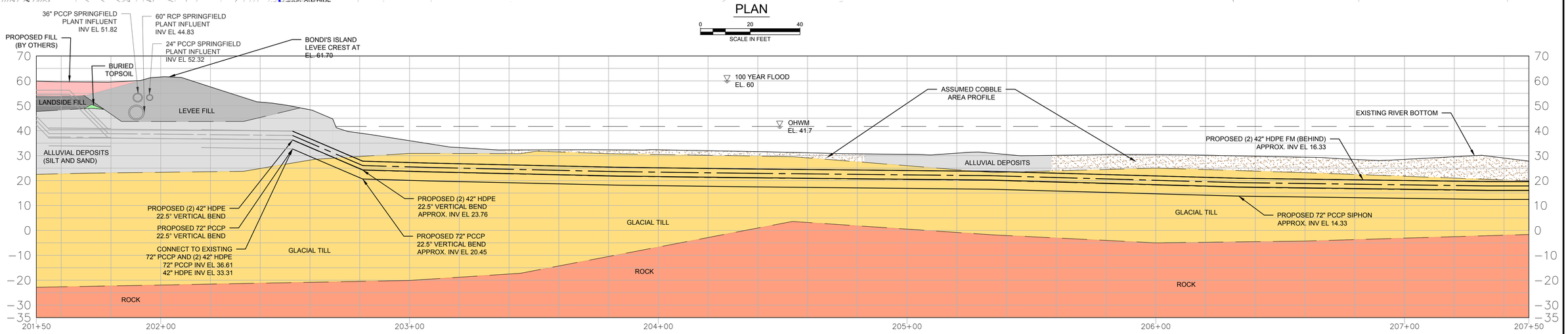
Drawing: BONDI'S ISLAND DREDGE MATERIAL CONTAINMENT AREA PLAN AND PROFILE

Sheet: 4



PLAN

SCALE IN FEET: 0, 20, 40



PROFILE

H: 1" = 20'
V: 1" = 20'

HORZ SCALE IN FEET: 0, 20, 40
VERT SCALE IN FEET: 0, 10, 20

PERMIT SET

GENERAL NOTES

1. RIVERBED SUBSTRATE CHARACTERIZATION AND DELINEATION PERFORMED 09/08/17 BY SWCA. HABITAT SURVEY DIVE TEAM OBTAINED GPS COORDINATES TO IDENTIFY SUBSTRATE, SUBSTRATE TRANSITIONS AND OBSERVATIONS OF RARE SPECIES.

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SCALE	AS NOTED
DATE	MARCH 2020
JOB NO.	20161801.058
DESIGNED BY	D CHENG
DRAWN BY	A SILVERI
CHECKED BY	B FREDERICK
APPROVED BY	G O'LEARY

No.	Description	Date
	REVISIONS	

Client: SPRINGFIELD WATER AND SEWER COMMISSION
SWSC PROJECT NO. CA-1807-18/CWSRF-4455

Project: CONNECTICUT RIVER SEWER FORCE MAINS AND INTERCEPTOR CROSSING

Drawing: GEOTECHNICAL
PLAN AND PLOT STA 101+50 TO 107+50

Sheet: 5A

CAD FILE: C:\pwworking\kleinfelderpw01\aslivers\d0186824\B-Plan And Profile.dwg LAYOUT: PLAN AND PROFILE STA 101+50 TO 107+50 PLOTTED: 3/23/2020 9:49 AM BY: alex silveri

RIVERINE LIMIT OF WORK

APPROXIMATE LIMIT OF SUPPORT OF EXCAVATION

COBBLE AREA

MAXIMUM EXTENT OF DREDGING, INCLUDING TRENCH EXCAVATION WITH SIDE SLOPES AND TRENCH EXCAVATION FOR BARGE DRAFT

CONNECTICUT RIVER

FLOW DIRECTION OF THE RIVER

PROPOSED (4) 42" HDPE 11.25° VERTICAL BEND

PROPOSED (2) 42" HDPE FORCE MAINS

PROPOSED (1) 72" PCCP SIPHON

APPROX. LOCATION OF PROPOSED 72" PCCP WITH 2 FULL BEVELED JOINTS FOR VERTICAL BENDS

RAILROAD CROSSING BY TUNNELING
(1) 72" PCCP SIPHON IN 96" RCP CASING
(2) 42" HDPE FM IN 48" STEEL CASING

OHWM EL 41.7

5A | 5B

MATCH LINE

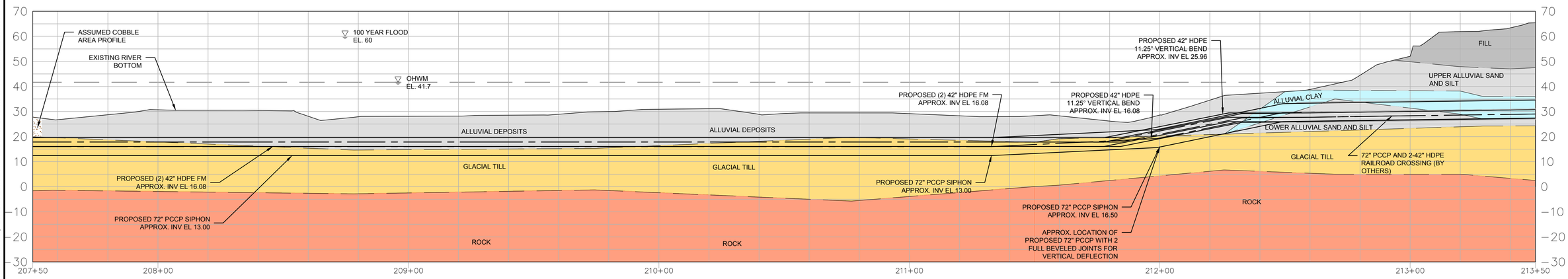
B-62 B-63 B-203 (MW) B-110 B-105 B-112 B-111 B-113 B-114 B-115

208+00 209+00 210+00 211+00 212+00 213+00

LOW LOD

PLAN

0 20 40
SCALE IN FEET



PROFILE

H: 1" = 20'
V: 1" = 20'

HORZ 0 20 40
VERT 0 10 20
SCALE IN FEET

PERMIT SET

GENERAL NOTES

1. RIVERBED SUBSTRATE CHARACTERIZATION AND DELINEATION PERFORMED 09/08/17 BY SWCA. HABITAT SURVEY DIVE TEAM OBTAINED GPS COORDINATES TO IDENTIFY SUBSTRATE, SUBSTRATE TRANSITIONS AND OBSERVATIONS OF RARE SPECIES.

