

DRAFT
MS4 General Permit
SUBASE New London 2024 Annual Report
New MS4 Permittee
Permit Number GSM 000117
January 1, 2024 – December 31, 2024
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This report documents SUBASE New London's efforts to comply with the conditions of the MS4 General Permit to the maximum extent practicable (MEP) from January 1, 2024 to December 31, 2024.

Part I: Summary of Minimum Control Measure Activities

1. Public Education and Outreach (Section 6 (a)(1) / page 19)

1.1 BMP Summary

BMP	Activities in current reporting period	Sources Used (If Applicable)	Method of Distribution	Audience and number of people reached	Measurable goal	Department / Person Responsible	Additional details
1-1 Implement public education and outreach	MS4-related “communication documents” were authored by EV and hosted on the Navy Environmental Compliance, Assessment, Training and Tracking System (ECATTS). Additionally, Command Duty Officer, Building Manager Training and newly-arrived base indoc sessions are regularly held throughout the year. Took the watershed/nonpoint source model to the Navy Youth Center for a STEM event on November 15, 2024.		In person and online	30 people	Notices posted within required timeline(s), attendance at events, general awareness in meetings.	Environmental Division (EV) / Nicole Hester	Many materials, especially the MS4 ECATTS module, were aided by material available through NEMO / UConn CLEAR.
1-2 Address education / outreach for pollutants of concern	Maintained the listing of Stormwater pollutants of concern in the publicly-available SWMP. Current base training modules address both Basic and Comprehensive Stormwater issues, the new MS4 module referenced above, and additional training modules for Spill Prevention. Fall Leaf Clean-up document created and distributed via email and social media.		Command channels and social media	71K followers Ecatts 1000 30 Building Managers	N/A	Environmental Division (EV) / Nicole Hester Environmental Division (EV) / Wes Dowden	
1-3 Final Stormwater Management Plan Publicly available	Pen & Ink Updates		Online		N/A	EV/Nicole Hester	N/A

BMP	Activities in current reporting period	Sources Used (If Applicable)	Method of Distribution	Audience and number of people reached	Measurable goal	Department / Person Responsible	Additional details
1-4 Comply with public notice requirements for Annual Reports	Post notice(s) including 4 Feb 2025 notice of pending report, 15 Feb 2025 DRAFT report release and Final NLT 1 April, 2025		Online		Posted by due date	EV/Nicole Hester Public Affairs Office (PAO)	Posted late due to social medial blackout issued by Federal Government.

1.2 Describe any Public Education and Outreach activities planned for the next year, if applicable.

2025 Earth Day activities and the annual Community “Navy Day” and we will continue to use ECATTS for outreach with links to UConn’s Center for Land Use education and Research (CLEAR) recorded MS4 topic webinars. Continuing to investigate securing informational signs for base stormwater features, along with a “pamphlet” that will be tied to MS4 training material for incoming Division-level leaders throughout the base on MS4 responsibilities. Attend Youth Center activities as available. Attend UCONN Clear Webinars that would benefit Base.

1.3 Details of activities implemented to educate the community on stormwater

Program Element/Activity	Audience (and number of people reached)	Topic(s) covered	Pollutant of Concern addressed (if applicable)	Responsible dept. or partner org.
Environmental Compliance Assessment Training and Tracking System -- Base training website	Base wide / ~1,000	Comprehensive Stormwater topics	Bacteria, Metals, Phosphorous	EV
Facebook post on MS4 status	Base wide / ~12,000	MS4 report status	N/A	EV/Public Affairs Office
Supplemental Stormwater Training	PWD Facilities / 25	General MS4 topics info sheet for workers without computer access	Debris / Catch Basin info	EV/Facilities Management Division (FMD)
Trip report reviews, (including Web-based class)	EV-specific / PWD Leadership/40	EV Program compliance	Took watershed/nonpoint source model to Youth Center for STEM event.	EV
Building Manager Training	PWD EV / Facilities/ 60	Leaf accumulation areas for pick-up	Debris/Bacteria/Pest Management & Birds/Cultural Resources/Stormwater/ /Drinking Water/ Vehicle Maintenance/ Air/Tanks/Excessive Outside Metal Storage	FMD
Site Compliance briefs/Quarterly EV review boards	Various / 12	Good Housekeeping, other EV issues	N/A	EV and all tenant commands
Indoc training at SUB School	Varies 80 – 150 biweekly	EV program	Debris/Catch Basin/Stormwater/ Wastewater/ Drinking Water/Vehicle Maintenance/Air/Tanks	EV

Program Element/Activity	Audience (and number of people reached)	Topic(s) covered	Pollutant of Concern addressed (if applicable)	Responsible dept. or partner org.
Facebook post on Fall Leaf Clean-up	Base wide and Social Media/71K Followers	Proper leaf clean-up and disposal	Debris/Catch Basin	EV
Environmental Operations Board	23 Tenant Commands	Audit and EMS update; Declaration of Performance Review	N/A	EV
Facility Response Team Training	Port Operations/16 Emergency Operations Committee/12	Spill Response Training	Fuel	LRS Gryphon JV (Navy Contractor provides training)
Youth Center STEM Event	30 kids and parents	Stormwater, Natural Resources	Feces, grass, animals, microscope with slides	EV
SESCG & SWQM Brief for Division Directors	12	New SESCOG and SWQM	N/A	EV
Environmental Operations Board	8 Installation Leadership and Operational Commanders	Audits, Objectives & Targets, Resources, Compliance	N/A	EV

2. Public Involvement/Participation (Section 6(a)(2) / page 21)

2.2 Describe any Public Involvement/Participation activities planned for the next year, if applicable.

Earth Day activities, enhanced EV training events including Command Duty Officer orientation, continuing EV participation on Zone Inspections throughout the base, and participation in Pre-construction meetings. Expanded use of base Environmental Training website (ECATTS) began in 2020, ongoing updates. Create more one page documents for Stormwater education. Revision to MS4 guidelines, and education of Public Works staff once CT DEEP revises the MS4.

2.3 Public Involvement/Participation reporting metrics

Metrics	Implemented	Date	Posted
Availability of the Stormwater Management Plan to public	Yes	Ongoing	Online Notice posted https://cnrma.cnicy.navy.mil/Installations/SUBASE-New-London/Operations

			-and- Management/Environmental-Support/
Availability of Annual Report announced to public	Yes	FINAL: 1 Apr 2025	Hardcopy on Stormwater Media Manager's desk in bldg. 439 rm 104; also posted to SUBASE New London CNIC site.
On Base & Off Base Fall Leaf Clean-up	Yes	30 Oct 2024	Email notice sent out 30 Oct 2024. And social media 22 Oct 2024.

