

FINAL DRAFT

# ENVIRONMENTAL IMPACT EVALUATION

## Facilities Plan for West and East Side Wastewater Treatment Plants

Prepared for:

Water Pollution Control Authority, City of Bridgeport

Client Ref: 17452.00001

May 2021



SLR<sup>®</sup> 

## RECORD OF ENVIRONMENTAL CONSIDERATION

### Environmental Impact Evaluation of Facilities Plan for West and East Side Wastewater Treatment Plants

Prepared for:  
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This Environmental Impact Evaluation for the City of Bridgeport Facility Plan Analysis and Recommendations for the East and West Side Wastewater Treatment Plants has been prepared by SLR International Corporation for the Sponsoring Agency, the Connecticut Department of Energy and Environmental Protection, under contract with the Water Pollution Control Authority, City of Bridgeport. The material and data in this report were prepared under the supervision and direction of the undersigned.



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## ACRONYMS

AO	Administrative Order
BNR	biological nutrient removal
BOD <sub>5</sub>	Five-day Biochemical Oxygen Demand
BTF	biotrickling filter
CAA	Clean Air Act
CAM	Coastal Area Management
CFS	cubic feet per second
CFR	Code of Federal Regulations
CGS	Connecticut General Statute
CO	carbon monoxide
COC	constituents of concern
CSO	combined sewer overflow
CT DEEP	Connecticut Department of Energy and Environmental Protection
CT SWF/LF	Connecticut Solid Waste Facility/Landfill
CEPA	Connecticut Environmental Policy Act
CWF	Clean Water Fund
C&D Plan	Conservation and Development Plan
DO	dissolved oxygen
EAC	Early Action Compact
ECHO	EPA's Enforcement and Compliance History Online
EFH(A)	Essential Fish Habitat (Area)
EIE	Environmental Impact Evaluation
EPA	United States Environmental Protection Agency
EPA SWMM	EPA's Stormwater Management Model
ESA	Endangered Species Act
ESP	East Side Plant
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
ft	feet
ft/s	feet per second
GIS	geographic information system
GP	general permit

gpd	gallons per day
gpm	gallons per minute
H <sub>2</sub> S	hydrogen sulfide
HDPE	high-density polyethylene
in	inch
IPaC	USFWS Information for Planning and Consultation
IWQR	DEEP Integrated Water Quality Report
Kg	kilogram
Kg/d	kilogram per day
kV	kilovolt
kWh	kilowatt-hour
lb	pound
lbs/day	pounds per day
LB BTF	low profile biotrickling filter
LIS	Long Island Sound
LTCP	Long-Term CSO Control Plan
MDF	maximum daily flow
mg	milligram
MG	million gallon
mgd	million gallons per day
mg/L	milligrams per liter
ml	milliliter
MLLW	mean lower low water level
NAAQS	National Ambient Air Quality Standards
NAVD	Connecticut State Plane North American Datum 1983
NDDB	Natural Diversity Data Base
NEIWPCC	New England Interstate Water Pollution Control Commission
No.	number
NOAA	National Oceanic and Atmospheric Administration
NDPES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
O&M	operation and maintenance
OPM	Office of Policy and Management
PAH	polyaromatic hydrocarbons
PCBs	polychlorinated biphenyls
PCE	tetrachloroethene
PE	primary effluent
POTW	Publicly Owned Treatment Works
RCSA	Regulations of Connecticut State Agencies
ROD	Record of Decision
SHPO	State Historic Preservation Office
SF	Square foot
SLR	SLR International Corporation
slr	sea level rise
SO <sub>2</sub>	Sulfur dioxide
SWMM	Stormwater Management Model
THPO	Tribal Historic Preservation Office
TKN	total Kjeldahl nitrogen

TN	total nitrogen
TP	total phosphorus
TRC	total residual chlorine
TSS	total suspended solids
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geologic Survey
WPCA	Water Pollution Control Authority
WPCF	Water Pollution Control Facility
WSP	West Side Plant
WWTP	Wastewater Treatment Plant

# 1. INTRODUCTION

Pursuant to Administrative Order WRMU19001 issued March 1, 2019, by the Connecticut Department of Energy and Environmental Protection (CT DEEP), the Water Pollution Control Authority (WPCA), City of Bridgeport has prepared a Wastewater Treatment Facilities Plan for the West Side and East Side Wastewater Treatment Plants (WWTP). This report entitled *Water Pollution Control Authority, City of Bridgeport, CT – Facilities Plan for the West and East Side Wastewater Treatment Plants*, prepared by the consulting engineering firm CDM Smith and dated November 2020 (“2020 Facilities Plan”) outlines modifications and upgrades to improve the reliability and capacity of the current WWTPs to meet permit limits and reduce untreated wastewater discharges to watercourses and Long Island Sound.

Implementation of recommended improvements at each facility will depend upon financial assistance from the Clean Water Fund (CWF) that is managed by CT DEEP, thereby making these activities a state action. Per Connecticut Environmental Policy Act (CEPA) at Connecticut General Statute (CGS) 22a-1b(b)(7), any state action that may potentially impact the natural environment requires the preparation of an Environmental Impact Evaluation (EIE). On behalf of the WPCA, SLR International Corporation (SLR) has prepared the following EIE to evaluate the 2020 Facilities Plan. The EIE has been completed to meet requirements identified in the CEPA as identified in 22a1-b(c).

This EIE provides the WPCA with a detailed analysis of potential environmental impacts of the proposed actions. This review was conducted using readily available information and based on qualitative and quantitative assessments of the existing and proposed conditions identified within the 2020 Facilities Plan prepared by CDM Smith. The EIE addresses comments raised during the scoping period, which occurred from October 6 to November 5, 2020, and the two public information sessions on October 29, 2020, and January 28, 2021.

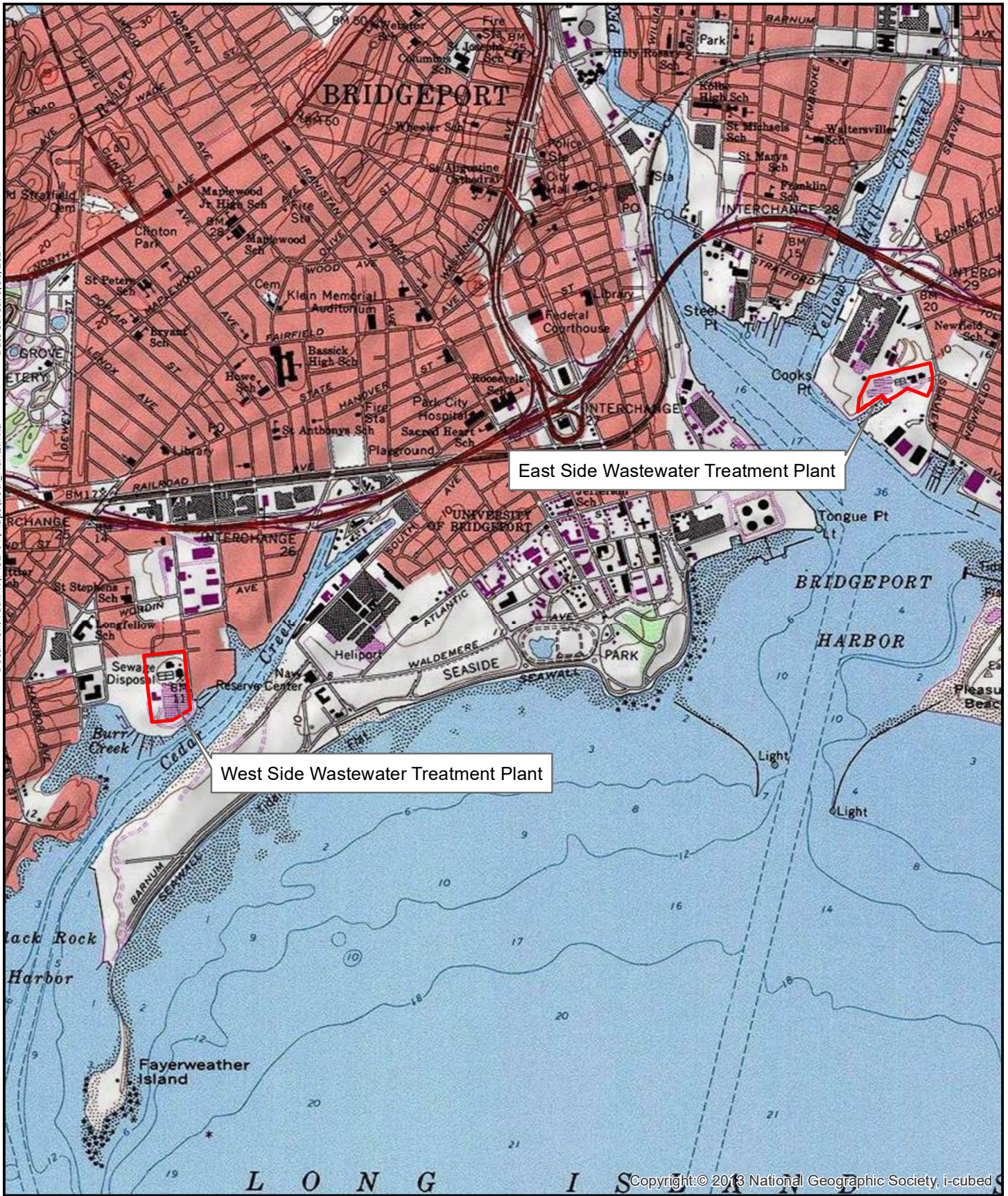
## 1.1 PROJECT BACKGROUND

The WPCA collects and treats wastewater collected in municipal sewer systems in Bridgeport, Trumbull, and portions of Stratford and Fairfield immediately adjacent to Bridgeport<sup>1</sup>. The collection systems lead to two treatment plants, the West Side Treatment Plant, located at 205 Bostwick Avenue, and the East Side Treatment Plant, located at 695 Seaview Avenue (Figure 1-1). Collectively, the system contains approximately 290 miles of sewer main, and nine pumping stations. The West Side WWTP has a treatment capacity of 30 million gallons per day (mgd), and the East Side WWTP has a treatment capacity of 10 mgd. The Pequonnock River is generally the divide between the West Side and East Side service areas.

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<sup>1</sup> The WPCA currently contracts with the company Inframark for full operation of the sewer system and the WWTPs.





East Side Wastewater Treatment Plant

West Side Wastewater Treatment Plant



195 CHURCH STREET  
 7TH FLOOR  
 NEW HAVEN, CT 06511  
 203.344.7887  
 slrconsulting.com

PROJECT AREA

EIE OF FACILITY PLAN ANALYSIS AND RECOMMENDATIONS FOR EAST  
 SIDE AND WEST SIDE WASTEWATER TREATMENT PLANTS

CITY OF BRIDGEPORT WATER POLLUTION CONTROL AUTHORITY 209  
 209 BOSTWICK AVENUE & 695 SEAVIEW AVENUE  
 BRIDGEPORT, CONNECTICUT

SCALE 1" = 2,000'

DATE 3/30/2021

PROJ. NO. 17452.00001

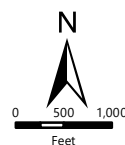


FIG. 1-1



Portions of the sewer system, primarily in the southern end of the city close to the shoreline, are combined sewers, meaning that they collect and transport both wastewater and stormwater. During larger rainfall events, the capacity of the combined sewer and stormwater pipes and/or the WWTPs may be exceeded, which results in a combination of wastewater and stormwater discharged through the 25 combined sewer overflows (CSOs) located in Bridgeport<sup>2</sup> or may be partially treated and discharged from the two WWTPs to Long Island Sound (Figure 1-2). CSOs negatively impact water quality through introduction of raw or partially treated sewage.

The CSOs in the WPCA service area have been a long-standing area of concern. The WPCA submitted a Long-Term CSO Control Plan (LTCP) in July 2011 to address the CSOs in Bridgeport. This plan was approved by CT DEEP in January 2018 and the improvements were estimated to cost approximately \$496 million<sup>3</sup>. The WPCA entered into a superseding Administrative Order with CT DEEP in June 2018, which includes milestones for implementation of the improvements within the LTCP. Certain projects in the LTCP are scheduled for implementation prior to the improvements anticipated in the 2020 Facilities Plan.

Following entering into a second Administrative Order in March 2019 related to the WWTPs, the WPCA retained CDM Smith to prepare the 2020 Facilities Plan. The 2020 Facilities Plan presents an assessment of all critical components at the WWTPs, including CSOs, and a long-term vision of the capital needs at both WWTPs to improve the performance and reliability of the treatment systems over a 30-year planning period (through 2050). Furthermore, the 2020 Facilities Plan considers the recommendations presented in the LTCP in an attempt to provide a holistic view of the needs for the collection and treatment systems in order to recommend the most cost-effective and timely solutions to improve water quality. Once the 2020 Facilities Plan is approved by CT DEEP, CDM Smith anticipates that final design of improvements would begin.

The State's CWF is a potential source of grant and loan funding for projects in the 2020 Facilities Plan. This funding provides a grant in the range of 20% to 50% of eligible project costs, and a loan for the balance at a 2% interest rate with a loan term of 20 years. It is anticipated that CWF funds (and potentially other state and/or federal funds) will be available and utilized for the 2020 Facilities Plan projects, including grants and loans.

## 1.2 THE CONNECTICUT ENVIRONMENTAL POLICY ACT

The format and content of the subject EIE are based upon the requirements of the CEPA, Sections 22a-1b through 22a-1h of the Connecticut General Statutes (CGS) and Sections 22a-1 through 22a-1a-12 of the Regulations of Connecticut State Agencies (RCSA). The sponsoring agency for this project is CT DEEP.

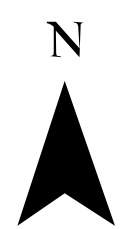
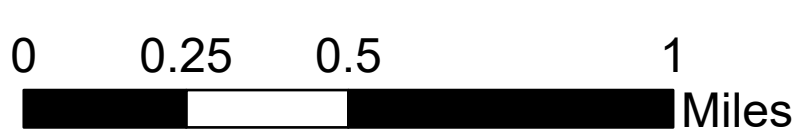
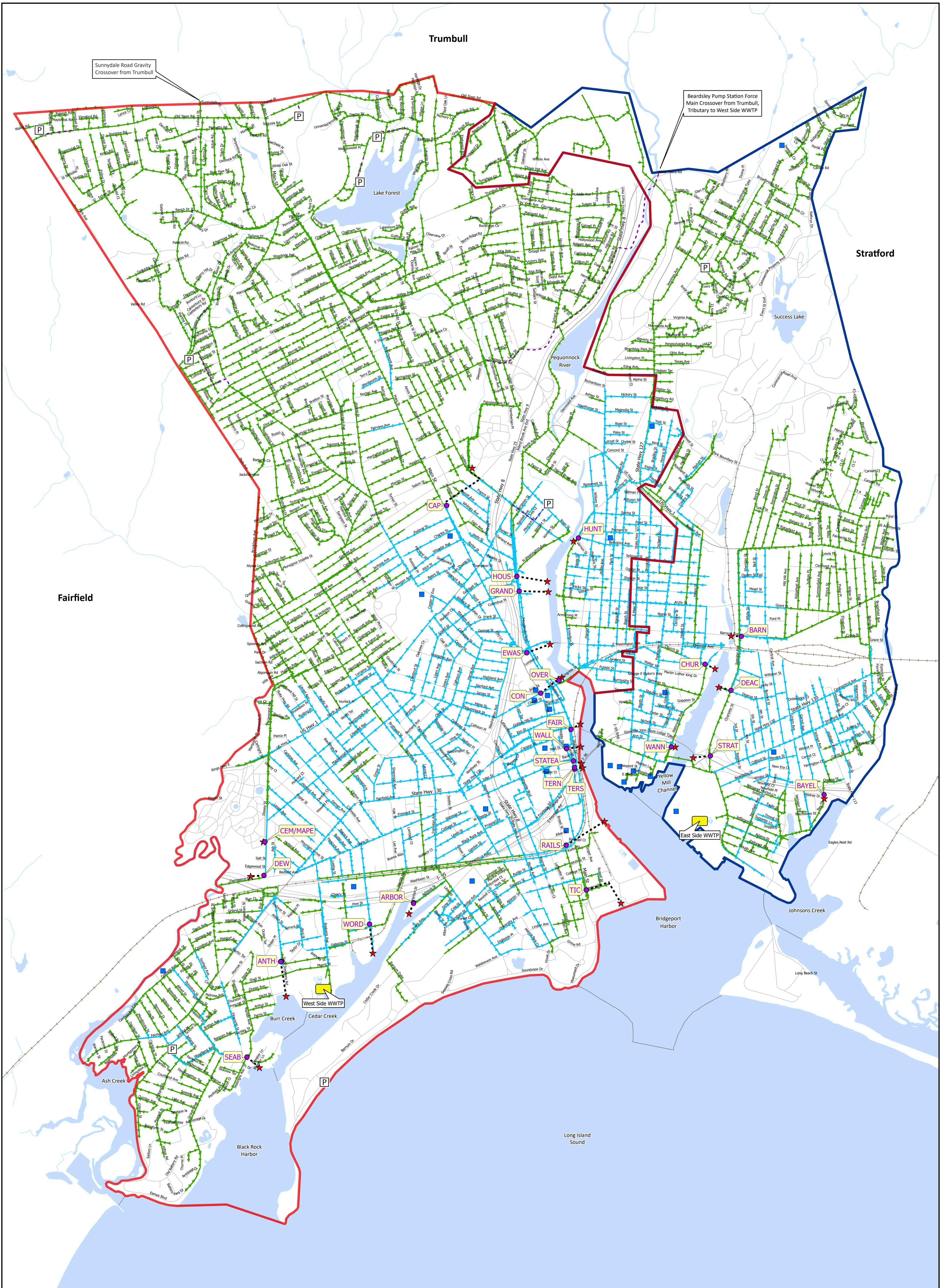
As described in 22a-1a(b), CEPA recognizes the relationship between the natural environment and human actions. A goal of the CEPA process is *to achieve an ecological balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities*. The CEPA regulations outline a process whereby, through coordination with local, regional, state, and federal governments as well as public and private entities, a sponsoring state agency can determine and minimize impacts on the resources of the state.

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<sup>2</sup> There are 19 CSOs in the West Side service area and 6 in the East Side.

<sup>3</sup> Arcadis estimated costs for improvements in the 2011 report, which CDM Smith escalated to 2020 pricing to generate the \$496 million estimate described in the facilities plan.





**Legend**

- Combined Sewers
- Separated Sewers
- Roads
- Wastewater Treatment Plants
- ★ CSO Outfalls
- CSO Outfall Pipes
- East Side Tributary Area
- West Side Tributary Area
- Railroad
- Force Mains
- P Pump Stations
- Locations for Potential Redevelopment
- CSO Regulators

**Figure 2.3-1**  
**Sewer Service Collection System Map**  
**City of Bridgeport, CT**

May 2020



A major function of the CEPA process is the determination of whether or not a project will have a “significant effect”. Significant effect means a substantial impact on the environment per RSCA 22a-1a-1. Agencies preparing CEPA documents must consider direct and indirect effects as well as cumulative impacts. Public input is encouraged through contact with interested persons and affected agencies. The overall process for public participation and approval of an EIE is summarized below.

- The sponsoring agency reviews its Environmental Classification Document to determine the appropriate level of environmental review under CEPA. Projects typically fall into one of four categories:
  1. Project always requires public scoping and the preparation of an EIE
  2. Project requires public scoping to determine if an EIE is required
  3. Project is a joint federal/state action, in which case the CEPA process is replaced by the National Environmental Policy Act process provided that all analyses, documents, and public processes meet CEPA-equivalent requirements
  4. Project does not warrant a review under CEPA
- For project categories 1 and 2, the sponsoring agency must notify state review agencies and other interested parties with regard to the proposed action via a Scoping Notice. Reviewers are given a minimum of 30 calendar days to respond to the Scoping Notice with comments about the nature and extent of environmental impacts that might result.
- Upon the request by 25 or more people, the sponsoring agency must hold a public Scoping Meeting to further explain the proposed action.
- During preparation of an EIE, the sponsoring agency must consider the issues and comments provided by reviewers along with other information gathered. Refer to Section 1.6 for additional information on project scoping and comments received related to this EIE.
- After the EIE is prepared, the sponsoring agency must publish notice of its availability and circulate the draft for review and comment. Interested parties may provide written comments within 45 days.
- Upon the request of 25 or more people, the sponsoring agency must hold a public hearing in accordance with state statutes and RSCA Section 22a-1a-11. A period of no less than 30 days following the date of the availability of the EIE must transpire before such public hearing is held.
- The sponsoring agency must review comments, perform any additional environmental study (if warranted), and amend the EIE as appropriate. It is the sponsoring agency’s responsibility to respond to all substantive comments received. The agency then prepares its Record of Decision (ROD).
- The sponsoring agency must forward its ROD and the EIE to the Office of Policy and Management (OPM) for a determination of the adequacy of the evaluation. The following information must be included:
  - Public notice documentation
  - Documentation of the public hearing if one is held



- Comments received from all interested parties along with responses to the pertinent issues raised by the public and state agencies
  - The agency decision relative to proceeding with the proposed action
  - Intentions for initiating actions for reducing impacts
- The CEPA process concludes with the review of the EIE and ROD by OPM and its determination of whether or not regulatory requirements have been satisfied. The EIE and ROD are the basis for the implementation of the project.

If during the course of designing or implementing project phases described in this EIE, modifications to the recommended program occur, such as incorporating advancements in WWTP technologies and treatment techniques, these small, mid-course improvements or adjustments will not necessitate a new EIE, provided that the affected area is not increased beyond that described in this EIE.

In accordance with the regulations of the CEPA Sections 22a-1a-1 to 22a-1a-12, the findings of the environmental review are presented herein. The agency contact for this project is:

Ann Straut  
 Connecticut Department of Energy & Environmental Protection  
 79 Elm Street, Hartford, CT 06106-5127  
 Ann.Straut@ct.gov

## 1.3 EXISTING CONDITIONS

### 1.3.1 WEST SIDE WWTP

The West Side WWTP is located at 205 Bostwick Avenue and discharges into Long Island Sound via Cedar Creek at Black Rock Harbor. Construction of the original interceptors began in the early 1900s. Over the years the original WWTP infrastructure was upgraded, expanded, demolished, and repurposed, resulting in the current facility. The last major upgrade on site was in the early 2000s to modify the activated sludge system to achieve nitrogen reduction, and dechlorination was added. According to CDM Smith, most equipment at the WWTP has reached the end of its useful life.

Treatment includes influent screening, primary settling tanks, an activated sludge system for nitrogen removal, secondary clarifiers, disinfection, and gravity and rotary drum thickeners for sludge thickening. The WWTP is designed to achieve secondary effluent quality (30 milligrams per liter, or mg/L) five-day biochemical oxygen demand (BOD<sub>5</sub>) and total suspended solids (TSS) at an annual average design flow of 30 mgd and a peak secondary treatment capacity of 58 mgd. All wet weather flow up to the design capacity of 90 mgd was intended to receive primary treatment before re-combining with secondary effluent prior to disinfection and discharge. Operationally, the current primary treatment capacity is more in the range of 80 mgd. Plant effluent is discharged through a 72-inch diameter outfall pipe at a headwall along the north side of Cedar Creek in Black Rock Harbor near the Captain's Cove Seaport restaurant.

The most recent General Permit for Nitrogen Discharges defines the annual mass loading of total nitrogen (TN) from the West Side WWTP into Long Island Sound at 1,041 pounds per day (lb/day), equating to an average discharge concentration of 4.16 mg/L at the design flow of 30 mgd. However, this loading is frequently exceeded. Recent influent conditions are presented in Table 1-1.

**TABLE 1-1  
West Side WWTP Influent Conditions, 2017-2019**

Analysis	Result	Result (mg/L)
Average Daily Flow (mgd)	22.1	-
BOD <sub>5</sub> (lb/day)	28,000	152
TSS (lb/day)	42,000	228
TKN (lb/day)	4,500	24.4
TP (lb/day)	780	4.2

TKN = Total Kjeldahl Nitrogen

TP = Total Phosphorus

According to CDM Smith, the West Side WWTP is undersized and suffers from aging infrastructure and inadequate treatment processes, which directly and indirectly impact the ability of the facility to meet permit limits. During the 2017-2019 period, the West Side WWTP experienced permit violations related to effluent BOD<sub>5</sub>, TSS, fecal coliform, and enterococci. The plant did not meet its waste allocation for total nitrogen removal. In particular, 2018 was a challenging year due to the many extreme rainfall events that occurred. Table 1-2 presents the average annual flow volume and final effluent quality as well as the number of secondary treatment bypass events from 2017 to 2019.

**TABLE 1-2  
West Side WWTP Average Final Effluent Quality and Secondary Treatment Bypass Events, 2017-2019**

Year	Total Flow Treated Through Secondary (MG)	Total Flow Treated Through Secondary (mgd)	BOD (mg/L)	TSS (mg/L)	TN (mg/L)	Number of Bypass Events	Total Flow Bypassed (MG)
2017	6,591	18.1	6.6	15	8.5	20	137
2018	7,255	19.9	14	32	10.6	33	297
2019	7,336	20.1	8.6	17	9.1	29	235

### 1.3.2 EAST SIDE WWTP

The East Side WWTP is located at 695 Seaview Avenue and discharges into Long Island Sound via Powerhouse Channel and Bridgeport Harbor. The East Side WWTP was designed as a primary treatment facility in the 1950s and upgraded to secondary treatment from 1969 to 1971. The treatment process is similar to that for the West Side WWTP. The last major upgrade on site was in the early 2000s to modify the activated sludge system to achieve nitrogen reduction, and dechlorination was added. According to CDM Smith, most equipment at the WWTP has reached the end of its useful life.

The East Side WWTP is designed to achieve secondary effluent quality (30 mg/L) five-day biochemical oxygen demand, and total suspended solids at an annual average design flow of 10 mgd and a peak secondary treatment capacity of 24 mgd. All wet weather flow up to the design capacity of 40 mgd was intended to receive primary treatment before re-combining with secondary effluent prior to disinfection and discharge. Operationally, the current primary treatment capacity is more in the range of 35 mgd. Plant effluent is discharged through a 60-inch diameter outfall pipe at the shore of the Powerhouse Channel, a small excavated inlet on the east side of the Pequonnock River in the Bridgeport Inner Harbor.

The most recent General Permit for Nitrogen Discharges defines the annual mass loading of total nitrogen from the East Side WWTP to Long Island Sound at 362 lb/day, equating to an average discharge concentration of 4.34 mg/L at the design flow of 10 mgd. However, effluent loading is consistently below the permit limit because the East Side WWTP is operating at an average annual flow below the permitted annual average flow of 10 mgd. Recent influent conditions are presented in Table 1-3.

**TABLE 1-3  
East Side WWTP Influent Conditions, 2017-2019**

Analysis	Result	Result (mg/L)
Average Daily Flow (mgd)	5.7	-
BOD <sub>5</sub> (lb/day)	5,700	120
TSS (lb/day)	6,200	131
TKN (lb/day)	1,200	25.2
TP (lb/day)	160	3.4

According to CDM Smith, the East Side WWTP, similar to the West Side WWTP, is undersized and suffers from aging infrastructure and having inadequate treatment processes. However, because the influent flow is well below design capacity, the plant consistently achieves permit limits. During the 2017-2019 period, the East Side WWTP experienced a few permit violations related to effluent BOD<sub>5</sub>, TSS, fecal coliform, and enterococci. However, the plant was able to meet its waste allocation for TN removal during all 3 years. Table 1-4 presents the average annual flow volume and final effluent quality as well as the number of secondary treatment bypass events from 2017 to 2019.

**TABLE 1-4  
East Side WWTP Average Final Effluent Quality and Secondary Treatment Bypass Events, 2017-2019**

Year	Total Flow Treated Through Secondary (MG)	Total Flow Treated Through Secondary (mgd)	BOD (mg/L)	TSS (mg/L)	TN (mg/L)	Number of Bypass Events	Total Flow Bypassed (MG)
2017	1,765	4.8	4.0	5.5	5.3	5	12
2018	2,064	5.7	4.7	6.8	5.7	17	38
2019	2,051	5.6	3.7	6.8	5.3	12	30

### 1.3.3 COLLECTION SYSTEM

According to CDM Smith, the collection system serving both WWTPs is old but in acceptable condition. Based on the WPCA collection system model, the collection system has the capacity to transmit more flow to the WWTPs than can presently be treated. According to the 2020 Facilities Plan, assuming a maximum current capacity of 80 mgd (which is limited by the influent pumps at the West Side WWTP), the current estimated peak CSO discharge volumes during the 1-year, 24-hour design storm totals 44.4 million gallons (MG) with 21 active CSO regulators. At the East Side WWTP, the peak CSO volume is 5.4 MG with 6 of 6 CSO active regulators and based on a maximum current capacity of 35 mgd (again limited by the influent pumps). The 27 regulators drain to the 25 CSO outfalls.

A design storm defines the amount and intensity of rainfall a system is designed to accommodate. The 1-year, 24-hour storm is a storm that has an amount of rainfall and intensity over any 24-hour period that has a 100 percent chance of occurring in any given year. For the purposes of the 2020 Facilities Plan, the

1-year, 24-hour storm was the storm recorded at Sikorsky Airport on August 20, 1950<sup>4</sup>. A total of 2.74 inches of rain was observed over 17 hours, with a peak hourly depth of 0.75 inches. The hourly hyetograph for the storm was used to simulate collection system conditions using the Environmental Protection Agency’s (EPA) Stormwater Management Model (SWMM).

### 1.3.4 ANTICIPATED FUTURE WASTEWATER FLOWS

The 2020 Facilities Plan estimates future flows to the two WWTPs over the 30-year planning period through 2050. The analysis by CDM Smith considered potential population increases in Bridgeport, the potential maximization of the sewage from Trumbull under the current contract, which holds an average daily limit of 4.2 mgd, and the potential development of a sanitary sewer system in Monroe along Route 25 and 111 that would connect to Trumbull and ultimately to the West Side WWTP. Table 1-5 presents the Projected Design Year (2050) Average Influent Flow and Loads for the two WWTPs. Per CDM Smith, the capacity of the existing WWTPs is sufficient to meet the projected demands on an average day basis.

**TABLE 1-5  
Projected Design Year (2050) Average Influent Flow and Loads**

Analysis	West Side WWTP		East Side WWTP	
	2050 Value	Existing Plant Rating	2050 Value	Existing Plant Rating
Average Daily Flow (mgd)	25.8	30.0	6.4	10.0
BOD <sub>5</sub> (lb/day)	35,000	40,000	6,400	10,000
TSS (lb/day)	54,000	62,000	6,900	11,000
TKN (lb/day)	5,500	6,300	1,300	2,100
TP (lb/day)	1,000	1,100	180	280

### 1.3.5 COMBINED SEWER OVERFLOWS

Operationally, the West Side WWTP has a primary treatment capacity of 80 mgd. The first 58 mgd of influent flow receives both primary and secondary treatment. The next increment of influent flow (from 58 mgd to 80 mgd) receives only primary treatment.

When the volume of wastewater exceeds 80 mgd (such as during a heavy rain event), combined sewage discharges to surface waters. The CSOs from combined wastewater and stormwater piping may discharge to several different waterbodies including Ash Creek, Black Rock Harbor, Bridgeport Harbor, Cedar Creek, Island Brook, Johnson’s Creek, Pequonnock River, and Yellow Mill Channel (see Figure 1-2). Potential negative impacts of CSOs on environmental and public health stems primarily from bacteria and pathogens in the combined sewage from domestic wastewater and stormwater sources.

According to the *2020 Integrated Water Quality Report* produced by CT DEEP, water quality within Black Rock Harbor, Bridgeport Harbor, and Long island Sound immediately downgradient of these harbors demonstrates impairment to some or all of their designated uses<sup>5</sup>, including impairment as a result of fecal coliform bacteria. Both fecal coliform and enterococcus bacteria are indicators of contamination with feces from humans or other warm-blooded mammals. While some portion of these impairments

<sup>4</sup> The 1950 storm was identified as the design storm for the 2011 LTCP. The facilities plan utilized the same design storm for consistency.

<sup>5</sup> Section 3.0 provides further detail.

may be attributable to non-point source runoff associated with the urbanized land use in the area, including urban runoff, stormwater discharges, and landfill leachate from the Seaside Landfill, it is likely that CSOs contribute to these impairments.

## 1.4 PROJECT PURPOSE AND NEED

The purpose of the 2020 Facilities Plan as a whole is to ensure that the necessary improvements at the two WWTPs and in the conveyance system move forward in a logical fashion and are properly integrated with the LTCP in order to avoid sunk costs and missed opportunities. In addition to complying with CT DEEP Administrative Orders, the WPCA seeks to have the facility planning process “build-it-better” rather than “replace-in-kind” in order to achieve the outcomes as noted in Table 1-6.

The primary action items to achieve the desired outcomes for the WWTPs include:

- Replacement of aging assets, including support systems, to meet current codes and standards, which is expected to improve overall level of service.
- High flow management at the WWTPs to reduce remaining untreated CSOs, maximize flow to secondary treatment systems, and increase capacity of primary treatment systems (particularly disinfection). The significant reduction in CSOs expected to be achieved under the improvements in the facilities plan is expected to improve water quality in Black Rock Harbor and Bridgeport Harbor.
- Improved preliminary and primary treatment to reduce downstream operation and maintenance costs, improve system performance, and improve quality of wet weather discharges. The expected improvements are anticipated to allow both WWTPs to have full compliance with all current permit limits and provide reasonable options for meeting future permit limits.
- Improved biological nitrogen removal to optimize nitrogen credits.
- Development of a long-term residuals management plan, which is expected to improve residuals management.
- Providing system resilience to account for climate change, including sea level rise, to better protect the WWTPs against changing conditions in the future.

**TABLE 1-6  
Desired Outcome and Performance Measures for WWTPs**

Desired Outcome	Performance Measures
Protect Public Health and Safety	Frequency and volume of primary effluent discharges at WWTPs
	Frequency and volume of CSOs
	Frequency and duration of street flooding
	Number of fecal coliform violations annually
	Number of air quality violations annually
	Number of odor complaints annually
	Number of water quality complaints annually
Preserve (and Restore) Natural Resources and a Healthy Environment	kWh/MG treated
	kWh/lb BOD <sub>5</sub> removed
	Volume of chemicals used annually
	Natural gas used annually
	MG potable water used annually
	Pounds of TN discharged annually
	Reduction in BOD <sub>5</sub>
	Pounds of TSS discharged annually
Maintain Reliable, Resilient, High Quality Service	Influent pumps out of service for long-term maintenance
	Screens out of service for long-term maintenance
	Primary clarifiers out of service for long-term service
	Aeration tanks out of service for long-term maintenance
	Secondary clarifiers out of service for long-term maintenance
	Number of permit violations annually
	Pounds of residuals removed annually
	Unit cost per MG of wastewater treated
Contribute to Economic Prosperity	kWh/MG treated
	Annual cost for emergency repairs
	Annual cost for asset management
	Staff employed by WPCA
	Development supported in community
	Improved cooperation with local industry (e.g., acceptance of high strength waste for treatment process, use of reclaimed water)

## 1.5 PROJECT DESCRIPTION

The 2020 Facilities Plan proposes improvements to the two WWTPs as well as locations throughout the WPCA service area to reach the goals of upgrading the facilities and reducing CSOs. Following evaluation of multiple planning level alternatives for both WWTPs that included three detailed alternatives for the West Side WWTP and two detailed alternatives for the East Side WWTP, the recommended approach of the 2020 Facilities Plan is summarized below.

Please note that the 2020 Facilities Plan also calls for a variety of pipe cleaning, tide gate repair, and other maintenance activities to be undertaken in order to restore lost conveyance. As these are maintenance activities, they are exempt from evaluation under CEPA and not considered further herein.