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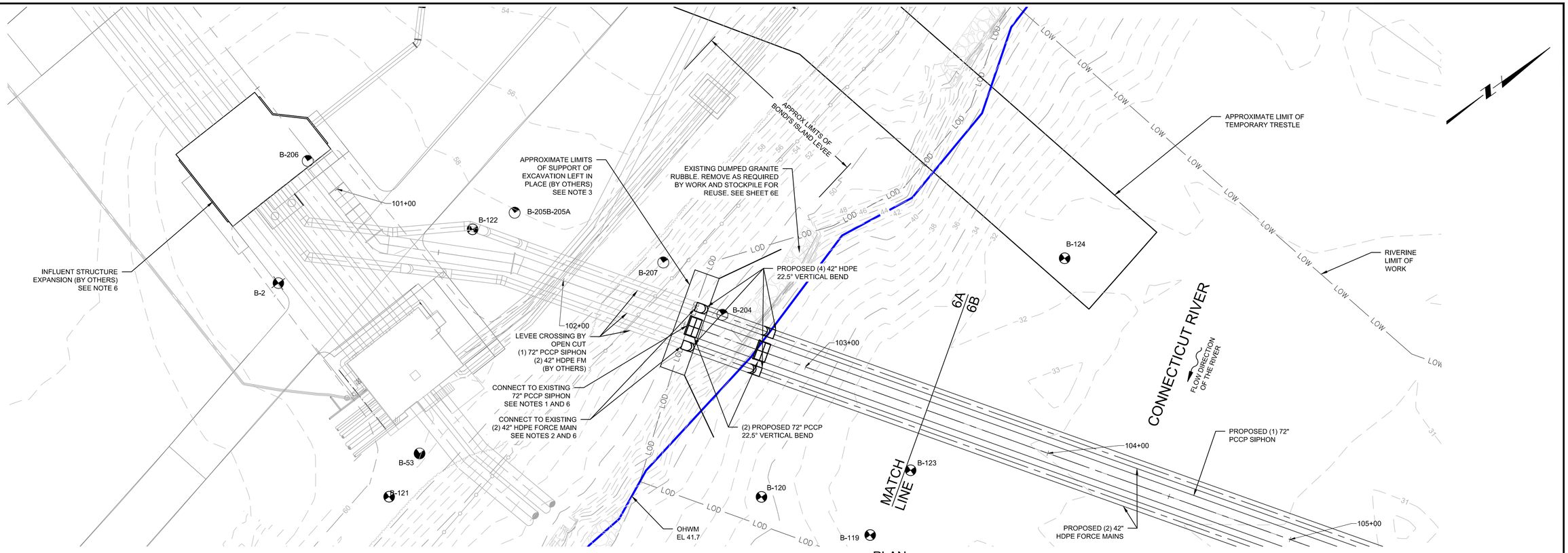
Client: SPRINGFIELD WATER AND SEWER COMMISSION
SWSC PROJECT NO. CA-1807-18/CWSRF-4455

Project: CONNECTICUT RIVER SEWER FORCE MAINS AND INTERCEPTOR CROSSING

Drawing: GEOTECHNICAL
PLAN AND PLOT STA 107+50 TO 113+50

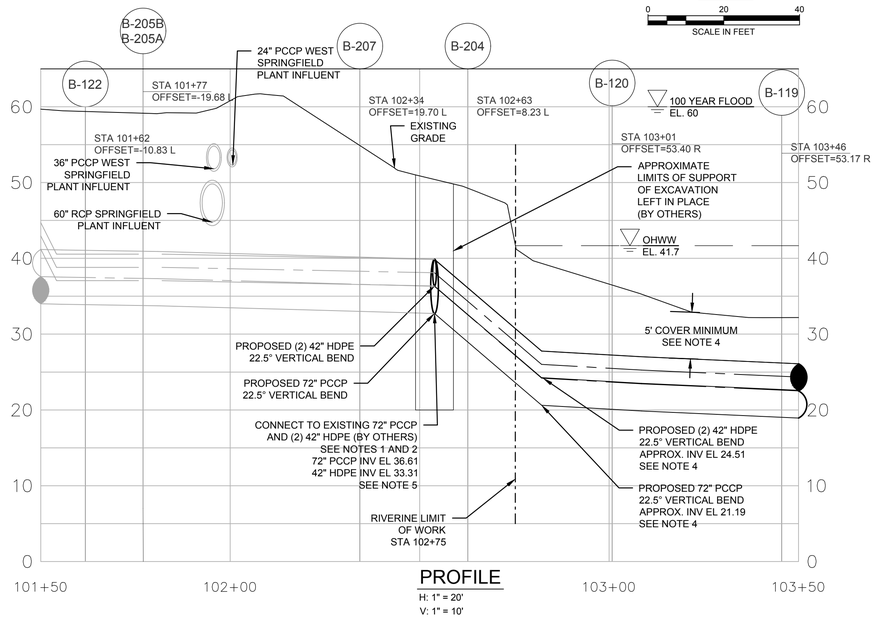
Sheet: 5B

CAD FILE: C:\pwworking\den\fedorpw01\asilveri\d0188804\B-Plan And Profile.dwg LAYOUT: PLAN AND PROFILE STA 107+50 TO 113+50 PLOTTED: 3/20/2020 6:36 PM BY: alex silveri