3. Illicit Discharge Detection and Elimination (IDDE) (Section 6(a)(3) and Appendix B / page 22)

3.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
3-1 Develop written IDDE program	Complete	Plan Developed	Plan Implemented	Environmental / Chris Koproski	1 Jul 2019	1 Mar 2017	N/A
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas	Complete	Repeated Dry-weather flow assessment of all outfalls in summer 2019	N/A	Environmental / Chris Koproski	1 Jul 2020	1 Aug 2020	No adds or modifications have been necessary
3-3 Implement citizen reporting program	Complete	8 reported Spill events reported on SUBASE in 2024	24/7 on call contact available	Environmental / Chris Koproski	1 Jul 2017	1 Jul 2017	Utilized established 24 hr Public Works Duty Officer hotline at 860-534-0110. Also provided Stormwater Program Manager phone contact
3-4 Establish legal authority to prohibit illicit discharges	Complete	Incorporated prohibition in base Environmental Instruction	Signed base Instruction, 5090.7B	Environmental / Chris Koproski	1 Jul 2019	8 Aug 2017	Authority to implement and administer the IDDE Program formalized by SUBASENLON Instruction (SUBASENLONINST 5090.7B)

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
3-5 Develop record keeping system for IDDE tracking	Complete	Used tracking tool to record results of Drainage Area dry-weather inspections and sampling results for High-priority and Problem rated areas	N/A	Environmental / Chris Koproski	1 Jul 2017	1 May 2017	IDDE Program Progress Spreadsheet Tracking tool has been updated and modified slightly
3-6 Address IDDE in areas with pollutants of concern	Complete	Investigated potential illicit discharges at Bldg 106 and Bldg 439, follow-up sampling completed	N/A	Environmental / Nicole Hester	Not specified	6 Jun 2024	Sampling at Bldgs 106 & 439 to verify repairs/remediation efforts have eliminated IDDE concerns
3-7 Address Catch Basin cleaning residue capture and disposal	Ongoing	Working towards an efficient process for catch basin cleaning residue disposal. Issues with disposal of wastewater hampering current efforts	Catch Basins Inspected & Cleaned per permit	Public Works Utilities EV / Nicole Hester	FY 2024	Ongoing	Disposal of generated waste material is expensive and an unfunded requirement

3.2 Describe any IDDE activities planned for the next year, if applicable.

An IDDE review team is part of a contracted Site Compliance Evaluation expected in April 2025. Pier extension construction will be closely monitored, as will the DLA Fuel Farm project. Ongoing design reviews in support of construction of new Submarine Storage and Operations Facility on Base that will involve extensive ground excavation, and require Stormwater management controls.

3.4 Provide a record of illicit discharges occurring during the reporting period and SSOs occurring July 2012 through end of reporting period using the following table.

Location (Lat long/ street crossing /address and receiving water)	Date and duration of occurrence	Discharge to MS4 or surface water	Estimated volume discharged	Known or suspected cause / Responsible party	Corrective measures planned and completed (include dates)	Sampling data (if applicable)
Illicit Discharges occurring during the reporting period						
River	22 Aug 2024	Water	1 gallon oily bilge water	CDO saw drips of water coming from a bilge hose connection this morning and called it in to the boat. Roughly a gallon of oily water was estimated to have entered the river over time. Connection was immediately fixed. EV representative, went down to check out hose/scene and noted there was no sign of oil in the Thames River / Boat Crew	Hose connection fixed. Small amount of oily water had no sign of oil sheen. Nothing to fix Completed 22 Aug 2024	N/A
River	28 Aug 2024	Water	Unknown	B533 Cooling Tower Leak / Brymak	Leak secured, and tower repaired Completed 29 Aug 2024	N/A
Pier 31N	26 Nov 2024	Water	300 gallons phosphate water	Personnel noticed leak coming from the tanker truck on the pier which was leaking at a rate of a cracked garden hose. Likely a valve not fully seated. Boat crew secured the leak and blockd the drains and scuppers. SBFD helped clean up what was on pier / Transportation	Leak stopped, drains and scuppers blocked. Submarine Base Fire Department and boat personnel worked to clean up and dispose of 200 gallons on the pier. 100 gallons which reached the Thames River was unable to be cleaned up Completed 26 Nov 2024	N/A
River	27 Nov 2024	Water	1.5 gallons diesel	Diesel spill from one patrol boats in between two boats. Boomed off and padded up / Security	Leak boomed off and padded up 27 Nov 2024	N/A

SSOs occurring July 2012 through end of reporting period						
Location (Lat long/ street crossing /address and receiving water)	Date and duration of occurrence	Discharge to MS4 or surface water	Estimated volume discharged	Known or suspected cause / Responsible party	Corrective measures planned and completed (include dates)	Sampling data (if applicable)
Bldg 120, base swimming pool	9 Feb 2018	Pavement	25 gallons sewage	Toilet paper clogged the sanitary pipes occasionally used for pool backwash operations. / PWD	Rerouted flow and cleared—new stand-alone discharge pipe being installed. Complete 9 Feb 2018	N/A
Scorpion avenue near Bldg 148	14 Feb 2018	Surface water	100+ gallons groundwater	Abandoned sewer line flooded with groundwater / PWD	PWD removed top plug and filled in remaining manholes and piping from previously-abandoned buildings Complete 14 Feb 18	N/A
Submarine near Pier 10	28 Mar 2018	Pavement / Water	<100 gallons total, ~10 gallons in water	Leak in discharge pipe while pumping overwater / Submarine	Possible cooking oil led to ~20 x 50ft sheen, boomed in. Complete 29 Mar 18	N/A
“Tunnel” between Bldgs. 87 and 76.	23 May 2018	Pavement / Storm drain	50 gallons sewage	Sanitary sewer overflow caused by Lift Station 75 pump malfunction / PWD	Used alternate forced main at the lift station until piping can be excavated/inspected/repared, storm drain cleaned. Repaired Force Main 22 Jun 18	N/A
Submarine at Pier 10 South	8 Jun 2018	Surface water	<100 gallons sewage	Broken sewer pipe under pier / PWD	Sailors heard rush of air as they began pump operation, immediately shut down, pipe repaired. Complete 21 Jun 18	N/A
Pier 31 North	13 Jun 2018	Pier / Water	<10 gallons water	Riser valve not sealing / PWD	Valve closed and fixed. Complete 24 Jul 18	N/A
Amberjack Rd opposite Pier 31	10 Jul 2018	Pavement	<10 gallons sewage	Temporary sewer blockage and backup / PWD	Liquid seen running out past sewer manhole and into pavement, collected in low point/depression in road, PWD personnel investigated manhole and nearby lift station, no elevated levels seen, suspect temporary blockage cleared on its own. Complete 10 Jul 18	N/A