### 1.5.1 WEST SIDE UPGRADES

The project will increase the peak capacity of the West Side WWTP up to a maximum of 200 mgd for primary treatment and conduct pipe installation and/or replacement activities (Scenario WSP4) in order to reduce the CSO volume for the 1-year, 24-hour storm by approximately 52%. The average design flow will continue to be 30 mgd. A general depiction of the proposed changes at the West Side WWTP and in the service area are presented on Figure 1-3. The specific WWTP improvements will include:

- Redirect flow from the two existing influent structures via 72-inch pipes to a new headworks facility. The new headworks facility would be capable of treating a peak flow of 200 mgd. Screened and dewatered influent flow would then be conveyed to a dual-use primary filtration facility capable of treating a peak flow of 200 mgd. When flow exceeds 58 mgd (the secondary treatment system capacity), the portion of primary effluent flow above 58 mgd would bypass the secondary treatment system and be routed to an ultraviolet disinfection system.
- Primary effluent up to 58 mgd would flow to the upgraded bioreactors for secondary treatment. Secondary effluent would be conveyed to the ultraviolet disinfection system where it would recombine with any wet weather flow that bypassed the secondary system.
- Primary solids would be pumped from the primary filters to new gravity thickeners and waste activated sludge (WAS) would be pumped to intermediate WAS storage tanks within the new Solids Handling Facility. After processing, combined thickened sludge will be stored prior to being off-loaded to sludge hauling tanker trucks for further treatment and disposal off site.
- A new effluent pumping station would be provided to assist with wet weather flows and flood conditions.
- Two odor control systems are expected to be provided. The first would collect and treat odorous air from the headworks facility and the primary treatment facility. A biofilter is proposed for the airstream. The second odor control system would collect off-gases from the gravity thickeners, sludge holding tanks, and rotary drum thickeners. It is expected that this air stream would be treated through a chemical scrubber.
- A new control building would be constructed with dedicated space for WPCA staff, operators, laboratory, locker rooms, and a maintenance shop. Additionally, a public entrance would be provided to accommodate customer billing. The public area would also include informational displays to provide an educational opportunity for customers and the community.
- All new buildings and facilities would be designed with energy efficiency in mind, including the use of high efficiency motors. Potential opportunities for renewable energy assets such as heat pumps, solar arrays, and wind turbines will be further assessed during preliminary design. The use of onsite green infrastructure for stormwater control will be incorporated.



DRAFT



Figure 9.1-2  
Recommended Plan - Alternative W-200C

Figure 1-3 West Side WWTP Upgrades



The WWTP will remain in operation during construction. Each construction phase will clear land and/or make way for construction of new WWTP elements. More detail is provided in Section 9 of the 2020 Facilities Plan. The general construction phases will include:

1. Site preparation and demolition of the former sludge building.
2. Construct new headworks facilities and primary treatment facility.
3. Demolish existing headworks facilities, influent pumping station, and primary settling tanks.
4. Construct new solids handling building, gravity thickeners, and ultraviolet disinfection system.
5. Demolish existing gravity thickeners and chlorine contact tanks.
6. Construct New Effluent Pumping Station, Blower Building, and Control Building.
7. Retrofit IFAS into existing BNR basins, upgrade secondary clarifiers, and demolish existing control building.
8. Complete final miscellaneous improvements and site restoration.

The cost associated with this option is approximately \$383 million.

The specific pipe installation and/or replacement activities in the West Side collection system are depicted on Figure 1-4 and will include:

- Upsize 4,300 feet of 24-inch main to 42-inch sewer main from SEAB (Brewster Street), through Ellsworth Park to Harbor Avenue, and along Shell Street to St. Stephens Road, and then along a right-of-way to the interceptor on Bostwick Avenue.
- Fix shallow sewer main slope through Ellsworth Park.
- Upsize 1,400 feet of 12-inch, 15-inch, and 18-inch sewer main to 42-inch sewer main from ANTH to downgradient interceptor within a right of way south of the PT Barnum apartments.
- Install 1,600 feet of new 48-inch sewer main from DEW to the Bostwick Avenue interceptor (State Street Extension [a.k.a. Commerce Drive] from Dewey Street to Fairfield Avenue, and Railroad Avenue from Fairfield Avenue to Bostwick Avenue)

The costs for these upgrades are estimated between \$20-\$60 million dollars.

This plan includes full 1-year, 24-hour storm CSO control for 7 of the 19 CSO locations (ANTH, CEM/MAPE, DEW, RAILS, SEAB, TIC, and WORD). The reduction in CSOs will be measurable immediately after the expanded treatment facility is put into service regardless of whether other collection system improvements identified in the LTCP are implemented. Collectively, facility and collection system improvements will require between \$403 to \$443 million.





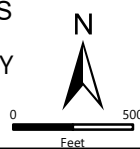
**LEGEND**

- Proposed Piping Infrastructure
- Subject Parcel
- CSO Sites

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**WEST SIDE COLLECTION SYSTEM IMPROVEMENTS**  
 EIE OF FACILITY PLAN ANALYSIS AND RECOMMENDATIONS FOR  
 EAST AND WEST SIDE WASTEWATER TREATMENT PLANTS  
 CITY OF BRIDGEPORT WATER POLLUTION CONTROL AUTHORITY  
 205 BOSTWICK AVENUE  
 BRIDGEPORT, CONNECTICUT  
 SOURCE: 2004 AERIAL PHOTO, CTDEEP, 2006

SCALE 1" = 800'  
 DATE 4/16/2021  
 PROJ. NO. 17452-00001  
**FIG. 1-4**





### 1.5.2 EAST SIDE UPGRADES

The project will increase the capacity of the East Side WWTP up to a maximum of 80 mgd and conduct pipe replacement activities (Scenario ESP2) in order to reduce the CSO volume for the 1-year, 24-hour storm by approximately 81%. The average design flow will continue to be 10 mgd. A general depiction of the proposed changes at the East Side WWTP are presented on Figure 1-5. The specific WWTP improvements will include:

- Redirect flow from the two existing influent structures via a 54-inch pipe to a new headworks facility. The new headworks facility would be capable of treating a peak flow of 80 mgd. Screened and degrittled influent flow would then be conveyed to a dual-use primary filtration facility capable of treating a peak flow of 80 mgd. When flow exceeds 24 mgd (the secondary treatment system capacity), the portion of primary effluent flow above 24 mgd would bypass the secondary treatment system and be routed to an ultraviolet disinfection system.
- Primary effluent up to 24 mgd would flow to the upgraded bioreactors for secondary treatment. Secondary effluent would be conveyed to the ultraviolet disinfection system where it would recombine with any wet weather flow that bypassed the secondary system.
- Primary solids would be pumped from the primary filters to new gravity thickeners and WAS would be pumped to intermediate WAS storage tanks within the new Solids Handling Facility. After processing, combined thickened sludge will be stored prior to being off-loaded to sludge hauling tanker trucks for further treatment and disposal off site.
- The effluent pumping station would be upgraded to assist with wet weather flows and flood conditions.
- One odor control system will be provided. The system would collect and treat odorous air from the headworks facility, the primary treatment facility, the gravity thickeners, sludge holding tanks, and rotary drum thickeners. A biofilter is proposed for the airstream.
- A new control building would be constructed with dedicated space for operations, laboratory, locker rooms, and a maintenance shop.
- All new buildings and facilities would be designed with energy efficiency in mind, including the use of high efficiency motors. Potential opportunities for renewable energy assets such as heat pumps, solar arrays, and wind turbines will be further assessed during preliminary design. The use of on-site green infrastructure for stormwater control will be incorporated.

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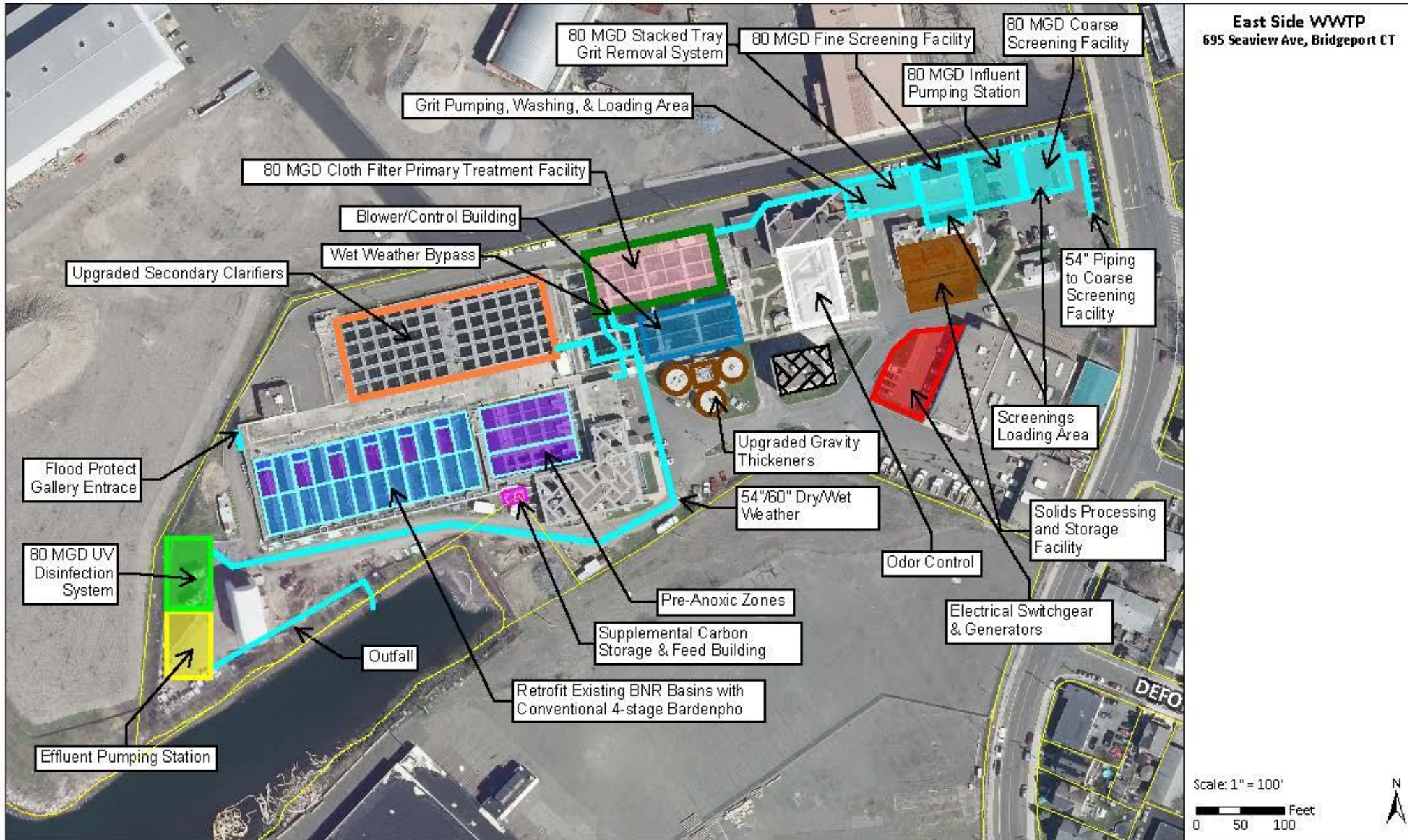


Figure 9.2-2  
Recommended Plan - Alternative E-80D

Water Pollution Control Authority, City of Bridgeport  
Wastewater Facilities Plan



Figure 1-5 West Side WWTP Upgrades

The WWTP will remain in operation during construction. Each construction phase will clear land and/or make way for construction of new WWTP elements. More detail is provided in Section 9 of the 2020 Facilities Plan. The general construction phases will include:

1. Site preparation and construction of new electrical switchgear, generators, ultraviolet disinfection system, effluent pump station, and connecting piping.
2. Demolish existing chlorine contact tanks and begin constructing new headworks facilities.
3. Finish constructing new headworks facilities and construct new primary treatment facility and Blower/Control Building.
4. Demolish existing headworks facilities and upgrade existing gravity thickeners.
5. Construct new Solids Handling Building. Demolish existing Solids Handling Building, influent pump station, and primary degritter building.
6. Construct Odor Control Building. Convert existing primary tanks to pre-anoxic zones, retrofit BNR basins with 4-stage conventional activated sludge, and upgrade secondary clarifiers.
7. Demolish existing Blower and Control Building. Complete final miscellaneous improvements and site restoration.

The cost associated with this action is approximately \$215 million.

The specific pipe installation and/or replacement activities in the East Side collection system will include the following, as shown on Figure 1-6:

- Upsize 750 feet of 30-inch sewer main to 48-inch sewer main from STRAT (Stratford Avenue north of Interstate 95) to the confluence with the dry weather flow from WANN (Exit 29 northbound offramp from Interstate 95)
- Plug the recombined stormwater connection (Waterview Avenue near Nichols Street) upstream of the WANN regulator (Waterview Avenue at Bass Pro Drive)
- Upsize 1,700 feet of 48-inch and 54-inch sewer main to 60 inches from the STRAT/WANN confluence (Exit 29 northbound offramp from Interstate 95) along Seaview Avenue to the East Side WWTP

The costs for the collection system upgrades are estimated between \$10-\$12 million. Measurable CSO benefits are expected following implementation including full 1-year, 24-hour storm CSO control for 3 of the 6 CSO locations (DEAC, WANN, and STRAT). Collectively, the costs for both facility and collection system upgrades are estimated to be \$225-\$227 million.





**LEGEND**

- Proposed Piping Infrastructure
- Subject Parcel
- CSO Sites

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**EAST SIDE COLLECTION SYSTEM IMPROVEMENTS**

EIE OF FACILITY PLAN ANALYSIS AND RECOMMENDATIONS FOR EAST SIDE AND WEST SIDE WASTEWATER TREATMENT PLANTS

CITY OF BRIDGEPORT WATER POLLUTION CONTROL AUTHORITY

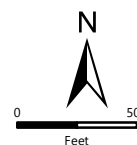
695 SEAVIEW AVENUE  
 BRIDGEPORT, CONNECTICUT

SOURCE: 2004 AERIAL PHOTO, CTDEEP, 2006

SCALE 1" = 800'

DATE 4/16/2021

PROJ. NO. 17452-00001

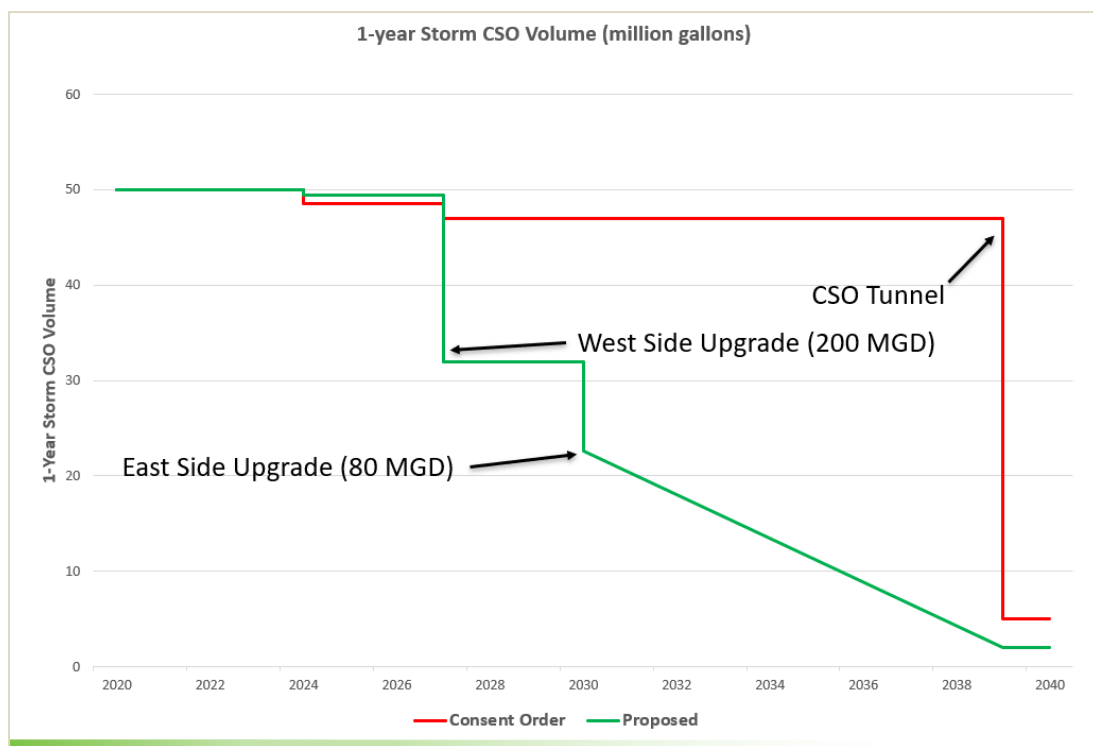


**FIG. 1-6**



### 1.5.3 EFFECT ON LONG TERM CONTROL PLAN

By increasing both plant capacity and collection system capacity, more flow can be conveyed to each facility for treatment, which will have an immediate effect on CSO discharge. Increasing the capacity of the plants was not previously evaluated as part of the LTCP. Upgrading both WWTPs to handle higher wet weather flows is expected to substantially reduce the estimated \$496 million cost the LTCP required to completely control CSOs for the 1-year, 24-hour storm. Note that approximately \$60 million (2020 dollars) worth of improvements are currently planned for the East and West Side collection systems as identified in the facilities plan. The \$60 million includes conveyance improvements at Ash Creek, which is expected to be completed prior to construction of the West Side WWTP improvements. This is reflected by the first downward bump on Figure 1-7 (Figure ES-18 of the 2020 Facilities Plan, updated in the December 22, 2020, comments response letter by CDM Smith).



**Figure 1-7: Recommended Schedule & CSO Reduction for 1-Year, 24-Hour Storm (Source: CDM Smith)**

CDM Smith believes that the WWTP upgrades will ultimately provide substantial CSO reduction sooner (by 2030 instead of by 2039) than the improvement schedule currently proposed in the LTCP. CDM Smith believes that additional system modeling will be necessary following upgrades to the two WWTPs to reevaluate the potential necessity and scope to further control CSOs in the collection system. These projects, which are not presently defined, will be evaluated in the future with the goal of controlling CSOs under the 1-year, 24-hour storm.

In terms of schedule, assuming a March 2020 start to design, the final design of improvements for the West Side WWTP would occur by November 2022 and construction would occur between 2023 and August 2027. All dates must be adjusted based on the actual start date of the final design. Final design for the East Side WWTP completed November 2025 and construction occurring between 2026 and

November 2029. This is different from what was originally proposed in the Administrative Order, which outlined a 36-month construction duration. However, in consideration of the complexity of improvements, and the need to get certain systems up and running before others can be decommissioned and demolished to make room for new facilities, CDM Smith anticipates that a minimum of 40 months will be needed for construction. The proposed construction projects will commence with the West Side WWTP followed by the East Side WWTP. The WPCA is not currently equipped to manage the construction projects concurrently.

## **1.6 CONSULTATION AND COORDINATION**

Numerous local, regional, state, and federal entities have been consulted during the preparation of the subject EIE. The WPCA has been committed to open communication and involvement with the community throughout the study. Public involvement has been encouraged through various meetings, many open to the public, as described below.

### **1.6.1 PRE-SCOPING AGENCY COORDINATION**

CT DEEP is acting as the sponsoring agency for this EIE. The WPCA and CT DEEP coordinated regarding the 2020 Facilities Plan and the expected need for an EIE prior to beginning the CEPA process. Discussions with CT DEEP were held in February 2020 and August 2020 to review the Facilities Planning process and its preliminary recommendations.

### **1.6.2 PRE-SCOPING PUBLIC COORDINATION**

Key stakeholders were informed of the Facilities Planning efforts as the project progressed. To date and specific to the development of the facilities plan<sup>6</sup>, four updates were presented to the WPCA Board of Commissioners: July 2019, February 2020, August 2020, and November 2020, all of which were open to the public. A presentation was also made to the City Finance Committee in August 2020. Furthermore, a meeting was held with the Town of Trumbull to discuss their service area expansion plans in March 2020.

As WWTP layouts were developed, two meetings were conducted with the neighboring Captain's Cove Seaport to discuss the potential for easements and land acquisition in October 2020. In November 2020, a site walk was conducted with a Councilman and a State Representative to discuss potential impacts to the residential housing complex located just north of the West Side WWTP site.

### **1.6.3 SCOPING**

A scoping notice was published by WPCA in the *Environmental Monitor* beginning on October 6, 2020 (Attachment A). The scoping notice was updated on October 20, 2020, to announce a virtual public scoping meeting for the project on October 29, 2020. At the scoping meeting, CDM Smith presented the recommended plans for upgrading both the East Side and West Side WWTPs. A copy of the scoping

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<sup>6</sup> Please note public engagement occurred during the NPDES renewal process for the West Side WWTP in March 2019 and the Black Rock Harbor Water Quality Summit on February 26, 2020, prior to project commencement.



meeting presentation is presented in Attachment B. The scoping notice also appeared in the November 3, 2020, version of the *Environmental Monitor* and comments were requested by November 5, 2020.

A number of public comments were received during the scoping meeting. CDM Smith and CT DEEP have provided written responses to written and verbal questions in a document dated December 22, 2020, (Attachment C). Addressing issues raised during scoping is an integral piece in preparing an EIE. Table 1-7 presents a summary of the public comments and which section in the EIE section they are addressed. A follow-up Public Information Meeting was hosted by the WPCA with CDM Smith on January 28, 2021. A copy of the public information meeting presentation is presented in Appendix B.

SLR reviewed the public comments and responses by CDM Smith and CT DEEP and believes that comprehensive responses have been provided to address the public’s issues of concern. The project team engaged the public in a second virtual public meeting to ensure the public’s issues were addressed. These actions are consistent with the spirit and letter of the CEPA regulations.

**TABLE 1-7  
Summary of Scoping Comments**

Topic	EIE Section
Cumulative impacts on water quality related to CSOs	4.3
Permit process (NPDES, TMDL)	3.2.1
Mitigation Requirements and Opportunities	4.4
Concern over impacts of West Side WWTP expansion on discharge volume of contaminated effluent to Black Rock Harbor (especially TN)	3.4.1, 3.4.2
Reduction of CSO overflow discharges	1.3.4, 1.5.3,
Public education and outreach, school and local partnerships for environmental monitoring	1.6, 4.3
Engagement of local community and evaluation of noise, light, and other potential disturbances to adjacent neighborhood residents	1.6, 3.1.3
Water quality monitoring	3.2.1, 4.3
Project planning and timeline	1.2, 1.5
Climate change resiliency and planning for sea-level rise/flood impact mitigation	3.2.2
West Side WWTP discharge pipe extension	2.6

Additional public meetings have occurred following the submission of the Facilities Plan, including:

- WPCA Board of Commissioners’ Meetings
- City Council Meetings, West Side WWTP Tour and workshop
- Neighborhood Meetings – West and East Side WWTP (required under Section 22a-20a CGS) such as Aquaculture School, PT Partners, and Captain's Cove Seaport.

#### **1.6.4 AGENCY COORDINATION**

Coordination has commenced with the agencies listed in Table 1-8 along with the current status of the consultation process. Responses are presented in Attachment D.

**Table 1-8  
Agency Coordination**

Agency	Action/Date	Response
CT DEEP NDDDB	NDDDB Request submitted March 25, 2021.	No Impact letter for East Side WWTP received from NDDDB on March 31, 2021. No other mapped NDDDB polygons exist in project areas.
USFWS	Accessed online USFWS IPaC services on March 30, 2021, to obtain an official species list and evaluate potential impacts on resources managed by the USFWS.	Official ESA species list and consultation code generated for project. Project has potential to impact two federally-listed bird species: red knot (FT), and roseate tern (FE). There are no listed critical habitat overlaps for federally-regulated species.
SHPO/THPO	CEPA Environmental Review package sent electronically to THPO and hard copy mailed to SHPO office on April 7, 2021. Follow-up email and electronic package sent to SHPO on April 21, 2021.	SHPO response received April 29, 2021, stating project conformance with National Historic Preservation Act, and confirming no properties listed on the State or National Registers of Historic Places (NRHP) within or adjacent to the project areas.

NDDDB = Natural Diversity Data Base; USFWS = United States Fish and Wildlife Service; IPaC = Information for Planning and Consultation; ESA = Endangered Species Act; SHPO = State Historic Preservation Office; THPO = Tribal Historic Preservation Offices; FT = Federally Threatened; FE = Federally Endangered

## 2. ALTERNATIVES CONSIDERED

In accordance with CEPA requirements, alternatives were considered for the 2020 Facilities Plan and this EIE, including a “no action” alternative and a number of action alternatives. Each has been evaluated on the ability to meet the project purpose and needs as outlined in Section 1.4. The build alternatives were evaluated by CDM Smith as part of the 2020 Facilities Plan.

### 2.1 ALTERNATIVE A: NO ACTION OR NO BUILD

Under this alternative, the recommended projects in the 2020 Facilities Plan would not be pursued. The two WWTPs would remain in outdated and deteriorating condition and continue to operate below their design capacities. The existing level of CSOs would continue and eventually be reduced to relatively minimum levels once the CSO tunnel project identified in the LTCP is implemented in 2039.

This alternative does not meet the project purpose and need in relation to any of the desired outcomes in Table 1-6. The following impacts are likely to occur under the no action or no build alternative:

- High volumes of CSOs will continue to impact the suitability of the local waterways for designated uses including aquatic life, fishing, shellfishing, and recreation
- Conditions may worsen if redevelopment within Bridgeport results in a greater than expected sewer demand
- The two WWTPs will not be in a position to respond effectively to more stringent treatment requirements in the future
- Resilience elements to protect the WWTPs against sea level rise and coastal flooding due to climate change will not be incorporated, resulting in the WWTPs becoming more floodprone over time

For these reasons, while this alternative is technically feasible it is not believed to be prudent and therefore is not the preferred alternative.

### 2.2 ALTERNATIVE B: POSTPONE ACTION PENDING FURTHER STUDY

Several factors have influenced the timing of the 2020 Facilities Plan, including the costs associated with LTCP projects and the CT DEEP Administrative Orders requiring evaluation of the WWTPs. As stated in the 2020 Facilities Plan, the implementation of the recommended projects will provide the potential to substantially reduce the overall project costs identified in the LTCP. Secondly, significant study has already been completed, with a recommended plan of action being presented in the 2020 Facilities Plan that is of sufficient detail to begin project design. Finally, postponing future action would likely increase overall project costs due to inflation and the WWTPs would continue to operate in a reduced condition pending the further study. For these reasons, while this alternative is technically feasible it is not prudent and is therefore not the preferred alternative.

## **2.3 ALTERNATIVE C: SEWER AVOIDANCE**

Sewer avoidance can sometimes be achieved in areas that are undeveloped or sparsely developed, particularly in areas where impacts would be substantial as a result of the construction of collection and treatment facilities. Sewer avoidance can be effectively achieved in areas where development is unwanted. In such cases, zoning regulations and land use plans are crafted in a manner that limits allowable development to that which the land can accommodate with individual wells and septic systems.

Given the long-established wastewater collection and treatment system in the Bridgeport area, sewer avoidance is not a viable option for the WPCA. Existing dense development patterns, zoning regulations, and long-term land use plans that require access to sewer are at odds with sewer avoidance strategies. This alternative is simply not technically feasible or prudent and is not the preferred alternative.

## **2.4 ALTERNATIVE D: CONSTRUCTION OF THE PROJECT IN A DIFFERENT LOCATION**

In some cases, construction or development alternatives to the proposed action may be conducted in a different location. However, in this case the WPCA collection system and WWTPs are already in place. Moving wastewater out of Bridgeport to other nearby collection systems for treatment is not technically feasible given the volume of flow and treatment required and the established infrastructure. Furthermore, the density of existing development on the shoreline dedicated to commercial, industrial, or recreational presents few options for viable relocation. Construction in an alternate location would relocate potential water quality impacts away from their current locations, potentially adversely affecting aquatic resources that otherwise would only be minimally impacted. This alternative is not believed to be technically feasible or prudent and is not the preferred alternative.

## **2.5 ALTERNATIVE E: RECOMMENDED APPROACH IN 2020 FACILITIES PLAN**

The recommended approach by CDM Smith in the 2020 Facilities Plan was outlined in Section 1.5 of this EIE. In summary, this approach will include improvements to increase primary treatment capacity to 200 mgd at the West Side WWTP, increase primary treatment capacity to 80 mgd at the East Side WWTP, and conduct certain collection system upgrades to increase conveyance of sewage flow to the two WWTPs. This combination of projects meets the project purpose and need established in the 2020 Facilities Plan (and represented in Section 1.4 of this EIE). As this alternative is believed to be both technically feasible and prudent, it is the preferred alternative and is evaluated in detail in this EIE. The total cost for this alternative was estimated at approximately \$598 million for the two WWTPs (based on midpoint of construction given proposed schedule in Facility Plan) and an additional \$30 million to \$72 million for the collection system improvements (2020 dollars).

Improving wastewater treatment capacity and functionality at the West Side and East Side WWTPs maximizes the value and usefulness of the land, staff, infrastructure, and equipment the WPCA already has in place. This approach relies on the demonstrated commitment of the WPCA to provide labor and management resources to properly operate and maintain the wastewater collection, conveyance, and wastewater treatment systems at these locations.

## 2.6 ALTERNATIVE F: OTHER APPROACHES CONSIDERED IN 2020 FACILITIES PLAN

Sections 6 and 7 of the 2020 Facilities Plan outline the detailed process utilized by CDM Smith to evaluate a variety of build and process alternatives. The preliminary build alternatives evaluated by CDM Smith are summarized in Table 2-1:

**TABLE 2-1  
Summary of Considered Build Alternatives in 2020 Facilities Plan**

Category	Initial Modeled or Screened Alternatives	Result
Collection System Alternatives Development	Validation Condition (Current Capacity) Baseline Conditions (Current Design Capacity) WSP1 – 140 mgd West, 40 mgd East WSP2 – 160 mgd West, 40 mgd East WSP3 – 180 mgd West, 40 mgd East, Pipes WSP4 – 200 mgd West, 40 mgd East ESP 1 – 90 mgd West, 60 mgd East ESP2 – 90 mgd West, 80 mgd East, Pipes	Carried forward WSP at 90 mgd, 140 mgd, 180 mgd, and 200 mgd; carried forward ESP at 40 and 80 mgd; Recommended certain pipe replacement projects
Plant Consolidation	1. Convey all flow from ESP to WSP 2. Convey 24 mgd from ESP to WSP 3. Pump raw sludge from ESP to WSP 4. Pump partially thickened sludge from ESP to WSP 5. Convey all flow from WSP to ESP 6. Convey 58 mgd from WSP to ESP 7. Pump raw sludge from WSP to ESP 8. Pump partially thickened sludge from WSP to ESP A. Piping route along streets B. Direct piping route under harbor, along streets, and under Cedar Creek C. Harbor piping route under the harbor and Long Island Sound D. Gravity tunnel via tunnel boring machine	None were either feasible or recommended if feasible
Effluent Outfall	1. No action (WSP at 90 mgd, ESP at 40 mgd) 2. WSP existing location with rehabilitation (at 200, 180, and 140 mgd) 3. ESP existing location with rehabilitation (80 mgd) 4. ESP inner harbor location 5. WSP outer harbor location	Recommended maintaining existing outfall at WSP; recommended moving ESP outfall west to inner harbor location but this was ultimately not pursued

WSP = West Side Plant, ESP = East Side Plant, "Pipes" indicates that the recommended pipe replacement projects identified in Section 1.5 of this EIE were included in the model.

The preliminary process alternatives that were evaluated in detail in the 2020 Facilities Plan include the following:

- Pumping and preliminary treatment
  - Influent pumping
  - Influent screening

- Grit removal
- Primary Treatment and High Flow Management
  - Primary settling tanks
  - Primary settling tanks with chemically-enhanced primary treatment
  - Primary filtration
  - High rate clarification
- Secondary treatment and Nitrogen Removal
  - Wastewater temperature variation and aerobic solids retention time
  - Secondary clarification modifications and allowable concentrations
  - Alternative suspended grown activated sludge configuration
  - Integrated activated sludge processes
  - Membrane bioreactors
  - Membrane aerated biofilm reactors
  - Add-on nitrogen removal process
  - Aeration blowers
- Disinfection
  - Sodium hypochlorite
  - Chlorine dioxide
  - Peracetic acid
  - Ozone
  - Ultraviolet light
- Reuse
- Effluent Pumping Station
  - Pump alternatives
  - Wetwell alternatives
- Residuals Management
  - Sludge thickening
  - Dewatering
  - Sludge stabilization
- Odor Control
  - Carbon adsorption
  - Biotrickling filters
  - Low profile biotrickling filters
  - Biofiltration
  - Chemical scrubbers
  - Dispersion fans

Following evaluation of the preliminary alternatives and removal of those that were not feasible or prudent, a detailed evaluation of the screened alternatives including cost estimation was performed. These included:

- West Side WWTP
  - Four 90 mgd treatment train options (current design flow)

- One 140 mgd treatment train option (an intermediate flow that provides a reasonable reduction in CSOs)
- Five 180 mgd treatment train options (doubling current peak capacity and providing significant CSO reductions)
- Three 200 mgd treatment train options
- East Side WWTP
  - Four 40 mgd treatment train options (current design flow)
  - Four 80 mgd treatment train options (doubling the current peak capacity and providing significant CSO reductions)

Following the detailed evaluation, CDM Smith recommended the approach laid out in Section 1.5 (Alternative E) to be carried forward for design. The other evaluated options were either less cost-effective, provided fewer environmental benefits in controlling CSOs, or had other concerns such as space constraints that limited the ability of the option to be as effective as the preferred approach.

At and following the scoping meeting, several commenters desired relocation of the effluent outfall for the West Side WWTP to an outer harbor location (Attachment C). Preliminary modeling by CDM Smith in the 2020 Facilities plan did not demonstrate that a significant benefit to water quality would be realized by moving the outfall to the outer harbor above and beyond that provided by the proposed WWTP improvements. Furthermore, the WWTP upgrades are necessary regardless of the outfall location.

CDM Smith believes that the proposed West Side WWTP improvements will result in measurable improvements to the water quality in Black Rock Harbor. Based on the expected improved effluent quality from the new West Side WWTP, the anticipated ability to meet the requirements of the West Side WWTP NPDES permit, the potential impacts to shellfish lease holders, cost (estimated \$200 million), required permitting, and construction risks associated with the extended outfall, the WPCA intends to defer evaluation of a new outfall pipe until the water quality conditions in the harbor can be assessed after the new treatment facility is operating.

## 3. ENVIRONMENTAL CONSEQUENCES

### 3.1 EXISTING ENVIRONMENTAL CONDITIONS

The existing treatment plants exist in developed shorefront areas and are characterized by paved impervious areas and the Black Rock Harbor and Bridgeport Harbor on the waterward side of facilities (Figure 1-1). Both WWTPs occur at the bottom of small, localized watersheds draining highly urbanized areas and discharging to moderately trafficked harbors via dredged channels. Local land use is comprised of densely settled residential and industrial areas atop flat topography, with some open space consisting of athletic fields and vacant lots. While both WWTPs are located adjacent to tidal resources, water quality in this portion of Bridgeport Harbor has been rated by CT DEEP as highly impacted, and little natural or pervious shoreline exists throughout the area as a transition between industrial land use and the marine environment. Though sensitive resources are not anticipated to occur in close vicinity to the work areas or to be negatively impacted by the scope of work, a detailed account of potential impacts to environmental resources follows in the table and narratives below. The majority of the Project Area is currently occupied with existing infrastructure related to the WWTPs, paved areas, or rights-of-way where previous disturbance related to the installation of sewer mains has occurred. The existing conditions at each WWTP is described in further detail below.

#### 3.1.1 WEST SIDE WWTP

The approximately 8.5-acre West Side WWTP is located north of Cedar Creek in a densely settled portion of western Bridgeport (Figure 1-3). The southern property line of the plant parallels Cedar Creek for approximately 500-linear feet but does not exist as direct frontage on the water. The property is occupied entirely by wastewater infrastructure with shade trees along Bostwick Avenue. The outfall from the plant extends south to the shoreline of the creek in line with the western property boundary.

Cedar Creek estuary is a small 1.9 square mile watershed located south of Interstate 95. The creek originates at the daylighting of two piped watercourses that confluence south of Harbor Street. The creek flows west/southwest to discharge to Black Rock Harbor and Long Island Sound (LIS) approximately 0.6-mile from the property. Land uses on the creek are dominated by water-dependent facilities, that include public access, industrial use, and marinas and yacht clubs. The Bridgeport Regional Vocational Aquaculture School is located west of the site. The shoreline condition is generally engineered but vegetated areas are present in low percentages. The area north of the WWTP consists of the 15-acre P.T. Barnum Apartments, a 360-unit low-income housing development dating to the early 1950s.