PLAN

0 20 40
SCALE IN FEET



PROFILE
H: 1" = 20'
V: 1" = 10'

GENERAL NOTES

1. REMOVE EXISTING 72" PCCP BULKHEAD FITTING INSTALLED BY OTHERS. CONNECT TO EXISTING 72" PCCP.
2. REMOVE BLIND FLANGE INSTALLED BY OTHERS AND CONNECT TO EXISTING 42" HDPE FLANGE.
3. TEMPORARY SUPPORT OF EXCAVATION IS ANTICIPATED TO CONSIST OF SOLDIER PILES AND LAGGING. TEMPORARY SUPPORT OF EXCAVATION WILL BE INSTALLED FROM BARGES WITHIN THE RIVER. REFER TO PHASE 1 OF PHASING PLANS. ALL TEMPORARY SUPPORT OF EXCAVATION BELOW THE ORDINARY HIGH WATER MARK WILL BE REMOVED AT THE COMPLETION OF WORK.
4. REFER TO SPECIFICATIONS SECTION 02160.
5. INVERT ELEVATIONS ARE APPROXIMATE. FINAL INVERT ELEVATIONS WILL BE BASED ON PRECONSTRUCTION BATHYMETRIC SURVEY AND INDICATED MINIMUM COVER.
6. COORDINATE WITH CONSTRUCTION MANAGER FOR AS-BUILT FORCE MAIN AND SIPHON INVERT ELEVATIONS AT THE CONNECTION LOCATION.
7. CONTRACTOR SHALL MAINTAIN FLOOD PROTECTION THROUGH DURATION OF THE RIVERINE WORK UNTIL ALL CONNECTIONS WITHIN THE RIVER ARE MADE. CONTRACTOR SHALL COORDINATE FLOOD PROTECTION WITH UPLAND WORK CONTRACTOR BEFORE CONNECTING TO UPLAND WORK.
8. REFER TO PHASING PLANS FOR ENVIRONMENTAL CONTROLS AND NAVIGATIONAL AND FISH PASSAGE CHANNELS AT DIFFERENT PHASES OF WORK.

HORZ 0 20 40
VERT 0 10 20
SCALE IN FEET

PERMIT SET

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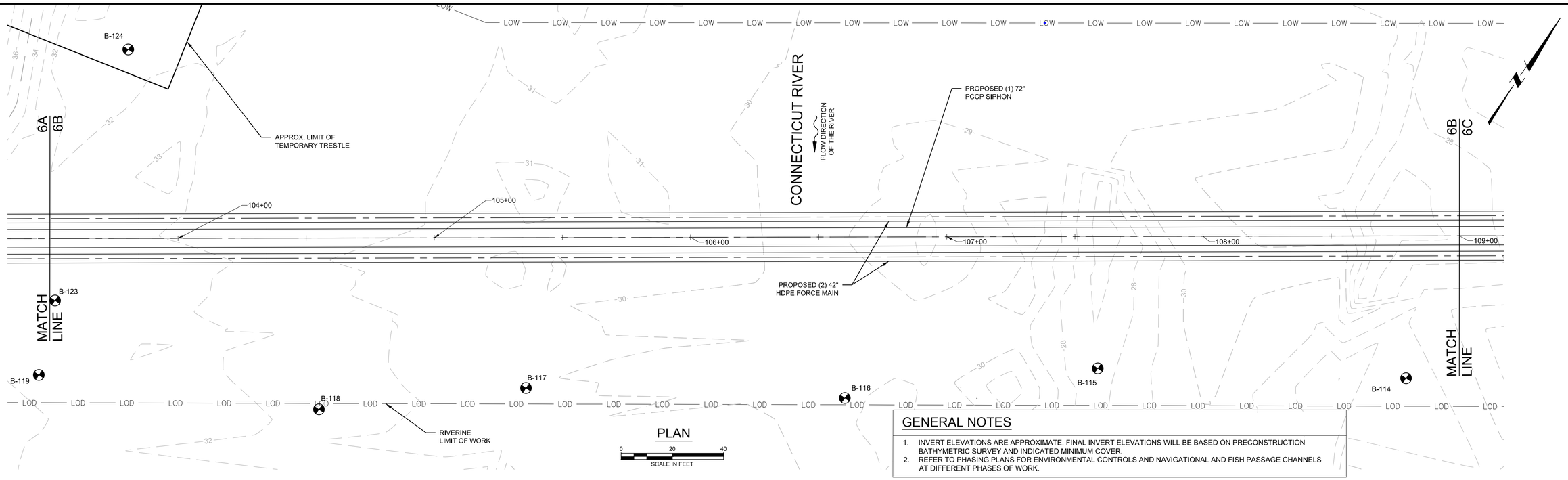
SCALE	AS NOTED			
DATE	MARCH 2020			
JOB NO.	20161801.058			
DESIGNED BY	D CHENG			
DRAWN BY	A SILVERI			
CHECKED BY	B FREDERICK	No.	Description	Date
APPROVED BY	G O'LEARY	REVISIONS		