Location (Lat long/ street crossing /address and receiving water)	Date and duration of occurrence	Discharge to MS4 or surface water	Estimated volume discharged	Known or suspected cause / Responsible party	Corrective measures planned and completed (include dates)	Sampling data (if applicable)
Lift Station #75 near gate 4	28 Sep 2018	Pavement	50 gallons sewage	Leak at elbow of sanitary line further/Installation	Shut down lift station and repaired the elbow, will continue to use alternate line until they can excavate further up for inspection and permanent repair. Complete 27 Nov 18	N/A
Pier 12	20 Dec 2018	Surface water	estimate 100 gallons of sewage	Under-pier pipe break of sewer line/ Installation	Secured side pump, used opposite pier side pump while repairs made. Pipefitters recommended direct to sanitary pump, break confirmed, repairs made. Repaired sewer line 25 Jan 19	N/A
Near Bldg 157 lift station, near Pier 31	7 Jan 2019	Pavement	100 gallons grease	Suspected grease from lift station backup/Contractor	Contractor expected on site to remove grease and jet the line. Utilities jetted line and cleared blockage on 7 Jan 19. Contractor removed grease from lift stations at Pier 31 and B157 on 8 Jan 19	N/A
Bldg 592 mech room	25 Feb 2019	Pavement/sewers	8000 gallons potable / 50 gallons SSO	Large 8-10" pipe broke in lower mech room, filled room with ~4 ft of water, and burst out covering pavement and entering storm drains, but sanitary drain flow caused a sanitary manhole downstream to overflow about 50 gallons to pavement/Instllation	Notified Groton of "slug" of potable water coming their way, PWD to drop Lime along edge of road near sanitary sewer overflow. PWD completed pipe repairs on 14 Jun 19	N/A
Pier 6 South	26 Feb 2019	Pavement	2.5 gallons sewage	Suspect USS Minnesota submarine sanitary transfer, as they had just completed an operation when a guard noticed puddles in the road/Boat Crew	Notified the ship on 6 North to hold off any transfers until inspection took place, since the under-pier piping is shared. Utilities returned Pier 6 sewer line to normal operation on 1 Mar 19	N/A

Location (Lat long/ street crossing /address and receiving water)	Date and duration of occurrence	Discharge to MS4 or surface water	Estimated volume discharged	Known or suspected cause / Responsible party	Corrective measures planned and completed (include dates)	Sampling data (if applicable)
Pier 6 South	28 Feb 2019	Pavement	5 gallons sewage	USS Minnesota transfer, may have over-pressurized the line to cause spill/Boat Crew	Dye tested the line and determined a small blockage, jet-vac used to clear it followed by a 2 nd dye test with good results. UTILITIES returned Pier 6 sewer line to normal operation on 1 Mar 19	N/A
Argonaut Rd in front of Bldg 87	5 Aug 2019	Pavement	5 gallons sewage	Suspect a crushed pipe/Installation	UTILITIES has stopped flow to pipeline, will excavate to repair after calling a utility pipe review. UTILITIES completed repairs on 19 Dec 19	N/A
Pier 17, West riser	7 Oct 2019	Pier (concrete)	10 gallons sewage	Valve on riser leaked/Installation	System locked and tagged out. UTILITIES replaced CHT valve on 24 Oct 19.	N/A
USS Indiana	12 Oct 2019	Surface water	1 gallon bilge water	Hose leak/Boat Crew	Pump power turned off, use of faulty hose discontinued and replacement hose ordered. UTILITIES changed out hose on 12 Oct 19	N/A
Pier 32	14 Nov 2019	Surface water	<100 gallons sewage	Hose leak after being partially in water and forming a trap overnight, which then froze/NSSF	NSSF rep verified hose issue and PWD will supply new ones on 14 Nov 2019. UTILITIES changed out hose on 14 Nov 19	N/A
Pier 8	3 Jan 2020	Surface water	0.5 gallons water	Hose sprayed at start of pumping from USS Toledo/Boat Crew	Stopped pumping. Resecured the hose	N/A
Pier 15	18 Jun 2020	Surface water	875 gallons sewage	Sewage entered the Thames River during pumping operations. This was due to a ruptured Sewer Pipe. There was visual foam and particulates in the River. Boat Crew	The pumping was stopped upon noticing the spill. No recovery, but area was already boomed. UTILITIES completed repairs 28 Aug 20	N/A
Outside Bldg 107	14 Jul 2020	MS4	5 gallons sewage	Sewer blockage caused raw sewage to come up thru manhole, about 30 gallons, maybe 5 went into a nearby storm drain/Installation	Speedy dri around storm drain. Cover removed and piece of poly used to cover hole and then grate put back on waiting UTILITIES repair. UTILITIES cleared blockage 14 Jul 20	N/A

Location (Lat long/ street crossing /address and receiving water)	Date and duration of occurrence	Discharge to MS4 or surface water	Estimated volume discharged	Known or suspected cause / Responsible party	Corrective measures planned and completed (include dates)	Sampling data (if applicable)
Pier 17S	27 Jul 2020	Surface water	50 gallons bilge water	USS San Juan Aft offload operations for bilge water/ Boat Crew	End of pumping operations, no recovery, area boomed in 27 Jul 2020	N/A
Submarine at Pier 12	22 Jan 2021	Surface water	5 gallons sewage	Connection Failed. Personnel closed valve immediately after observation/Boat Crew	No action taken as current dissipated sewage 22 Jan 2021	N/A
Submarine at Pier 17 South	28 Feb 2021	Pier/Possibly surface water	3 gallons CHT	USS Vermont was unloading CHT (Collection, Holding, and Transfer) and a hose ruptured during operation causing CHT to spill on Pier 17 South. One nearby storm drain was affected by the spill and a small but unknown quantity of CHT entered the storm drain/Boat Crew	Unloading operation was shut down by USS Vermont. Completed 28 Feb 2021	N/A
Pier 12 South	22 Jun 2021	PIER	1 gallon CHT	A pin hole leak was discovered in the 6" hose while off-loading sewage from the Subs CHT (Collection, Holding, and Transfer) tank. Operation was stopped immediately and a new hose brought in to complete the operation/Boat Crew	Stopped off-loading operation immediately Completed 22 Jun 2021	N/A
Pier 12	16 Jul 2021	Surface water	0.1 gallon CHT	UEM reported that CHT hoses left on pier were not drained/Utilities	None, nature of drip was to result in release to river under pier and not to a pier surface area (at which a containment method could be used). Completed 16 Jul 2021	N/A
Pier 6 south side	30 Aug 2021	Pier/Possibly surface water	2 gallons sewage	Boat reported leak from hose connection on pier used/Boat Crew to transfer sewage from their tanks to base sewer system. Cause was improper splicing of hose/Boat Crew	Fire Dept. responded. New hose ordered. Completed 30 Aug 2021	N/A