Black Rock Harbor lies north of a barrier beach that bounds the western extent of Bridgeport. Cedar Creek and Burr Creek, west of Cedar Creek, drain to Black Rock Harbor. Mean high water is located at elevation 3.18-feet North American Vertical Datum (NAVD) and mean low water is located at -3.58-feet NAVD for a mean tidal range of 6.76 feet. As described above, this portion of Bridgeport supports water-dependent facilities, in particular recreational boating areas such as Black Rock Yacht club, marinas, and Captain's Cove Seaport.



### 3.1.2 EAST SIDE WWTP

The 8.3 acre East Side WWTP is located within Bridgeport Inner Harbor, approximately 0.9 mile north of LIS (see Figure 1-5). The site occupies approximately 550 feet along the north bank of Powerhouse Channel, a narrow, short, excavated inlet that lies east of the Pequonnock River. The outfall is located on Powerhouse Channel, adjacent to the western property line. The land use surrounding the plant is currently less developed compared to the West Side WWTP. A 3.2 acre undeveloped lot lies west of the plant. The approximately 40 acres north and 18 acres south of the WWTP are flat, paved areas that support, or will support in the future, water dependent uses. East of the plant, across Seaview Avenue, dense residential development exists, as well as the 8.5 acre Newfield Park outdoor athletic fields and facilities. The mean high water, mean low water, and mean tidal range are consistent with the West Side WWTP.

### 3.1.3 POTENTIALLY IMPACTED RESOURCES WITHIN PROJECT REGION

Table 3-1 presents a summary of resources proximal to the proposed 2020 Facilities Plan improvements, along with an indication of the potential for impact. The potential for impact assumes that standard best management practices are employed during demolition and construction, such as sedimentation and erosion controls.

**TABLE 3-1  
Potentially Impacted Resources near the 2020 Facilities Plan Improvements**

Resource	Potential Impacts		Comments
	YES	NO	
Aesthetic Resources	X		Improvements to the WWTPs, which includes new buildings for the West Side WWTP, will be designed to result in a similar, though updated, aesthetic to the current facilities, which are in public view. Landscaping along the neighborhood-facing property lines will soften the visual impacts of the new facilities.
Air Quality		X	The proposed improvements will not generate significant air emissions. Updates to existing odor control technologies will result in improved local air quality through containment and ventilation of odor-producing airborne particles.
Archeological/Historic Resources		X	The project areas do not support sensitive cultural resources and are not part of any local or state historic designated district. SHPO letter received April 29, 2021, affirms that no impact to historic properties will result from the proposed improvements.

**TABLE 3-1  
Potentially Impacted Resources near the 2020 Facilities Plan Improvements**

Resource	Potential Impacts		Comments
	YES	NO	
Climate Resiliency		X	The proposed project considers future climate change scenarios including predicted sea-level rise and increased precipitation levels. Project design meets standards of EPA TR-16 and CT DEEP CWF Memorandum 2017-001.
Coastal Resources	X		Coastal resources exist within and adjacent to the project area. The proposed activities exist within developed landscapes within the coastal boundary. The project will benefit coastal resources by reducing CSO discharge and improving water quality.
Designated Open Spaces		X	The work areas are currently developed and not designated as future open space. While some of the project will occur in Ellsworth Park, construction period impacts will be temporary and the site will be restored to existing conditions.
Economy, Employment, and Income	X		Improvements are expected to provide an overall slight benefit to local economy through reduction in household cost of service. Temporary construction jobs will be generated to execute the project.
Environmental Justice		X	Project areas are located within disproportionately low-income area compared to municipal and statewide demographics. Improvements will not displace any populations or housing, however, there is potential for temporary impacts to low-income housing from proposed West Side collection system upgrade. These impacts are likely avoidable, as described on page 42.
Fish Habitats/Aquatic Environment	X		Waterbodies immediately adjacent to both plants have been designated by CT DEEP as impaired for marine fish and shellfish; proposed project aims to improve water quality and aquatic habitat.

**TABLE 3-1  
Potentially Impacted Resources near the 2020 Facilities Plan Improvements**

Resource	Potential Impacts		Comments
	YES	NO	
Floodplains/Floodways	X		<p>Project Site is within a Federal Emergency Management Agency (FEMA) designated coastal floodplain, though project activities will occur within the footprint of existing facilities and roadways.</p> <p>Project design meets standards of EPA TR-16 and CT DEEP CWF Memorandum 2017-001, which stipulate upgrades to treatment plants be designed to protect operations during a 100-year flood event with equipment placed 2 to 3 feet above current 100-year flood elevation. It is assumed that CT DEEP has determined that the WWTP upgrades are not critical activities as defined in CGS 25-68b.</p>
Geology, Topography, and Soils		X	Changes to geology or topography are not proposed. Sedimentation and erosion control measures will be implemented to prevent localized impacts during construction, and the site will be stabilized following construction.
Land Use & Zoning		X	The proposed WWTP improvements exist within developed landscapes and are compatible with surrounding land uses and zoning. The plants fulfill a societal need and have been established in their respective positions for decades.
Noise and Light		X	No changes to existing levels of noise and light are anticipated from the proposed updates to the WWTPs. Construction activities will result in temporary noise disturbance within the project area though levels should not greatly exceed local thresholds for an urbanized/industrial area.
Open Space and Farmland		X	The project region does not support agricultural activities. Collection System improvements are planned to cross recreational open space in Ellsworth Park.
Plants & Wildlife/NDDB Endangered, Threatened, and Special Concern Species		X	NDDB mapping (December 2020) shows Project Region overlap with State-listed species and/or habitat limited to a portion of the East Side WWTP. A NDDB request form was submitted on March 25, 2021, for the East Side WWTP, and a No Conflict determination was received on March 31, 2021, indicating that the NDDB does not anticipate negative impacts to State-listed species.

**TABLE 3-1  
Potentially Impacted Resources near the 2020 Facilities Plan Improvements**

Resource	Potential Impacts		Comments
	YES	NO	
Stormwater Drainage/Water Quality	X		Improvements to the collection system upstream of the plants (described in Sections 1.5.1-2) through high flow management will maximize flow to the WWTPs, reducing CSO loads and enhancing downstream water quality.
Surface Water/Waterbodies	X		Waterbodies in close proximity described above; project activities will mitigate short-term impacts through construction best management practices, and will have significant, positive long-term impacts to these resources through enhanced water quality following WWTP and collection system improvements.
Wetlands		X	Both project sites are located on or adjacent to tidally influenced waterbodies. Much of the shoreline adjacent to these areas are engineered and do not support vegetative growth. An evaluation of the shoreline and proposed work areas will be completed during the regulatory process. No permanent wetland impacts are anticipated.

### 3.2 DIRECT EFFECTS

#### 3.2.1 DIRECT BENEFITS

The direct benefits of the project result in the rehabilitation of necessary community infrastructure. Improved water quality is the primary direct environmental benefit of the proposed project. Improvements to water quality realized through this project represent an acceleration of the time frame identified in the current LTCP for CSOs. These improvements will result in a decrease in volume of CSO discharge, TN, TSS, and fecal coliform (Table 3-4).

#### Water Quality

The proposed project will directly benefit water quality of effluent at both WWTPs. The plants will maintain existing secondary capacity per their NPDES permit, while improving the quality of treatment, the reliability of the equipment, and the level of primary treatment provided, increasing the total capacity of both plants.

Per Connecticut Water Quality mapping, the portions of Black Rock Harbor, Inner Bridgeport Harbor, and all channels in the vicinity of both the West Side and East Side plants were rated in 2016 as Impaired, SB (saline) waters, not supporting recreation or aquatic life, though fully supporting estuary fish consumption.



The 2020 *Integrated Water Quality Report* (2020 IWQR) produced by CT DEEP identifies which uses are impaired, for reaches of waterbodies, and in many cases the potential sources of impairment (see Table 3-2, below).

**TABLE 3-2  
Potential Sources of Impairment of and Designated Use Impact for Waterbodies receiving Treated Wastewater from West Side and East Side WWTPs**

	Waterbody (Segment ID)	Impaired Designated Use	Causes	Potential Sources
West Side WWTP	Long Island Sound West Basin Inner – Blackrock Harbor, Bridgeport (CT-W1_002-SB)	Habitat for Marine Fish, Other Aquatic Life and Wildlife	-Dissolved oxygen -Estuarine Bioassessments -Nutrient/Eutrophication -Oil and Grease -Polychlorinated Biphenyls (PCBs) -Polycyclic Aromatic Hydrocarbons (PAHs)	Landfills, municipal discharges, illicit discharges, remediation sites, groundwater contamination, CSOs
		Shellfish Harvest	-Fecal Coliform -Enterococcus	
East Side WWTP	Long Island Sound West Basin Inner – Bridgeport Harbor, Bridgeport (CT-W1_001-SB)	Habitat for Marine Fish, Other Aquatic Life and Wildlife	-Dissolved oxygen -Nutrient/Eutrophication -PCBs -PAHs	Landfills, municipal discharges, illicit discharges, remediation sites, groundwater contamination, CSOs
		Shellfish Harvest	-Fecal Coliform	

A total maximum daily load (TMDL) for fecal coliform was adopted for Bridgeport Harbor in 2012 due to the impairments to shellfish harvest, and a TMDL for fecal coliform and enterococcus was adopted for Black Rock Harbor in 2012 due to the impairments to shellfish harvest and recreation.

According to the 2020 *Integrated Water Quality Report* produced by CT DEEP, low dissolved oxygen concentrations between 3.5 and 4.8 mg/L are present where Black Rock Harbor enters Long Island Sound downstream of the West Side WWTP, suggesting long-term hypoxia. Dissolved oxygen concentrations in Bridgeport Harbor are generally above 4.8 mg/L, although they may dip below the 4.8 mg/L threshold in the summer months as shown by the “Long Island Sound Water Quality and Hypoxia Monitoring Program” maps<sup>7</sup> available on the CT DEEP website.

The 2020 *Integrated Water Quality Report* identifies the following impairments for the estuaries associated with the West Side and East Side WWTP outfalls (Table 3-3):

<sup>7</sup> <https://portal.ct.gov/DEEP/Water/LIS-Monitoring/LIS-Water-Quality-Monitoring-Maps>

**TABLE 3-3  
305b Assessment Results for Estuaries**

Location	Aquatic Life	Recreation	Shellfish	Shellfish Class
LIS WB Inner – Black Rock Harbor, Burr Creek, and Cedar Creek, Bridgeport	Not Supporting	Not Supporting	Not Supporting	Commercial Shellfish Harvesting Where Authorized
LIS WB Shore – Outer Bridgeport Harbor, Fairfield	Not Accessed	Fully Supporting	Not Supporting	Shellfish Harvesting for Direct Consumption Where Authorized
LIS WB Inner – Bridgeport Harbor, Bridgeport	Not Supporting	Not Supporting	Not Supporting	Commercial Shellfish Harvesting Where Authorized
LIS WB Shore – Long Beach, Stratford	Not Accessed	Fully Supporting	Not Supporting	Shellfish Harvesting for Direct Consumption Where Authorized
LIS WB Shore – Seaside Park Beach, Bridgeport	Not Accessed	Fully Supporting	Not Supporting	Shellfish Harvesting for Direct Consumption Where Authorized

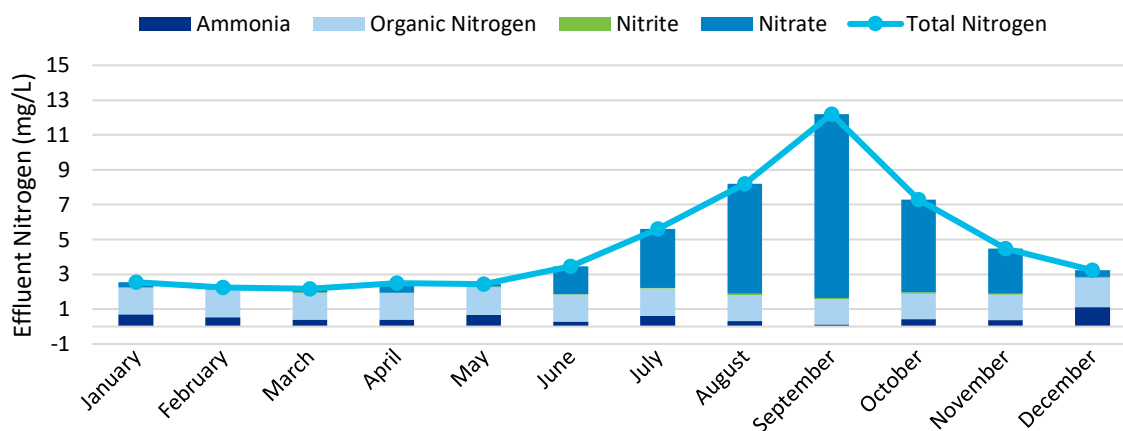
- Black Rock Harbor is listed on the list of impaired waters for Connecticut. The impaired designated use is habitat for marine fish, other aquatic life, and wildlife with the cause being dissolved oxygen, nutrients, polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), estuarine bioassessments, and oil and grease.

According to calculations prepared as part of the Facilities Plan and presented in Table 3-4 below, increasing treatment plant capacity is projected to marginally increase the treated WWTP effluent levels leaving the plants, while significantly reducing the frequency and magnitude of CSOs and related water contamination levels, notably for fecal coliform load, TSS, and TN.

**Table 3-4  
Direct Water Quality Benefits from WWTP Upgrades**

Category	Increase/Decrease	Percent Change
Treated WWTP Effluent	Increase	1.3
CSO Volume	Decrease	51
Fecal Coliform Load	Decrease	60
TSS Load	Decrease	62
TN Load	Decrease	34

Reducing total nitrogen (TN) is of particular water quality concern, especially in Black Rock Harbor, with its proximity to important water-dependent ecological communities and recreational opportunities. Nitrogen is a limiting nutrient in marine waters and fuels harmful algal blooms and eutrophication that lead to low dissolved oxygen and fish kills. During the study period of 2017-2019, average annual effluent TN concentration within Black Rock Harbor downstream of the West Side WWTP ranged from 8.5 to 10.6 mg/L (ppm). Following treatment plant improvements, these levels are anticipated to drop by at least 50% to 4.7 mg/L, with the potential to reach even lower concentrations near 3.4 mg/L if supplemental carbon is added to the treatment process. Anticipated monthly TN concentrations from West Side WWTP discharge in the design year (2050) are presented in Figure 3-1, below.



**Figure 3-1: Projected Monthly Total Nitrogen Discharges from the West Side WWTP (source: CDM Smith 2021)**

### 3.2.2 DIRECT IMPACTS

The proposed work is not anticipated to impact land development/open space or flood patterns and will not displace any homes or businesses or disturb cultural or historic resources. A small boat storage area will be displaced by the West Side WWTP improvements. No additional negative long-term environmental impacts on air or water quality, plants and wildlife, or listed-species habitat are anticipated resulting from proposed improvements.

#### Air Quality

The US Environmental Protection Agency (EPA) is the overall regulatory agency for air quality throughout the United States. Federal air quality regulations are included in the Clean Air Act (CAA) of 1970 and the Clean Air Act Amendments (CAAA) of 1990. These regulations provide a comprehensive national program, with the collective goal of reducing pollutant levels in the ambient air. The primary regulatory authority for air quality in Connecticut is the CT DEEP Bureau of Air Management. Applicable regulations are included in the Regulations of Connecticut State Agencies, Title 22a, Sections 22a-174-1 through 22a-174-200, Abatement of Air Pollution. CT DEEP regulates industrial and commercial sources of air pollution that are required to comply with appropriate federal, state, and local rules applying to air emissions.

Ambient air quality in an area can be characterized in terms of whether it complies with the primary and secondary National Ambient Air Quality Standards (NAAQS). The CAAA require EPA to set NAAQS for pollutants considered harmful to public health and the environment. NAAQS are provided for six principal pollutants, called criteria pollutants (as listed under CAA Section 108): carbon monoxide (CO); lead; NO<sub>x</sub>; ozone; particulate matter, divided into two size classes (aerodynamic size less than or equal to 10 micrometers [PM<sub>10</sub>] and aerodynamic size less than or equal to 2.5 micrometers [PM<sub>2.5</sub>]); and sulfur dioxide (SO<sub>2</sub>).

Per 40 Code of Federal Regulations (CFR) 50.9(b), on June 15, 2005, the 1-hour ozone standard was revoked for all nonattainment and maintenance areas, except for the 8-hour ozone nonattainment Early Action Compact (EAC) Areas. Connecticut was not an EAC area; therefore, the 1-hour ozone standard was revoked for Connecticut. Currently, Fairfield County does not meet the NAAQS for ozone and as of June

2016 is classified as a moderate nonattainment area (the ozone 8-hour design value for the area is 0.075 parts per million) (USEPA, 2017a). Fairfield County is in attainment for all other criteria pollutants (CO, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, and lead) (EPA, 2017b).

Construction of the WPCA project would result in localized, temporary increases in emissions of some pollutants due to the use of a limited amount of construction equipment powered by diesel engines. Construction activities may also result in the temporary generation of fugitive dust due to disturbance of the surface and other dust generating actions. Indirect emissions during the construction period would be associated with delivery vehicles and construction worker commuting. The temporary increase in annual emissions from these activities are expected to be well below general conformity thresholds listed in 40CFR93.153(b). The project does not include construction of new air emissions sources above existing levels, or conversion of land use facilitating the development of public, commercial, industrial facilities, or dwelling units. No long-term air emissions will occur. Therefore, this project is not expected to interfere with CT DEEP's State Implementation Plan.

Impacts to long-term air quality from the upgraded facilities are expected to be beneficial and are addressed in the Facilities Plan, which includes details on odor control technologies to contain, filter, and ventilate airborne odorous chemicals created through the wastewater storage and treatment processes. Compared to current technology in place, these updates to the existing odor control features are anticipated to improve local air quality within the vicinity of the plants.

### **Environmentally Sensitive Areas**

A number of environmentally sensitive area types were assessed for relevance and impact using readily available data and mapping.

#### *Wetlands and Waterways*

Both wastewater treatment plants are located in developed urban and industrial areas, adjacent to roadways and active harbors. United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil mapping shows non-hydric, human-modified Udorthents-Urban Land soils across both sites. National Wetlands Inventory Mapping from the United States Fish and Wildlife Service shows no wetlands within the WWTP project areas, or the areas around proposed collection system improvements. CT DEEP tidal wetland mapping published in 1999 shows thin fragments of tidal wetland 0.22 mile west of the West Side WWTP and 0.46 mile east of the East Side WWTP, though both wetland areas are separated from the WWTPs by paved roads and development. There is the potential for tidal wetlands to occur north of Ellsworth Park in the vicinity of proposed pipeline improvements associated with the SEAB CSO site, though any existing wetlands along the shoreline would be narrow in extent and likely avoidable.

The presence of tidal or inland wetlands on or near the project parcels and any potential impacts to wetlands would be reviewed through the regulatory process. No permanent wetland impacts are anticipated. The proposed projects affect the water quality in Cedar Creek, Black Rock Harbor, Powerhouse Channel, Bridgeport Harbor, and Long Island Sound.



In the long-term, there will be some continued point-source pollution of the receiving waters at both harbors emitted from the WWTPs following project completion. Both WWTPs currently release some levels of chemical effluents that contribute to nutrient loading within the receiving waters offshore from the facility locations. While the enhanced and state-of-the-art equipment proposed within both WWTPs is anticipated to significantly reduce these loads, it will not be possible to ensure that pollutant levels reach zero for operations of their magnitudes, serving highly urbanized and industrial areas. However, the proposed improvements to the WWTPs and collection systems have been designed expressly to deal with issues of water quality and are therefore anticipated to result in better conditions within the receiving waters than existing conditions. In summary, the enhanced wastewater treatment through proposed facility and collection system upgrades will lead to water quality improvements in the receiving waters of Long Island Sound.

### [Floodplains](#)

Although some of the construction work at both of the wastewater treatment plants would take place within the 100-year floodplain identified by FEMA, changes in the base flood elevation will not result. No waterward encroachments are proposed. The project consists mainly of retrofitting, upsizing, and replacing existing structures on both sites, and final designs are expected to retain a comparable amount of impervious surface to the existing layouts.

### [Aquifers and Water Supply](#)

Based upon Aquifer Protection Area Maps provided by CT DEEP, the area of the project does not include aquifer protection areas. As the work is confined to existing infrastructure, the project does not affect the existing geology of the area. The work areas are currently serviced by municipal water supply and therefore no impacts on private wells will result.

### [Historical/Archaeological Sites and National Landmarks](#)

The East Side WWTP was constructed in the 1940s, expanded in 1950 and 1970 with its last major upgrade in 1995. The West Side WWTP was constructed in the 1920s, expanded in 1960 with its last major upgrade in 1992. A formal Project Notification has been sent to SHPO and appropriate THPO on April 7, 2021. A letter from SHPO dated April 29, 2021, affirms that the project will not affect historic properties.

### [Wild and Scenic Rivers](#)

National Wild and Scenic Rivers System mapping shows that the project area contains no Wild and Scenic rivers.

### [Prime Farmlands](#)

Per NRCS soil mapping, no prime farmland soils exist within the proposed project area.

## Endangered Species

### State-Listed Species

The NDDDB was consulted to determine the potential for the project areas to support state-listed flora and fauna and critical habitats. The NDDDB mapping (December 2020) includes a portion of the East Side plant, while the West Side WWTP and Collection System improvement areas are located outside of mapped NDDDB areas. SLR submitted a NDDDB Review Request for the East Side WWTP and a No Conflict determination (No. 202104087) was received on March 30, 2021, that determined no anticipated negative impacts from the proposed project on state-listed species or habitat. The determination is good for two years.

### Federal Listed Species

#### **USFWS**

An official federal ESA list was obtained on March 30, 2021, utilizing the USFWS IPaC online service. This search identified the potential presence within the project areas of two federally listed bird species, the red knot (federally threatened) and roseate tern (federally endangered). The red knot may appear along the Connecticut coast during the overwintering period; however, they are known to depend on an ample food source of arthropod eggs, and are typically associated with quiet, intertidal beaches during high tides. Roseate terns are found along the North American Atlantic coast during breeding season, nesting on sandy barrier islands, rocky islands, and islands/hummocks in saltmarshes.

The project area and immediate surroundings are not anticipated to provide highly suitable habitat for either bird species due to high levels of noise and lack of habitat for nesting or overwintering. As project activities become imminent, federal permitting through the US Army Corps of Engineers may require follow-up consultation and biological assessments of the project area to verify no impact to listed species or their potential habitat.

#### **NOAA**

The National Oceanic and Atmospheric Administration (NOAA) Essential Fish Habitat (EFH) mapper was consulted on May 3, 2021. According to the EFH mapper, no Habitat Areas of Particular Concern or Essential Fish Habitat Areas (EFHA) Protected from Fishing were identified adjacent to the West Side or East Side WWTPs. However, a variety of life stages of 14 (695 Seaview Avenue) and 15 (205 Bostwick Avenue) fish species, managed by New England and Mid-Atlantic Management Councils, have potential EFH in waterbodies adjacent to the WWTPs (Tables 3-5 and 3-6).

**Table 3-5  
695 Seaview – EFH Life Cycle Stages**

COMMON NAME	SCIENTIFIC NAME	LIFE STAGES
Winter flounder	<i>Pseudopleuronectes americanus</i>	Eggs, Juvenile, Larvae, Adult
Little skate	<i>Leucoraja erinacea</i>	Juvenile, Adult
Atlantic herring	<i>Clupea harengus</i>	Juvenile, Adult
Pollock	<i>Pollachius pollachius</i>	Adult, Juvenile
Red hake	<i>Urophycis chuss</i>	Adult, Eggs, Larvae, Juvenile
Windowpane flounder	<i>Scophthalmus aquosus</i>	Adult, Larvae, Eggs, Juvenile
Winter skate	<i>Leucoraja ocellata</i>	Adult, Juvenile
Scup	<i>Stenotomus chrysops</i>	Larvae, Eggs, Juvenile, Adult
Longfin inshore squid	<i>Doryteuthis pealeii</i>	Juvenile, Adult, Eggs
Atlantic mackerel	<i>Scomber scombrus</i>	Eggs, Larvae, Juvenile, Adult
Bluefish	<i>Pomatomus saltatrix</i>	Adult, Juvenile
Atlantic butterfish	<i>Peprilus triacanthus</i>	Eggs, Larvae, Adult
Summer flounder	<i>Paralichthys dentatus</i>	Juvenile, Adult
Black sea bass	<i>Centropristis striata</i>	Juvenile

**Table 3-6  
EFH Life Cycle Stages 695 Seaview**

COMMON NAME	SCIENTIFIC NAME	LIFE STAGES
Winter flounder	<i>Pseudopleuronectes americanus</i>	Eggs, Juvenile, Larvae, Adult
Little skate	<i>Leucoraja erinacea</i>	Juvenile, Adult
Atlantic herring	<i>Clupea harengus</i>	Juvenile, Adult
Pollock	<i>Pollachius</i>	Adult, Juvenile
Red hake	<i>Urophycis chuss</i>	Adult, Eggs, Larvae, Juvenile
Silver hake	<i>Merluccius billinearis</i>	Eggs, Larvae
Windowpane flounder	<i>Scophthalmus aquosus</i>	Adult, Larvae, Eggs, Juvenile
Winter skate	<i>Leucoraja ocellata</i>	Adult, Juvenile
Scup	<i>Stenotomus chrysops</i>	Larvae, Eggs, Juvenile, Adult
Longfin inshore squid	<i>Doryteuthis pealeii</i>	Juvenile, Adult, Eggs
Atlantic mackerel	<i>Scomber scombrus</i>	Eggs, Larvae, Juvenile, Adult
Bluefish	<i>Pomatomus saltatrix</i>	Adult, Juvenile
Atlantic butterfish	<i>Peprilus triacanthus</i>	Eggs, Larvae, Adult
Summer flounder	<i>Paralichthys dentatus</i>	Juvenile, Adult
Black sea bass	<i>Centropristis striata</i>	Juvenile

A review of the ESA online Section 7 Mapper reveals that Atlantic sturgeon (*Acipenser oxyrinchus*) may be found in the waters of Black Rock Harbor and Cedar Creek near the site of the West Side WWTP.

The proposed water quality improvements will positively benefit finfish and shellfish habitat. NOAA will be consulted through regulatory review of the Section 10/Section 404 permits for plant upgrades below the high tide line.



## Coastal Zone Management

Lands and coastal waters within Connecticut's coastal area are defined by Connecticut General Statute. The coastal boundary is a continuous line delineated on the landward side by the interior contour elevation of the 100-year frequency coastal flood zone, or a 1,000-foot linear setback measured from the mean high water mark in coastal waters or inland boundary of tidal wetlands, whichever is farthest inland.

Both WWTPs are within the designated coastal zone area and include such coastal resources as coastal waters and estuarine embayments, coastal hazard areas (VE and AE zones), and developed shorefront. The proposed facilities improvement project is consistent with the provisions of the Connecticut Coastal Management Act by improving treated stormwater discharge in a coastal area and enhancing public safety. The specific legislative goal and policy for solid waste is at CGS 19-524b and states:

*The commissioner shall administer and enforce the planning and implementation requirements of this chapter. He shall examine all existing or proposed solid waste facilities, provide for their planning, design, construction and operation in a manner that conserves, improves and protects the natural resources and environment of the state and shall order their alteration, extension and replacement when necessary to conserve, improve and protect the state's natural resources and environment and to control air, water and land pollution so that the health, safety and welfare of the people of the state may be safeguarded and enhanced.*

Permit applications for work in the coastal zone must be filed with the local planning agency, with copies submitted to CT DEEP. All necessary permits will be obtained prior to project implementation, and all construction activities in those areas will comply with the conditions of the permits issued.

## Other Impacts

### Transportation

Significant impacts to transportation are not anticipated. Localized, short-term and temporary impacts from construction are anticipated. Vehicle and pedestrian traffic may be temporarily disrupted or rerouted during pipe replacement construction activity in or adjacent to public roadways. A traffic control plan and traffic details will be required to address this in all construction contracts.

### Noise

The majority of construction work will take place within the existing footprints of the wastewater treatment plants. Both WWTPs have one boundary located across the road from densely settled residential areas that may experience temporary noise impacts during the construction period. Construction will be limited to daylight hours during weekdays. Additional, short-term construction noise impacts may occur within the areas of proposed collection system improvements, though these improvements will mainly occur along public roads and rights-of-way. Both plants are located within 0.5 mile of Interstate 95 and near busy thoroughfares with a high baseline of ambient noise. In order to mitigate long-term impacts related to future plant operations, building openings facing neighboring

residential areas will be limited to mitigate ambient noise, and HVAC and other noise generating equipment will be designed to contain noise.

### Aesthetics

Compared to existing conditions, the recommended design plans for the treatment plants are anticipated to enhance aesthetics with new buildings and updated facades on retrofitted facilities, as well as installations of street and shade trees around the perimeters. In the case of the West Side WWTP, a new visitor entrance gate and entry plaza with interpretive signs will be installed, as well as an evergreen screen to block views from Morris Street to the north. The design of new buildings at West Side WWTP should consider the existing neighborhood character and viewsheds. Engagement with the public during the design process is recommended, particularly with the residents of the adjacent PT Barnum apartment complex. All structural plans should be regulated, reviewed, and approved through the local Planning & Zoning process.

### Environmental Justice

Executive Order (EO) 12898 "*Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*" (February 11, 1994) states that if possible, no federal actions should place any adverse environmental, economic, social, or health effects on minority or low-income groups.

The facilities updates to the West Side and East Side WWTPs would occur predominantly on the land currently occupied or immediately adjacent to the existing WWTPs and would not result in residential displacements. No long-term impacts to low-income communities are anticipated to result from the project in these areas.

The socioeconomic setting surrounding the existing WWTPs in southern Bridgeport is described below. Data used in preparing this section were generated through data from the United States Census Bureau American Community Survey 2018 5-year estimates.

The majority of residents in Connecticut and Fairfield County are nonminority groups, while in Bridgeport minority residents compose the majority of the population, over twice the percentage statewide or in Fairfield county (Table 3-7). Examining the demographics of the communities residing in the areas surrounding the WWTPs, an even higher percentage of minority residents are in close proximity to the West Side WWTP (Census Tract 703) and East Side WWTP (Census Tract 744) than Bridgeport as a whole.

**TABLE 3-7  
Regional Population by Race**

Area	White	Black or African American	Asian	American Indian and Alaska Native	Native Hawaiian and Pacific Islander	Other	Two or More Races	Hispanic or Latinx	Minority (Percent)	Population 2019
Connecticut	2,392,013	354,120	159,989	5,596	754	11,961	76,401	574,240	33.1%	3,575,074
Fairfield County	571,144	104,408	50,244	444	516	3,774	19,030	193,772	39.5%	943,332
Bridgeport	29,254	46,969	4872	242	59	1,283	3,589	59,371	80.6%	144,365
<b>Individual Census Tract in the Project Area</b>										
<b>West Site - Census Tract 703</b>	32	433	0	0	0	0	42	881	97.7%	1388
<b>East Site - Census Tract 744</b>	150	2184	190	0	0	62	106	1844	96.7%	4536

Note: These census tracts include the West Side and East Side WWTP facilities.  
Source: US Census Bureau, American Community Survey 2019 5-Year Estimates.

A higher percentage of low-income persons reside in areas surrounding the West Side and East Side WWTPs (55 percent and 30.9 percent, respectively) and Bridgeport (26.2 percent) compared to Connecticut (10.0 percent) and Fairfield County (9.1 percent) (US Census Bureau; Table 3-8). These data are not altered by the proposed project and no significant modification to demographics are proposed.

**TABLE 3-8  
Income and Poverty (1999-2020\*)**

Area	Median Household Income (Dollars) <sup>2</sup>	Persons Below Poverty Level (Percent) <sup>1</sup>
Connecticut	\$78,444	10.0%
Fairfield County	\$97,053	9.1%
Bridgeport	\$46,662	26.2%
<b>Individual Census Tract in the Project Area</b>		
<b>West Site - Census Tract 703</b>	\$12,469	55.0%
<b>East Site - Census Tract 744</b>	\$32,112	30.9%

Note: \*Most recently available census tract and larger geographical data were used for comparisons.

1. Census tract data are from ACS 2012, other geographies are from 2019.
2. Census tract data are from 1999, other geographies are from 2020.

Source: US Census Bureau, American Community Survey 2019 5-Year Estimates.

Overall, this project is expected to have a positive impact on environmental justice communities as the southern half of Bridgeport is mainly served by combined sewers, resulting in a higher instance of CSO



contamination in waterbodies around the communities dwelling within this portion of the city. This reduces recreational opportunities and creates increased health risks, especially associated with water-dependent activities like swimming and fishing.

### Climate Resiliency

The proposed project takes into account future climate change scenarios including predicted sea-level rise and increased precipitation levels. According to the Facilities Plan, a major goal of the project is to provide “system resiliency to account for climate change, including sea level rise.” The proposed plans have incorporated the 2016 US EPA treatment plant design guidelines, TR-16, which incorporate significant flood protection and resiliency standards for existing plant upgrades including the placement of critical equipment 3 feet above, and non-critical equipment 2 feet above, the 100-year flood elevation. These guidelines are based on relatively conservative estimates, as the Connecticut Institute for Resilience & Climate Adaptation (CIRCA) has recommended planning efforts take into account an additional 20 inches of sea level rise by the year 2050 compared to current levels. The proposed design equipment elevations will also satisfy the CT DEEP edict of meeting the requirements outlined in the *CWF Memorandum 2017-001, Storm Resiliency of Municipal Wastewater Infrastructure*.

In addition to climate adaptations, the projects seek to mitigate some greenhouse gas emissions through the incorporation of energy efficiency measures described in the Facilities Plan. There are many opportunities to increase the energy efficiency of both plants during the design phase, including through updates to aeration systems (which currently account for approximately half of the total plant energy usage at both facilities), and replacement of aging pumps (identified as the next largest energy consumer) with automated, more efficient pumping systems. In addition, sustainability features including green infrastructure, renewable energy generation, and water reuse practices are also being considered to reduce the energy requirements for operations and bring down the carbon footprint for both WWTPs.

### **3.3 INDIRECT EFFECTS**

The combined West Side and East Side WWTP capacity improvements will allow for an increase in the combined treatment capacity of both plants of up to 155 mgd. As described in Section 1.3.4. the 2020 Facilities Plan estimates future flows to the two WWTPs over the 30-year planning period through 2050. The analysis by CDM Smith considered potential population increases in Bridgeport, the potential maximization of the sewage from Trumbull under the current contract, which holds an average daily limit of 4.2 mgd, and the potential development of a sanitary sewer system in Monroe along Route 25 and 111 that would connect to Trumbull and ultimately to the West Side WWTP. Per CDM Smith, the capacity of the existing WWTPs is sufficient to meet the projected demands on an average day basis (Table 1-5).

## 4. IMPACT ANALYSIS SUMMARY

This section summarizes the unavoidable adverse impacts associated with the proposed 2020 Facilities Plan projects, the irreversible and irretrievable commitment of resources that will occur, and proposed mitigation measures to reduce impacts associated with the construction and operational phases of the project.

### 4.1 UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS

Although a goal of the 2020 Facilities Plan is environmental impact avoidance, certain adverse impacts are unavoidable. These are predominantly in the category of short-term construction-related impacts and additional long-term use of utilities and services. The following specific unavoidable environmental impacts have been identified for the project. Where mitigation measures are proposed for these impacts, the mitigation measures are presented in Section 4.4.