Client: SPRINGFIELD WATER AND SEWER COMMISSION
SWSC PROJECT NO. CA-1807-18/CWSRF-4455

Project: CONNECTICUT RIVER SEWER FORCE MAINS AND INTERCEPTOR CROSSING

Drawing: PLAN AND PROFILE STA 101+50 TO 103+50

Sheet: 6A

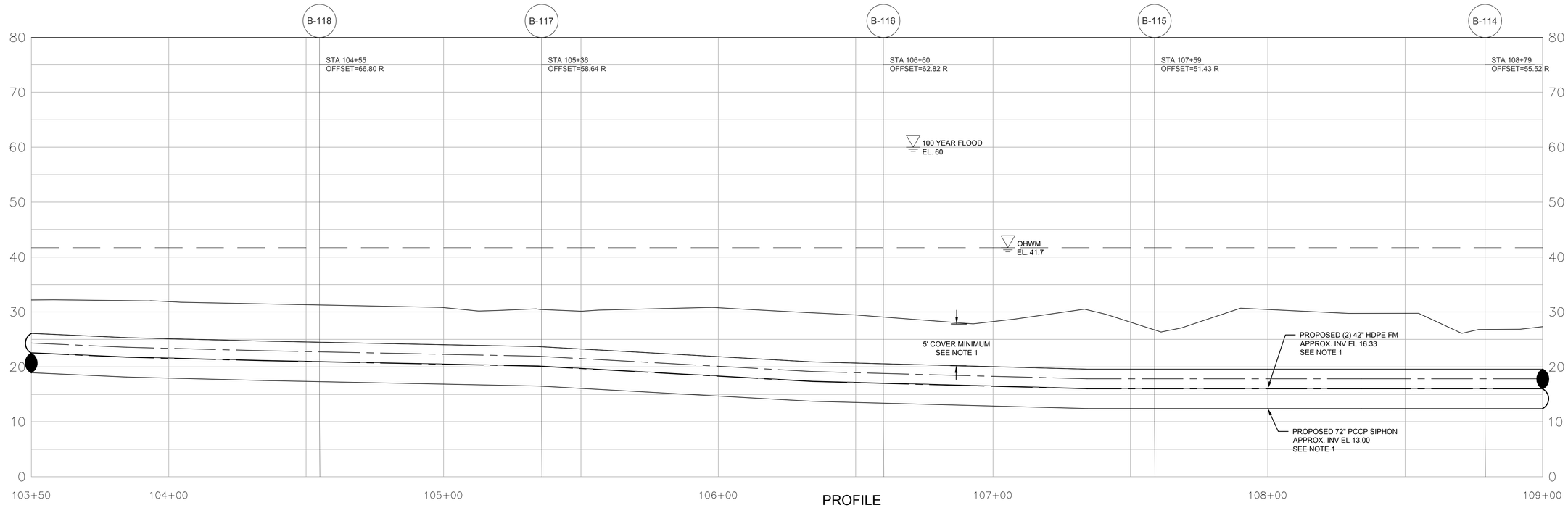


PLAN

0 20 40
SCALE IN FEET

GENERAL NOTES

1. INVERT ELEVATIONS ARE APPROXIMATE. FINAL INVERT ELEVATIONS WILL BE BASED ON PRECONSTRUCTION BATHYMETRIC SURVEY AND INDICATED MINIMUM COVER.
2. REFER TO PHASING PLANS FOR ENVIRONMENTAL CONTROLS AND NAVIGATIONAL AND FISH PASSAGE CHANNELS AT DIFFERENT PHASES OF WORK.



PROFILE

H: 1" = 20'
V: 1" = 10'

HORZ 0 20 40
VERT 0 10 20
SCALE IN FEET

PERMIT SET

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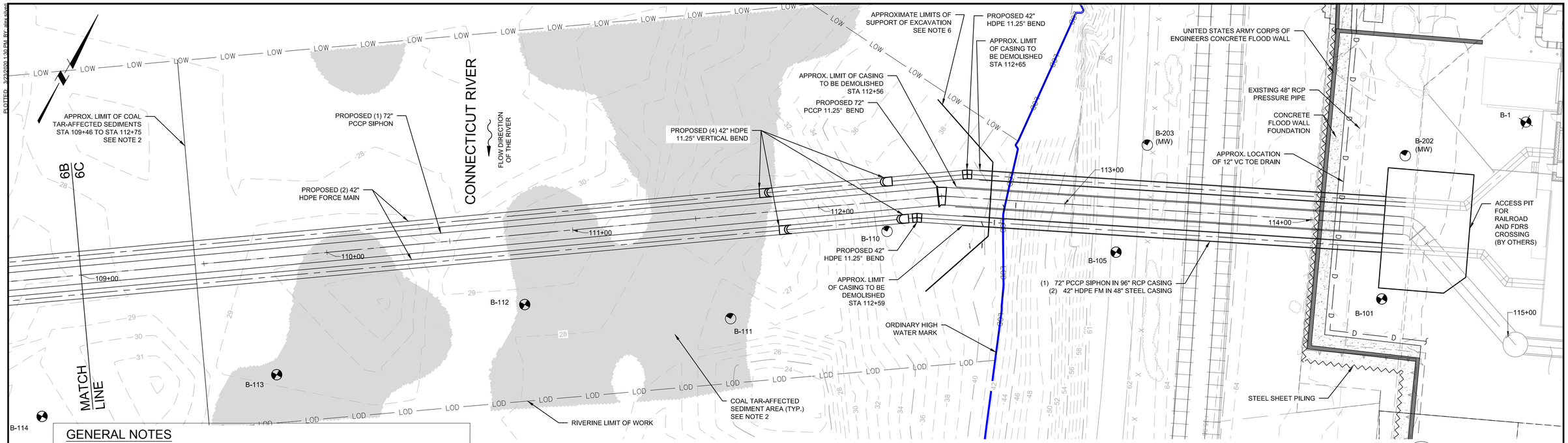
CHECKED BY	B FREDERICK	No.	Description	Date	
APPROVED BY	G O'LEARY	REVISIONS			