Location (Lat long/ street crossing /address and receiving water)	Date and duration of occurrence	Discharge to MS4 or surface water	Estimated volume discharged	Known or suspected cause / Responsible party	Corrective measures planned and completed (include dates)	Sampling data (if applicable)
Pier 31	8 Sept 2021	Pier/possibly surface water	1 gallon water	USS Newport News reported small amount of water from riser on south side of pier. Boat crew noticed valve for riser was not fully closed and the end cap was missing. Boat crew fully closed valve, added pipe cap and resumed pumping/Boat Crew	N/A	N/A
Pier 10S - Under Pier	1 Oct 2021	Surface water	Unknown sewage	USS South Dakota observed leak/odor. Release of sewage directly to Thames River, quantity unknown. High tide prevented immediate investigation & repair/Boat Crew	Sewage CHT transfer discontinued & later routed directly to tanker trailer. Completed 1 Oct 2021	N/A
North of Pier 32 on Lower Corridor Road	2 Oct 2021	Storm drain system	50 gallons sewage	USS Delaware at Pier 32. KTR oversight for pump bypass by CHT due to ongoing project. Bypass pump failed and approximately 50 gallons of sewage entered storm drainage system/Boat Crew	Sanitary sewer discharge from submarine was stopped. Spill contained with filter sock and the pump was manually started and controlled Completed 2 Oct 2021	N/A
Pier 12 North	6 Dec 2021	Surface water	10 gallons sewage	A leak in the sanitary line that runs under pier 12 North was noticed by the unit pumping. No sheen noted/Installation	UEM repaired pipe on 7 Dec 2021	N/A

Location (Lat long/ street crossing /address and receiving water)	Date and duration of occurrence	Discharge to MS4 or surface water	Estimated volume discharged	Known or suspected cause / Responsible party	Corrective measures planned and completed (include dates)	Sampling data (if applicable)
Pier 17	3 Feb 2022	Pier, but possible release to river via pier drainage areas	<1 gallon potable water	PWD provided a new hose after the hose being used to flush potable water at Pier 17 ruptured due to a blockage in the sanitary line. PWD took the riser out of service. It is possible a small amount of sewage was released to the Thames River, but PWD employees stated there was no visual indication of a release, and no smell was detected/Installation	Riser was taken out of service until the blockage could be cleared (needed to be done at low tide). A tanker was staged at Pier 17 until repair was Completed 3 Feb 2022	N/A
410 Tang Avenue	24 May 2022	Pavement	30 gallons sewage	SBFD called to a sewer main blockage at 410 Tang Avenue where Public Works noticed the leaking pipe. Roughly 30 gallons with no solids were present/Installation	Navy PW utility personnel used water jet equipment to remove blockage in sanitary pipeline, stop bypass and restore flow. Areas affected in parking lot were cleaned up Completed 24 May 2022	N/A
Pier 31	19 Sept 2022	Surface Water	1 cup sewage	SBFD responded to a call of a ruptured pipe leaking raw sewage. The line was shut off immediately upon rupture and another pipe was used instead. About a gallon got out onto the pier and roughly a cup or less got into the Thames River. There were no cleanup actions possible by the time SBFD arrived on scene/Installation	N/A	N/A
Pier 31N/32S	27 Nov 2024	River	1.5 gallons diesel	Diesel from a patrol boat spilled/ Installation	Area boomed off, and pads applied Completed 27 Nov 2024	N/A
B29	29 Nov 2024	Ground	<1 gallon water softener wastewater	Tanker truck with small amount of "water softener wastewater" leaking. Created a puddle, but didn't make it to the storm drain or river/PWD	Bucket placed under the leak, speedy dry over puddle, and plug material applied to hole Completed 29 Nov 2024	N/A
Across from Pier 32 on Quay Wall	2 Dec 2024	Pavement	1 gallon Human waste	Human Waste / Installation	Porta Potty was full to the top of the toilet bowl and small leak from rivet	N/A

Location (Lat long/ street crossing /address and receiving water)	Date and duration of occurrence	Discharge to MS4 or surface water	Estimated volume discharged	Known or suspected cause / Responsible party	Corrective measures planned and completed (include dates)	Sampling data (if applicable)
					on side of Porta Potty. Responsible party removed once notified. 2 Dec 2024	
In road between B465 and B569	23 Dec 2024	Pavement/Stormdrain	100+ gallons chlorinated water	Water main break	Broken water main repaired, and hole filled. Completed 24 Dec 2024	N/A

Metrics	
Estimated or actual number of MS4 outfalls	56 (actual)
Estimated or actual number of interconnections	0
Outfall mapping complete	100%
Interconnection mapping complete	100%
System-wide mapping complete (detailed MS4 infrastructure)	100%
Outfall assessment and priority ranking	100%
Dry weather screening of all High and Low priority outfalls complete	100%
Catchment investigations complete (System traced from Outfall back)	56 Dry weather 56 Wet weather
Estimated percentage of MS4 catchment area investigated	100% Dry weather 100% Wet weather

3.8 Briefly describe the IDDE training for employees involved in carrying out IDDE tasks including what type of training is provided and how often is it given (minimum once per year).

Submarine Base New London has current Stormwater and Spill Response training modules on the Navy ECATTS training website available to the entire community, including visiting agencies and contractors. Dedicated/consolidated IDDE modules are available, with content covering the Purpose and Scope of the IDDE Program, the Definition of an Illicit Discharge, Recognizing Illicit Discharges, Reporting, and Preventing Future Instances. Each Spring, personnel are identified and contacted for training, along with their supervisors. When new personnel report to the base, training is conducted out of cycle, as soon as possible (typically within 90 days). New training for Stormwater Quality Manual and Soil Erosion and Sediment Control Guidelines provided to all Public Works personnel annually.

4. Construction Site Runoff Control (Section 6(a)(4) / page 25)

4.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Date completed or projected completion date	Additional details
4-1 Implement, upgrade, and enforce land use regulations or other legal authority to meet requirements of MS4 general permit	Ongoing	All construction contracts include requirements to follow CT regulations, including the Soil erosion and Sediment control Measure table	N/A	Public Works Facilities Engineering & Acquisition Division / Christopher Shukis	N/A	Implemented with permit start-date; all projects since the 2020 official date are MS4 compliant. Briefed departments on the updated Soil Erosion and Sediment Control Guidelines
4-2 Develop/Implement plan for interdepartmental coordination in site plan review and approval	Ongoing	Included in SWMP	N/A	Environmental / Nicole Hester	Ongoing	All construction contracts require interdepartmental review prior to award. This review includes National Environmental Policy Act (NEPA) documentation statements specifically targeting LID and stormwater requirements
4-3 Review site plans for stormwater quality concerns	Ongoing	Active review of contracts awarded, conduct site inspections as available	100% of contracts and applicable Task Orders are review	Environmental / Nicole Hester	N/A	Site Work Induction Board has an EV representative who attends and focuses plans and projects with Stormwater concerns
4-4 Conduct site inspections	Ongoing	Active contracts and activities	MS4 compliance	Facilities Engineering & Acquisition Division / Christopher Shukis	N/A	Inspections are a current responsibility / activity for Facilities Engineering & Acquisition Division, the Construction Manager also sends out a list of active construction projects to EV for oversight inspections