- **Air Quality:** Construction activities may result in short-term impacts on ambient air quality due to direct emissions from construction equipment and fugitive dust emissions. These impacts are temporary and will affect only the immediate vicinity of construction. Emissions from project-related construction equipment and trucks are expected to be insignificant with respect to compliance with the NAAQS. A number of design measures have been proposed to offset these impacts, including long-term odor control.
- **Noise:** Construction equipment associated with these projects is expected to result in temporary increases in noise levels in the immediate area of construction. The noises may include, but are not necessarily limited to, engine noise from generators and equipment, beeping associated with equipment warning systems, and noise generated through the contact of construction equipment with soil.
- **Traffic:** A certain degree of additional truck and equipment use and access will be necessary during construction and is unavoidable. These will occur both in the vicinity of the WWTPs and along streets where conveyance upgrades are proposed.
- **Utilities and Services:** After construction is completed, the primary treatment capacity at both WWTPs will increase. However, as mentioned in Section 3.2.2, Climate Resiliency, the addition of energy efficiency and sustainability measures including plant upgrades, green infrastructure, and on-site renewable energy generation are expected to offset any potential rise in consumption of energy from the electric grid. As such, CDM Smith does not anticipate a significant net-increase in outside energy requirements for the final proposed WWTP operations compared to existing conditions. Energy usage will be evaluated in more detail during the design phase.

## 4.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Resources being committed to the implementation of the project include all fuel, labor, and materials necessary to construct all modifications to the existing WWTPs and collection systems. Furthermore, energy consumption at the project sites will increase temporarily during construction activities, due to the power required for construction vehicles and equipment, and to manufacture materials such as pipes and pumps. Since these resources cannot be reused, they are considered to be irreversibly and irretrievably committed.

Additionally, the irreversible and irretrievable expenditure of up to approximately \$670 million is expected for the construction of the proposed projects. The State's CWF is expected to be a source of grant and loan funding for the project. Funding of the proposed project under the CWF would mean that those funds would not be available to other entities. This is considered by the approach used by the CWF for making funding decisions and under which funds are distributed.

## 4.3 CUMULATIVE IMPACTS

Cumulative impacts are those that result from the incremental impact of the proposed action when added to other past, present, or reasonably foreseeable future actions. Potential cumulative impacts associated with the 2020 Facilities Plan projects include the following:

- Educational Connection Opportunities: Opportunities exist for enhanced collaboration between the treatment facility on the West Side and the adjacent Aquaculture Regional Magnet School or any other interested high school. The proposed layout of the new administration, laboratory, and control building faces the Aquaculture School to provide a welcoming connection between the two. The WPCA administration will be moved from the East Side to the West Side, and the lobby of the new control building will highlight the benefits of and need for wastewater treatment. The upgraded West Side WWTP will be a “plant of the future” with vastly improved treatment processes that can be highlighted and provide educational opportunities for individuals of all levels.
- Cost of Sewer Service: Although funding is being sought to pay for the capital improvements, much of this funding is expected to be low-interest loans. The cost to pay back the principal and interest on these loans is expected to be distributed across the customer base and will be cumulative to the costs already paid by customers for sewer service.
- Long-Term Control Plan: The 2020 Facilities Plan is itself a cumulative impact on the LTCP as the projects proposed will completely supersede many of the projects identified in the LTCP and address the majority of CSOs in a shorter time frame and for less money than proposed in the LTCP. A new LTCP is likely to be necessary after completion of the projects to properly evaluate control of the remaining CSOs in the sewershed.
- Sewage Discharge and Treatment Needs: The 2020 Facilities Plan estimated potential future flows through 2050 and concluded that existing WWTP capacity (at the two WWTPs) was sufficient to manage these flows. The upgraded WWTPs will have the same secondary treatment capacity and therefore will also be sufficient to meet 2050 sewage flows. However, future sewage flows beyond



2050 may require additional upgrades to process appropriately. WPCA will need to continue monitoring influent volumes and projects within its sewer shed in order to properly anticipate the need for future WWTP upgrades.

- **Stormwater:** Many of the proposed conveyance system projects in the 2020 Facilities Plan are aimed at upsizing combined sewers rather than separation measures. As noted above, following completion of the East Side WWTP upgrades in 2030 additional CSO locations are anticipated to be analyzed in order to comply with the goal of reducing CSOs through 2039. These will require additional projects that may have a direct or indirect effect on the City's stormwater system.
- **Water Quality:** As stated in the 2020 Facilities Plan, the current priority that has been presented for the WPCA involves implementing collection system and internal facility upgrades aimed at enhancing the volume and quality of wastewater treatment for both the West Side and East Side WWTPs. These upgrades are expected to ameliorate to a large degree the existing water quality issues within Black Rock Harbor. The benefit to water quality will need to be monitored through both WWTP compliance (using performance measures in Section 1.4) and through water quality monitoring of the harbor supervised by CT DEEP. It may take several years to collect sufficient water quality data to verify a trend and determine if subsequent projects are necessary to improve water quality.

#### **4.4 MITIGATION OPPORTUNITIES THAT OFFSET ADVERSE ENVIRONMENTAL IMPACTS**

Mitigation opportunities exist to address impacts both short term (related to construction) and long term. The following mitigation measures have been identified to reduce or offset potential adverse impacts associated with the proposed project.

##### **4.4.1 CONSTRUCTION IMPACTS**

Adverse impacts related to construction activities will be temporary for the conveyance system projects but, though temporary, will be of significant duration at the WWTPs (estimated 40-month construction period). Construction period impacts can be mitigated to a large extent by including proper control measures in all construction contract documents and enforcing said requirements. Construction impact control measures may include:

- The use of construction staging areas is not evaluated in the 2020 Facilities Plan but is likely to be necessary given the limited space available at each WWTP site. The WPCA may need to rent space at currently vacant properties nearby each WWTP to support construction staging if proximal City-owned land of sufficient size is not available.
- Construction phasing and sub-phasing will be designed to minimize disruption to existing residents and business to the extent possible, although some disruption will be unavoidable. This will ensure that at least one access to a property remains open at all times or coordinating with a property owner a specific time when access to the property will not be possible. In the latter case, the duration of such events will be minimized to the extent possible.

- Contractors will be required to convey all dry weather flow and maintain the function of the existing sewer system during construction.
- Public engagement with abutting and adjacent neighbors to the West Side WWTP will assist in ensuring the new building design is in harmony with the existing neighborhood character.
- Control of dust pollution by wetting the ground surface periodically to reduce dust dispersion; covering, shielding, or stabilizing stockpiled material as necessary; conducting periodic sweeping of the construction site and driveway; and periodic cleaning of truck tires and equipment leaving the work sites.
- In the event that rock or shallow ledge is encountered, excavation may create rock and soil fragments that cannot be reused due to size or contamination. As all construction activities are in areas with previous excavation, the need for blasting is not anticipated. Disposal of non-reusable soils and debris will proceed in accordance with pertinent local, state, and federal regulations.
- Requiring a traffic control plan to re-route traffic in the impacted areas to minimize traffic disruption.
- Potential construction-related water quality and runoff impacts will be mitigated through the use of a stormwater management plan and erosion control plan to be developed in the design phase. Construction-related sediment controls will be designed and installed in accordance with the most up-to-date State of Connecticut guidelines in place at the time of construction. Use of best management practices for sedimentation and erosion control may include the use of hay bales and silt fences in strategic areas such as around storm drains, and by promptly replanting areas where ground cover has to be removed for construction.
- Consideration will be given to using construction equipment with air pollution control devices and/or use of “clean” fuels including ultra-low sulfur diesel fuel, compressed natural gas, or emulsified fuels.
- Compliance with anti-idling regulations.
- Use of properly functioning muffler devices on all construction equipment.
- Construction will comply with the City of Bridgeport and State of Connecticut noise performance standards.
- Provisions for safety and security will be reflected in the project specifications, including provisions for fencing, lighting, and other safety controls at both project areas and staging areas.

#### 4.4.2 LONG-TERM IMPACTS

Longer-term impacts are expected to be permanent as a result of the proposed projects. These are mitigated through various regulatory controls and other controlling factors.

- Aesthetics: The various provisions and requirements within the City of Bridgeport Zoning Regulations, including design guidelines, will help to ensure that WWTP upgrades are consistent with established standards for aesthetics including building height, lot coverage, and neighborhood aesthetics.
- Air Quality: Numerous controls are proposed to mitigate potential air quality impacts, including the use of odor control systems. Stack heights were not explicitly evaluated in the 2020 Facilities Plan, but consideration should be given to stack height in consideration of the residential buildings near each WWTP.
- Public Utilities and Services: Coordination will continue between WPCA, the design engineer, the City, and local utilities relative to existing and proposed utility lines and mains within the project areas. The coordination will include potential locations and construction methods for various improvements as well as potential changes in demand. Formal utility mark-outs will be completed prior to beginning construction to ensure that underground utilities are not impacted by project activities.
- Water Quality: While the proposed projects are anticipated to improve water quality by ensuring compliance with all applicable water quality standards and reducing CSO volumes, the existing long-term impacts to water quality in Black Rock Harbor and Bridgeport Harbor will likely take time to improve. Continued water quality monitoring will be necessary, and additional projects will need to be considered by the WCPA relative to future CSO controls as discussed in other sections of the EIE.

#### 4.5 REQUIRED LICENSES, PERMITS, AND APPROVALS

The proposed projects will be subject to environmental certificates, permits, and approvals. It is anticipated that the following certificates, permits, and approvals will be required for each of the individual project areas. Further analysis of potential state and federal permits are provided (Table 4-1).

- Proposed construction plans must be coordinated with the Bridgeport Building and Planning & Zoning departments, in accordance with the requirements of CT General Statute 8-24.
- A Coastal Area Management (CAM) Permit will be required for all work within 1,000 feet of the mean high water mark in coastal waters or the inland boundary of tidal wetlands. This will be administered through the Bridgeport Building and Planning & Zoning departments with copies to CT DEEP for review.
- If any construction activity will occur within 100 feet of any inland wetland, a local inland wetland permit would be required.
- Proposed construction plans must be coordinated with the Bridgeport Building and Planning & Zoning departments, in accordance with the requirements of CT General Statute 8-24.

- Local building permits will be required for changes to existing wastewater treatment buildings and construction of new buildings.
- State Flood Management Certification (CGS 25-68d) may be required, as the project entails actions in or affecting floodplains or natural or man-made storm drainage facilities.
- An increase in the volume of flows associated with increased capacity may require an update to the Municipal National Pollutant Discharge Elimination System (NPDES) Permit for the Bridgeport WPCA and any associated discharge permits.

**TABLE 4-1  
Potential Environmental Permits, Certifications, or Approvals**

Permit Name	Potentially Applicable	Not Applicable	Undetermined at this time
<b>LOCAL GOVERNMENT</b>			
Local Excavation & Sidewalk License	X		
Bridgeport Building and Planning & Zoning Coordination	X		
Municipal Coastal Site Plan Review	X		
Local Inland Wetlands Permit	X		
<b>CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION</b>			
<b>Air Management</b>			
Title V Operating Permit		X	
New Source Review Permit		X	
Limit Potential to Emit from Major Stationary Sources of Air Pollution (Title V General Permit)		X	
<b>Radiation Division</b>			
X-Ray and Ionizing Radiation Source Registration		X	
<b>Water Protection and Land Reuse</b>			
Discharge of Domestic Sewage Permit (GP)	X		
Discharge of Food Preparation Establishment Wastewater (GP)		X	
Discharge of Groundwater Remediation Water Directly to Surface Water (GP)		X	



**TABLE 4-1  
Potential Environmental Permits, Certifications, or Approvals**

Permit Name	Potentially Applicable	Not Applicable	Undetermined at this time
Discharge of Groundwater Remediation Water Directly to Sanitary Sewer (GP)		X	
Discharge of Hydrostatic Pressure Testing Wastewater (GP)		X	
Discharge of Minor Boiler Blowdown Wastewater (GP)		X	
Discharge of Minor Non-Contact Cooling and Heat Pump Water (GP)		X	
Discharge of Minor Photographic Processing Wastewater (GP)		X	
Discharge of Minor Printing and Publishing Wastewater (GP)		X	
Discharge of Minor Tumbling or Cleaning of Parts Wastewater (GP)		X	
Miscellaneous Discharges of Sewer Compatible (MISC) Wastewater (GP)		X	
Discharge of Stormwater and Dewatering Wastewater Associated with Construction Activities (GP)	X		
Discharge of Stormwater Associated with Commercial Activity (GP)		X	
Discharge of Stormwater Associated with Industrial Activity (GP)		X	
Discharge of Swimming Pool Wastewater from a Public Pool (GP)		X	
Discharge of Vehicle Maintenance Wastewater (GP)		X	
Discharge of Water Treatment Wastewater (GP)	X		
<b>Land and Water Resources</b>			
Inland Wetlands & Watercourses Permit			X
Water Diversion Permit (Detention/Retention Ponds)		X	
Dam Construction Permit		X	

**TABLE 4-1  
Potential Environmental Permits, Certifications, or Approvals**

Permit Name	Potentially Applicable	Not Applicable	Undetermined at this time
Individual Flood Management Certification	X		
De/Retention Pond Review		X	
Authorization for Diversion of Water for Consumptive Use (GP)		X	
Dam Safely Repair and Alteration (GP)		X	
General Permit for Water Resource Construction Activities (Including Form O for Activity No. 8) (GP)	X		
Authorization for Diversion of Remediation Groundwater (GP)		X	
Structures, Dredging & Fill, Tidal Wetlands Permit	X		X
401 Water Quality Certification	X		
Certificate of Permission	X		
Coastal Maintenance General Permit		X	
Minor Coastal Structures General Permit		X	
<b>Materials Management and Compliance Assurance</b>			
Wastewater Discharge: Ground Water Discharge Permit		X	
Wastewater Discharge: Surface Water Discharge Permit (NPDES)	X		
Wastewater Discharge: Pre-treatment Permit (Sewer Permit) for Discharges to Publicly Owned Treatment Works		X	
Hazardous Waste Treatment, Storage, & Disposal Facilities		X	
Solid Waste Facilities		X	
Connecticut General Statute (CGS) Section 22a-454 Waste Facility		X	
Special Waste or Asbestos Disposal Authorization		X	
Underground Storage Tank Registration		X	

**TABLE 4-1  
Potential Environmental Permits, Certifications, or Approvals**

Permit Name	Potentially Applicable	Not Applicable	Undetermined at this time
Aerial Pesticide Application		X	
Aquatic Pesticide Application		X	
Contaminated Soil and/or Sediment Management (GP)		X	
<b>Natural Diversity Data Base (Endangered Species) Review</b>			
NDDB Review Request (endangered, threatened, and special concern species and habitats) – renewed every 2 years	X		
<b>STATE HISTORIC PRESERVATION OFFICE</b>			
Art in Public Spaces Program		X	
Impact to Cultural Resources (three-part review: new construction site work/archeological, rehabilitation, and demolition)			
<b>DEPARTMENT OF ADMINISTRATIVE SERVICES - CONSTRUCTION SERVICES</b>			
Acquisitions/Takings/Municipal Negotiations		X	
Easements			X
Environmental Site Assessment Phase I			X
Environmental Site Assessment Phase II, III, RAP			X
Connecticut Environmental Policy Act	X		
National Environmental Policy Act			X
Life Cycle Cost Analysis (LCCA)			X
Transfer Act Site Assessment (TASA)		X	
Underground Storage Tanks		X	
Hazardous Material inspection/Abatement Request (asbestos, lead, or indoor air quality)			X
<b>DEPARTMENT OF TRANSPORTATION</b>			
Office of the State Traffic Authority-Administrative Decision		X	

**TABLE 4-1  
Potential Environmental Permits, Certifications, or Approvals**

Permit Name	Potentially Applicable	Not Applicable	Undetermined at this time
Office of the State Traffic Authority-Major Traffic Generator Certificate		X	
Encroachment Permit		X	
<b>US ARMY CORPS OF ENGINEERS</b>			
Individual Permit (For new fill/excavation discharges greater than one acre)		X	
Preconstruction Notification	X		
Programmatic General Permit *with review (5,000 square feet to 1 acre) *without review (less than 5,000 square feet)		X	
<b>US ENVIRONMENTAL PROTECTION AGENCY</b>			
Sole Source Aquifer Review		X	



## 5. DOCUMENT PREPARERS AND REFERENCES

### 5.1 PUBLIC REVIEW

The individuals, agencies, and organizations listed in Table 5-1 have contributed either directly or indirectly to the content in this document. A summary of the EIE authors and their roles follows.

**Table 5-1  
EIE Contributors**

Role	Entity
Sponsoring Agency	Connecticut Department of Energy and Environmental Protection 79 Elm Street Hartford, CT 06106
Implementing Agency	Water Pollution Control Authority, City of Bridgeport 695 Seaview Avenue Bridgeport, Connecticut 06607
Primary Author	SLR International Corporation 195 Church Street, 7 <sup>th</sup> Floor New Haven, CT 06510
Design Engineer	CDM Smith 77 Hartland Street, Suite 201 East Hartford, CT 06108

The primary author of this EIE is the consulting firm of SLR International Consulting (SLR). SLR is a professional consulting firm comprised of engineers, planners, environmental scientists, landscape architects, and surveyors. A summary of the SLR staff involved with the environmental analysis and preparation of this document follows.

Megan B. Raymond, MS, PWS, CFM, Principal Scientist, Wetlands and Waterways Lead (Project Manager)  
Ms. Raymond holds a BS from Tufts University and a MS from the College of William and Mary. Professionally, Ms. Raymond is a professional wetland scientist (PWS), registered soil scientist, and certified floodplain manager (CFM). She has over 20 years of experience in land use consulting and has prepared a number of Environmental Assessments. Analyzing impacts in the coastal environment is a specific area of expertise for Ms. Raymond.

Scott J. Bighinatti, MS, CFM – Senior Environmental Scientist – Mr. Bighinatti holds Bachelor of Science and Master of Science degrees in Natural Resource Management from the University of Connecticut and is also a CFM. He has contributed to numerous environmental impact evaluations and assessments over his 15-year professional career.

Marlee L. Antill, MS – Environmental Scientist – Ms. Antill holds a BA from the University of Vermont and a MS from the California State Polytechnic University in Environmental and Plant Science. She has experience in wetlands and sensitive habitat assessment, local, state, and federal permitting, and geographic information systems.

## 5.2 REFERENCES

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# ATTACHMENT A

## SCOPING DOCUMENTATION

### **Environmental Impact Evaluation**

Water Pollution Control Authority, City of Bridgeport  
695 Seaview Avenue  
Bridgeport, Connecticut 06607-1628  
(203) 332-5550  
<https://www.bridgeportct.gov/wPCA>

May 2021

# Connecticut State Council on Environmental Quality

(/CEQ)

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Search Council on Environmental Quality







**November 3, 2020**

The Council releases a special report on the State's beverage container redemption program - *Low Deposit, Low Return* .

All submissions to the Council should be sent electronically to: [peter.hearn@ct.gov](mailto:peter.hearn@ct.gov) (<mailto:peter.hearn@ct.gov>).

### Special Notice

1. Proposed Generic Environmental Classification Document, submitted at the request of the Office of Policy and Management.

### Scoping Notice

1. Notice of Scoping for Ramp Widening I-95 NB Exit 27A, Bridgeport.
2. Revised! Public Meeting Announced - Notice of Scoping for City of Bridgeport Facilities Planning for East Side and West Side Wastewater Treatment Plants, Bridgeport.

### Scoping Notice - Post-Scoping Notice (Need More Time)

No notice for additional time has been submitted for publication in this edition.

### Post-Scoping Notice

1. Post Scoping Notice for Emergency Interconnection between Norwich Public Utilities, Ledyard WPCA and the Town of Preston, Ledyard and Preston.

### Environmental Impact Evaluation (EIE)

No EIE Notice has been submitted for publication in this edition.

**Agency Record of Decision**

No Record of Decision has been submitted for publication in this edition.

**OPM Determination of Adequacy**

No Determination of Adequacy Notice has been submitted for publication in this edition.

**State Land Transfer**

1. Notice of Proposed Land Transfer for 129 Lafayette Street, Hartford.

The next edition of the Environmental Monitor will be published on **November 17, 2020**.

**Subscribe (<https://confirmsubscription.com/h/j/ED852A9EE7823EDF>) to e-alerts** to receive an e-mail when the Environmental Monitor is published.

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*Notices in the Environmental Monitor are written and formatted by the sponsoring agencies and are published unedited. Questions about the content of any notice should be directed to the sponsoring agency.*

*Inquiries and requests to view or copy documents, pursuant to the Freedom of Information Act, must be submitted to the sponsoring state agency.*

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**Special Notice**

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***The following Special Notice has been submitted for publication in this edition.***

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- 1) Proposed Generic Environmental Classification Document**

The proposed Generic Environmental Classification Document (ECD) is available for review and comment. The Generic ECD is a list of typical agency actions that may have significant environmental impacts, and is used by most state agencies in determining if a proposed action warrants further evaluation under the Connecticut Environmental Policy Act (CEPA), and to what extent. A state agency proposing an action which may significantly effect the environment must consult with its applicable Environmental Classification Document (ECD) to determine whether or not public scoping is required.

Any agency that does not have its own ECD as approved by OPM in accordance with Sections 22a-1a-4 and 22a-1a-5 of the Regulations of Connecticut State Agencies, shall use the Generic ECD prepared and maintained by OPM.

[Click here](#) to view a copy of the proposed Generic ECD.

[Click here](#) to view a red-lined copy of the proposed Generic ECD.

**Written comments on this proposed Generic ECD will be accepted until 5:00pm Friday, November 20th, 2020.**

Send comments to:

**Name:** Matthew Pafford, Environmental Analyst

**Agency:** Office of Policy and Management

**Address:** 450 Capitol Avenue, MS# 54 ORG, Hartford, Connecticut 06106-1379

**Email:** [matthew.pafford@ct.gov](mailto:matthew.pafford@ct.gov) (<mailto:Daniel.Morley@ct.gov>)

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## Scoping Notice

"Scoping" is for projects in the earliest stages of planning. At the scoping stage, detailed information on a project's design, alternatives, and environmental impacts does not yet exist. Sponsoring agencies are asking for comments from other agencies and from the public as to the scope of alternatives and environmental impacts that should be considered for further study. Send your comments to the contact person listed for the project by the date indicated. [Read More \(https://portal.ct.gov/CEQ/Environmental-Monitor/CEPA-Regulations#22a-1a-6\)](https://portal.ct.gov/CEQ/Environmental-Monitor/CEPA-Regulations#22a-1a-6)

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***The following Scoping Notices have been submitted for publication in this edition.***

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## **1) Notice of Scoping for Ramp Widening of I-95 NB Exit 27A to Route 8 NB**

**Municipality where proposed action might be located: Bridgeport**

**Project Description:** A study along the corridor of Interstate 95 (I-95) west of New Haven investigated the feasibility of constructing an additional through lane in each direction from Greenwich to Bridgeport. As a result of the study, it was determined that several smaller projects with independent utility can be initiated to improve conditions at several locations along the corridor.

The purpose of this project is to relieve traffic congestion and minimize crashes on I-95 NB by increasing the exiting capacity of Exit 27A through the addition of an auxiliary lane. Currently, the vehicle queue lengths for the Exit 27A off-ramp extend upstream past the Exit 27 off-ramp to Myrtle Ave. Exit 27A has a single lane that is approximately one mile in length and opens up to two lanes once beyond the gore area of the exit. Average Traffic Daily (ADT) volumes from 2019 indicate 26,400 daily vehicles exiting I-95 NB via Exit 27A.

The project proposes to provide an additional exit lane from I-95 NB to Exit 27A. This will require the widening of Bridge No. 03532, which carries Exit 27A from I-95 NB to Route 8 over Warren street and South Frontage Road. Since Bridge No. 03532 ties into the same western abutment as Bridge No. 00107 (I-95 NB over Warren Street) and due to the complexity of the existing design, a portion of Bridge No. 00107 will also require steel framing and concrete deck modifications.

The Maintenance and Protection of Traffic and Construction Sequencing are anticipated to include an extended road closure of South Frontage Road and Warren Street at the project location to facilitate widening of Bridge No. 03532. Traffic detours are expected (see link to proposed plans) along with traffic alterations of adjacent local roads. Traffic on the I-95 NB Exit 27A off-ramp will require lane shifts to accommodate bridge work, but a long duration ramp closure is not anticipated.

**Project Maps:** [Click here](#) to view a locus map and aerial of the project area.

[Click here](#) to view the proposed project plans.

**Written comments from the public are welcomed and will be accepted until the close of business on: November 10, 2020**

**There will be a virtual Public Scoping Meeting for this proposed action:**

**DATE: Tuesday October 27, 2020**

**TIME: 7:00 p.m.**

**PLACE: Virtual Meeting**

**NOTES:** The meeting will be live streamed via Microsoft Teams Live Event and YouTube Live. A Question and Answer session will immediately follow the presentation. A link to join the virtual meeting will be available at the following location: <https://portal.ct.gov/DOTBridgeport15-382> (<https://portal.ct.gov/DOTBridgeport15-382>)

Individuals with limited internet access may request that project information be mailed to them by contacting Ryan D. Martin by email at [Ryan.Martin@ct.gov](mailto:Ryan.Martin@ct.gov) (<mailto:Ryan.Martin@ct.gov>) or by phone at (860) 594-3205. Allow one week for processing and delivery.

Individuals with limited internet access can listen to the meeting by calling 800-369-2192 and entering the Participant Code: 6929067 when prompted.

Persons with hearing and/or speech disabilities may dial 711 for Telecommunications Relay Services (TRS). Language assistance may be requested by contacting the CTDOT's Language Assistance Call Line (860) 594-2109. Requests should be made at least 5 business days prior to the meeting. Language assistance is provided at no cost to the public and efforts will be made to respond to timely requests for assistance.

The MS Teams Live Event offers closed-captioning for the hearing impaired and non-English translation options. A recording of the formal presentation will be posted to YouTube following the meeting and closed-captioning (including non-English translation options) will be available at that time. The recording of the presentation will also be posted within 7 days on CTDOT's virtual public meetings website at the following location: <https://portal.ct.gov/dot/general/CTDOT-VPIM-Library> (<https://portal.ct.gov/dot/general/CTDOT-VPIM-Library>)

**Comments and questions about the meeting or project (email preferred) should be sent to:**

**Name:** Ryan D. Martin, Project Engineer

**Agency:** Connecticut Department of Transportation, Bureau of Engineering and Construction

**Address:** 2800 Berlin Turnpike, Newington, CT 06131

**E-Mail:** [DOTProject0015-0382@ct.gov](mailto:DOTProject0015-0382@ct.gov) (<mailto:DOTProject0015-0382@ct.gov>)

**Individuals may also leave a voicemail question or comment by calling (860) 944-1111. Please reference Project No. 15-382 in your voicemail.**

**Inquiries and requests to view and or copy documents, pursuant to the Freedom of Information Act, must be submitted to the sponsoring state agency:**

**Name:** Ms. Alice M. Sexton



**Agency:** Connecticut Department of Transportation, Office of Legal Services

**Address:** 2800 Berlin Turnpike, Newington, CT 06131

**E-Mail:** [Alice.Sexton@ct.gov](mailto:Alice.Sexton@ct.gov) (<mailto:Alice.Sexton@ct.gov>)

**What Happens Next:** The Connecticut Department of Transportation will make a determination whether to proceed with preparation of an Environmental Impact Evaluation (EIE) or that the project does not require the preparation of an EIE under the Connecticut Environmental Policy Act (CEPA). A Post-Scoping Notice of its decision will appear in a future edition of the *Environmental Monitor*.

## 2) Notice of Scoping for City of Bridgeport

### Facilities Planning for East Side and West Side Wastewater Treatment Plants, Public Meeting Date Set

**Municipality where proposed project might be located:** Bridgeport

**Address of Possible Project Location:** East Side WPCF, 695 Seaview Avenue, Bridgeport, CT 06607 and West Side WPCF, 205 Botswick Avenue, Bridgeport, CT 06607

**Project Description:** The City of Bridgeport owns and operates two wastewater treatment plants that serve the combined sewer overflow (CSO) community, where both sanitary sewage and stormwater are carried in a single pipe. The wastewater treatment plants are the subject of Administrative Order AOWRMU19001 issued by DEEP on March 1, 2019 requiring a facilities planning report to be submitted to DEEP on or before November 30, 2020. Based on previously submitted engineering reports, inspection reports and parameter testing results, a number of upgrades at both plants will be required by the Administrative Order for the treatment plants to treat to a level that protects human health and the environment. Both plants have exceeded their ability to function properly including a building that was deemed unfit for habitation that had to be demolished.

The following items are being investigated during this facility planning stage:

- Liquid Stream Alternatives
- Solids Processing Alternatives
- Plant Consolidation
- High Flow Management/Maximization of Flow to WWTP(s)
- Operability/ Construction Assessment

- Resiliency to Storms, Flooding and Climate Change
- Outfall Inspection, Improvements, and Necessary Changes
- SCADA Evaluation
- Odor Control Evaluation

**Project Map:** [Click here to view a Location Map of the project area, a map of the East Side Wastewater Treatment Plant and the West Side Wastewater Treatment Plant.](#)

**Written comments from the public are welcomed and will be accepted until the close of business on: November 5, 2020.**

**Written comments should be sent to:**

**Name:** Ann Straut

**Agency:** Department of Energy and Environmental Protection

**Address:** 79 Elm Street Hartford CT 06106

**Email:** ann.straut@ct.gov

**There will be a virtual Public Scoping Meeting for this project:**

**Date:** Thursday, October 29, 2020

**Time:** 6:00 pm - 7:30 pm

**Place:** Virtual Meeting

**Notes:** The meeting will be held via Zoom. A Question and Answer session will immediately follow the presentation. The link to join the meeting is: **ZOOM LINK (<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fus02web.zoom.us%2Fj%2F84229479654%3Fpwd%3DdXVabIA5TENwdnJLOUcwY1YvN0h5Zz09&data=01%7C019>)**

**INFORMATION DURING THE LIVE VIRTUAL MEETING:**

Individuals with limited internet access can listen to the meeting by calling (301) 715-8592 or (312) 626-6799 and entering the meeting ID when prompted 842 2948 9654.

There will be a live Question and Answer (Q&A) session following the formal presentation. If you would like to ask a question during the Q&A, you may use the Zoom chat function or send an email to [ann.straut@ct.gov](mailto:ann.straut@ct.gov).

**Additional Information to note when accessing the live virtual meeting:**

- The live virtual meeting is being recorded.

- While we expect to present you with a seamless presentation, disruption in the video or audio feed could occur due to many possible variables. Please understand as we work to resolve any issues as quickly as possible.

- Individuals with limited internet access will be able to call to listen to the presentation. However, it will not be possible to call in and watch the presentation simultaneously because the live feed may be delayed.

- The chat function of Zoom is not available if calling in via phone.

- The meeting is formatted as follows:

- Brief introductions
- Formal presentation of the project by the consultant team
- Live Question and Answer (Q&A) session during which time the public is invited to ask questions or provide comments. *A moderator will be reviewing the chat and will relay questions or comments with the live audience and the project team. The project team will answer those shared questions live during the Q&A. Responses to relevant questions and/or comments that are not shared during the live Q&A will be addressed Environmental Impact Evaluation to be posted during the post scoping process in the next few months on the CT CEQ site available here: <https://portal.ct.gov/CEQ>. (<https://portal.ct.gov/CEQ>)*
- The meeting will conclude after the Q&A session

**If you have questions about the public meeting, or other questions about the scoping for this project, contact:**

**Name:** Ann Straut

**Agency:** Department of Energy and Environmental Protection

**Address:** 79 Elm Street Hartford CT 06106

**Phone:** 860-424-3137

**Email:** [ann.straut@ct.gov](mailto:ann.straut@ct.gov)

**What Happens Next:** The sponsoring agency will make a determination whether to proceed with preparation of an Environmental Impact Evaluation (EIE) or that the project does not require the preparation of an EIE under the Connecticut Environmental Policy Act (CEPA). A Post-Scoping Notice of its decision will appear in a future edition of the *Environmental Monitor*.

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### **Scoping Notice - Post-Scoping Notice (Need More Time)**

If an agency is unable to publish a Post-Scoping Notice within six months after the comment period for scoping, the agency will publish an update with an action status and an estimate as to when a Post-Scoping Notice will be published. Such an update will be published by the agency at six-month intervals until the Post-Scoping Notice is published. **Read More** (<https://portal.ct.gov/CEQ/Environmental-Monitor/CEPA-Regulations#22a-1a-7>) (<http://>)

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***No notice for additional time has been submitted for publication in this edition.***

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### **Post-Scoping Notice**

A Post-Scoping Notice is the determination by a sponsoring agency, after publication of a Scoping Notice and consideration of comments received, whether an **Environmental Impact Evaluation (EIE)** ([https://www.cga.ct.gov/current/pub/chap\\_439.htm#sec\\_22a-1b](https://www.cga.ct.gov/current/pub/chap_439.htm#sec_22a-1b)) needs to be prepared for a proposed State action. (<https://portal.ct.gov/CEQ/Environmental-Monitor/CEPA-Regulations>) **Read More** (<https://portal.ct.gov/CEQ/Environmental-Monitor/CEPA-Regulations#22a-1a-7>)

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***The following Post-Scoping Notice has been submitted for publication in this edition.***

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- 1) Post Scoping Notice for Emergency Interconnection between Norwich Public Utilities, Ledyard WPCA and the Town of Preston**

**Municipalities where project will be located:** Ledyard and Preston

**Address of Possible Project Location:** Poquetanuck Cove Bridge Crossing, Ledyard and Preston

**CEPA Determination:** On May 21, 2019, the Department of Public Health (DPH) published a Notice of Scoping (<https://portal.ct.gov/CEQ/Environmental-Monitor/Environmental-Monitor-Archives/2019/May-21-2019>) (<http://www.ct.gov/ceq/cwp/view.asp?a=987&Q=492018>) to solicit public comments for this project in the *Environmental Monitor*.

Based on the DPH's environmental assessment of this project which includes a review of comments provided by the Department of Energy and Environmental Protection (DEEP) dated June 21, 2019 , DEEP's Natural Diversity Database dated June 28, 2019 and a response to the DEEP comments from Groton Utilities dated September 24, 2020 , it has been determined that the project does not require the preparation of an Environmental Impact Evaluation (EIE) under CEPA. The DPH will coordinate with the water utilities to ensure that the recommendations received during the Scoping period are implemented.

The agency's conclusion is documented in a Memorandum of Findings and Determination and an Environmental Assessment Summary .

**If you have questions about the project, you can contact the agency at:**

**Name:** Mr. Eric McPhee  
**Agency:** Department of Public Health – Drinking Water Section  
**Address:** 410 Capitol Avenue, MS #12DWS, PO Box 34030  
Hartford, CT 06134-0308  
**E-Mail:** [DPH.sourceprotection@ct.gov](mailto:DPH.sourceprotection@ct.gov) (<mailto:DPH.sourceprotection@ct.gov>)

**Inquiries and requests to view and or copy documents, pursuant to the Freedom of Information Act, must be submitted to the sponsoring State Agency:**

**Name:** Mr. Av Harris  
**Agency:** Department of Public Health – Drinking Water Section  
**Address:** 410 Capitol Avenue, MS #13CMN, PO  
Hartford, CT 06134-0308  
**E-Mail:** [DPH.FOI@ct.gov](mailto:DPH.FOI@ct.gov) (<mailto:DPH.communications@ct.gov>)



**What happens next:** The DPH expects the project to go forward. This is expected to be the final notice of the project to be published in the *Environmental Monitor*.

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### **EIE Notice**

After Scoping, an agency that wishes to undertake an action that could significantly affect the environment must produce, for public review and comment, a detailed written evaluation of the expected environmental impacts. This is called an **Environmental Impact Evaluation (EIE)** ([https://www.cga.ct.gov/current/pub/chap\\_439.htm#sec\\_22a-1b](https://www.cga.ct.gov/current/pub/chap_439.htm#sec_22a-1b)). **Read More** (<https://portal.ct.gov/CEQ/Environmental-Monitor/CEPA-Regulations#22a-1a-8>).

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***No EIE Notice has been submitted for publication in this edition.***

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### **Agency Record of Decision**

After an **Environmental Impact Evaluation (EIE)** ([https://www.cga.ct.gov/current/pub/chap\\_439.htm#sec\\_22a-1b](https://www.cga.ct.gov/current/pub/chap_439.htm#sec_22a-1b)) is developed, an agency will prepare a concise public record of decision, which takes into consideration the agency's findings in the EIE, and any comments received on that evaluation. **Read More** (<https://portal.ct.gov/CEQ/Environmental-Monitor/CEPA-Regulations#22a-1a-10>).