Client: SPRINGFIELD WATER AND SEWER COMMISSION
SWSC PROJECT NO. CA-1807-18/CWSRF-4455

Project: CONNECTICUT RIVER SEWER FORCE MAINS AND INTERCEPTOR CROSSING

Drawing: PLAN AND PROFILE STA 103+50 TO 109+00

Sheet: 6B

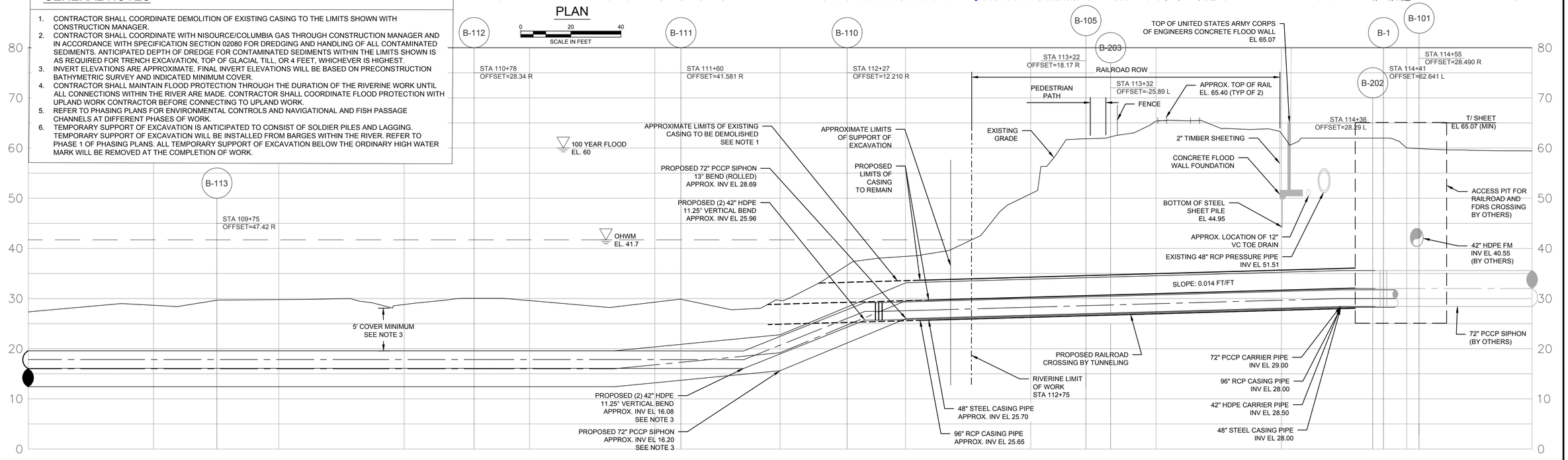


PLAN

0 20 40
SCALE IN FEET

GENERAL NOTES

1. CONTRACTOR SHALL COORDINATE DEMOLITION OF EXISTING CASING TO THE LIMITS SHOWN WITH CONSTRUCTION MANAGER.
2. CONTRACTOR SHALL COORDINATE WITH NISOURCE/COLUMBIA GAS THROUGH CONSTRUCTION MANAGER AND IN ACCORDANCE WITH SPECIFICATION SECTION 02080 FOR DREDGING AND HANDLING OF ALL CONTAMINATED SEDIMENTS. ANTICIPATED DEPTH OF DREDGE FOR CONTAMINATED SEDIMENTS WITHIN THE LIMITS SHOWN IS AS REQUIRED FOR TRENCH EXCAVATION, TOP OF GLACIAL TILL, OR 4 FEET, WHICHEVER IS HIGHEST.
3. INVERT ELEVATIONS ARE APPROXIMATE. FINAL INVERT ELEVATIONS WILL BE BASED ON PRECONSTRUCTION BATHYMETRIC SURVEY AND INDICATED MINIMUM COVER.
4. CONTRACTOR SHALL MAINTAIN FLOOD PROTECTION THROUGH THE DURATION OF THE RIVERINE WORK UNTIL ALL CONNECTIONS WITHIN THE RIVER ARE MADE. CONTRACTOR SHALL COORDINATE FLOOD PROTECTION WITH UPLAND WORK CONTRACTOR BEFORE CONNECTING TO UPLAND WORK.
5. REFER TO PHASING PLANS FOR ENVIRONMENTAL CONTROLS AND NAVIGATIONAL AND FISH PASSAGE CHANNELS AT DIFFERENT PHASES OF WORK.
6. TEMPORARY SUPPORT OF EXCAVATION IS ANTICIPATED TO CONSIST OF SOLDIER PILES AND LAGGING. TEMPORARY SUPPORT OF EXCAVATION WILL BE INSTALLED FROM BARGES WITHIN THE RIVER. REFER TO PHASE 1 OF PHASING PLANS. ALL TEMPORARY SUPPORT OF EXCAVATION BELOW THE ORDINARY HIGH WATER MARK WILL BE REMOVED AT THE COMPLETION OF WORK.



PROFILE

H: 1" = 20'
V: 1" = 10'

HORZ 0 20 40
VERT 0 10 20
SCALE IN FEET

PERMIT SET

KLEINFELDER
Bright People. Right Solutions.