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Date completed or projected completion date	Additional details
4-5 Implement procedure to allow public comment on site development	Ongoing	Signage with contact information is posted at construction activities	Signs posted	Facilities Engineering & Acquisition Division / Christopher Shukis	N/A	Verified with independent audit during Aug 2019
4-6 Implement procedure to notify developers about DEEP construction stormwater permit	Ongoing	Included with construction contract specifications	Construction permit, if required	Facilities Engineering & Acquisition Division / Christopher Shukis	N/A	The required Environmental Management Plan for contractors includes the Stormwater Pollution Control Plan, required by the CT DEEP Construction General Permit
4-7 Develop stormwater compliance checklist	Completed	N/A	MS4 Compliance	EV/ Chris Koproski	1 Jul 2020	Created forms based on Industrial Permit inspection sheets

Extra space for describing above BMP activities, if needed:

BMP	
4-2/4-3	National Environmental Policy Act (NEPA) process is also used to meet these BMP requirements, from planning through design and final inspections.

4.2 Describe any Construction Site Runoff Control activities planned for the next year, if applicable.

DLA site at B549 Fuel Farm development has incorporated stormwater management BMPs into the design. Additional Construction activities planned for 2025 include:

- BQ455 Barracks Renovation – this project has minor site work activities associated with utility connections and minor sidewalk construction. BMPs include erosion and sediment control measures at the downhill side of all disturbed areas and siltation sacs to be installed on any adjacent stormdrain inlets.
- Other minor miscellaneous projects which require small disturbed areas of land are monitored by the Construction Management & Engineering Technician Teams to ensure suitable erosion and sediment control measures are installed by site contractors.

5. Post-construction Stormwater Management (Section 6(a)(5) / page 27)

5.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Date completed or projected completion date	Additional details
5-1 Establish and/or update legal authority and guidelines regarding LID and runoff reduction in site development planning	Complete	N/A	MS4 compliance.	PWD Project Management and Engineering / Scot Deledda Senior Design Manager	Mar 2017	Legal authority to implement and enforce the Post-Construction Stormwater Management Program is established by inclusion of the Navy LID Policy standards, the DoD EISA Section 438 Policy standards, and the MS4 General Permit LID standards in SUBASENLON's standard construction specifications.
5-2 Enforce LID/runoff reduction requirements for development and redevelopment projects	Ongoing	Enacted in March 2017 in anticipation of MS4 permit.	Meet Navy LID Policy standards, MS4 standards, and DoD EISA Section 438 Policy standards.	Environmental / Nicole Hester, Facilities Maintenance Director / Scot Deledda (updates due to activities)	N/A	Pre-MS4 requirements are the same as current MS4 activities.
5-3 Identify retention and detention ponds in priority areas	Ongoing	N/A	MS4 compliance.	Environmental / Nicole Hester	Mar 2017	Updated as needed.

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Date completed or projected completion date	Additional details
5-4 Implement long-term maintenance plan for stormwater basins and treatment structures	Ongoing	N/A	MS4 compliance.	Facilities Sustainment Branch Head / Danny Johnson, Production Division Director / Andy Shetland	Jul 2020	Continued catch basin cleaning program, Service Contracts will add larger structures into upcoming contract.
5-5 DCIA mapping	Ongoing	Completed in March, 2017 in anticipation of MS4 permit.	N/A	Environmental /Chris Koproski (initial Mapping), Nicole Hester, Facilities Maintenance Director/ Scot Deledda (updates due to activities)	Mar 2017 for initial effort, ongoing for updates	Updated as needed.
5-6 Address post-construction issues in areas with pollutants of concern	Ongoing	Retention of Water quality volume, limits of disturbance, and CT Stormwater Quality Manual excerpts briefed to Stakeholders	Contact with all Division and Branch Heads.	Environmental / Nicole Hester	N/A	Due to impaired status of the Thames River, this program applies throughout SUBASENLON. New Stormwater Quality Manual, and increase to retention volume shared with all departments.

Extra space for describing above BMP activities, if needed:

BMP	
ID sustainable means of maintaining detention ponds	Rain gardens fall under base recurring service contracts for mowing/trimming/debris removal.

5.2 Describe any Post-Construction Stormwater Management activities planned for the next year, if applicable.

Central Base Parking's sand filter beds will require management activities (mostly inspections) over the next year.

5.3 Post-Construction Stormwater Management reporting metrics

Metrics	
Baseline (2012) Directly Connected Impervious Area (DCIA)	198.47 acres
DCIA disconnected (redevelopment plus retrofits)	0.23 acres this year / 6.21 acres total
Retrofits completed	No retrofits affecting DCIA
DCIA disconnected	~ 0% this report year / 3% total since 2012
Estimated cost of retrofits	No retrofit actions this calendar year
Detention or retention ponds identified	10 total

5.4 Briefly describe the method to be used to determine baseline DCIA.

GIS/GRX data supplemented with field measurements by a contracted team, the product was first available in 2017 and updated each year based off raw data provided from PWD program managers, including EV.

6. Pollution Prevention/Good Housekeeping (Section 6(a)(6) / page 31)

6.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
6-1 Develop/implement formal employee training program	Ongoing	Expand ECATTs training modules to include MS4 aspects. Updated training sheet for members without ready access to computers. Industrial Stormwater team members have in-person training 2x year to augment/replace ECATTs on-line training modules	100% of target audience trained	Environmental / Nicole Hester	1 Jul 2024	N/A	Administrator function within ECATTs allows training to be tracked. Most of the associated data is already on ECATTs in the form of Stormwater and spill response modules
6-2 Implement MS4 property and operations maintenance	Ongoing		Property and operations maintenance BMPs were actions implemented under existing SUBASENLON Industrial permit	PWD Facilities Management Division Director / Stacey Sangillo	1 Jul 2024	N/A	SUBASENLON will fully implement the Property and Operations Maintenance Program
6-3 Implement coordination with interconnected MS4s	Ongoing	Previous exchange of contact details with Town of Groton MS4 Manager, Michelle Maitland	Positive contact	Environmental / Nicole Hester	Not specified	Initial contact with previous town manager on 24 Jan 2018	The SUBASENLON MS4 is interconnected to the CTDOT, and Towns of Groton and Ledyard. The only true interconnects are along the base access road, sharing one outfall (O-35) with the town of Groton
6-4 Develop/implement program to control other sources of pollutants to the MS4	Ongoing	Leaf collection procedures revised to include ensuring piles remain away from storm drains. Informational notice sent for leaf collection activities on Oct 2024	BMPs	Environmental / Nicole Hester	Not specified	N/A	Created a one page document to be dispersed to on base patrons, and via social media