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***No Record of Decision Notice has been submitted for publication in this edition.***

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### **OPM's Determination of Adequacy**

After an **Environmental Impact Evaluation** ([https://www.cga.ct.gov/current/pub/chap\\_439.htm#sec\\_22a-1b](https://www.cga.ct.gov/current/pub/chap_439.htm#sec_22a-1b)) (EIE) is developed, the Office of Policy and Management (OPM) will determine if the EIE is adequate. If not, OPM will specify the areas of inadequacy with reference to CEPA or the CEPA regulations and specify the corrective action required. **Read More**

<https://portal.ct.gov/CEQ/Environmental-Monitor/CEPA-Regulations#22a-1a-10>

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***No Determination of Adequacy Notice has been submitted for publication in this edition.***

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## **State Land Transfer Notice**

Connecticut General Statutes [Section 4b-47](https://www.cga.ct.gov/current/pub/chap_059.htm#sec_4b-47) ([https://www.cga.ct.gov/current/pub/chap\\_059.htm#sec\\_4b-47](https://www.cga.ct.gov/current/pub/chap_059.htm#sec_4b-47)) requires public notice of most proposed sales and transfers of state-owned lands. The public has an opportunity to comment on any such proposed transfer. Each notice includes an address where comments should be sent. [Read more about the process](https://portal.ct.gov/CEQ/Environmental-Monitor/State-Lands-Transfer-Process) (<https://portal.ct.gov/CEQ/Environmental-Monitor/State-Lands-Transfer-Process>).

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***The following State Land Transfer Notice has been submitted for publication in this edition.***

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### **1) Notice of Proposed Land Transfer in Hartford**

**Complete Address of Property:** 129 Lafayette Street, Hartford CT 06106

**Commonly used name of property or other identifying information:** Second Church of Christ Scientist

**Number of acres to be transferred:** 1.07

**[Click to view map](https://www.google.com/maps/place/129+Lafayette+St,+Hartford,+CT+06106/@41.7615676,-72.6851889,17z/data=!3m1!4b1!4r72.6830002)**

**<https://www.google.com/maps/place/129+Lafayette+St,+Hartford,+CT+06106/@41.7615676,-72.6851889,17z/data=!3m1!4b1!4r72.6830002>** of property location

#### **Description of Property**

Below is some general information about the property. It should not be considered a complete description of the property and should not be relied upon for making decisions. If only a portion of a property is proposed for transfer, the description pertains only to the portion being transferred.

**Brief Description of Historical and Current Uses: 129 Lafayette is a four story structure of approximately 22,490 gross square feet constructed in 1924, primarily used as a house of worship for 80 years until it was purchased by the State of Connecticut in 2007.**

<input type="checkbox"/>	Building(s) in use	<input checked="" type="checkbox"/>	Building(s) not in use	No Structures
<input type="checkbox"/>	Other Features:	<input checked="" type="checkbox"/>	Paved areas	Wooded land
<input type="checkbox"/>	Non agricultural fields	<input type="checkbox"/>	Active agriculture	Ponds, streams, other water, wetlands
<input checked="" type="checkbox"/>	Public water supply	<input type="checkbox"/>	On-site well	Water Supply Unknown
<input checked="" type="checkbox"/>	Served by sewers	<input type="checkbox"/>	On-site septic system	Waste Disposal Unknown

**[https://portal.ct.gov/CEQ/Environmental-Monitor/Environmental-Monitor/-/media/DAS/DAS-Leasing/Aerial.JPG?sc\\_lang=en&hash=E22A2E92227AB6B451F933BAAAEFBE20](https://portal.ct.gov/CEQ/Environmental-Monitor/Environmental-Monitor/-/media/DAS/DAS-Leasing/Aerial.JPG?sc_lang=en&hash=E22A2E92227AB6B451F933BAAAEFBE20)** aerial view of property

**[https://portal.ct.gov/CEQ/Environmental-Monitor/Environmental-Monitor/-/media/DAS/DAS-Leasing/photo.jpg?sc\\_lang=en&hash=1D3ECECF384E06C29EA990C315D5B15A7](https://portal.ct.gov/CEQ/Environmental-Monitor/Environmental-Monitor/-/media/DAS/DAS-Leasing/photo.jpg?sc_lang=en&hash=1D3ECECF384E06C29EA990C315D5B15A7)** photographs of property

**The property is in the following municipal zone(s):**

<input type="checkbox"/>	Zoned	<input type="checkbox"/>	Not zoned	<input type="checkbox"/>	Not known
<input type="checkbox"/>	Residential	<input type="checkbox"/>	Industrial	<input type="checkbox"/>	Commercial
<input checked="" type="checkbox"/>	Other:	MX-2			

**Special features of the property, if known: A building assessment was completed in 2008 and states that the State Historic Preservation Office has determined that the building appears to be eligible for listing on the State Register of Historic Places.**

**Value of property, if known:**

<input checked="" type="checkbox"/>	If checked, value is not known.
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**Links to other available information**

**Type of Sale or Transfer:**

<input checked="" type="checkbox"/>	Sale or transfer of property in fee
<input type="checkbox"/>	Sale or transfer of partial interest in the property (such as an easement). Description of interest:

**Proposed recipient, if known:**

**Proposed use by property recipient, if known:**

**The agency is proposing to transfer the property with the following restrictions on future uses:**

If checked, the state is not currently proposing restrictions on future uses.

**Reason the state of Connecticut is proposing to transfer this property:** Surplus

**Comments from the public are welcome and will be accepted until the close of business on 11/20/2020.**

**Comments may include (but are not limited to) information you might have about significant natural resources or recreation resources on the property, as well as your recommendations for means to preserve such resources.**

**Written comments\* should be sent to:**

**Name: Paul Hinsch**

**Agency: Office of Policy and Management, Bureau of Assets Management**

**Address: 450 Capitol Avenue, Hartford, CT 06106-1379**

**E-Mail: Paul.Hinsch@ct.gov**

**\*E-Mail submissions are preferred. Send copies of comments to:**

**Name: Shane Mallory**

**Agency: Department of Administrative Services, Statewide Leasing and Property Transfer**

**Address: 450 Columbus Boulevard, Hartford, Suite 1402, CT 06103**

**E-Mail: Shane.Mallory@ct.gov**

**(Comments from state agencies must be on agency letterhead and signed by agency head. Scanned copies are preferred.)**

**What Happens Next:**

When this comment period closes, the proposed land transfer can take one of three tracks:

1. If no public comments are received, the sale or transfer can proceed with no further public comment and no further notices in the *Environmental Monitor*, unless the Department of Energy and Environmental Protection (DEEP) elects to conduct a review of the property (see #3).
2. If public comments are received, the Office of Policy and Management (OPM) will respond to those comments. The comments and responses will be published in the *Environmental Monitor*. Fifteen days after publication of the comments and responses, the proposed sale or transfer can proceed, unless DEEP elects to conduct a review of the property (see #3).
3. If DEEP elects to conduct a further review of the property, it may submit to OPM a report with recommendations for preserving all or part of the property. The report and recommendations will be published in the *Environmental Monitor*, and there will be a 30-day public comment period. The DEEP will publish its responses to any comments received and its final recommendation about the property in the *Environmental Monitor*. OPM will then make the final determination as to the ultimate disposition of the property, and will publish that determination in the *Environmental Monitor*. Fifteen days after publication of that final determination, the sale or transfer can proceed.

To find out if this proposed transfer is the subject of further notices, check future editions of the *Environmental Monitor*. **Sign up for e-alerts (<https://confirmsubscription.com/h/j/ED852A9EE7823EDF>)** to receive a reminder e-mail on *Environmental Monitor* publication dates.

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## **CEPA Project Inventory**

The Office of Policy and Management maintains a list of projects they have entered the CEPA process. It shows each project's status. The inventory can be found at <ftp://ftp.ct.gov/opm/CEPA/CEPA%20Project%20Inventory.xlsx> .

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The Adobe Reader is necessary to view and print Adobe Acrobat documents, including some of the maps and illustrations that are linked to this publication. If you have an outdated version of Adobe Reader, it might cause pictures to display incompletely. To download up-to-date versions of the free , click on the Get Acrobat button, below. This link will also provide information and instructions for downloading and installing the reader.

(<https://acrobat.adobe.com/us/en/acrobat/pdf-reader.html>)

(<http://get.adobe.com/reader/>)





**Download the free Acrobat Reader! (<https://acrobat.adobe.com/us/en/acrobat/pdf-reader.html>).** Adobe is a tool that allows blind and visually impaired users to read any documents in Adobe PDF format. For more information, read the product overview at **Adobe.com (<https://www.adobe.com/>).**

# ATTACHMENT B

## PUBLIC MEETING PRESENTATION

### **Environmental Impact Evaluation**

Water Pollution Control Authority, City of Bridgeport  
695 Seaview Avenue  
Bridgeport, Connecticut 06607-1628  
(203) 332-5550  
<https://www.bridgeportct.gov/wPCA>

May 2021

# Water Pollution Control Authority (WPCA) City of Bridgeport

Facility Plan Analysis and Recommendations  
East and West Side Wastewater Treatment Plants

**CDM  
Smith**

January 28, 2020



*Public Information  
Update*

*Presenters*  
Lauren Mappa, PE  
Joe Laliberte, PE  
Dan Murphy, PE

# Agenda

- Overview of Consent Orders
- Project Goals
- Potential upgrade layouts and estimated project costs
- Benefits of upgrade and anticipated schedule
- Rate Impacts
- Next steps and questions



# Overview of WPCA Consent Orders

- Wastewater Treatment Facilities
  - Issued 3/1/2019
  - Facility Plan by 11/30/2020
  - Design both plant upgrades by 5/31/2022
  - Construct both plant upgrades by 9/1/2026
- Control Combined Sewer Overflows (CSOs) to 1-year Storm
  - Issued 6/14/18
  - “H” area lining and separation contracts by 12/31/2022
  - Ash Creek 1.5 million gallon CSO tank by 1/3/2023
  - Ellsworth Park 1.5 million gallon CSO tank by 1/1/2025
  - CSO tunnel/relief sewers by 8/26/2039
- Consent Orders previously unrelated, but this Facility Plan evaluated alternatives to increase plant to address CSOs



# Facility Plan and Project Implementation Goals

- Move plants into 21<sup>st</sup> century (“Plant of the Future” vision)
- Address Nitrogen discharges (West Side) and permit violations
- Meet CTDEEP resilience requirements (100 year flood + 3’)
- Help address combined sewer overflows (CSOs)
- Look to incorporate sustainable features (green infrastructure, wind turbine, solar, water reuse, energy efficiency)
- Develop visitor/educational center



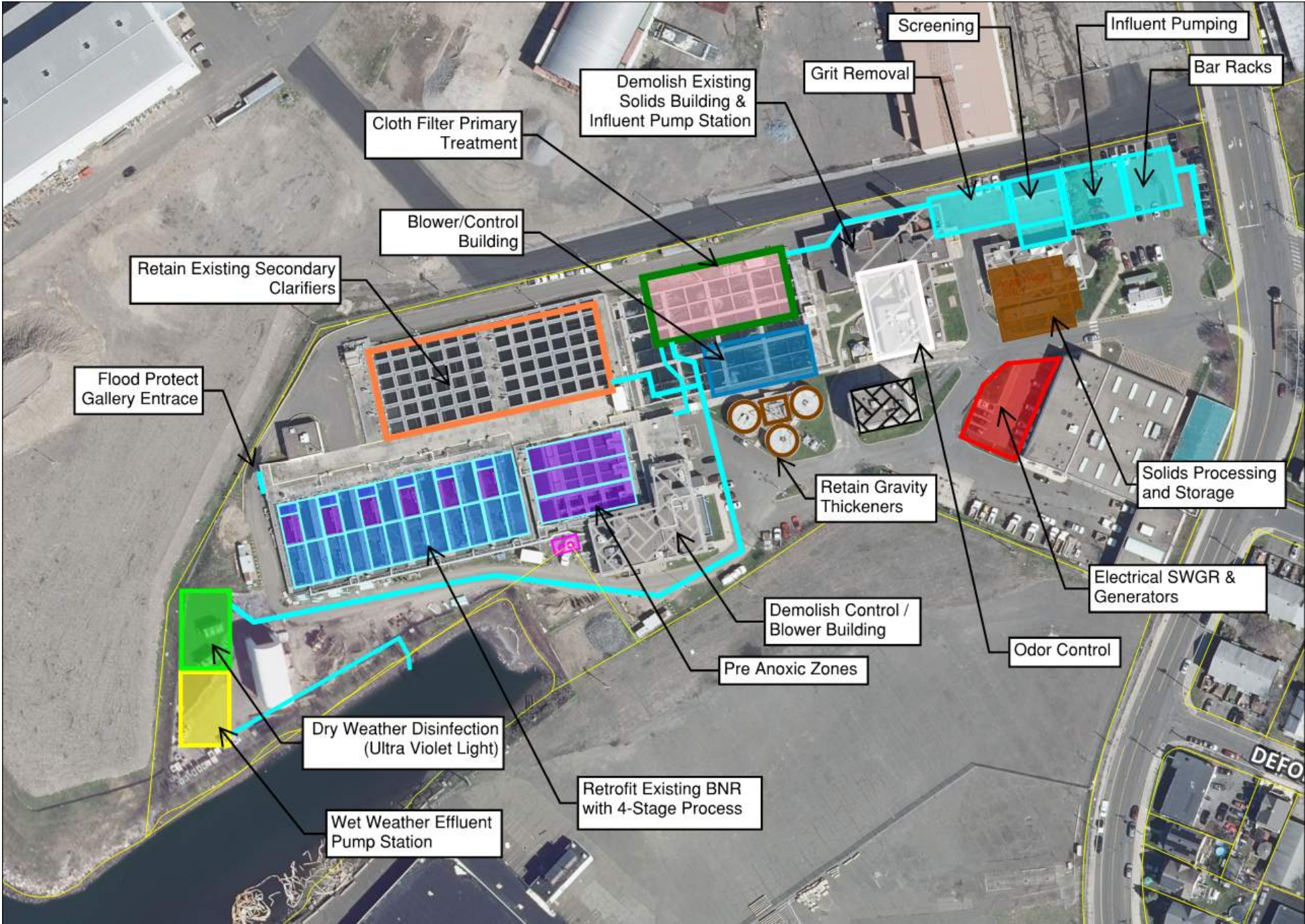
# Existing Conditions – East Side

- Originally constructed in 1940s
- Expanded in 1950s and 1970s
- Last major upgrade in 1995
- Nitrogen reduction project in 2001
- Equipment beyond life expectancy





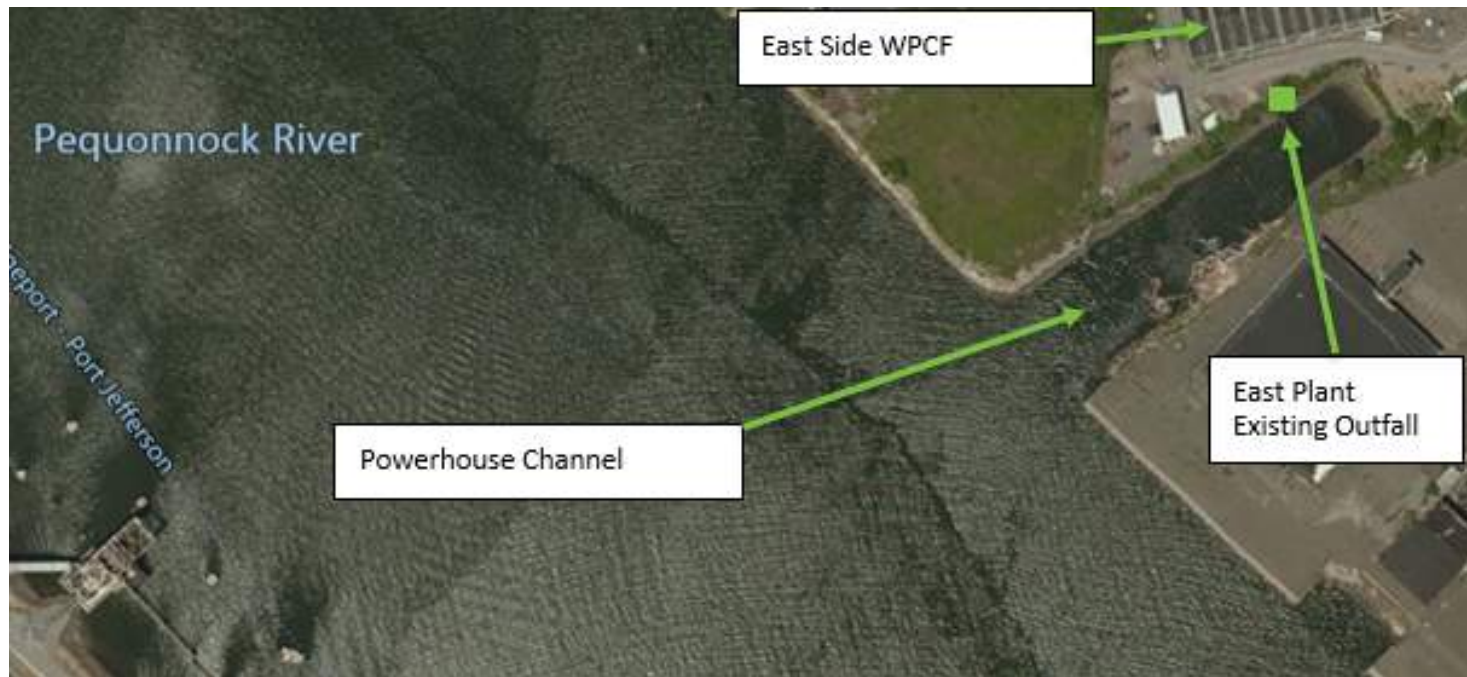
# Recommended East Side 80 MGD Layout – \$215,000,000





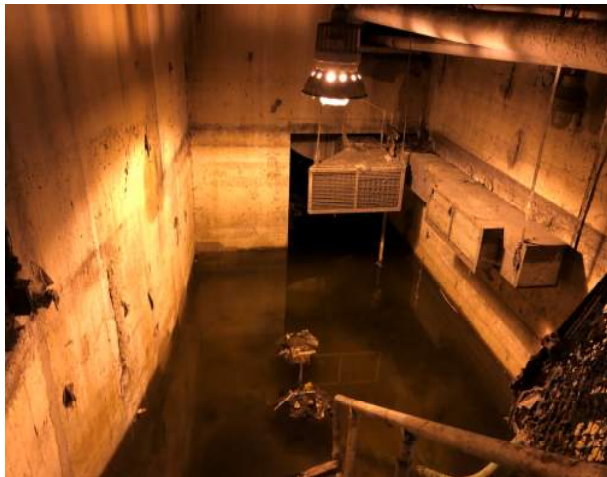
# Outfall Considerations – East Side

- 60-inch diameter pipe constructed in 1950s and 1969
- Size and condition adequate for upgraded plant
- Pipe lining to renew pipe considered
- Extending outfall has marginal benefits – not recommended at this time



# Existing Conditions – West Side

- Originally constructed in 1920s
- Expanded in 1960s
- Last major upgrade in 1992
- Nitrogen reduction project in 2001
- Equipment beyond life expectancy





# Existing West Side Plant Site and Surrounding City Land



Approximate  
Scale 1 : 2,000

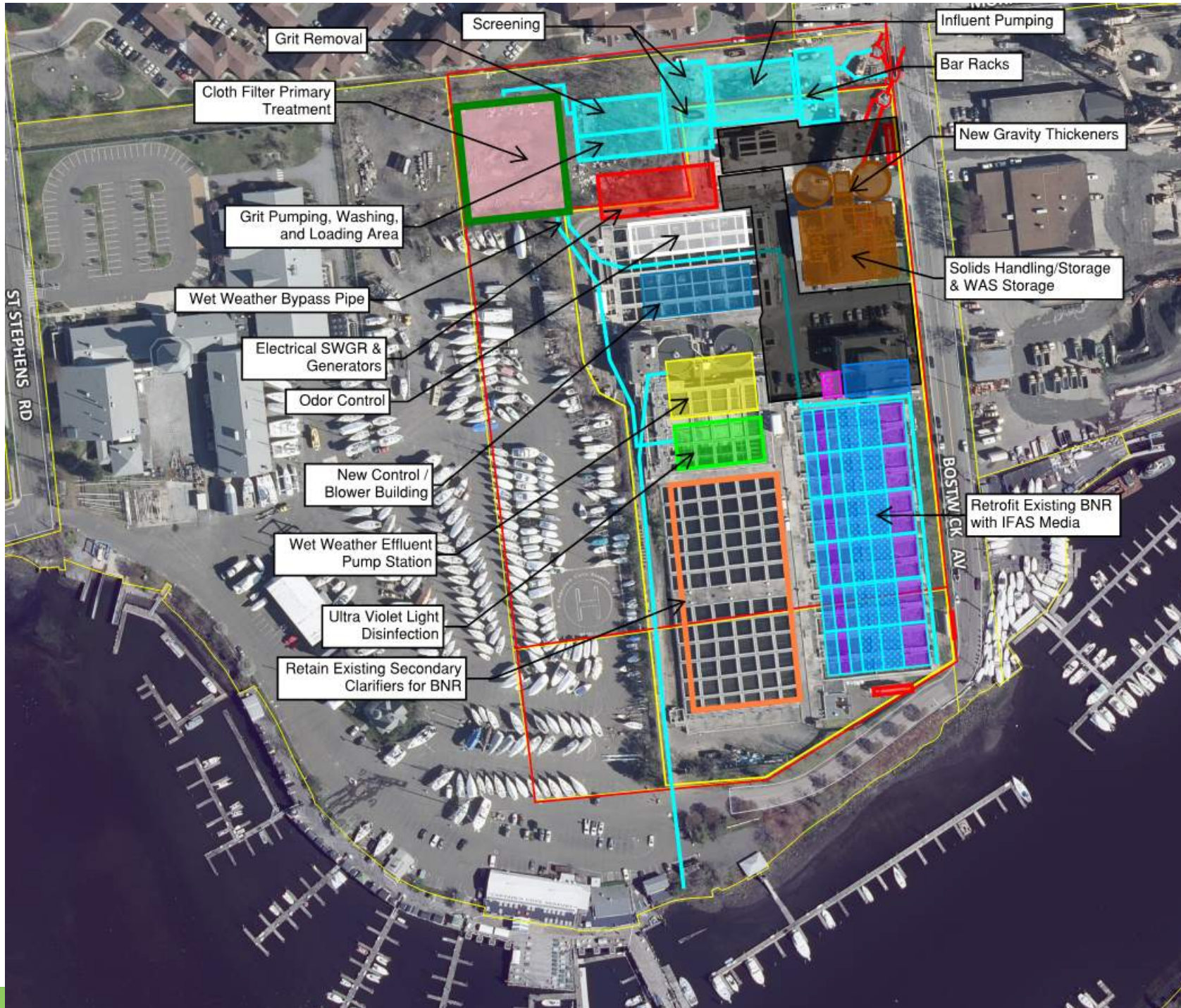


# Comparison of Treatment Plant Site Sizes

Municipality	Site Size (acres)	Average Day (MGD)	Peak Wet Weather (MGD)
Hartford	49.8	70	200
Providence (FP)	24.5	65	200
New Haven	23	40	100
Mattabassett	~24	35	110
Worcester (UB)	47	34	160
<b>Bridgeport (west)</b>	<b>8.5</b>	30	90
Waterbury	21.8	25	80
Providence (BP)	36.2	24	116
Stamford	23.5	24	68
Norwalk	12.3	18	90
<b>Bridgeport (east)</b>	<b>8.8</b>	10	40
Norwich	12	8.5	17



# West Side Recommended 200 MGD Layout - \$395,000,000



# Comparison of Treatment Plant Costs

Municipality	Peak Flow (MGD)	Projected Costs <sup>(1)</sup>
Hartford	200	\$501M <sup>(2)</sup>
EPA Cost Curve	200	\$398M <sup>(2)</sup>
<b>Bridgeport West Side</b>	<b>200</b>	<b>\$395M</b>
Worcester (Upper Blackstone)	160	\$461M
Mattabassett	110	\$216M
Waterbury	80	\$259M
<b>Bridgeport East Side</b>	<b>80</b>	<b>\$215M</b>
EPA Cost Curve	80	\$207M <sup>(2)</sup>

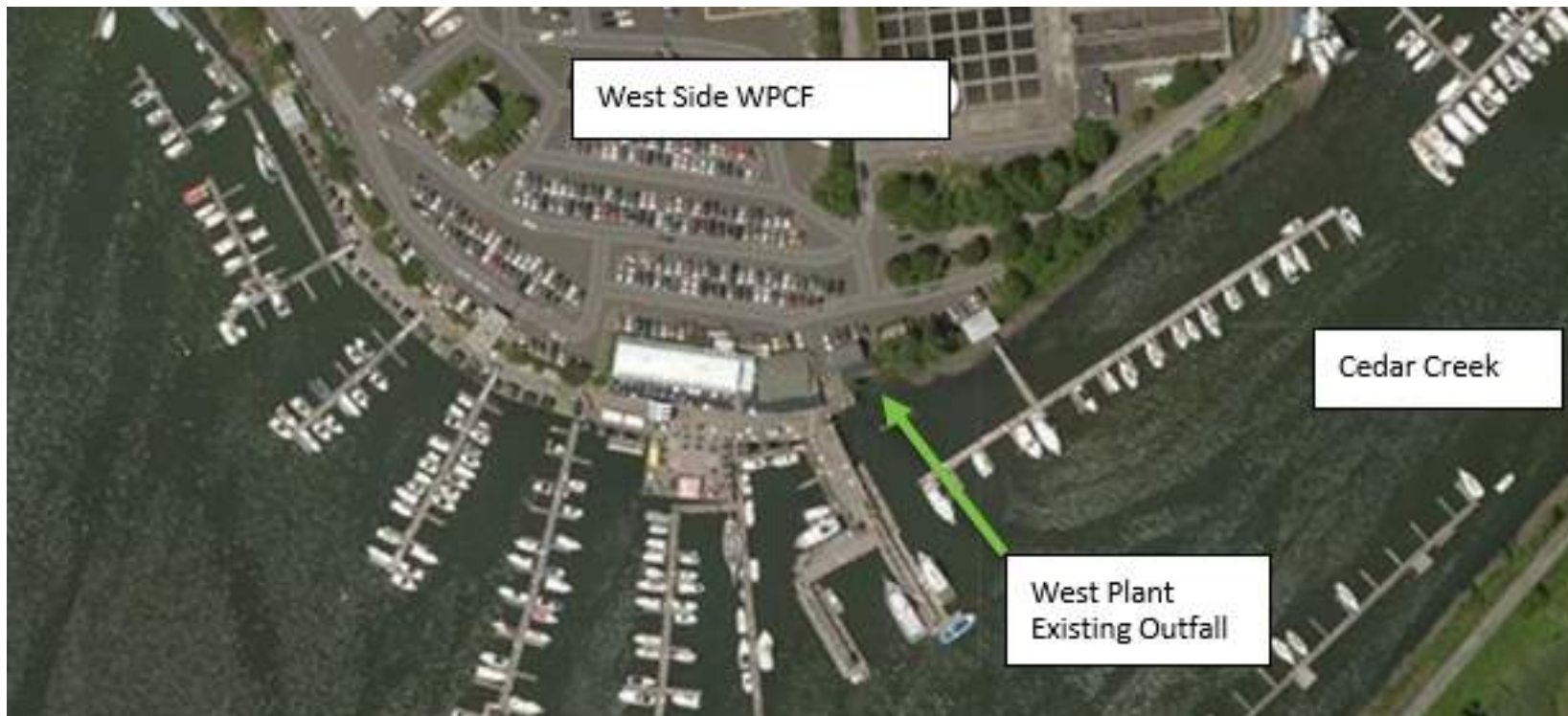
<sup>(1)</sup>Costs in 2024 dollars which is the proposed mid-point of West Side construction

<sup>(2)</sup>Projected costs include engineering costs at 22% of construction costs



# Outfall Considerations – West Side

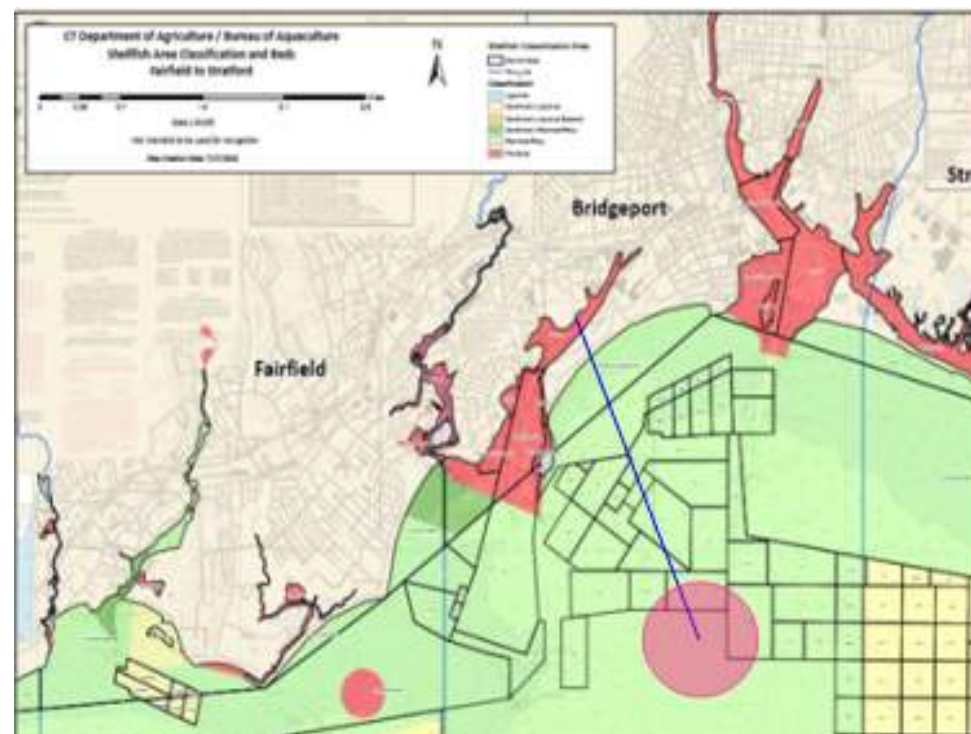
- 72-inch diameter pipe constructed in 1948
- Size and condition adequate for upgraded plant
- Pipe lining to renew pipe considered
- Extending outfall is a major undertaking





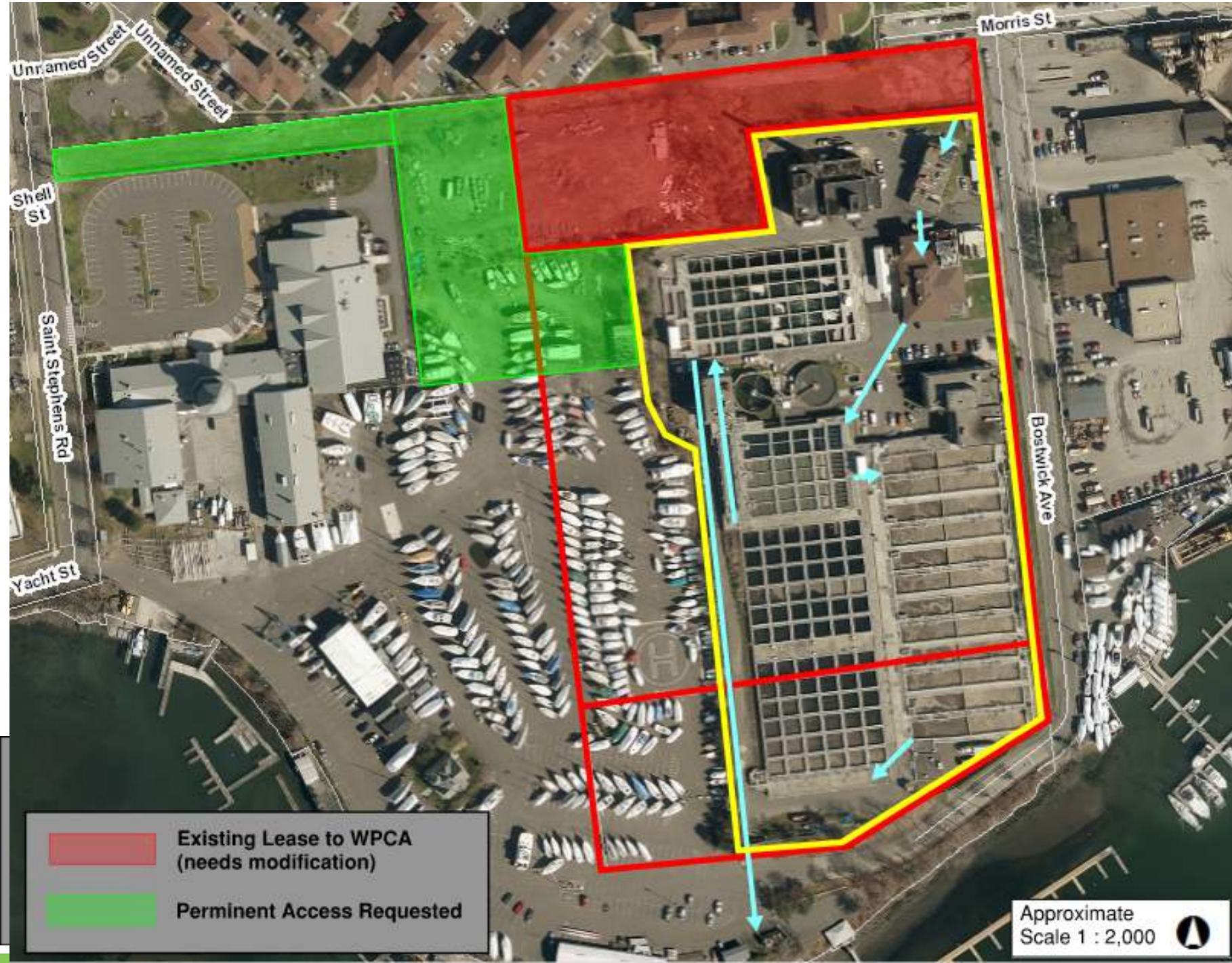
# Extended Outfall – West Side

- Options considered for deep water discharge
- 2-mile-long extension to outer harbor
- Offshore shellfish claim impacts
- Extensive permitting process will delay project
- Order of magnitude cost \$200M
- Not recommended at this time





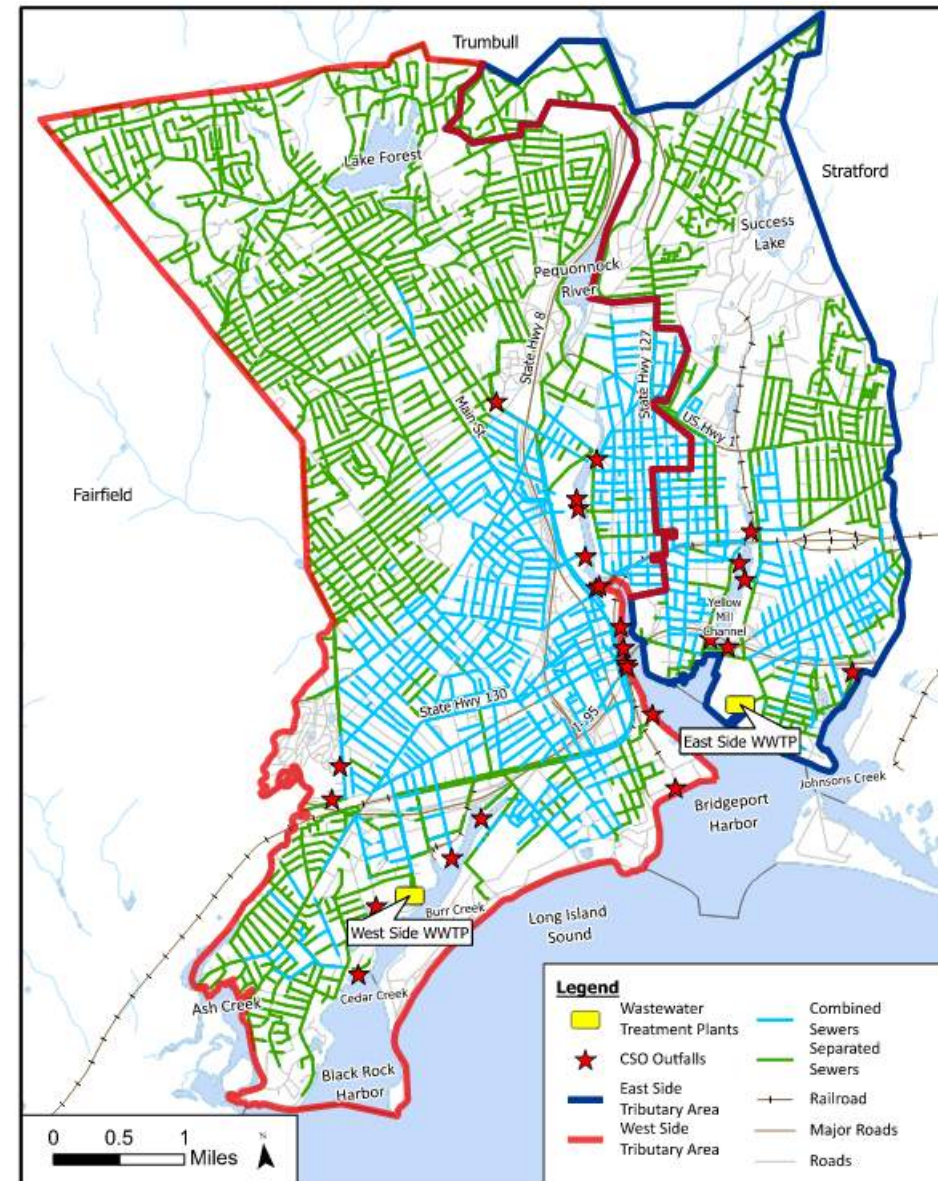
# Existing West Side Plant Site – Need Additional Land