Stantec

SCALE	AS NOTED			
DATE	MARCH 2020			
JOB NO.	20161801.058			
DESIGNED BY	D CHENG			
DRAWN BY	A SILVERI			
CHECKED BY	B FREDERICK	No.	Description	Date
APPROVED BY	G O'LEARY	REVISIONS		

Client: SPRINGFIELD WATER AND SEWER COMMISSION
SWSC PROJECT NO. CA-1807-18/CWSRF-4455

Project: CONNECTICUT RIVER SEWER FORCE MAINS AND INTERCEPTOR CROSSING

Drawing: PLAN AND PROFILE STA 109+00 TO 115+00

Sheet: 6C

CONNECTICUT RIVER

FLOW DIRECTION OF THE RIVER

APPROXIMATE LIMIT OF TREE AND BRUSH REMOVAL

RIVERINE LIMIT OF WORK

APPROXIMATE LIMIT OF TEMPORARY RAMP

APPROXIMATE LIMIT OF EXCAVATION

STEEL GIRDER SUPPORTED BY STEEL PILES

PROPOSED (2) 42" HDPE FORCE MAINS

APPROXIMATE LIMIT OF TEMPORARY TRESTLE

OHWM EL 41.7

BIFURCATION STRUCTURE (BY OTHERS) TOP EL 68.24

PROPOSED (1) 72" PCCP SIPHON

0+00 1+00 2+00 3+00

-33.13% -8.03% -33.16%

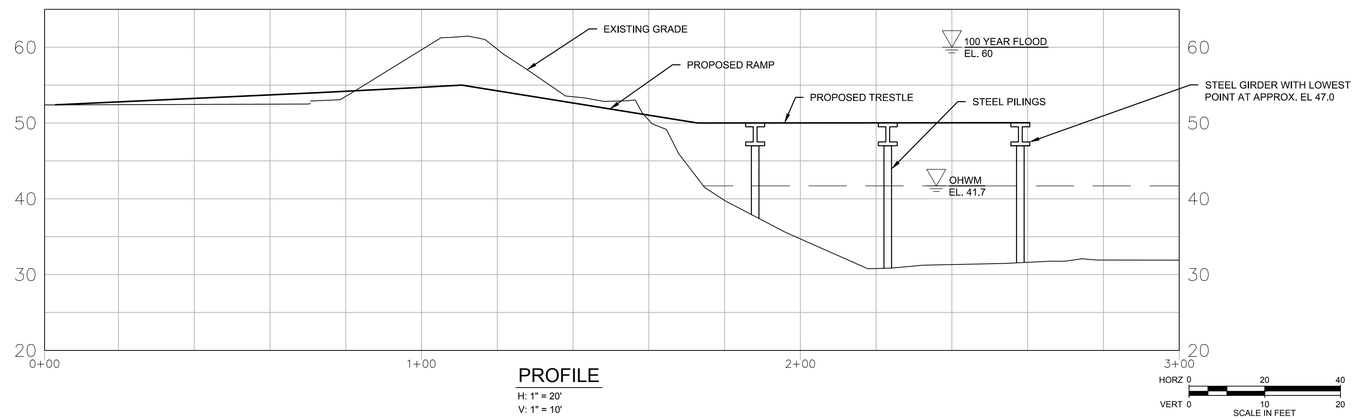
LOW LOD

PLAN

0 20 40
SCALE IN FEET

GENERAL NOTES

1. PROPOSED TRESTLE IS ANTICIPATED TO BE STEEL PILE SUPPORTED WITH WOODEN DECK:
   - 1.1. MAX PILE DIMENSION: 24"
   - 1.2. APPROXIMATE PILE BENT SPACING: 20' OC
   - 1.3. APPROXIMATE NUMBER OF PILINGS: 40
   - 1.4. TOP OF TRESTLE ELEVATION: 50.0
   - 1.5. LOWEST HORIZONTAL MEMBER ELEVATION: 47.0 (5.3' ABOVE OHWM EL 41.7)



PROFILE

H: 1" = 20'
V: 1" = 10'

HORZ 0 20 40
VERT 0 10 20
SCALE IN FEET

PERMIT SET

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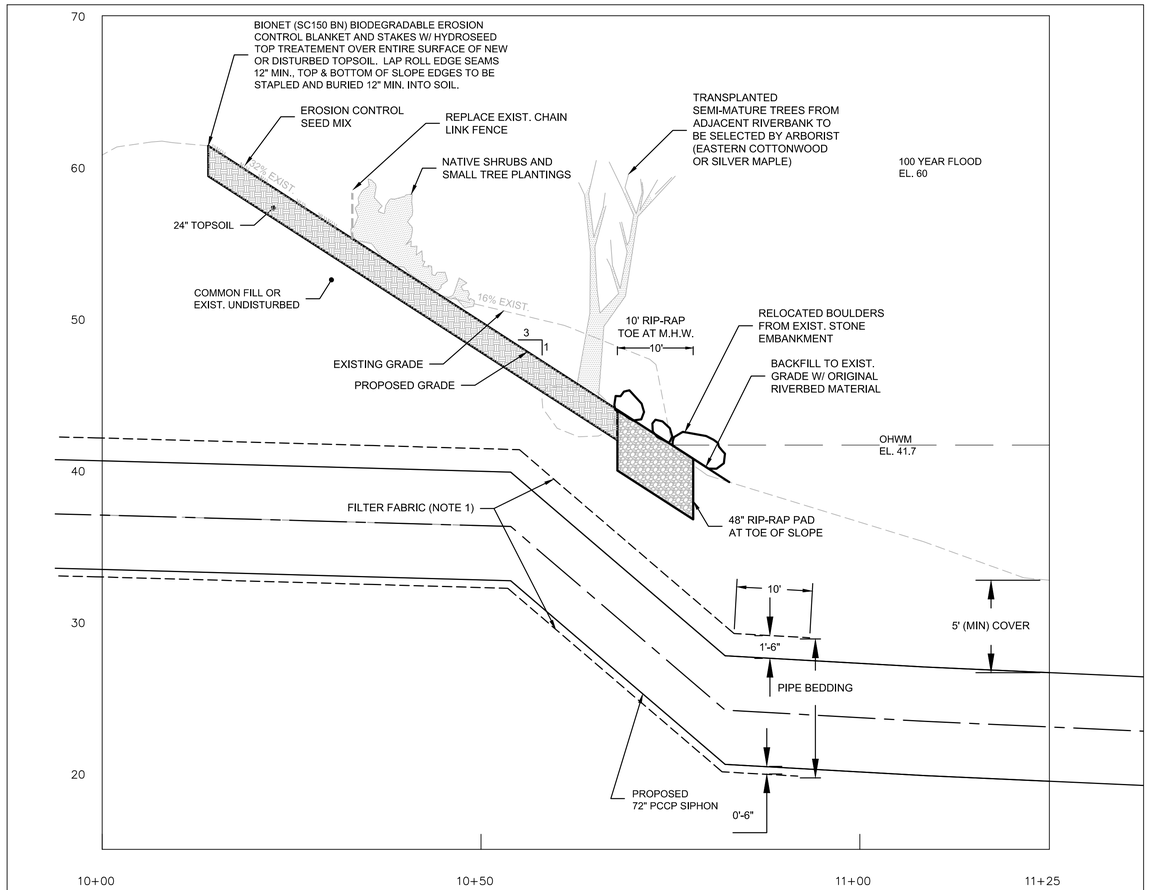
Drawing: TRESTLE PLAN AND PROFILE