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
6-5 Evaluate additional measures for discharges to impaired waters*	Ongoing	Implementing Geese control program with USDA, pet waste management and feral cat control program continuing, "Do Not Feed Geese" signs maintained. Plan to reevaluate after next Industrial sampling bacteria results are in, along with MS4 IDDE screening/sampling later this year	Reduced levels	Environmental / Nicole Hester	Not specified	N/A	
6-6 Track projects that disconnect DCIA	Ongoing	GIS/GRX system updates are the basis for a contracted action that calculates DCIA each year	Maintain an accurate list of DCIA	PWD Facility Management Division Director / Stacey Sangillo	1 Jul 2024	N/A	
6-7 Implement infrastructure repair/rehab program	Ongoing	Briefed key decision makers on MS4 requirements and explored how to work new requirements into existing prioritization scheme	Add MS4 aspects for consideration for project prioritization	PWD Facilities Management Division Director / Stacey Sangillo Production Division Director Mike Gabiga	1 Jul 2024	N/A	Received copy of master Installation Development Plan and Execution Plan, EV to look for opportunities within scheduled projects
6-8 Develop/implement plan to identify/prioritize retrofit projects	Ongoing	Briefed key decision makers on MS4 requirements and explored how to work new requirements into existing prioritization scheme		PWD Facilities Management Division Director / Stacey Sangillo	1 Jul 2024	N/A	Reviewed Installation Development Plan
6-9 Implement retrofit projects to disconnect 2% of DCIA	Complete	Briefed key decision makers on MS4 requirements and explored how to work requirements into existing prioritization scheme	2% of baseline disconnected	PWD Facilities Management Division Director / Stacey Sangillo	1 Jul 2022	31 Dec 2019	SUBASENLON currently requires that development and redevelopment conform to UFC 3-210-10, LID, and EISA Section 438. In addition, SUBASENLON

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
							requires design and construction contractors to comply with the LID standards defined by the MS4 General Permit. SUBASENLON PWD staff continues to review development/construction plans that include associated stormwater design calculations for compliance with these standards
6-10 Develop/implement street sweeping program	Ongoing	Annual sweeping event augmented with select additional uses.	MS4 compliance.	PWD Transportation Branch Head / Jeff Victoria	1 Jul 2024	N/A	Log book in both sweepers and the vac truck; schedule/program in the transportation section and on an as-needed basis with PWD
6-11 Develop/implement catch basin cleaning program	Ongoing	This has been transferred in-house and a contracted cleaning effort happened at "hand-over" to address some of the worst cases	MS4 compliance	Transportation Branch Head Jeff Victoria Environmental Nicole Hester	1 Jul 2024	N/A	Disposal of generated waste material is expensive and unfunded
6-12 Develop/implement snow management practices	Complete	Annual training	Implement annual training	Transportation Branch Head Jeff Victoria	1 Jul 2020	Sept 2019	N/A

6.2 Describe any Pollution Prevention/Good Housekeeping activities planned for the next year, if applicable.

Continue to implement ECATTS training modules, conduct inspections, and review all projects for MS4 compliance.

6.3 Pollution Prevention / Good Housekeeping reporting metrics

Metrics	
Employee training provided for key staff	Yes, various dates
Street sweeping	
Curb miles swept	~2 miles
Volume (or mass) of material collected	~1/2 cubic yard
Catch basin cleaning	
Total catch basins in priority areas	61
Total catch basins in MS4	845 (excluding infalls and scuppers)
Catch basins inspected	3
Catch basins cleaned	3
Volume (or mass) of material removed from all catch basins	0 gallons to sanitary/2 cubic yards (disposed of off base)
Volume removed from catch basins to impaired waters (if known)	0 gallons to sanitary/2 cubic yards (disposed of off base)
Snow management	
Type(s) of deicing material used	Salt / Ice-bite
Total amount of each deicing material applied	~400 tons / ~2500 gal
Type(s) of deicing equipment used	Truck-mounted Sprayers and Salt spreaders
Lane-miles treated	60 miles (including parking lots), estimated ~1,000 total miles treated through multiple passes.
Snow disposal location	Area near North Lake parking lot was approved and used successfully.
Staff training provided on application methods & equipment	Jan 2024, each snow month (Jan-Apr, Nov-Dec)
Municipal turf management program actions (for permittee properties in basins with N/P impairments)	

Reduction in application of fertilizers (since start of permit)	<p>2023 Greens totals: 2.015 lb/N .063 lb/P .546 lb/K</p> <p>Greens: 46% increase in Lb/N per 1000 Square feet since 2024.</p> <p>No increase or decrease in Lb/P per 1000 Square feet since 2024.</p> <p>27% increase in lb/K per 1000 square feet since 2024.</p> <p>Tees and Fairways: No reduction in Lb/N per 1000 Square feet (roughly 50Lbs/acre, 8 acres, applied 2x).</p> <p>*Note: 2023 the Potassium value was inaccurate and should have been 0.428 lb/K.</p>
Reduction in turf area (since start of permit)	None
Lands with high potential to contribute bacteria (dog parks, parks with open water, & sites with failing septic systems)	N/A
Cost of mitigation actions/retrofits	\$9,000 for Basewide geese mitigation effort.

6.4 Catch basin cleaning program

Provide any updates or modifications to your catch basin cleaning program.

After several “false-starts” due to personnel and equipment issues, SUBASE program commenced by the July 2020 regulatory due date. A decant dumpster was purchased and used, however, discharges of wastewater to sanitary sewer have been temporarily halted due to metal exceedances. Avenues of resolution include increased sampling, more wide-spread (area wise) draws into the vac truck, to minimize the chance of sanitary exceedances, and purchasing equipment to filter out metals. Disposal of generated waste material is expensive and unfunded.

6.5 Retrofit program

Briefly describe the Retrofit Program identification and prioritization process, the projects selected for implementation, the rationale for the selection of those projects and the total DCIA to be disconnected upon completion of each project.

Weapon Storage Area projects, DCIA affected is up to 25.27 Acres, depending on finalized plan. DLA Fuel Farm project delayed due to PFAS concerns but projected to have an effect on the DCIA.

Describe plans for continuing the Retrofit program and how to achieve a goal of 1% DCIA disconnection in future years.

Navy designers are aware of Low Impact Development (LID), incorporating Environmental/MS4 requirements with the Integrated Development Plan to ensure BMPs and Water Quality Volume (WQV) requirements are met. The 2% Directly Connected Impervious Area (DCIA) reduction effort for the initial permit period was met prior to this reporting period.

Describe plans for continuing the Retrofit program beyond this permit term with the goal to disconnect 1% DCIA annually over the next 5 years.

Activities beyond the permit term are being identified and prioritized for inclusion with the base Integrated Development Plan, but it appears likely offsets (rather than in-place WQV retention) will be needed for lower base developments, due to factors including heavy development, Installation Remediation status for certain sites, and mission needs which limit available “green space”.