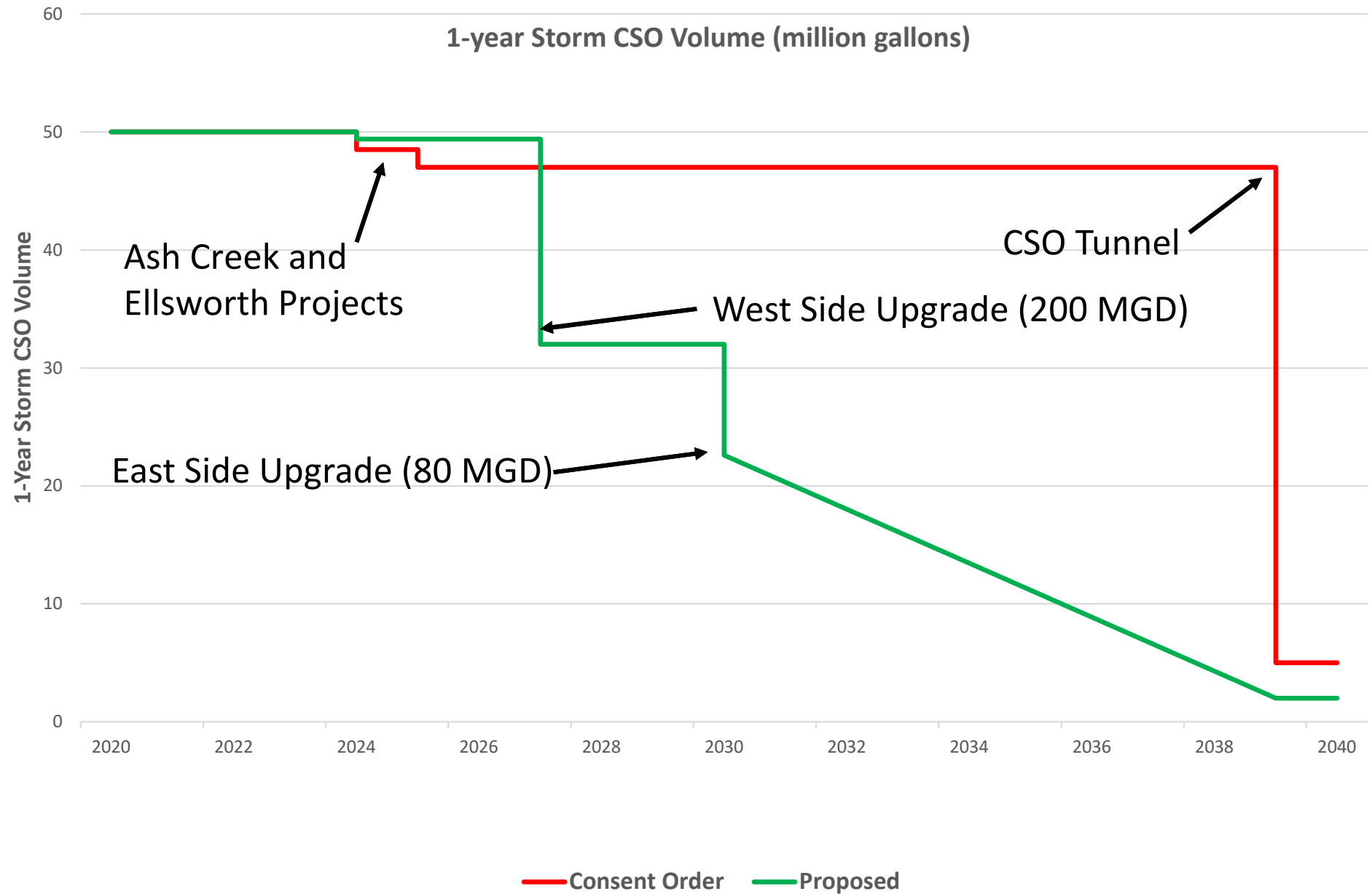


# WPCA Collection System

- East Side and West Side wastewater treatment Plants (WWTPs)
- Bridgeport and portion of Trumbull
- 26 CSO regulators
  - 20 West Side
  - 6 East Side
- 113 miles **combined gravity sewer**
  - Conveys both sewage and stormwater
- 170 miles **separated gravity sewer**
  - Conveys only sewage



# Upgraded Plants Will Provide CSO Reduction



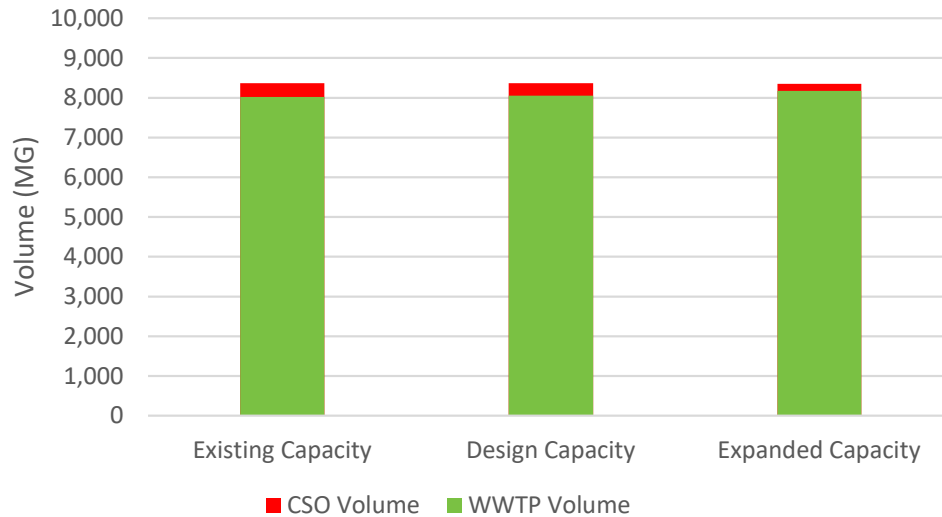
# Treatment Plant Capacity Scenarios Modeled

		Existing Capacity	Design Capacity	Expanded Capacity
West	Secondary Treatment	58	58	58
	<b>Peak Capacity</b>	<b>80</b>	<b>90</b>	<b>200</b>
East	Secondary Treatment	24	24	24
	<b>Peak Capacity</b>	<b>35</b>	<b>40</b>	<b>80</b>



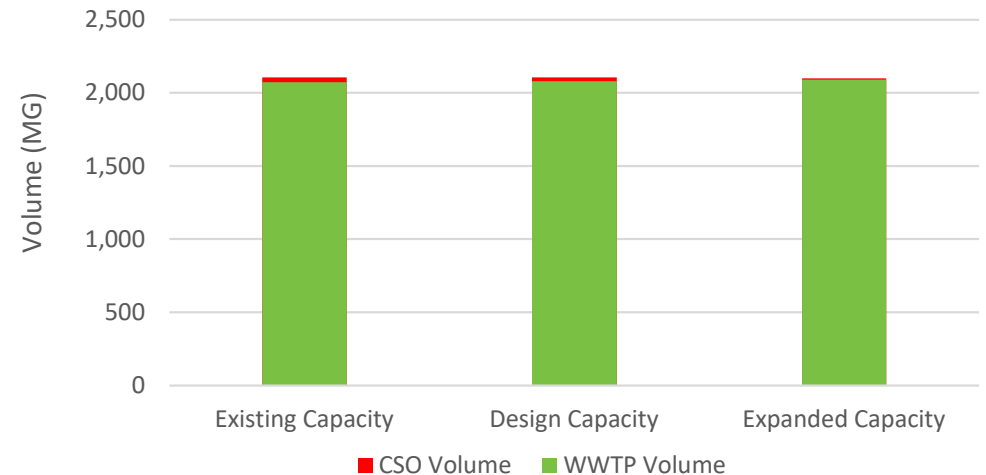
# Simulated Annual Average Discharge Volume

West Side Total Annual Discharge Volume



- Annual total discharge (CSO+WWTP effluent) approximately the same at existing, design, and expanded capacities

East Side Total Annual Discharge Volume



# Water Quality Constituents

- Combined Sewer Overflows (CSOs)
- Fecal Coliform
- Total Suspended Solids (TSS)
- Total Nitrogen (TN)

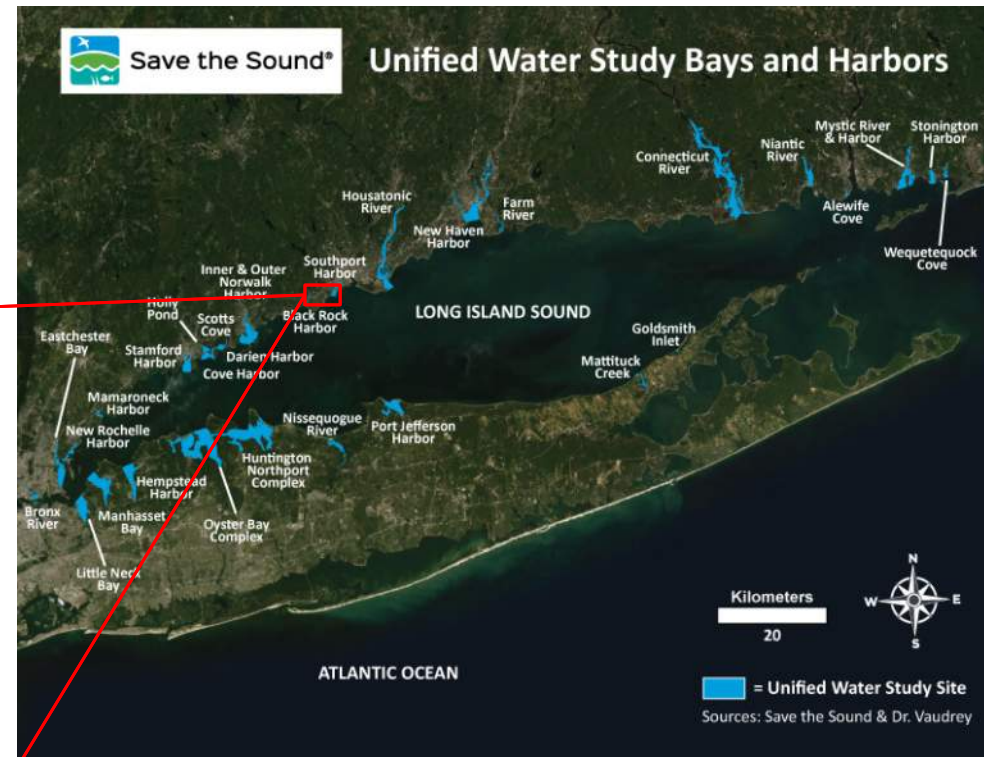
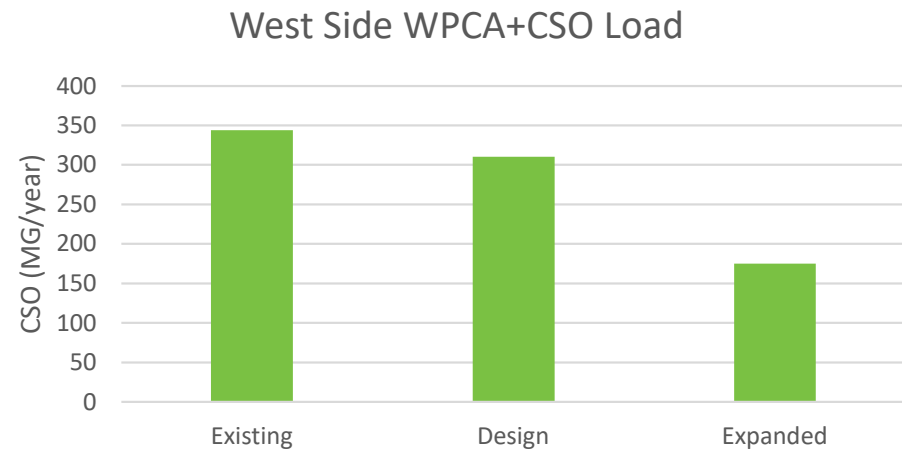
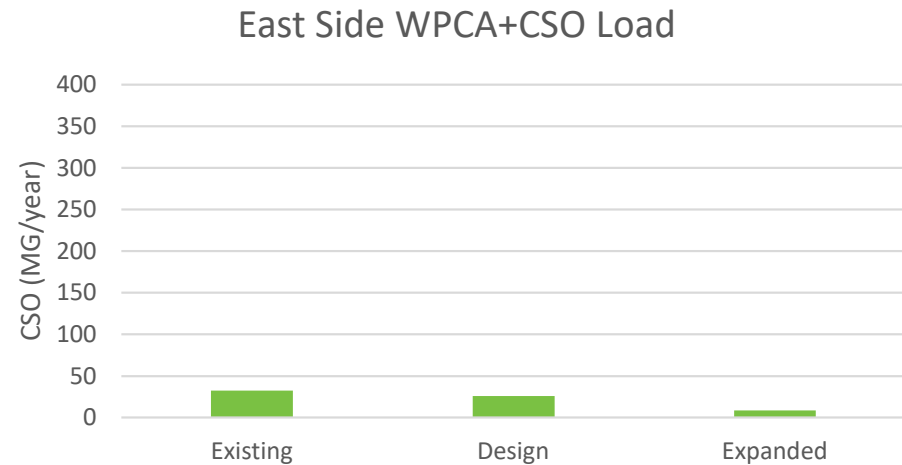


Image from Save the Sound website

<https://www.savethesound.org/water-monitoring-ecological-health>

# Combined Sewer Overflows (CSO)

- Primary source of fecal coliform pollution
- Source floatables such as plastics, toiletries, and fecal matter
- Expanded treatment plant capacity will significantly reduce annual average CSO volume
- DEEP Consent Order to address CSOs



Loads are average annual based on a 2017-2019 simulations

# Fecal Coliform

- Generally, not harmful themselves
- Indicate the possible presence of pathogenic (disease-causing) microbes
- Significant reduction in fecal coliform is expected by increasing wet weather plant capacity



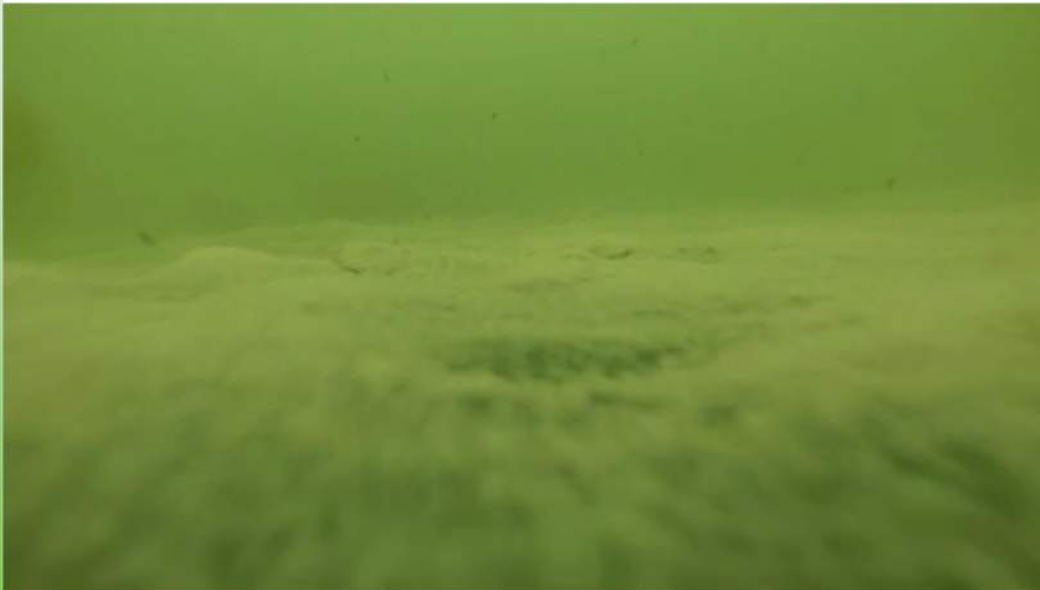
Loads are average annual based on a 2017-2019 simulations



# Total Suspended Solids (TSS)

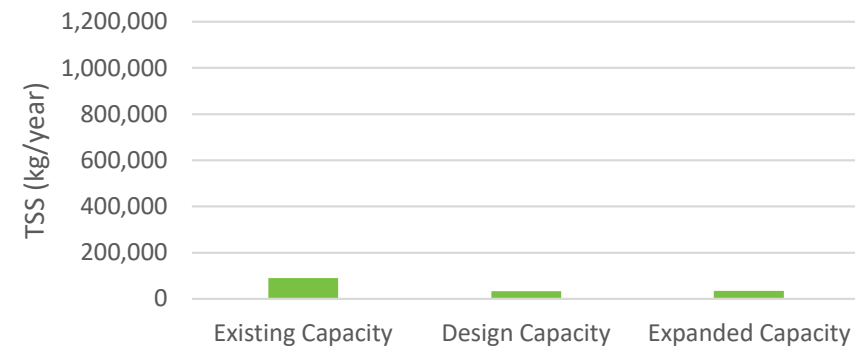
- Positively correlated with other pollutants
  - Pollutants can be dissolved in water or attached to solids/particulates
- Improvements to primary treatment will reduce discharge of solids & floatables in the final effluent

Video of Black Rock Harbor Bottom

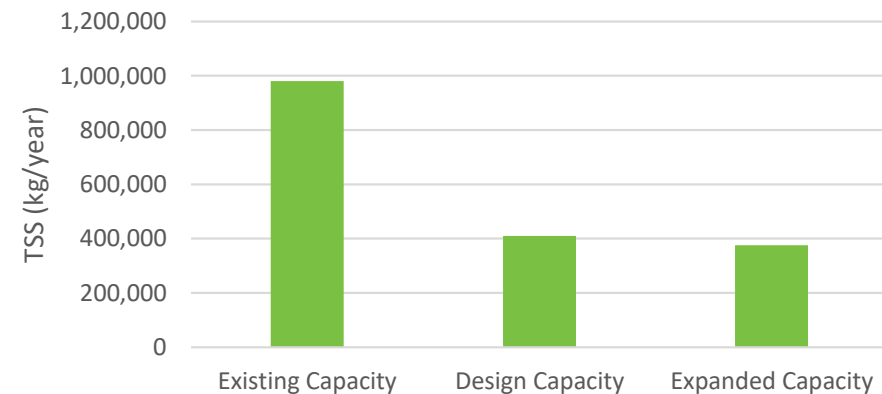


[The Rise and Fall of Black Rock Harbor - Save the Sound](#)

East Side WPCA+CSO Load



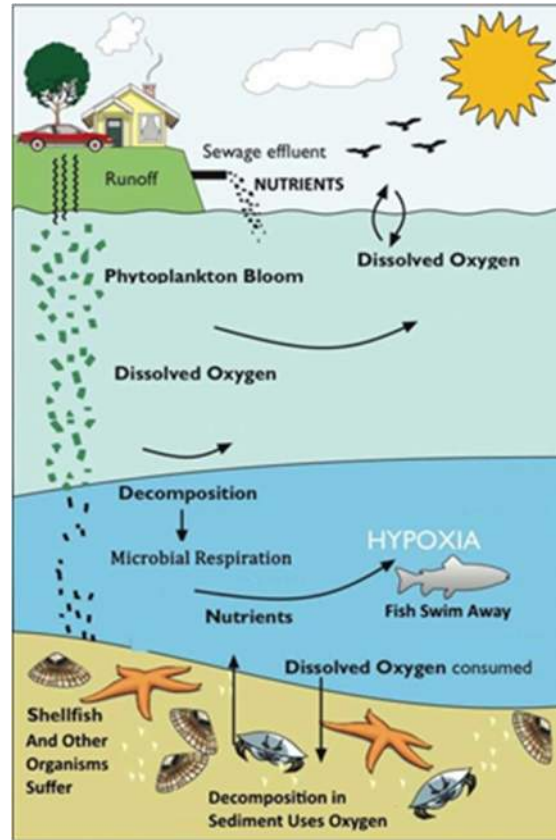
West Side WPCA+CSO Load



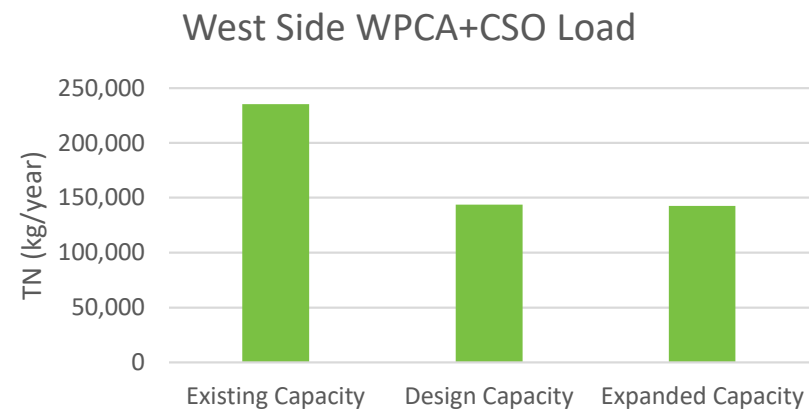
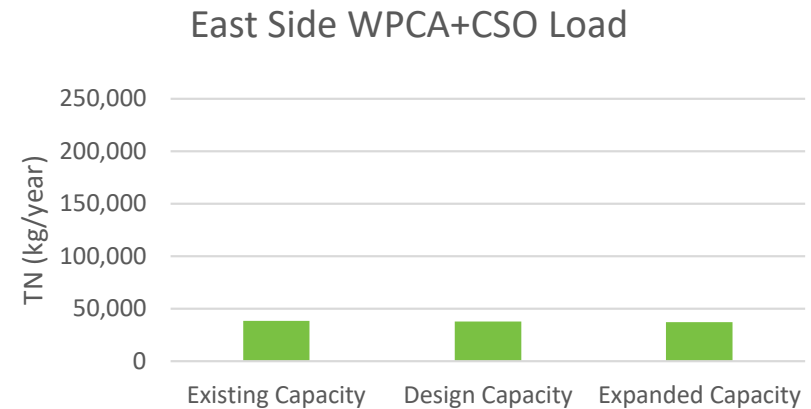
Loads are average annual based on a 2017-2019 simulations

# Total Nitrogen (TN)

- Essential nutrient for most bacteria, plants, and animals
- Limiting nutrient in marine waters
- Fuels harmful algal blooms and eutrophication
  - Low dissolved oxygen (DO) and fish kills



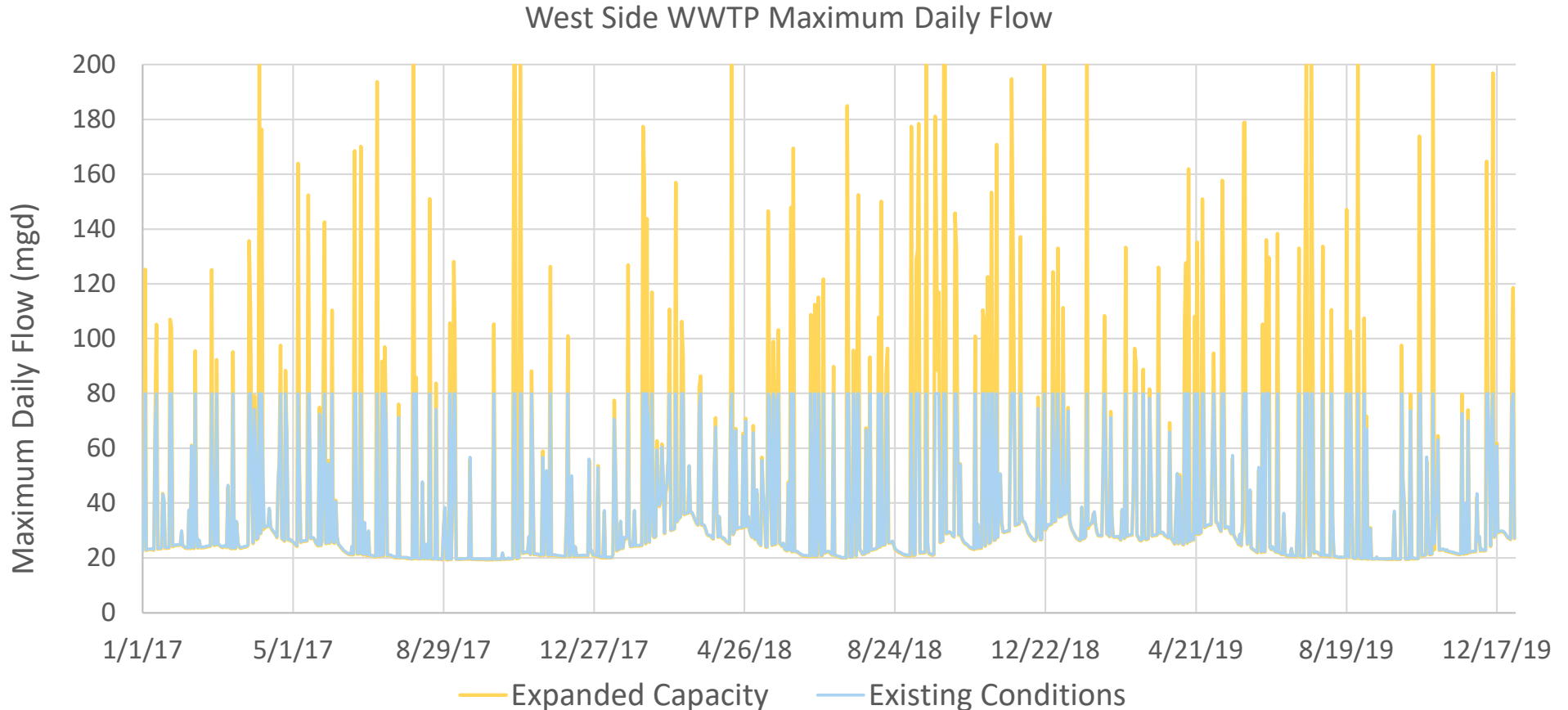
Source: National Coastal Condition Report IV, EPA-B42-R-10-003 (April 2012), modified



Loads are average annual based on a 2017-2019 simulations

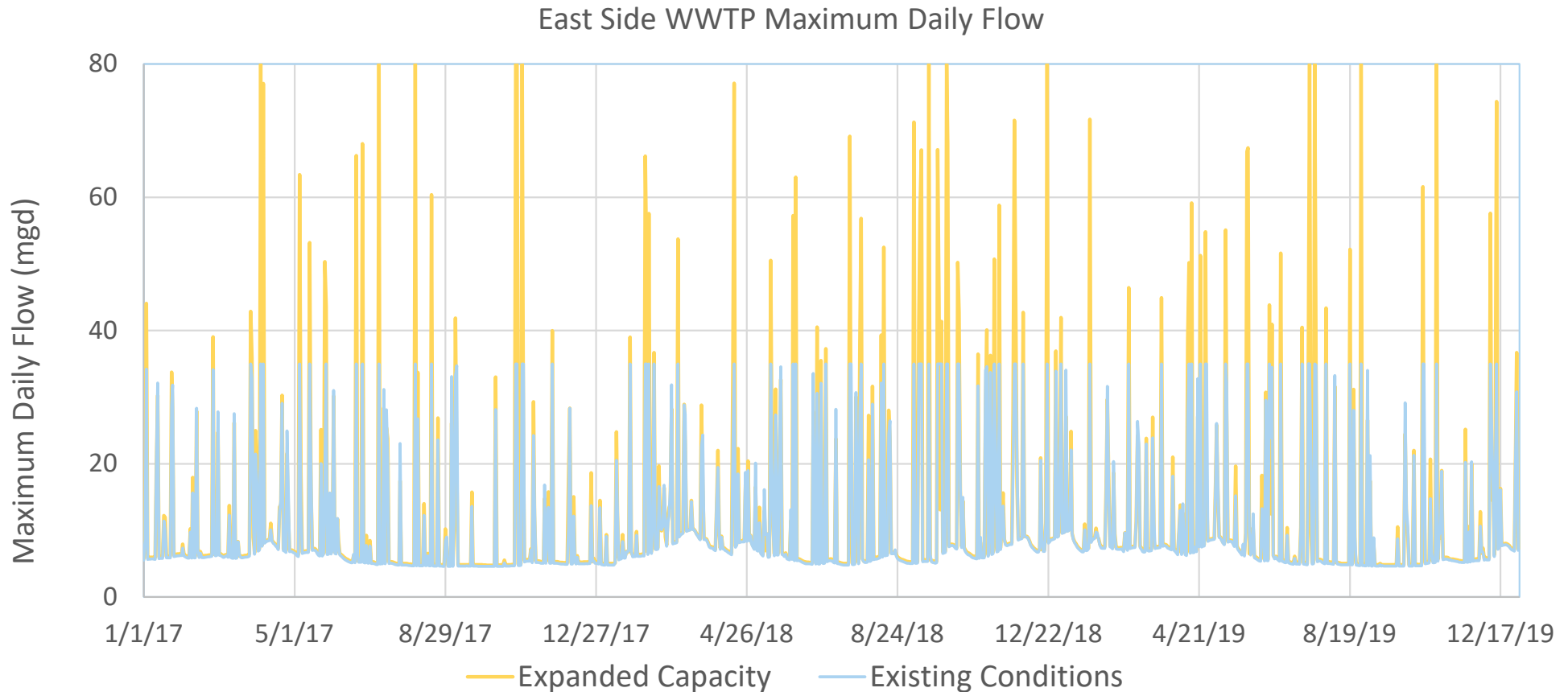
# Expanded Capacity Addresses Peak Flow Events

- Rain events cause CSOs to discharge
- 2017 – 2019 simulation shows 142 days over 80 mgd at West Plant
- Expanded capacity will capture and treat flow up to 200 mgd



# Expanded Capacity Addresses Peak Flow Events

- Rain events cause CSOs to discharge
- 2017 – 2019 simulation shows 87 days over 35 mgd at East Plant
- Expanded capacity will capture and treat flow up to 80 mgd





# Treatment Plant Upgrades

- Increasing treatment plant capacity will:
  - Reduce frequency and magnitude CSOs
  - Improve capture floatables and solids during high flow events
  - Reduce annual average pollutant loads to receiving waters
- Effluent TSS will be controlled below 50 mg/L
  - Existing west-side effluent TSS is >50 mg/L 10% of the time

Treated WWTP Effluent                      **Increase** ↑ 1.3%

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CSO Volume                                      **Decrease** ↓ 51%

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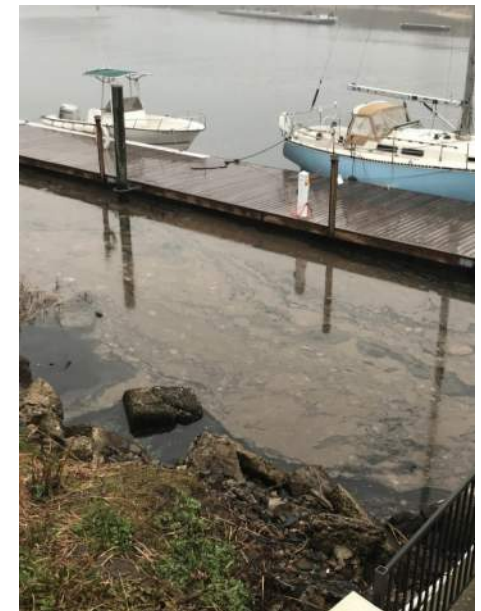
Fecal Coliform Load                         **Decrease** ↓ 60%

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TSS Load                                         **Decrease** ↓ 62%

---

TN Load                                         **Decrease** ↓ 34%



Effluent in Black Rock Harbor

# DEEP Funding

- 55% planning grant for Facilities Plan still pending
- WWTP design/construction DEEP grant/loan as follows:

	Wastewater Treatment Plant Component				
	CSO	Nitrogen	General	Ineligible	Blended
Grant %	50%	30%	20%	X%	20 to 35%
Loan %	50%	70%	80%	X%	65 to 80%

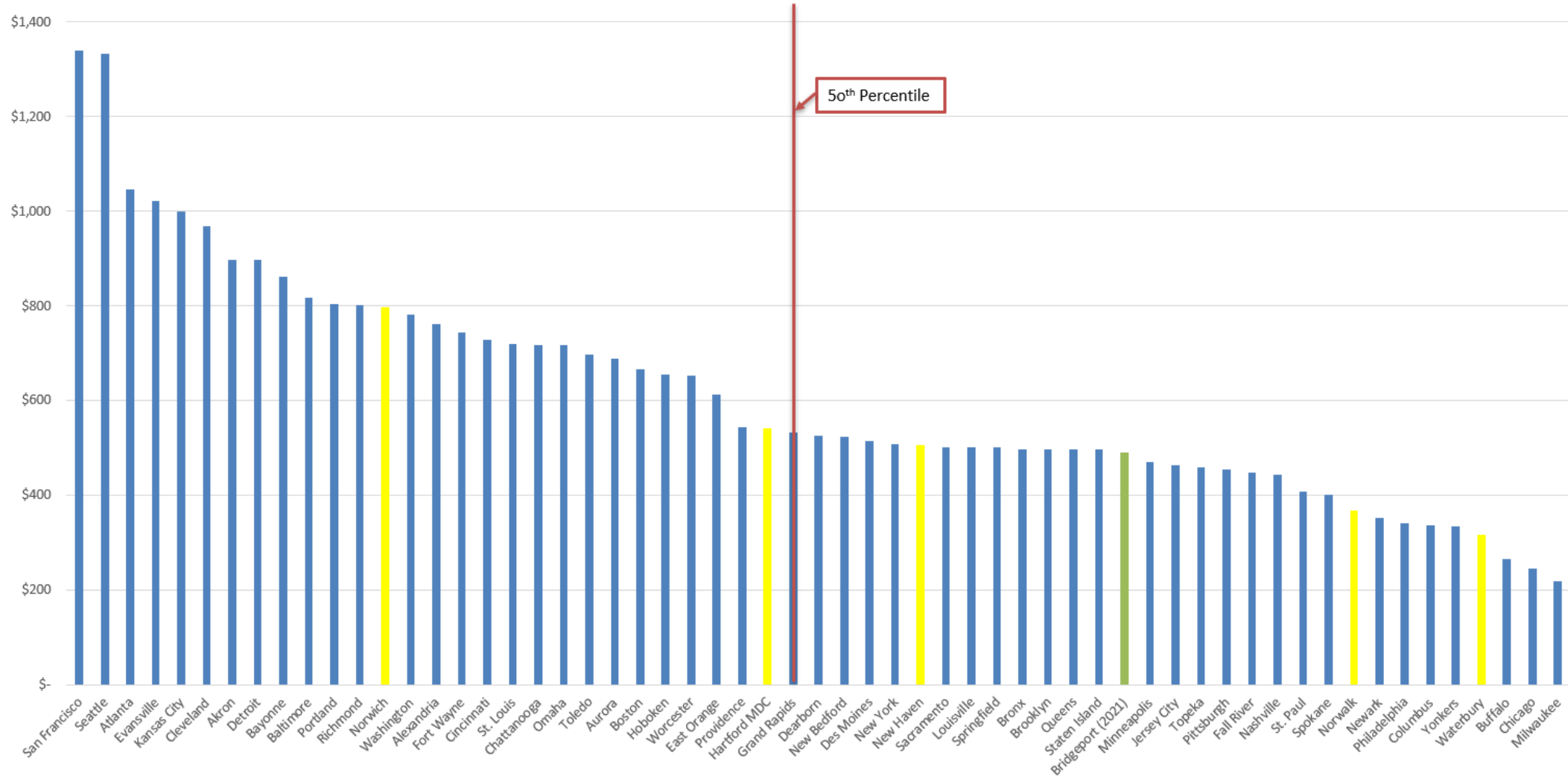
- **CSO** = prorated headworks, primary treatment, influent and effluent pumping, disinfection
- **Nitrogen** = secondary process nitrogen reduction upgrades
- **General** = Non CSO or nitrogen, such as solids handling
- **Ineligible** = non approved sole source items, “gold plating”
- Total DEEP funding anticipated to be 98 to 100%