Sheet: 6D



GENERAL NOTES

1. FILTER FABRIC SHALL BE PLACED BELOW THE PIPE BETWEEN THE PIPE BEDDING AND ALLUVIAL DEPOSITS. FILTER FABRIC IS NOT REQUIRED BETWEEN THE PIPE BEDDING AND GLACIAL TILL.

TYPICAL RIVERBANK RESTORATION PROFILE

PROFILE
H: 1" = 10'
V: 1" = 5'

HORZ 0 10 20
VERT 0 5 10
SCALE IN FEET

PERMIT SET

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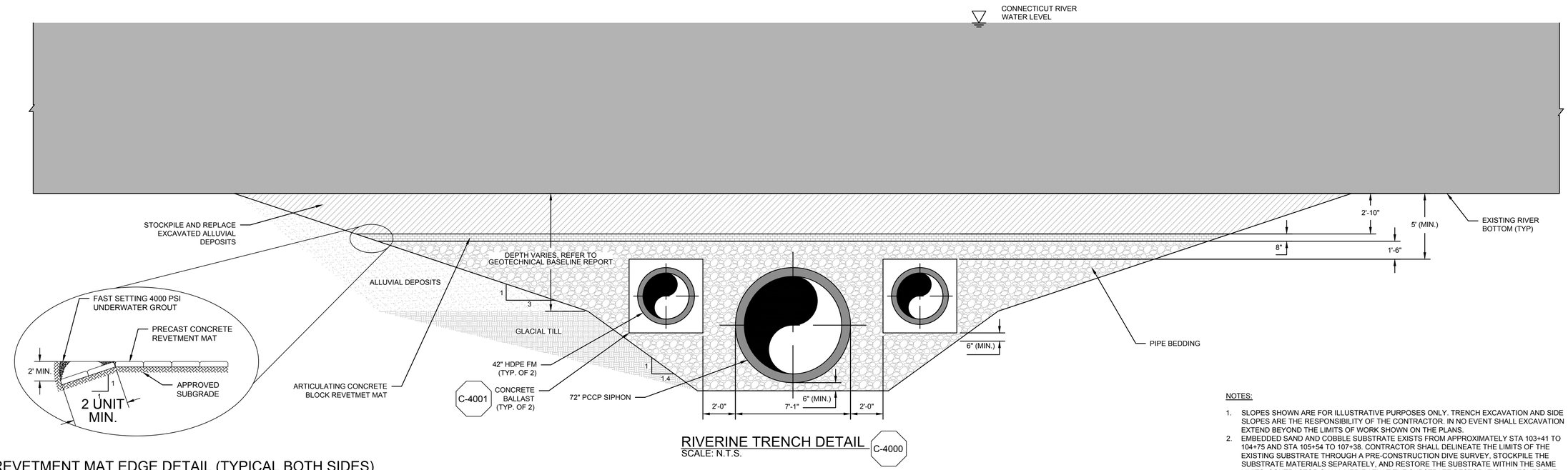
SCALE	AS NOTED			
DATE	MARCH 2020			
JOB NO.	20161801.058			
DESIGNED BY	JO			
DRAWN BY	GKM			
CHECKED BY	AAS	No.	Description	Date
APPROVED BY	JO	REVISIONS		

Client: SPRINGFIELD WATER AND SEWER COMMISSION
SWSC PROJECT NO. CA-1807-18/CWSRF-4455

Project: CONNECTICUT RIVER SEWER FORCE MAINS AND INTERCEPTOR CROSSING

Drawing: RIVERBANK RESTORATION DETAIL

Sheet: 6E



RIVERINE TRENCH DETAIL C-4000
SCALE: N.T.S.

REVETMENT MAT EDGE DETAIL (TYPICAL BOTH SIDES)
SCALE: N.T.S.

NOTES:

1. SLOPES SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. TRENCH EXCAVATION AND SIDE SLOPES ARE THE RESPONSIBILITY OF THE CONTRACTOR. IN NO EVENT SHALL EXCAVATION EXTEND BEYOND THE LIMITS OF WORK SHOWN ON THE PLANS.
2. EMBEDDED SAND AND COBBLE SUBSTRATE EXISTS FROM APPROXIMATELY STA 103+41 TO 104+75 AND STA 105+54 TO 107+38. CONTRACTOR SHALL DELINEATE THE LIMITS OF THE EXISTING SUBSTRATE THROUGH A PRE-CONSTRUCTION DIVE SURVEY, STOCKPILE THE SUBSTRATE MATERIALS SEPARATELY, AND RESTORE THE SUBSTRATE WITHIN THE SAME LIMITS. CONTRACTOR SHALL VERIFY THAT THE SUBSTRATE RESTORATION MATCHES THE EXISTING CONDITION PER THE POST-CONSTRUCTION DIVE SURVEY.