Part II: Impaired waters investigation and monitoring

1. Impaired waters investigation and monitoring program

1.1 Indicate which stormwater pollutant(s) of concern occur(s) in your municipality or institution. This data is available on the MS4 map viewer: <https://uconn.edu/ctms4map>.

Nitrogen/ Phosphorus Bacteria Mercury Other Pollutant of Concern

1.2 Describe program status

Discuss 1) the status of monitoring work completed, 2) a summary of the results and any notable findings, and 3) any changes to the Stormwater Management Plan based on monitoring results.

- 1) Contracted monitoring program commenced in Spring 2020 and was completed in 2022, results posted below (Table 2.1). Please note Industrial Stormwater Permit GSI000679 already requires monitoring for bacteria at eight (8) outfalls, those results are also reported to DEEP. No changes were made to the Outfalls selected for continued Annual Sampling under the permit. It's worth noting that due to the abnormally dry weather, the Screening and the Annual samples were collected on the same day, but by different teams.
- 2) Turbidity readings were sampled due to their inclusion on an earlier iteration of the CLEAR pollutants of concern map for the Thames River near SUBASE, and are included here since they were measured. Areas were observed and no abnormal contributors were noted. The last sample run (6/16/2023) had many Bacteria exceedances, either Entero, Fecal Coliform, or both. The sites were tested after a significant dry period where the sumps were never "flushed out" with new rainwater, we believe that's what contributed to the high numbers, and will continue watching bacteria results from the two permits. All sites where exceedances occurred are in a regular rotation of sites that are inspected, and nothing was noticed to have been released to the environment.
- 3) No changes to our Stormwater Management Plan have been needed thus far due to monitoring results, but we are looking at the possibility of working with nearby towns for catch basin cleaning/debris removal.

2. Screening data for outfalls to impaired waterbodies (Section 6(i)(1) / page 41)

2.1 Screening data

Complete the table below for any outfalls screened during the reporting period. Each Annual Report will add on to the previous year's screening data showing a cumulative list of outfall screening data.

Outfall ID	Sample date	Parameter (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	Results Entero / Fecal Coliform (cfu/100mL) 500 / 260 benchmarks	Name of Laboratory (if used)	Follow-up required? *
		Bacteria			
O 1	8 Jun 2022	Bacteria	1660 / 457	Phoenix	Yes
O 2	18 Mar 2021	Bacteria	<10 / <10	Phoenix	No

Outfall ID	Sample date	Parameter (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	Results Enterococci / Fecal Coliform (<i>cfu/100mL</i>) 500 / 260 benchmarks	Name of Laboratory (if used)	Follow-up required? *
O 3	18 Mar 2021	Bacteria	10 / 20	Phoenix	No
O 4	18 Mar 2021	Bacteria	<10 / 30	Phoenix	No
O 5	18 Mar 2021	Bacteria	<10 / 20	Phoenix	No
O 6	24 Jan 2019	Bacteria	10 / <10	MicroBac	No
O 6 Revisit	2 Sept 2020	Bacteria	140 / 1110	MicroBac	Yes
O 6 Revisit	18 Mar 2021	Bacteria	<10 / <10	Phoenix	No
O-6 Revisit	19 Jan 2023	Bacteria	<10 / <10	Phoenix	No
O-6 Revisit	7 Sept 2024	Bacteria	52/226	ECL Inc.	No
O 7	24 Jan 2019	Bacteria	40 / 230	MicroBac	No
O 7	2 Sept 2020	Bacteria	30 / 470	MicroBac	No
O 7 Revisit	18 Mar 2021	Bacteria	<10 / 10	Phoenix	No
O 7 Revisit	19 Jan 2023	Bacteria	10 / <10	Phoenix	No
O 7 Revisit	7 Sept 2024	Bacteria	14136/833	ECL Inc.	Yes
O 8	18 Mar 2021	Bacteria	<10 / <10	Phoenix	No
O 9	18 Mar 2021	Bacteria	<10 / <10	Phoenix	No
O 10	18 Mar 2021	Bacteria	<10 / 10	Phoenix	No
O 11	8 June 2022	Bacteria	2280 / 2360	Phoenix	Yes
O 12	18 Mar 2021	Bacteria	<10 / 20	Phoenix	No
O 13	18 Mar 2021	Bacteria	<10 / 30	Phoenix	No
O 15	4 Jan 2019	Bacteria	70 / <10	MicroBac	No
O 15 Revisit	2 Sept 2020	Bacteria	3600 / 6300	MicroBac	Yes
O 15 Revisit	18 Mar 2021	Bacteria	<10 / 10	Phoenix	No
O 15 Revisit	19 Jan 2023	Bacteria	277 / <10	Phoenix	No
O 15 Revisit	7 Sept 2024	Bacteria	19863/145	ECL Inc.	Yes
O 16	18 Mar 2021	Bacteria	<10 / <10	Phoenix	No
O 17	24 Jan 2019	Bacteria	80 / 10	MicroBac	No
O 17 Revisit	2 Sept 2020	Bacteria	50 / 430	MicroBac	Yes
O 17 Revisit	18 Mar 2021	Bacteria	<10 / <10	Phoenix	No
O 17 Revisit	19 Jan 2023	Bacteria	5480 / <10	Phoenix	Yes
O 17 Revisit	7 Sept 2024	Bacteria	8164/131	ECL Inc.	Yes
O 17a	8 Jun 2022	Bacteria	4350 / 521	Phoenix	Yes
O 18	8 Jun 2022	Bacteria	24200 / 1660	Phoenix	Yes
O 19	8 Jun 2022	Bacteria	9800 / 548	Phoenix	Yes
O 20	18 Mar 2021	Bacteria	20 / 132	Phoenix	No
O-20a	18 Mar 2021	Bacteria	<10 / 10	Phoenix	No
O 21	18 Mar 2021	Bacteria	<10 / 10	Phoenix	No
O 21 Revisit	8 Jun 2022	Bacteria	145 / 20	Phoenix	No
O-21	16 Jun 2023	Bacteria	1314/1935	ECL Inc.	Yes
O-21	11 Apr 2024	Bacteria	75/10	Phoenix	No
O 22	26 Apr 2019	Bacteria	<10 / <10	Phoenix	Yes
O 22 Revisit	18 Mar 2021	Bacteria	243 / 20	Phoenix	No
O 22 Revisit	5 Mar 2024	Bacteria	127/<10	Phoenix	No
O 22a	24 Jan 2019	Bacteria	80 / 10	MicroBac	No
O 22a Revisit	2 Sept 2020	Bacteria	270/1490	MicroBac	Yes
O 22a Revisit	18 Mar 2021	Bacteria	<10 / 462	Phoenix	No
O 22a Revisit	8 Jun 2022	Bacteria	75 / 110	Phoenix	No
O 22a Revisit	19 Jan 2023	Bacteria	624 / <10	Phoenix	Yes
O-22a	16 Jun 2023	Bacteria	591/<10	ECL Inc.	No
O-22a	11 Apr 2024	Bacteria	120/10	Phoenix	No
O 22b	18 Mar 2021	Bacteria	20 / 52	Phoenix	No