# Annual Average Household Sewer Bill

Alternative	FY 2021	FY 2027	FY 2033
Baseline (no Upgrades)	\$490	\$574	\$655
Consent Order with SRF Grant/Loan	\$490	\$987	\$1,136
Stagger Plants with CSO and SRF Grant/Loan	\$490	\$816	\$1,064

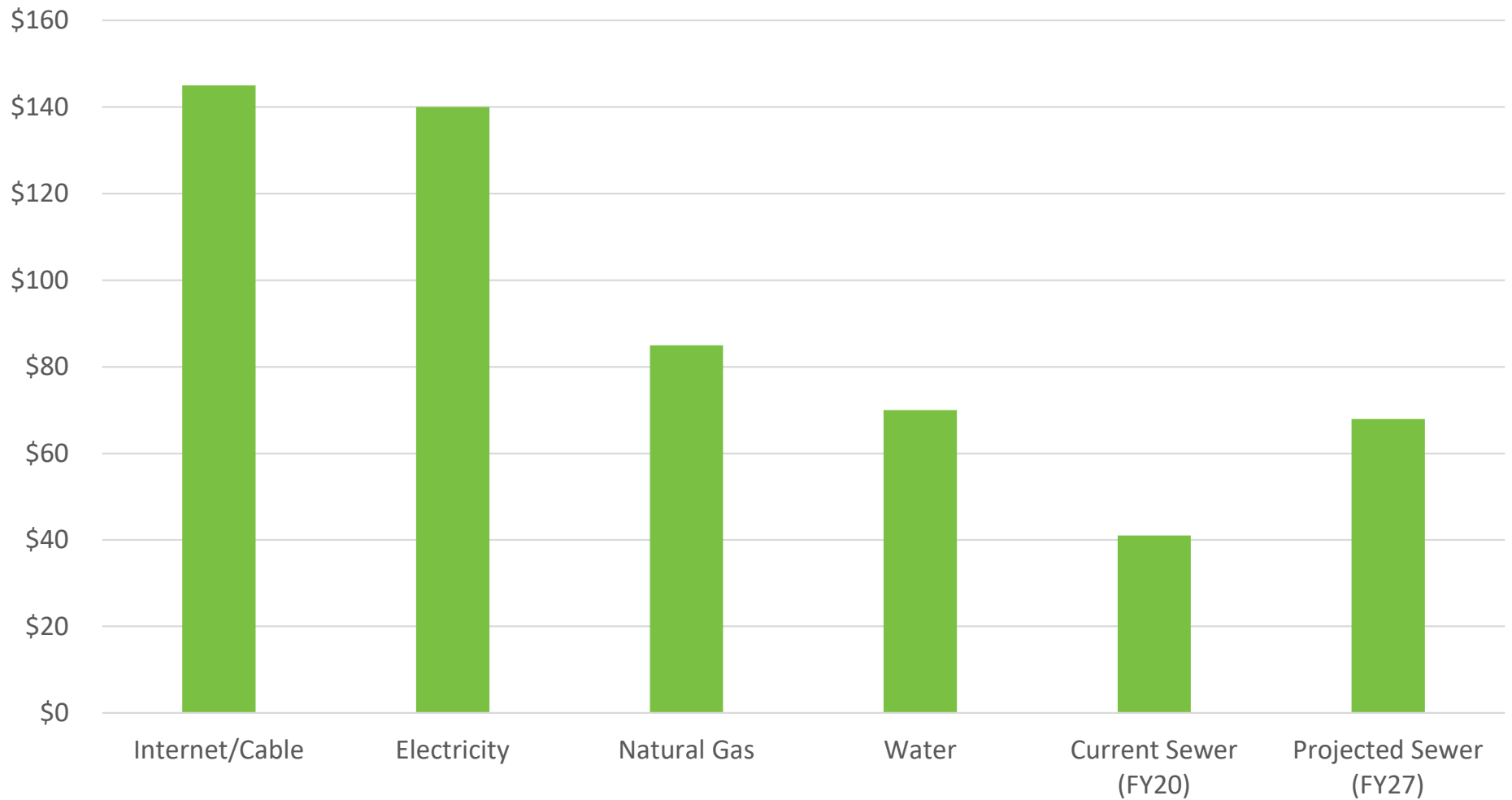
# Current Community Comparison (FY21)

Annual Sewer Bill - 8,000 CF/year



# Monthly Utility Comparison

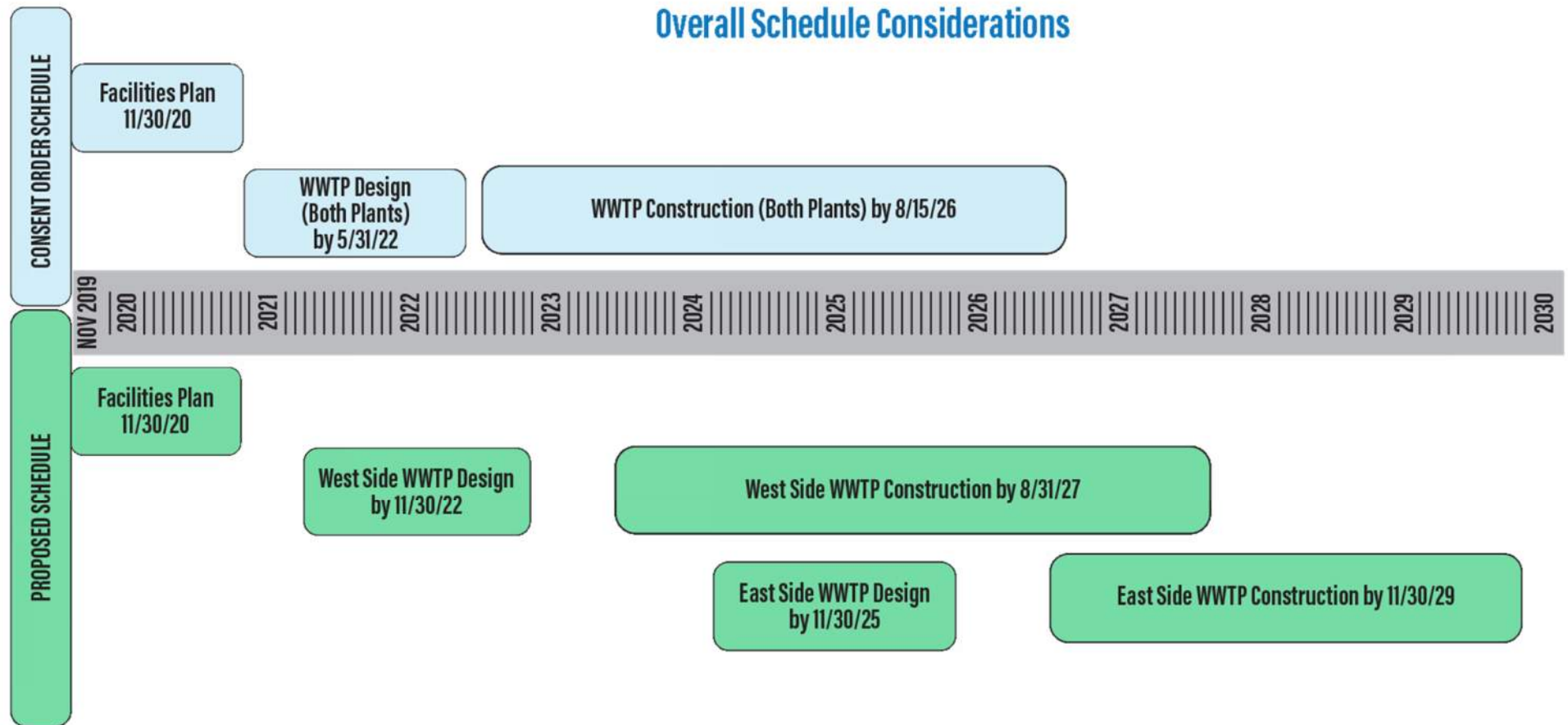
## Average Monthly Bills



Source for non sewer bills = <https://patch.com/connecticut/across-ct/connecticut-has-6th-highest-utility-costs-report> (posted 12/15/2019)



# Overall Schedule Considerations



# Next Steps

- Draft Facilities Plan has been submitted CTDEEP (by 11/20)
- Complete Environmental Impact Evaluation (EIE) process
- Gain local approval and funding authorization
- CT DEEP approval of Facility Plan and CWF authorization
- Commence design in spring of 2021



# ATTACHMENT C

## RESPONSE TO PUBLIC COMMENTS

### **Environmental Impact Evaluation**

Water Pollution Control Authority, City of Bridgeport  
695 Seaview Avenue  
Bridgeport, Connecticut 06607-1628  
(203) 332-5550  
<https://www.bridgeportct.gov/wPCA>

May 2021

# Bridgeport Wastewater Treatment Plants Public Scoping Comment Response Document

## Compiled Responses from CT DEEP, Bridgeport WPCA and CDM Smith representing the Bridgeport WPCA December 22, 2020

The City of Bridgeport Water Pollution Control Authority (WPCA) submitted a Wastewater Treatment Facilities Plan in accordance with Administrative Order WRMU19001 to the CT Department of Energy and Environmental Protection (DEEP). The Bridgeport WPCA retained CDM Smith as their engineering consultant to complete this Facilities Plan. As part of the requirements of the Connecticut Environmental Policy Act (CEPA), a virtual public scoping meeting was scheduled by DEEP and advertised to the public. This public information session was held on October 29, 2020. CDM Smith presented the recommended plans for upgrading both the East Side and West Side WWTPs on behalf of the Bridgeport WPCA.

Public comments on the presentation and the project were accepted through November 5, 2020. The questions and comments received as part of this public participation progress are included herein. Many of these questions and comments have been abbreviated, but the substance of the public comment has not been altered. DEEP, CDM Smith and the Bridgeport WPCA have provided corresponding responses in italics.

**Public Comment 1 (Submitted via Email):** From Bill Lucey, Long Island Soundkeeper, Save the Sound:

- A. "I am interested if there has ever been an effects analysis completed examining cumulative impacts from permitted sewage outfalls as part of the issuance of a NPDES permit."

### **Response to 1A:**

*DEEP RESPONSE: Yes, by looking at the effects of multiple discharges on a waterbody. CT DEEP requires chronic toxicity testing for waters that are impaired or dominated by discharges. Part of the chronic test requires testing of the receiving water upstream and downstream of the discharge. Water health as measured through the toxicity report. Ambient monitoring (program is run by Chris Bellusci) is completed for indicators of chronic and biological health. All of this is considered into whether there is an impact or impairment on the water. CT DEEP is just starting to implement the WQ based targets for P so must wait to determine effect(s). CT has a TMDL for N for LIS and all facilities have their limits. EPA and states will update model and update the N TMDL for the open water sound. CT DEEP is starting studies in coastal embayments, so no basis for changing permit requirements yet for WWTPs until embayment studies are completed by that plant outfall or EPA updates LIS N TMDL. CT DEEP Will get to all the embayments eventually but cannot get them all at once. CT DEEP has partnered to do Statewide SPF testing with private groups including USGS year one. CT DEEP has hired a modeling contractor and there is testing of rivers and lakes. The Pawcatuck project with RI is the demo project for this. Using freshwater impact of nutrients and what goes down to the LIS. Mystic and Norwalk are the next 2 embayments to be done. MS4 program has additional requirement to manage stormwater and nutrients in stormwater that are discharging to P streams and N BMP installation. CT DEEP is using HSPF modeling – Hydrologic Simulation P Fortran. The model will provide a better basis for updating permit limits.*

# Bridgeport Wastewater Treatment Plants Public Scoping Comment Response Document

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- B. “Understanding that there are certain allowances within “Zones of Influence”, what is the responsibility of the permit holder when discharging into an impaired water body? More specifically what is the course of action when the impairment encompasses both the ZOI as well as the rest of the waterbody in cases where the waterbody is an enclosed harbor or bay?”

### Response to 1B:

*DEEP RESPONSE: The permittee’s responsibility it to meet the permit limits whether MS4 or WWTP. If an impairment moves beyond the permit and requires a TMDL or if the cause is unknown, a study is performed to determine the cause and then CT DEEP floats a load allocation that gets incorporated in the permit(s). The permittee doesn’t do anything. A watershed plan is made and then the TMDL is put into the permit during the next revision.*

- C. “Has there ever been **mitigation** required during a permitting or CEPA process for chronic inputs of nutrients and solids from a permitted discharge when these activities are identified as the primary source of the impairment?”

### Response to 1C:

*DEEP RESPONSE: Permits generally do not go through a CEPA process. Are you talking natural resource damages? CT DEEP does not put that in a permit. Chronic issues (not meeting effluent limits) will go into an order. Newly discovered issues (not meeting a metals limit) going into a permit during renewal. If a designated use is impaired, CT DEEP would determine the issue and then consider a TMDL.*

- D. “Physical and chemical impacts include interruption of diurnal DO cycling, chronic hypoxia associated with high BOD and conversion of pre-discharge benthic sediments to post-discharge sediments characterized by high carbon concentrations and fine particle loading.”

“Biological impacts include reduction in biomass and diversity of aquatic species and fish kills.”

“Finally, understanding that in CT SLR is taken into consideration when upgrading facilities with state funds, are the effects of warming waters on chemical processes within the zone of influence (ZOI) and the impaired waterbody also considered?”



# Bridgeport Wastewater Treatment Plants Public Scoping Comment Response Document

## Compiled Responses from CT DEEP, Bridgeport WPCA and CDM Smith representing the Bridgeport WPCA December 22, 2020

### Response to 1D:

*DEEP RESPONSE: DEEP does not have a good model yet to evaluate and implement temperature changes however, the ZOI for thermal is not expected to be as large as the total ZOI.*

- **Public Comment 2 (Submitted via Email):** From Kevin Blagys, Bridgeport Resident, Business Owner of KB Dive Services, and Coordinator of the Black Rock Harbor Study
  - A. “Kevin Blagys, Bridgeport Resident, business owner of KB Dive Services and Coordinator of the Black Rock Harbor Study. I attended the Zoom meeting and asked 2 questions regarding the CSO tunnel and plans for moving the outfall pipe.”

“Having just played the video presentation again, and studied the questions and answers, here are my thoughts as a resident who works on the water, and has been studying Black Rock Harbor since 2019.”

“The 14-minute zoom presentation by Dan and Joe of CDM Smith was the first time seeing the actual expansion plans of the East and West treatment plants.”

“It seems that a project of this scale is being rushed through without appropriate time for public Comment. Black Rock harbor just completed its 2nd year, monitoring the harbor for the Unified Water Study (UWS) (monitoring program through Save the Sound). Prior to 2019 Black Rock was not included in the Long Island Sound Report published by Save the Sound.”

### Response to 2A:

*CDM SMITH / BRIDGEPORT WPCA RESPONSE: The WPCA’s Administrative Order with CT DEEP required the submittal of this Facilities Plan by November 30, 2020. Over the last 12 months CDM Smith has been working diligently with the WPCA to assess both treatment plants and develop a long-term vision of the capital needs of the facilities to improve the performance and reliability of the treatment facilities over the 30-year planning period. The plan is also designed to dovetail with the recommendations in the CSO Long Term Control Plan (LTCP) and provide a holistic view of the collection and treatment systems to result in the most cost-effective, timely solutions to improve water quality in the receiving waters. Numerous meetings have been conducted with the WPCA Board to keep them abreast of the project; these meetings are open to the public. Moving forward additional public meetings will be conducted with the WPCA Board, the public and the neighborhoods to ensure stakeholders are engaged in the solution. The recommended plan developed takes advantage of existing infrastructure and results in improved water quality in the receiving waters in a cost-effective and timely fashion.*

*The milestone dates included in the Administrative Order, that the WPCA is required to comply with, contribute to the seemingly rushed schedule. That said, as you understand, the treatment plants are in desperate need of upgrade so the sooner that this can be accomplished the better for Black Rock Harbor.*

## Bridgeport Wastewater Treatment Plants Public Scoping Comment Response Document

### Compiled Responses from CT DEEP, Bridgeport WPCA and CDM Smith representing the Bridgeport WPCA December 22, 2020

*DEEP RESPONSE: In addition to what is stated above, there will be a chance to review the facility plan, response to comments and the environmental impact statement and submit comments sometime in the first half of 2021. Please watch the CT CEQ website (<https://portal.ct.gov/CEQ>) for updates to the Environmental Monitor. The facility plan is still a draft and has not been approved by DEEP. Approvals cannot be issued until the EIE scoping and post-scoping is complete. There is still plenty of time to review and comment.*

- B. "With the community seeking answers to the water quality in the harbor, a group of resident volunteers and students from the Aquaculture school began monitoring Black Rock Harbor for 5 months From May thru Oct. We go out on a boat before sunrise and sample 6 locations in the harbor 2 times per month."

"The 2019 Results for our sampling show Black Rock Harbor with an overall grade of D. Consisting of 5 parts:

- 1) Dissolved oxygen – F
- 2) Macrophyte (seaweed) D
- 3) Chlorophyll a (plankton) D
- 4) Oxygen Saturation B
- 5) Water clarity A

The results of our 2020 sampling will not be available till 2021."

"My business is KB Dive Service, maintaining boats underwater and marine services. I have been diving in Black Rock harbor since 2006 when I started the business. I dive regularly in the harbor from April thru November. Being on the front lines of actually diving in the harbor has made me aware of how stressed Black rock harbor is as a direct result of the Westside Treatment plant. It is because of the state of the harbor that I got involved in studying it, in an effort to save it. And I am not alone. The participation in the UWS water study was led by the Ash Creek Conservation Assoc, and funded through local Business leader: Santa Fuel."

"The Community and businesses are invested in cleaning up the harbor..."

"Having reviewed the proposal: The improvements in treatment of the Westside plant and expansion are welcome for the 90mg/d. However, expanding the plant, doubling it...to 200mg/d are not welcome without relocating the Outfall pipe from in the harbor to outside the harbor. (As was originally planned, and as Fairfield does)"

"Reduction of CSOs seems to be the main focus of this plan, and the problem isn't the CSO's....it's what comes out of the Outfall pipe."

## Bridgeport Wastewater Treatment Plants Public Scoping Comment Response Document

### Compiled Responses from CT DEEP, Bridgeport WPCA and CDM Smith representing the Bridgeport WPCA December 22, 2020

"Black Rock harbor has been on the front line of what comes out of the treatment plant, and the harbor is basically fertilized by the nitrogen, and that reduces the oxygen in the water which has been stressing plant, animals."

"If the plant is going to expand to 200 mg/d then relocating the outfall pipe under Seaside park into the sound would be recommended. Relocating the Pipe was also addressed by CT Rep Steve Stafstrom."

#### **Response to 2B:**

*CDM SMITH / BRIDGEPORT WPCA RESPONSE: We appreciate your commitment to the environment and your efforts in sample collection and documentation of the water quality conditions in Black Rock Harbor. This will not only provide baseline water quality conditions but will also help to assess the positive impacts resulting from an upgraded treatment facility.*

*It is clear, as documented in the Facilities Plan, that the West Side Wastewater Treatment Plant suffers from aging, undersized and inadequate treatment processes which directly and indirectly impact the ability of the treatment facility to meet permit limits. The Wastewater Facilities Plan has developed a plan to remedy the situation through the design and construction of a state-of-the-art treatment facility that will dramatically improve the efficiency, effectiveness and reliability of the treatment processes while reducing the pollutant load to the receiving waters.*

*We agree that Black Rock Harbor is stressed, and that some of the stress is due to the effluent from the West Side WWTP discharge. Stressors also include the four combined sewer overflows discharging to Black Rock Harbor, as well as non-point source due to urban runoff, stormwater discharges and landfill leachate from the Seaside Landfill. The prime focus of this Facilities Plan was to address the upgrade to the treatment facilities to improve effluent quality. Concurrently, we assessed the system holistically to identify the most cost-effective solutions that integrate CSO control with treatment plant upgrades to simplify operations and avoid sunk costs.*

*With the treatment plant upgrade we expect that the annual total nitrogen mass loading of 1,041 lb/day will be consistently achieved, which was not the case in the three years between 2017 and 2019. In fact, process modeling shows an expected annual total nitrogen load of 938 lb/day in the design year 2050, 10 percent less than permitted. In addition, under average conditions, it is expected that the 5-day biochemical oxygen demand (BOD<sub>5</sub>) and total suspended solids (TSS) discharged will be consistently below 10 mg/L.*

*Currently, during storm events, the existing treatment plant is incapable of accepting more than 80 mgd for treatment (due to the current pumping and treatment capacity) at the West Side plant. Influent flow, up to 58 mgd, receives secondary treatment and disinfection. Influent flow greater than 58 mgd, receives primary treatment and disinfection prior to discharge to Black Rock Harbor. Combined sewer flow (sanitary sewer flow and storm water) beyond the current capacity of the WWTP is discharged*

## Bridgeport Wastewater Treatment Plants Public Scoping Comment Response Document

### Compiled Responses from CT DEEP, Bridgeport WPCA and CDM Smith representing the Bridgeport WPCA December 22, 2020

*through combined sewer overflow (CSO) outfalls with no treatment. There are four such combined sewer overflows tributary to Black Rock Harbor. During a 1-year, 24-hour storm event it is estimated that 44.4 MG of CSO from the West Side service area is discharged to receiving waters.*

*Increasing the West Side WWTP's wet weather capacity to provide preliminary treatment, primary treatment and disinfection for flows up to 200 mgd will reduce the volume of untreated CSO that is discharged by over 50 percent on the West Side during a 1-year, 24-hour storm event. Given the new, expanded preliminary treatment, primary filtration system and UV disinfection systems proposed, the primary effluent bypassed during high flow events is expected to achieve superior removal efficiencies, further improving the effluent quality of the discharge.*

*It is important to understand the expected frequency of these peak flows. Based on the collection system modeling, under existing conditions (2017-2019), influent flow is expected to be greater than 90 mgd only 10 percent of the time (36 days per year). Influent flow is expected to be greater than 120 mgd only 5 percent of the time (18 days per year). Again, based on 2017-2019 conditions, the peak flow that was conveyed to the West Side plant over the three-year period modeled was 186 mgd. We elected to increase the peak flow capacity to 200 mgd, since with some collection system improvements, more flow could be conveyed to the plant and further reduce CSOs to Black Rock Harbor.*

*DEEP RESPONSE: To add to the above, the CSOs affecting Black Rock Harbor are addressed in the CSO Long-Term Control Plan (LTCP) which went through the CEPA process of scoping and post-scoping starting October 3, 2017. As part of that document, it was noted that historically there were 9 CSOs that discharged directly into Burr Creek, Cedar Creek and Black Rock Harbor. Of those, only 4 remain: 1 in Burr Creek, 2 in Cedar Creek and 1 in Black Rock Harbor. All of these historical discharges have led to the current conditions in the harbor. By increasing the plant size and reducing the amount these untreated raw sewage discharges occur, the water quality in this embayment should continue to improve. In addition, the CSO LTCP also requires additional work on the collection system in the area surrounding Black Rock Harbor to ensure that initial discharge in a 1year 24hour storm is captured. That being said, the facility plan we are discussing here only addresses the upgrades at the wastewater treatment plants.*

*Refer to Comment Response 2D and 3B for a discussion of a new outfall pipe.*

- C. As a "rate payer" to the WPCA for its service, I disagree with the comment that "We can only pay so much"

"This project is looking for funding from the Clean Water Act, and but residents should not be held responsible for plan.... The Clean Water Act is Responsible."

**Response to 2C:**

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*CDM SMITH / BRIDGEPORT WPCA RESPONSE: CT DEEP's Clean Water Fund (CWF) provides grants and loans for these types of projects. Grants typically provide 50% funding for CSO projects, 30% for biological nitrogen removal (BNR) components, and 20% for general WWTP upgrade projects, with the balance eligible for a low interest loan. The final grant percentage awarded to the project would be based on the combination of the grants as eligibility for certain aspects of the treatment plant upgrades vary. However, the grant will not cover the entire project cost and the remainder would be funded through the CWF with a 2% loan payable over a 20-year period.*

*DEEP RESPONSE: While the Clean Water Act may be "responsible" for holding the Bridgeport wastewater treatment plants to a certain standard in order to meet water quality standards, it is not responsible for the operations, maintenance and any required upgrades. That falls to the City and the ratepayers. Federal funds are provided to the state through the Clean Water Fund and the state provides matching monies used to enable CT to award some of the largest grants under the Clean Water State Revolving Fund program nationwide.*

- D. "Also commented was: what's the priority? All 3 are a priority, CSO, Plant and Outfall."

### **Response to 2D:**

*CDM SMITH / BRIDGEPORT WPCA RESPONSE: The project priority is to develop a cost-effective plan to holistically address water quality issues across Bridgeport – this is accomplished through CSO reduction and improving the performance and reliability of the two WWTPs. Cost-effectiveness is the critical component to the plan. By increasing the treatment plant capacity at both plants, we found we were able to significantly reduce CSOs sooner for less money, than previously recommended in the CSO LTCP. The cost-effectiveness of a new outfall was also assessed. The analysis revealed an estimated cost of a new outfall discharging about 11,000 ft offshore would cost on the order of \$200 million, whereas the benefit of the extended outfall, especially with improved effluent quality from the West Side plant was not immediately apparent. It is recommended that the water quality in Black Rock Harbor continue to be assessed subsequent to the proposed wastewater treatment plant improvements. If at that time, water quality in Black Rock Harbor is not showing signs of improvement, the WPCA could re-evaluate outfall relocation.*

*DEEP RESPONSE: Water quality is the priority. Because of that a plan is developed to address areas that affect water quality, in this case both of the treatment plants and all of the CSOs. In addition to what was said above in 2E and 3B regarding the outfall, it is not as simple as just "moving" the outfall. There is a lot of permitting and approvals that would be involved including the Army Corp of Engineers. Moving the outfall can not be done in the timeframe required by the Order to update the treatment plants but is something that DEEP is monitoring. The Municipal Wastewater Facilities Unit has*



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*requested that the Black Rock Harbor embayment be considered for the next round of testing and modeling described in answer 1A above.*

- E. "I hope that the EIE plan under consideration shows that Black Rock Harbor has been directly affected over the years by the Current plant, and if the plant is going to increase its size, then now is the time to relieve the harbor and relocate the outfall pipe."

#### **Response to 2E:**

*CDM SMITH / BRIDGEPORT WPCA RESPONSE: As presented in the response to Comment 2B, the age and condition of the existing West Side WWTP has impacted its performance and there is no question that the facility needs to be upgraded to improve the effluent quality discharged. The increase in capacity of the West Side WWTP, however, is not expected to increase the loading to Black Rock Harbor. On the contrary, the increased capacity is expected to significantly decrease the volume of combined sewer overflows that discharge untreated wastewater into the Harbor sooner than would be accomplished under the CSO LTCP.*

*Although relocation of the effluent outfall could be considered in the future, we are confident that the investment in the treatment plant and collection system infrastructure will result in measurable improvements to Black Rock Harbor. Therefore, it is recommended that the relocation of the outfall be deferred until additional water quality data can be collected to justify or refute the need.*

**Public Comment 3 (Submitted via Chat during Public Meeting):** From Kevin Blagys, Bridgeport Resident, Business Owner of KB Dive Services, and Coordinator of the Black Rock Harbor Study

- A. "Please explain the CSO tunnel and reduction of CSOs....in Black Rock we have 4 CSOs, will they be reduced with the CSO tunnel?"

#### **Response to 3A:**

*CDM SMITH / BRIDGEPORT WPCA RESPONSE: The CSO tunnel was recommended in the WPCA's 2011 LTCP. The 2011 LTCP recommended a schedule of collection system projects that achieved a 1-year level of CSO control by the year 2039 as required in the WPCA's CSO consent order. The 1-year control is defined as no CSO discharges during the 1-year, 24-hour storm. The CSO tunnel was proposed to be constructed toward the end of the LTCP schedule (2039). Upon completion of the LTCP projects, all CSOs on the West Side (including Black Rock Harbor) would not be expected to overflow in rain events smaller than the 1-year, 24-hour level. Several CSOs on the East Side would remain active upon implementation of the LTCP projects.*

*You are correct, there are 4 CSOs that currently discharge to Black Rock Harbor (ARBOR, WORD, ANTH and SEAB). Under our proposed plan to increase the capacity of the West Side WWTP ANTH, WORD, and SEAB will be controlled under the 1-year, 24-*

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*hour storm event. Discharges from ARBOR will be reduced by approximately 60 percent during the 1-year event. Because of the complex nature of the collection system hydraulics, it is proposed that additional collection system metering, modeling and calibration be conducted subsequent to the proposed improvements to determine what more, if anything, needs to be done to control the remaining CSO.*

- B. "Follow up....Will the Main outflow pipe be addressed? Is extending the pipe under seaside park an option? Today 10/29 at 4pm the main outflow was clearly in Bypass event."

#### **Response to 3B:**

*CDM SMITH / BRIDGEPORT WPCA RESPONSE: The West Side WWTP currently discharges through a 72-inch pipe at the headwall along the north side of Cedar Creek in Black Rock Harbor near the Captain's Cove Seaport restaurant and marina across from the Seaside Landfill. Options for the West Side Plant outfall evaluated in the Facilities Plan included:*

- No Action, maintaining the existing outfall as is*
- Inspect, clean and rehabilitate existing outfall as necessary (note that an inspection was performed as a part of the planning process and the outfall was deemed to be in good condition)*
- Move outfall offshore to about 28-ft deep water (MLW) west of the terminus of the dredged channel*
- Move outfall further offshore to about 50-ft deep water (MLW) south of Penfield Reef.*

*The location south of Penfield Reef was eliminated from consideration because the mixing at the site near the dredged channel was judged to be sufficient to not warrant the higher cost of an outfall to the south of Penfield Reef location. Planning level cost for cleaning and rehabilitating the existing outfall is estimated at \$100,000 to \$150,000. Planning level estimate for an extended to location near the terminus of the dredged channel is in the range of \$200 million. Due to the improved effluent quality from the new West Side plant, ability to meet the requirements of the plant's NPDES permit, potential impacts to shellfish lease holders, cost, required permitting, and construction risks associated with the extended outfall, it is recommended that a new outfall pipe be deferred until the water quality conditions in the harbor can be assessed after the new treatment facility is operating.*

#### **Public Comment 4 (Submitted via Email):** From Peter D. Spain, MPH, Bridgeport Resident:

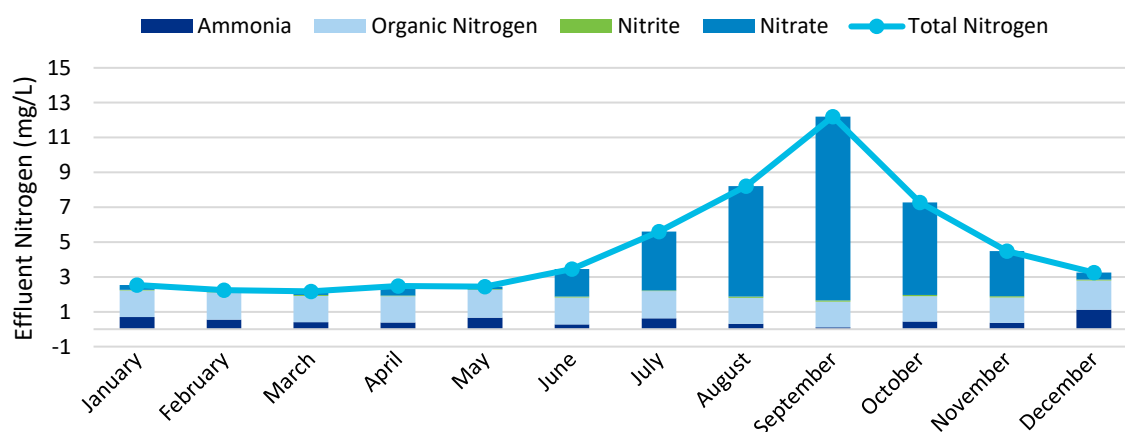
- A. "If the proposed improvements are made, what is the expected change in the average nitrogen ppm to Cedar Creek and Black Rock Harbor -- on or around the first day of each month of the year?"

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**Response to 4A:**

*CDM SMITH / BRIDGEPORT WPCA RESPONSE: The existing West Side WWTP has not met the annual total nitrogen mass loading limit of 1,041 lbs/day over the last three years (2017-2019), ranging from an annual average load of 1,277 to 1,761 lbs/day. During this period the annual effluent Total Nitrogen (TN) concentration ranged from 8.5 to 10.6 mg/L (ppm). The proposed treatment plant improvements incorporating a four-stage nitrogen removal process with integrated fixed film activated sludge (IFAS) will increase the plant’s capacity to achieve total nitrogen limits under all flow and load conditions and under all influent temperatures with an estimated annual average TN loading of 938 lbs/day (4.7 mg/L) in the design year (2050). Expected monthly TN from the West Side discharge is presented in the Figure 1 below. If supplemental carbon is added to the treatment process the annual load could be reduced to 664 lbs/day (3.4 mg/L). Understand, the results below are based on process modeling which is often conservative. Actual results could be even more favorable when the new treatment facility is put into operation.*

**Figure 1 - Projected Monthly Total Nitrogen Discharges from the West Side WWTP**



- B. “If the proposed improvements are made, what will be the maximum number of gallons a day that the Bridgeport WPCA can process at the West Side Plant? How much will this improvement and increased capacity cost?”

**Response to 4B:**

*CDM SMITH / BRIDGEPORT WPCA RESPONSE: With a plant peak capacity of 200 mgd, the Bridgeport WPCA will be able to process 58 million gallons per day through primary and secondary treatment, and an additional 142 million gallons per day through the wet weather treatment system (preliminary treatment, primary treatment, and disinfection). The cost of the West Side WWTP upgrade and expansion, including engineering and contingencies, escalated to the midpoint of construction is \$383 million. The cost of the West Side WWTP upgrade with a 90 mgd peak flow capacity is \$297 million. There is an economy of scale realized with the increased plant capacity (that is, the 90 mgd facility equates to \$3.3/gallon treated versus \$1.9/gallon treated for the 200 mgd facility). The*

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*\$86 million differential between the two, plus the some anticipated collection system modifications (estimated between \$20 and \$60 million) result in a 50 percent reduction of CSOs in the West Side service area in a 1-year, 24-hour storm event, and the complete control 7 of the 19 CSOs in the service area (WORD, RAILS, TIC, CEM/MAPE, DEW, and SEAB), including two of the four CSOs that discharge into Black Rock Harbor. This cost differential can be compared against the estimated cost included in the CSO LTCP of \$496 million (2020 dollars) to control all 19 CSOs in the West Side service area. It is our hope that subsequent to the construction and operation of the expanded and upgraded treatment facility additional collection system metering and modeling could be conducted to result in limited additional work, at a reduced cost, to control the remaining CSOs.*

*DEEP RESPONSE: In addition to the CDM Smith / Bridgeport WPCA answer, the City is not seeking to increase the Design Flow Rate from 30MGD. The plant would continue to function as it currently does during a storm: All flows during a storm up to 58MGD flow through the plant and are fully treated; Flows above 58MGD flow through a side stream that receives primary treatment and is disinfected before being recombined with the treated effluent and is discharged through the existing effluent pipe. This combined treated effluent must still meet all the requirements of the NPDES permit.*

- C. “Any thought to integrating the management of the plant and the environmental monitoring of the harbor with the adjacent Aquaculture Regional Magnet School?”