PERMIT SET

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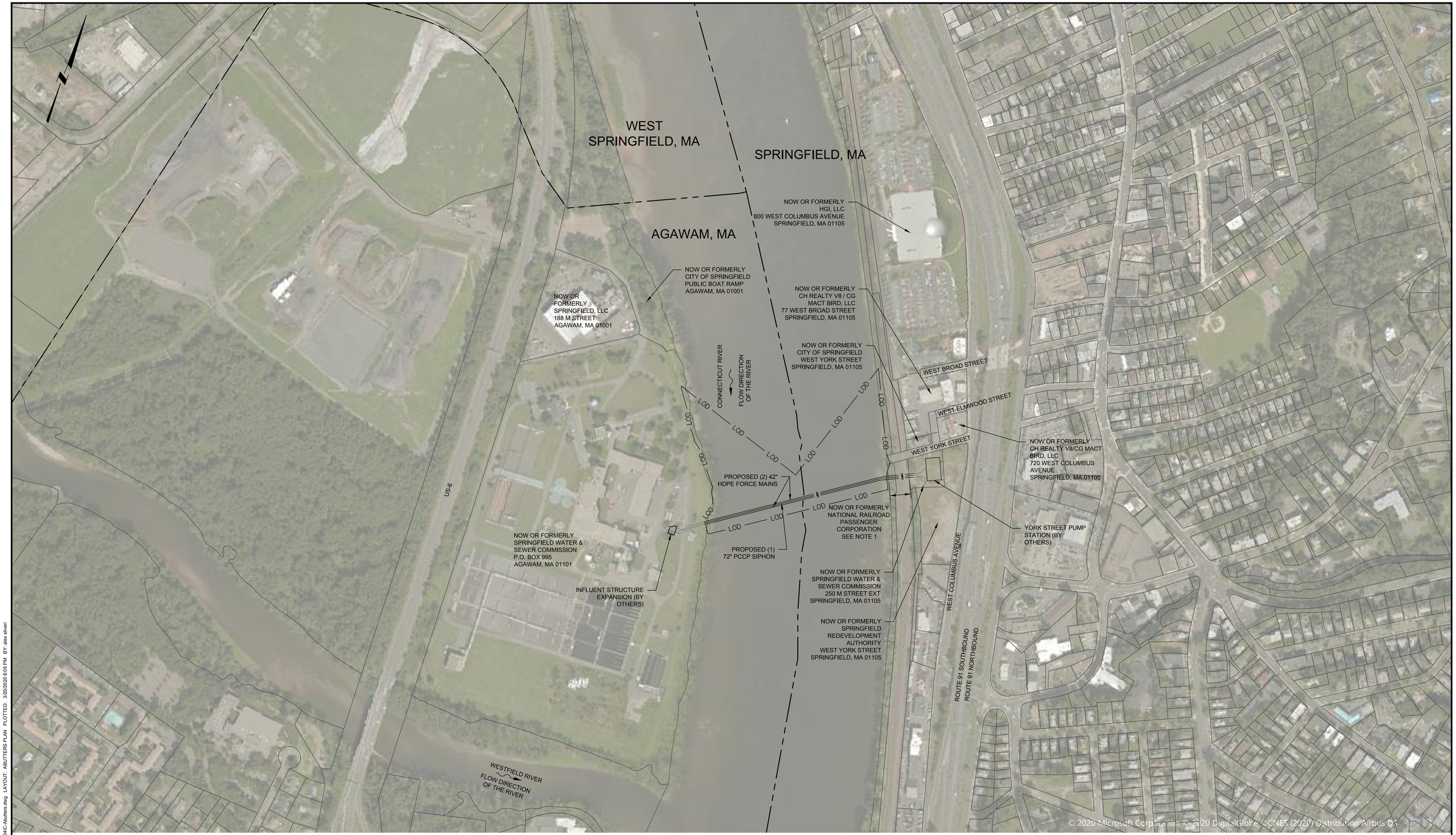
SCALE	NO SCALE			
DATE	MARCH 2020			
JOB NO.	20161801.058			
DESIGNED BY	D CHENG			
DRAWN BY	A SILVERI			
CHECKED BY	B FREDERICK	No.	Description	Date
APPROVED BY	G O'LEARY	REVISIONS		

Client: SPRINGFIELD WATER AND SEWER COMMISSION
SWSC PROJECT NO. CA-1807-18/CWSRF-4455

Project: CONNECTICUT RIVER SEWER FORCE MAINS AND INTERCEPTOR CROSSING

Drawing: TRENCH DETAIL

Sheet: 6F



GENERAL NOTES

1. BASED ON THE SPRINGFIELD ASSESSOR'S PROPERTY DATABASE AND THE AMTRAK NORTHEAST CORRIDOR PROPERTY IDENTIFICATION PLAN, IT IS BELIEVED THAT AMTRAK OWNS THE LAND BETWEEN THE FENCE ADJACENT TO THE USACE FDRS TO THE EAST AND THE MAHW TO THE WEST. THE CITY OF SPRINGFIELD HAS AN EASEMENT ON AMTRAK PROPERTY FOR THE PEDESTRIAN PATHWAY.

PLAN

0 250 500

SCALE IN FEET

PERMIT SET

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DRAWN BY	A SILVERI			
CHECKED BY	B FREDERICK	No.	Description	Date
APPROVED BY	G O'LEARY	REVISIONS		

Client: SPRINGFIELD WATER AND SEWER COMMISSION
SWSC PROJECT NO. CA-1807-18/CWSRF-4455

Project: CONNECTICUT RIVER SEWER FORCE MAINS AND INTERCEPTOR CROSSING

Drawing: ABUTTERS PLAN

Sheet: 7

CAD FILE: C:\pwworking\kleinfelderpw01\aleiveri\d0186804\C-Abutters.dwg LAYOUT: ABUTTERS PLAN PLOTTED: 3/20/2020 8:05 PM BY: alex silveri