### **Response to 4C:**

*CDM SMITH / BRIDGEPORT WPCA RESPONSE: Yes. We believe that there could be significant synergy between the treatment facility on the West Side and the Aquaculture school. The proposed layout of the new administration, laboratory and control building faces the Aquaculture School to provide a welcoming connection between the two. The WPCA administration will be moved from the East Side to the West Side and it is anticipated that a new visitor/educational center will be incorporated into the lobby of the new control building to highlight the benefits of and need for wastewater treatment. The upgraded West Side WWTP will be a “plant of the future” with vastly improved treatment processes that can be highlighted and provide educational opportunities for individuals of all levels. There would appear to be value for both parties in a partnership with the aquaculture school.*

- D. “In line with, but adding to, point raised by State Rep Stafstrom during the Q&A: Has the draft proposed upgrade plan for the West Side plant to “potential 200[million gallons per day]” capacity (see the slides) been evaluated for its potential adverse impacts, in terms of noise and air pollution and daily/nightly nuisance, from the perspective of the next-door residents in the PT Barnum Apartments complex? If not, when will this evaluation take place, how long will it take, and how many public meetings will it include? How will members of the community know about this/these meeting(s)?”

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### Response to 4D:

*CDM SMITH / BRIDGEPORT WPCA RESPONSE: The West Side WWTP site is extremely space limited. When evaluating site layouts for varying treatment plant capacities our designers were cognizant of the proximity of the adjacent apartment complex and considered how best to minimize impacts to the abutters, while also enabling the construction of the new treatment facility while maintaining operation of the existing facility. It is proposed that the new treatment plant headworks (influent pumping, screening and grit removal) be constructed on the northern portion of the site adjacent to the public housing complex.*

*The buildings proposed to abut the PT Barnum Apartments would be completely contained. Building openings facing the apartments will be limited to mitigate fugitive odors and noise. New odor control units will be provided to further reduce the impact of odors, and HVAC and other noise generating equipment will be designed to contain noise. In addition, landscaping along the northern property line will soften the visual impact of the new facility. The WPCA and our consultant welcomes further discussions with the neighborhood to refine and improve the design to further mitigate impacts. As the design develops 3D tools can be used to portray the new facilities from different vantage points at public meetings to be scheduled in 2021. CDM Smith and the WPCA conducted a site visit with State Representative Stafstrom and City Council member Scott Burns on November 12, 2020 to visit the location and further discuss the potential concerns.*

- E. "In line with, but adding to, point raised by State Rep Stafstrom during the Q&A: Does the plan include a way to extend the large pipe that now spills out, and for decades has spilled out, from the West Side plant into the harbor (just below the office building at Captain's Cove) and to run the pipe out of the harbor and into the Sound for significantly greater flushing/dilution of the plant's outflows? Like Fairfield's and other towns'. What would be the time and money required to do this?"

### Response to 4E:

*CDM SMITH / BRIDGEPORT WPCA RESPONSE: Please see the response to public comment 2D and 3B regarding the effluent outfall.*

**Public Comment 5 (Submitted via Chat during Public Meeting):** From Peter D. Spain, MPH, Bridgeport Resident:

- A. "For West Side plant upgrade: What will be expected life expectancy of this, if it is online around 2026?"

### Response to 5A:

*CDM SMITH / BRIDGEPORT WPCA RESPONSE: In general, for planning purposes, the life of new structures (buildings and concrete tankage) are expected to be 50 to 100 years, process equipment is expected to be 20 to 30 years, and electrical systems and*



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*instrumentation and controls are expected to have a 15 to 20 year life. The design of the new facilities have considered expected sea level rise and all critical structures and equipment will be designed to protect against the 100-year flood elevation plus 3-feet.*

#### **Public Comment 6 (Submitted via Email):** From Peter D. Spain, MPH, Bridgeport Resident:

- A. “Thank you for the WPCA’s presentation and public Q&A last night on the facility planning update for the two wastewater treatment plants in Bridgeport.

“It was good that the Zoom meeting could be resumed and completed.”

“I would like to be sure that people in the community – especially those who either (A) prematurely left the Zoom meeting due to prurient piracy (AKA Zoom blitzing), or (B) could not attend the meeting but are interested – can access the excellent slides that CDM Smith presented last night.”

#### **Response to 6A:**

*CDM SMITH / BRIDGEPORT WPCA RESPONSE: The WPCA appreciates and acknowledges the feedback. The slides from the public meeting are included as an attachment to this memorandum. In addition, the entire report including an Executive Summary will be made available on the WPCA and CT DEEP websites.*

#### **Public Comment 7 (Submitted via Email):** From Roger Reynolds, Senior Legal Counsel, Save the Sound

- A. “We are writing to comment upon the Scoping for City of Bridgeport Facilities Planning for East Side and West Side Wastewater Treatment Plants. Save the Sound strongly urges a strong Environmental Impact Evaluation in full compliance with the Connecticut Environmental Policy Act (“CEPA”) that will fully and comprehensively address the environmental problems of ongoing water quality impairments in Black Rock harbor due to nitrogen discharges and combined sewer overflows. We request that the following significant environmental impacts be studied in substantial detail: (1) the impact of the continuing nitrogen discharge onto Black Rock Harbor, (2) requiring monitoring of the harbor system going forward to fully understand the environmental impacts and necessary actions, (3) a full evaluation of alternatives to address the negative impacts from the discharge including additional nitrogen treatment and relocation of the discharge pipe, (4) a full analysis of whether, and to what extent, the upgrades can shorten the amount of time to implement the Long Term Control Plan for combined sewer overflows, (5) whether and to what extent there is opportunity to capture combined sewer overflows above and beyond the proposed 280 MGD, (6) whether the upgrades will violate a DEEP Consent Order, and (7) whether and to what extent the Consent Order non-compliance will impact the environment.”

“Finally, we would note that the responses to these and other comments should be addressed BEFORE DEEP receives and/or approves any facilities plan or moves forward with it under the Consent Order. If that did not occur, this would be a cynical

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and meaningless exercise, and frustrate the letter and spirit of CEPA as well as the public's ability to understand and to influence these plans."

#### **Response to 7A:**

*CDM SMITH / BRIDGEPORT WPCA RESPONSE: Please see the WPCA's responses to the above concerns as outlined in Public Comments 7B through 7E.*

#### **B. "The City of Bridgeport should address the impact of the continuing nitrogen impact on Black Rock Harbor including long term monitoring of the system and a full evaluation of alternatives to address the activity causing or contributing to such impairment."**

"Under CEPA, C.G.S. Sec. 22a-1b, for an action significantly impacting the environment, an Environmental Impact Evaluation must provide a "detailed written evaluation of its environmental impact" and alternatives to avoid or mitigate environmental impacts. Thus, under law, the various environmental impacts, as detailed below, and alternatives to address them must be thoroughly studied."

"Black Rock Harbor is a severely polluted and impaired water body according to the 2020 Integrated Water Quality Report issued by DEEP pursuant to the federal Clean Water Act. It does not support aquatic life, recreation or shell fishing. Causes of these impairments include the nitrogen discharge from the pipe as well as combined sewer overflows, each of which are impacted by this project. According to a 2016 study of embayment's across Connecticut, approximately 95% of the nitrogen impairment for Black Rock Harbor can be directly attributed to the sewage treatment plants. (Vaudrey, J. M., Yarish, C., Kim, J. K., Pickerel, C., Brousseau, L., Eddings, J., & Sautkulis, M. (2016). Comparative analysis and model development for determining the susceptibility to eutrophication of Long Island Sound embayment's. Connecticut Sea Grant Final Project Report, 38.)"

"Under the Clean Water Act and Connecticut law, it is illegal to maintain a discharge that causes or contributes to a violation of water quality standards. The Environmental Impact Evaluation must document (1) whether and to what extent the water quality is impaired, (2) whether and to what extent the discharge from the plant and the combined sewer overflows are causing and contributing to this impairment and (3) the measures available to address these impairments."

"To do this effectively, DEEP should require a period of long-term monitoring of the harbor. Because this project is explicitly designed to address this impairment, it should include long term modeling of such impairment and its causes to fully understand the dynamics of the waterbody and how it should be addressed."

"The second thing that needs to be addressed is the evaluation of alternatives that would address this impairment. With respect to the aquatic life and dissolved oxygen impairments, the nitrogen discharge from the sewage treatment plant should be fully addressed. The two most obvious alternatives would be (1) the additional treatment of nitrogen from the pipe and (2) the relocation of the pipe such that it is not discharging into the inner harbor. The analyses should include whether and to what extent each of

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these would address the impairment and any other measures that might be necessary or feasible.”

### **Response to 7B:**

*DEEP RESPONSE: It has already been determined that an EIE will be prepared for the project. The effluent must meet the NPDES permit standards and in doing so is considered to not impair the water quality that already exists with the current exception of Nitrogen. The wastewater treatment plant is required to address the Nitrogen shortfall. The harbor is monitored by several groups and the information that has been shared with DEEP is available through the Water Quality unit. In addition, there will be targeted monitoring and modeling done on each embayment along the Long Island Sound. However, none of that affects the current permit or the standards used to determine the requirements of the upgrade. The Nitrogen requirements are being addressed in the upgrade with the added benefit of removing the first storm flush from the 4 remaining CSOs in Black Rock Harbor which will removed non-source point Nitrogen.*

### **C. “The City of Bridgeport should more fully document what alternatives are available to speed up the implementation of the Long-Term Control Plan and how those alternatives will impact water quality in Bridgeport”**

“Combined sewer overflows from the West and East side plants are also causing and contributing to the impairments and impeding recreation and shell fishing. On page 14 of the PowerPoint presented at the scoping meeting, entitled, “Upgraded Plants Will Provide CSO Reduction” there is a chart indicating that the facilities plan may lead to a more gradual reduction in CSOs over time, rather than a sudden reduction once a tunnel is constructed in 2040. This chart is unclear and confusing on many levels. First, it is unclear why the assumed level of CSO capture, 280 MGD, would not accelerate the time in which the CSOs are reduced to the level of the one-year storm. In both scenarios, it would not be until 2040 until the CSOs were reduced this substantially. Accelerating the time to eliminate these CSOs would have a huge environmental impact and thus, under law, must be studied as an alternative. Moreover, it is not clear from a logical basis why, if a final tank will no longer have to be constructed, the time frame to reduce the CSOs would not be substantially shortened. This should be fully explored including all of the environmental benefits that such an acceleration in time frame would entail.”

“While the City stated, in the scoping meeting, that it did not feel that it had to address this because this project was not necessarily designed to decrease combined sewer overflows, such reduction is clearly a major environmental consequence of this action. Indeed, the ability to address CSOs and the extent to which they will be addressed take up several pages of the presentation. A full analysis of this issue must include the various alternatives to use this extra storage to accelerate the time schedule to complete the CSO reductions.”

“Second, if the west side upgrades won’t be completed until 2026 and the East Side upgrades not until 2030, it is unclear why it shows a gradual decrease until that time, instead of a sudden drop once those projects are completed.”

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“Finally, it is unclear how the 200 and 80 MGD storage capacities were reached. The EIE should set out other alternatives, such as having even more capacity for CSOs, along with their feasibility and environmental benefits.”

#### **Response to 7C:**

*CDM SMITH / BRIDGEPORT WPCA RESPONSE: The WPCA contracted with CDM Smith to prepare the Wastewater Treatment Plant Facilities Plan as required by the Administrative Order. The goal of the facilities plan was to assess both treatment plants and develop a long-term vision of the capital needs of the facilities to improve the performance and reliability of the treatment facilities over the 30-year planning period. The plan was also designed to dovetail with the recommendations in the CSO Long Term Control Plan (LTCP) and provide a holistic view of the collection and treatment systems to result in the most cost-effective, timely solutions to improve water quality in the receiving waters. Early in the planning process CDM Smith recognized that the Bridgeport collection system had the capability of conveying much more flow to the treatment facilities than the treatment facilities can currently accept. In addition, surprisingly, the CSO Long Term Control Plan (prepared by others) did not assess increasing the capacity of the two plants as a means of controlling CSOs nor did it consider the cost to upgrade the plants. As a part of the wastewater treatment facilities plan, CDM Smith then assessed, through collection system modeling, the impact of increased plant capacity on CSO reduction. This assessment, as documented in the Facilities Plan, revealed that increasing the plant capacity had a profound impact on the reduction of CSOs (over 50 percent) and could be implemented, cost-effectively, as part of the treatment plant upgrades, to reduce CSOs in a more timely fashion.*

*The WPCA agrees that the graph originally presented in the public meeting did not accurately represent the benefits of increasing the plant capacity. A revised version of this graph is included below. The full CSO benefit of the increased plant size will not be seen until the WWTP construction is completed, at which point the WWTP can treat a larger peak flow, and thus reduce the volume of CSO in the 1-year, 24-hour design storm. After the completion of the East Side WWTP upgrade, more than half of the CSO volume is eliminated during the 1-year storm.*

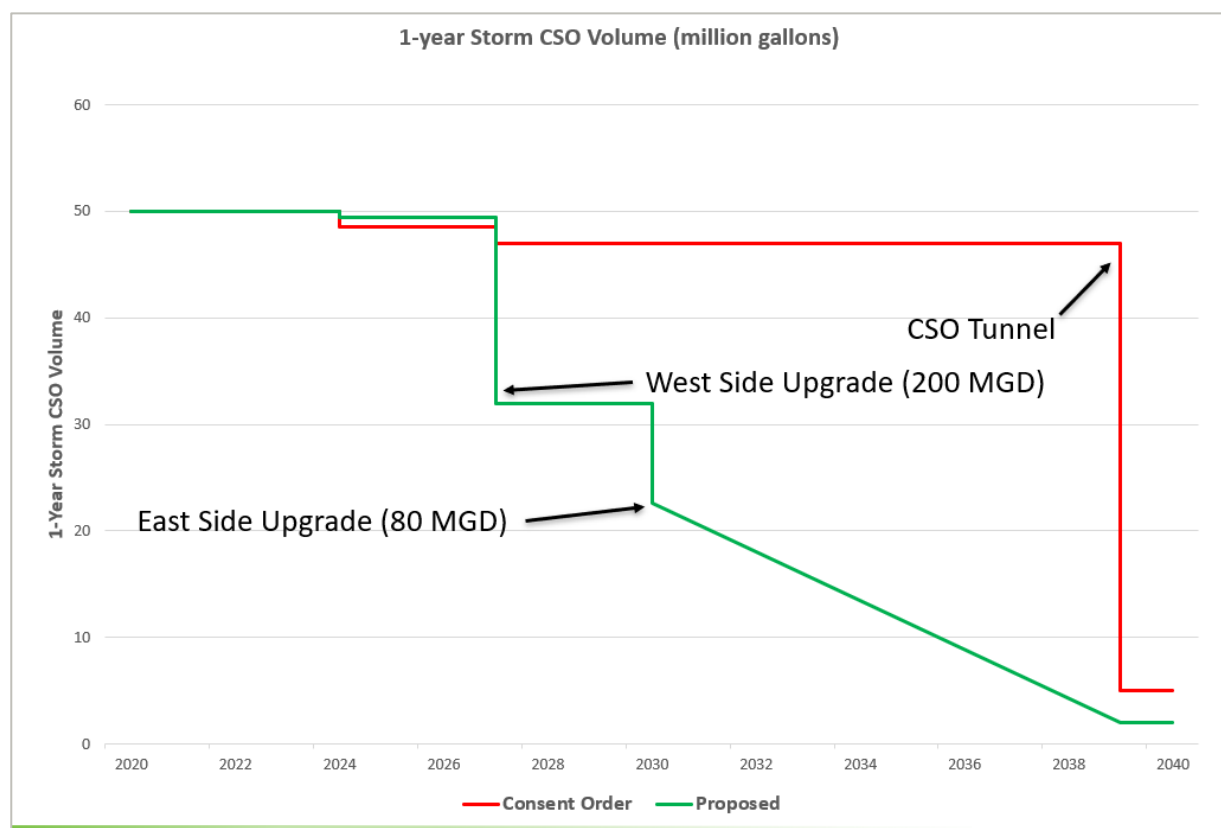
*The WPCA is under a CSO consent order to abate all CSOs to 1-year level of control by 2039. The gradual decrease from completion of the East Side WWTP until 2039 represents the removal of the remaining CSO volume in the system to reach the 1-year control level as defined in the order. This decline would not be provided by the WWTPs but instead would need to be achieved through collection system improvements, such as sewer separation or other methods, that have yet to be fully defined or scheduled. Because of the complexity of the combined sewer collection system, we recommend additional metering and modeling subsequent to the construction of the expanded treatment facilities to better understand how to best control the remaining CSOs.*

*In assessing treatment plant capacities, the wastewater Facilities Plan assessed peak flow capacities of 80, 90, 140, 180 and 200 mgd at the West Side Plant and 35, 40, 60 and 80*

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mgd at the East Side plant. The recommended 200 and 80 mgd peak flow capacities of the two plants, represented the most cost-effective capacities to enable the reduction of CSOs. These values were reached through hydraulic modeling to determine the flow that could reach the WWTPs and the commensurate reduction of CSOs. Currently the West and East Side WWTPs can pump and treat a maximum of approximately 80 and 35 mgd, respectively. However, the collection system can deliver 200 and 80 mgd to the plant during larger storms. Today, flow to the two plants is restricted by partially closing the influent gates to avoid flooding of the influent pumping. When the influent gates are partially closed, the collection system backs up, ultimately resulting in CSO discharges.



Updated Chart from Slide 14 of the Public Meeting Slides

DEEP RESPONSE: Regarding the upgraded graph, the first bump down is due to collection system improvements that are in process and not part of this facility plan.

- D. “The EIE must address whether and to what extent the facilities plan complies with orders issued by DEEP and, if not, what impact such non-compliance will have on the environment.”

“A consent order entered by DEEP on March 1, 2019 required the West and East side plants to be fully upgraded no later than 2739 days after the date of the order which occurs in late 2026. This was to address the discharge and the impairment to Black Rock Harbor and Long Island Sound. Yet the scoping power point, with no explanation,



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puts the completion date of the East Side plant at 2030. The EIE must explain whether and to what extent this complies with the Consent Order and, if not (as it appears), what the impact of that non-compliance will be, and the alternatives available to remedy this.”

### Response to 7D:

*CDM SMITH / BRIDGEPORT WPCA RESPONSE: The Administrative Ordered schedule for the wastewater treatment plants is summarized in the table below:*

Date	Action
On or before November 30, 2020	Submit Facilities Planning Report
On or before May 31, 2022	Submit 100% design plans and specifications for WWTP upgrades
No later than August 2023	Commence construction of remedial actions
No later than August 2026	Complete construction of remedial actions

*The Facilities Planning Report has been submitted in accordance with the schedule. Based on the information presented in this Facilities Plan, the WPCA will be requesting a modification to the design and construction project schedule to accommodate the significant amount of work that is necessary to mitigate current issues at both plants and the significant impacts on sewer use rates to the citizens of Bridgeport.*

*First, it is proposed that the design and construction of the two facilities occur sequentially, versus concurrently as presented in the Administrative Order. All previous projects, whether large or small, conducted for the WPCA occurred sequentially to enable the limited resources at the WPCA to provide adequate and timely input and review of the design documents and construction issues, and to better manage the costs incurred by the WPCA. It is proposed that the construction at the West Side Plant commence first, followed by the construction at the East Side Plant.*

*Second, because of current difficulties securing SRF funding for design, it appears that the design start will be delayed. Previously, a December 2020 start date was anticipated.*

*Lastly, the Administrative Order proposed a three-year (36 month) construction duration. Given the complexity of the improvements, especially regarding maintenance of plant operations during construction and the need to get certain systems up and running before others can be decommissioned and demolished to make room for new facilities, a minimum 42-month construction schedule, and more likely at least 48 months will be necessary.*

*Based on these factors, a revised schedule is proposed. As presented, the West Side WWTP upgrade and expansion will be completed one year after the original construction*

# Bridgeport Wastewater Treatment Plants Public Scoping Comment Response Document

## Compiled Responses from CT DEEP, Bridgeport WPCA and CDM Smith representing the Bridgeport WPCA December 22, 2020

*date presented in the Administrative Order. The East Side WWTP will be completed by the end of 2029. Achieving these milestones will require SRF funding in addition to timely reviews and approvals of submittals by the CT DEEP.*

*DEEP RESPONSE: While expediency is always desired, DEEP must factor in affordability. This City will make its pitch for a longer timeframe and DEEP will consider the effect(s) to the environment and the ability of the users to pay in addition to other criteria spelled out in the EPA Affordability Analysis documents.*

### **E. “These and other comments should be considered and addressed BEFORE DEEP approves the proposed facilities plan”**

“This should be obvious, but before approving any facilities plan that would have a significant impact on the outstanding DEEP consent order or the Long Term Control Plan, DEEP and/or the City of Bridgeport should address these and other comments received through the scoping process. Otherwise, this would be a meaningless and cynical exercise, violating both the spirit and the letter of the Connecticut Environmental Policy Act.”

#### **Response to 7E:**

*CDM SMITH / BRIDGEPORT WPCA RESPONSE: The WPCA agrees with this sentiment. Addressing concerns of customers and the public is a priority. We believe that this Facilities Plan recommends improvements at each WWTP that will provide great environmental benefit for years to come, while also being mindful of our rate payers and what is affordable at this time.*

*DEEP RESPONSE: There are a few more steps before approval can occur including the response to comments, post-scoping of the initial planning post, completion and scoping of an EIE and then making a final determination and post-scoping. Once all these steps are completed, then DEEP will determine whether to approve the plan or not.*

### **Public Comment 8 (Submitted via Email):** From Suzanne Murray, Bridgeport Resident:

- A. “I am writing to you to express my support to upgrade plans for the West End Treatment Plant as soon as possible. Damage done by excess nitrogen and the fecal bacterial pollution is obvious as our health and our water quality are put at risk every day. Further, it contributes to Cumulative ecological damage that must not be ignored.”

“The good news: It is a SOLVABLE problem. We must eliminate all CSOs as part of our overall resiliency planning to adapt to the imminent changes that global warming brings. Doing this NOW is the right step for our water and earth neighborhoods and for our planet.”

#### **Response to 8A:**

*CDM SMITH / BRIDGEPORT WPCA RESPONSE: The WPCA appreciates and acknowledges the feedback.*

# Bridgeport Wastewater Treatment Plants Public Scoping Comment Response Document

## Compiled Responses from CT DEEP, Bridgeport WPCA and CDM Smith representing the Bridgeport WPCA December 22, 2020

### Public Comment 9 (Submitted via Email): From Tim Kendzia:

- A. "I read about the scoping notice for facilities planning for Bridgeport's wastewater treatment plants."

"I'm very interested in staying updated on this and other coastal infrastructure projects in the state. I have two comments and a question on this project."

"I think that an anaerobic digester should be considered for this project, especially if consolidation is being proposed. I am not the most well versed in the capacity requirements, but I think generally an anaerobic digester needs a large population base to contribute several millions of gallons per day to be efficient. Bridgeport, being the largest municipality in the state, ought to meet the sizing requirements for an anaerobic digester. The benefits of anaerobic digestion can include odor control, a reduction in nutrient effluent, and biogas production. Biogas can be used directly to power generators onsite, or it can be converted into hydrogen gas and usable in fuel cell applications. Surely the WWTP has some form of on-site generation in the case of emergencies, but with a biogas generator it can reduce its use of fossil fuels and increase the projects ability to function during storm events."

#### Response to 9A:

*CDM SMITH / BRIDGEPORT WPCA RESPONSE: Anaerobic digestion was evaluated as part of the facilities planning process. It was not included in the recommended improvements due to the space limitations at the West Side WWTP site and added cost and operability of the system. The most pressing needs at this time are water quality improvements, so at this time the primary focus is the liquid treatment train. It is recommended that the facility continue to truck thickened sludges off-site for disposal.*

- B. "The second comment is in regard to preserving and enhancing natural infrastructure along the coast. The project must be consistent with the Connecticut Coastal Management Act which calls for "feasible, less environmentally damaging alternatives" to flood and erosion control structures. Among the alternatives is to consider moving the infrastructure further landward. As both the plants are located adjacent to the coast, they both will be at heightened risk of flooding via storm surge. Flooding the WWTPs would be an extreme risk to public health and the environment. To mitigate the risk, these facilities either can be surrounded by protective infrastructure (potentially nature-based such as living shorelines, or the facilities can be relocated further inland. I propose that for the scoping of this project that relocation is given serious consideration as an alternative."

"My question is related to sea-level rise forecasting. I am curious what the planning horizon is for this project and to what height sea level rise is being planned for."

#### Response to 9B:

*CDM SMITH / BRIDGEPORT WPCA RESPONSE: Relocation or consolidation of both WWTPs was evaluated during the facilities planning process. Through this evaluation, relocation*

## Bridgeport Wastewater Treatment Plants Public Scoping Comment Response Document

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*and/or consolidation of the plants was determined to be infeasible. Bridgeport is heavily developed City, with few, if any, open areas available for construction of a new WWTP. The recommendation to relocate either or both facilities would certainly delay implementation due to the expected push-back from parcels and neighborhoods adjacent to the proposed site. Additionally, relocation of either WWTP would require extensive collection system alterations to convey the flow to the new site for treatment. The relocation or consolidation of WWTPs was determined to not be infeasible at this time.*

*Due to both the treatment plants' proximity to the Long Island Sound, tidal flooding occurs at the plant sites during intense storms and hurricanes. Tidal flooding is typically the result of several factors such as tidal fluctuation, intense rainfall (which cannot drain from the sites when tides are high) and wind driven coastal storm surge. With the current threat of sea level rise, TR-16 design guidelines were revised in 2016 to incorporate significant modifications to flood protection and resiliency. This includes requiring existing treatment plants that are planned for upgrade or expansion be improved to the maximum extent possible to meet the following flood protection criteria:*

*Provide for uninterrupted operation of all units during conditions of a 100-year (1% annual chance) flood, and*

*Be placed above or protected against the structural, process and electrical equipment damage that might occur in an event that results in a water elevation above the 100-year (1% annual chance) flood.*

*Critical equipment should be protected against damage up to a water surface elevation that is 3 feet above the 100-year flood elevation*

*Non-critical equipment should be protected against damage up to a water surface elevation that is 2 feet above the 100-year flood elevation*

*The planning horizon for these projects was 30 years. The above criteria were the planning basis for this Facilities Plan and will be adhered to in the final design of these facilities.*

**Public Comment 10 (Submitted via Email):** From Brad Burns-Howard, Bridgeport Resident:

- A. "Does the plan include a way to extend the large pipe that now spills out, and for decades has spilled out, from the West Side plant into the harbor (just below the office building at Captain's Cove) and to run the pipe out of the harbor and into the Sound for significantly greater flushing/dilution of the plant's outflows? Like Fairfield's and other towns'."

"The answer last night: No. The consultant engineer suggested that the costs for that pipeline would be hard to cover in addition to the costs for the planned major overhaul to the two plants."

"These "costs for that pipeline" should be specifically identified in relation to the costs of the existing plans and publicized to Bridgeport residents, as well as Fairfield County and Connecticut residents who are adversely affected by poor quality water as a result

**Bridgeport Wastewater Treatment Plants Public Scoping Comment Response Document**

**Compiled Responses from CT DEEP, Bridgeport WPCA and CDM Smith representing the  
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December 22, 2020**

of effluent discharges into Long Island Sound.”

“With the additional costs identified, residents and voters will be able to bring educated public opinion to bear on city, county and state officials and force them to FIND THE MONEY!”

**Response to 10A:**

*CDM SMITH / BRIDGEPORT WPCA RESPONSE: Please refer to responses to Comment 2C, 2D and 3B.*



# ATTACHMENT D

## AGENCY COORDINATION

### **Environmental Impact Evaluation**

Water Pollution Control Authority, City of Bridgeport  
695 Seaview Avenue  
Bridgeport, Connecticut 06607-1628  
(203) 332-5550  
<https://www.bridgeportct.gov/wPCA>

May 2021

March 30, 2021

Megan B. Raymond  
SLR International Corp  
195 Church St 7<sup>th</sup> fl  
New Haven CT 06511  
[mraymond@slrconsulting.com](mailto:mraymond@slrconsulting.com)

Project: Capital improvements at East Side Waste Water Treatment Plant, 695 Seaview Avenue, Bridgeport, CT  
NDDDB Determination No.: 202104087

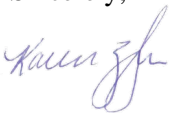
Dear Ms. Raymond,

I have reviewed Natural Diversity Database (NDDDB) maps and files regarding the area of work provided for the proposed facility upgrades to the East Side Waste Water Treatment Plant at 695 Seaview Avenue in Bridgeport, Connecticut. I do not anticipate negative impacts to State-listed species (RCSA Sec. 26-306) resulting from your proposed activity at the site based upon the information contained within the NDDDB. The result of this review does not preclude the possibility that listed species may be encountered on site and that additional action may be necessary to remain in compliance with certain state permits. This determination is good for two years. Please re-submit a new NDDDB Request for Review if the scope of work changes or if work has not begun on this project by March 30, 2023.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey, cooperating units of DEEP, landowners, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the NDDDB should not be substitutes for on-site surveys necessary for a thorough environmental impact assessment. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the database as it becomes available.

Please contact me if you have further questions at (860) 424-3378, or [karen.zyko@ct.gov](mailto:karen.zyko@ct.gov) . Thank you for consulting the Natural Diversity Database.

Sincerely,



Karen Zyko  
Environmental Analyst



April 29, 2021

Ms. Megan Raymond  
SLR International Consulting  
195 Church Street, 7th Floor  
New Haven, CT 06510  
(via email only to [mraymond@slrconsulting.com](mailto:mraymond@slrconsulting.com))

Subject: West Side and East Side Wastewater Treatment Plants  
205 Bostwick Avenue (West Side) and 695 Seaview Avenue (East Side)  
Bridgeport, Connecticut

Dear Ms. Raymond:

The State Historic Preservation Office (SHPO) has reviewed the referenced project in response to your request for our comments regarding potential effects to historic properties. The Bridgeport Water Pollution Control Authority is planning improvements to the West Side and East Side wastewater treatment plants owned by the City of Bridgeport. The West Side facility consists of 13.9 acres located east of Bostwick Avenue and north of Cedar Creek. The East Side plant occupies approximately 8.3 acres between Seaview Drive and the Bridgeport Inner Harbor. The proposed upgrades include the retention and retrofitting of existing treatment facilities, as well as the construction and demolition of several buildings and structures at both sites. SHPO understands that the East Side facility updates will occur entirely within the current parcel boundary; however, the West Side plant improvements will include the acquisition of a permanent easement across an existing paved lot. The proposed project will require approvals and permits from the Environmental Protection Agency, United States Corps of Engineers, and Connecticut Department of Energy and Environmental Protection. Therefore, the undertaking is subject to review by this office pursuant to Section 106 of the National Historic Preservation Act the Connecticut Environmental Policy Act.

There are no properties listed on the State or National Registers of Historic Places (NRHP) recorded within or adjacent to the project area. The plants were designed and constructed in the 1920s (West Side) through 1950s (East Side) with various expansions and mechanical upgrade through the 1990s. Although several archaeological sites have been recorded in the areas around the plants, SHPO notes that all work will be confined to existing disturbed deposits. As a result, it is unlikely that the proposed improvements will impact significant archeological deposits. Based on the information submitted to this office, it is the opinion of SHPO that no historic properties will be affected by the proposed undertaking.

This office appreciates the opportunity to review and comment upon this project. Do not hesitate to contact Catherine Labadia, Staff Archaeologist and Environmental Reviewer, for additional information at (860) 500-2329 or [catherine.labadia@ct.gov](mailto:catherine.labadia@ct.gov).

Sincerely,

A handwritten signature in blue ink that reads "Jonathan Kinney".

Jonathan Kinney  
Deputy State Historic Preservation Officer

State Historic Preservation Office

450 Columbus Boulevard, Suite 5 | Hartford, CT 06103 | P: 860.500.2300 | [ct.gov/historic-preservation](http://ct.gov/historic-preservation)

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## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
New England Ecological Services Field Office  
70 Commercial Street, Suite 300  
Concord, NH 03301-5094  
Phone: (603) 223-2541 Fax: (603) 223-0104  
<http://www.fws.gov/newengland>

In Reply Refer To:

March 30, 2021

Consultation Code: 05E1NE00-2021-SLI-2110

Event Code: 05E1NE00-2021-E-06654

Project Name: Facility Plan Analysis and Recommendations for East and West Side Wastewater Treatment Plants

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>;

<http://www.towerkill.com>; and

<http://>

[www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html](http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html).

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-



## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**New England Ecological Services Field Office**

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

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## Project Summary

Consultation Code: 05E1NE00-2021-SLI-2110

Event Code: 05E1NE00-2021-E-06654

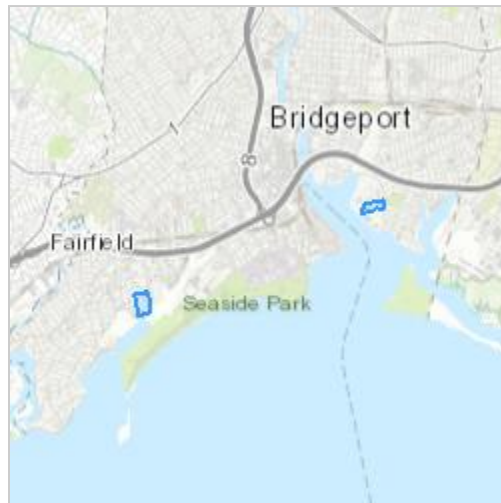
Project Name: Facility Plan Analysis and Recommendations for East and West Side Wastewater Treatment Plants

Project Type: WASTEWATER FACILITY

Project Description: Updates will be made to two wastewater treatment plants (the 13.9-acre West Side plant, and 8.3-acre East Side plant) in southern Bridgeport, Connecticut to bring the facilities into compliance with public safety and environmental health compliance. Work will include the retention and retrofitting of much of the existing facilities, as well as the construction of new buildings, and demolition of several buildings and structures on the sites. Following local and statewide approval of the concepts, the design phase is expected to occur from spring 2021 to June 2022, with construction upgrades at both plants projected to begin by August 2023 and reach completion by September 2026.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@41.172160149999996,-73.17337645188047,14z>



Counties: Fairfield County, Connecticut

---

## Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Birds

NAME	STATUS
Red Knot <i>Calidris canutus rufa</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/1864">https://ecos.fws.gov/ecp/species/1864</a>	Threatened
Roseate Tern <i>Sterna dougallii dougallii</i> Population: Northeast U.S. nesting population No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/2083">https://ecos.fws.gov/ecp/species/2083</a>	Endangered

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

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# ATTACHMENT E

## FINANCIAL DISCLOSURE STATEMENT

### **Environmental Impact Evaluation**

Water Pollution Control Authority, City of Bridgeport  
695 Seaview Avenue  
Bridgeport, Connecticut 06607-1628  
(203) 332-5550  
<https://www.bridgeportct.gov/wPCA>

May 2021



## ENVIRONMENTAL CONSULTANT DISCLOSURE STATEMENT FORM

**Project Title:** Environmental Impact Evaluation of Facilities Plan for West and East Side Wastewater Treatment Plans  
Bridgeport, CT

I, Jeanine Armstrong Gouin hereby declare that neither SLR International Corporation nor any of its shareholders, principals or partners, as the case may be, has any financial interest in the outcome of the environmental study or the use of the property described above, and will not have such interest at any time during the term of the contract or task letter.

**Authorized Signature:** Jeanine Armstrong Gouin **Date:** 5/9/21

**Typed Name:** Jeanine Armstrong Gouin

**Name of Firm:** SLR International Corporation

**Address of Firm:** 195 Church Street, 7th Floor  
New Haven, CT 06510