Outfall ID	Sample date	Parameter (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	Results Enterococci / Fecal Coliform (<i>cfu/100mL</i>) 500 / 260 benchmarks	Name of Laboratory (if used)	Follow-up required? *
O 23	18 Mar 2021	Bacteria	10 / 10	Phoenix	No
O 25	18 Mar 2021	Bacteria	364 / 41	Phoenix	Yes
O 25 Revisit	8 Jun 2022	Bacteria	233 / 199	Phoenix	No
O 25a	18 Mar 2021	Bacteria	<10 / 63	Phoenix	No
O-25	16 Jun 2023	Bacteria	9504/19863	ECL Inc.	Yes
O-25	11 Apr 2024	Bacteria	63/<10	Phoenix	No
O 26	18 Mar 2021	Bacteria	<10 / 288	Phoenix	No
O 26b	18 Mar 2021	Bacteria	109 / 74	Phoenix	No
O 27	24 Jan 2019	Bacteria	3400 / 100	MicroBac	Yes
O 27 Revisit	2 Sept 2020	Bacteria	80/1750	MicroBac	Yes
O 27 Revisit	19 Jan 2023	Bacteria	12000 / 4610	Phoenix	Yes
O 28	18 Mar 2021	Bacteria	<10 / 185	Phoenix	No
O 29	8 Jun 2022	Bacteria	132 / 85	Phoenix	No
O 31	8 Jun 2022	Bacteria	262 / 173	Phoenix	No
O 32	8 Jun 2022	Bacteria	1110 / 309	Phoenix	Yes
O 32	6 Jun 2024	Bacteria	10/63	Phoenix	No
O 32a	8 Jun 2022	Bacteria	<10 / <10	Phoenix	No
O 33	8 Jun 2022	Bacteria	2610 / 842	Phoenix	Yes
O 33a	8 Jun 2022	Bacteria	2480 / 279	Phoenix	Yes
O 33b	8 Jun 2022	Bacteria	173 / 1920	Phoenix	Yes
O 34	8 Jun 2022	Bacteria	2480 / 5790	Phoenix	Yes
O 35	18 Mar 2021	Bacteria	<135 / 504	Phoenix	Yes
O 35 Revisit	8 Jun 2022	Bacteria	4110 / 2280	Phoenix	Yes
O 35	16 Jun 2023	Bacteria	5172/2613	ECL Inc.	Yes
O 35	11 Apr 2024	Bacteria	249/<10	Phoenix	No
O 35-1	24 Jan 2019	Bacteria	1070 / 130	MicroBac	Yes
O 35-1 Revisit	2 Sept 2020	Bacteria	30 / 1090	MicroBac	Yes
O 35-1 Revisit	18 Mar 2021	Bacteria	<10 / <10	Phoenix	No
O 35-1 Revisit	8 Jun 2022	Bacteria	767 / 1190	Phoenix	Yes
O-35-1	16 Jun 2023	Bacteria	5794/520	ECL Inc.	Yes
O 35-1 Revisit	19 Jan 2023	Bacteria	185 / <10	Phoenix	No
O 35-1	11 Apr 2024	Bacteria	<10/<10	Phoenix	No
O 35-2	8 Jun 2022	Bacteria	2480 / 10	Phoenix	Yes
O 35-3	18 Mar 2021	Bacteria	73 / 52	Phoenix	No
O 35-4	18 Mar 2021	Bacteria	<10 / <10	Phoenix	No
O 35-5	26 Apr 2019	Bacteria	31 / 226	Phoenix	Yes
O 35-5 Revisit	18 Mar 2021	Bacteria	30 / 294	Phoenix	No
O 35-5 Revisit	5 Mar 2024	Bacteria	10/<10	Phoenix	No
O 35-6	18 Mar 2021	Bacteria	<10 / <10	Phoenix	No
O 35-7	18 Mar 2021	Bacteria	<10 / 10	Phoenix	No
O 35-8	18 Mar 2021	Bacteria	<10 / <10	Phoenix	No
O 35-9	18 Mar 2021	Bacteria	<10 / <10	Phoenix	No
O 35-10	8 Jun 2022	Bacteria	122 / <10	Phoenix	No
O 35-11	8 Jun 2022	Bacteria	5170 / 3040	Phoenix	Yes
O 36	24 Jan 2019	Bacteria	20 / 10	MicroBac	No
O 36 Revisit	2 Sept 2020	Bacteria	390 / 8400	MicroBac	Yes
O 36 Revisit	18 Mar 2021	Bacteria	<10 / 30	Phoenix	No
O 36 Revisit	8 Jun 2022	Bacteria	<1080 / 169	Phoenix	Yes
O 36 Revisit	19 Jan 2023	Bacteria	63 / <10	Phoenix	No
O 36	16 Jun 2023	Bacteria	24196 / 2359	ECL Inc.	Yes

Outfall ID	Sample date	Parameter (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	Results Enterococci / Fecal Coliform (<i>cfu/100mL</i>) 500 / 260 benchmarks	Name of Laboratory (if used)	Follow-up required? *
O 36	11 Apr 2024	Bacteria	379/<10	Phoenix	Yes
O 37	18 Mar 2021	Bacteria	<10 / 41	Phoenix	No
O 39	8 Jun 2022	Bacteria	211 / 259	Phoenix	No
O 40	8 Jun 2022	Bacteria	455 / 565	Phoenix	Yes
		Turbidity (>5)			
O 1	8 Jun 2022	Turbidity	Not Detected	-	No
O-2	5 Jun 2020	Turbidity	68.47	-	Yes—note this is surface flow
O-3	5 Jun 2020	Turbidity	7.48	-	Yes
O-4	6 Jun 2020	Turbidity	5.06	-	Yes
O-5	6 Jun 2020	Turbidity	2.28	-	No
O-6	6 Jun 2020	Turbidity	2.19	-	No
O-7	6 Jun 2020	Turbidity	5.78	-	Yes
O-8	6 Jun 2020	Turbidity	6.8	-	Yes
O-9	6 Jun 2020	Turbidity	1.48	-	No
O-10	6 Jun 2020	Turbidity	19.17	-	Yes
O 11	8 Jun 2022	Turbidity	Not Detected	-	No
O 12	18 Mar 2021	Turbidity	5.08	-	Yes
O 13	18 Mar 2021	Turbidity	6.13	-	Yes
O 15	18 Mar 2021	Turbidity	31.43	-	Yes
O 16	18 Mar 2021	Turbidity	27.29	-	Yes
O 17	18 Mar 2021	Turbidity	9.01	-	Yes
O 17a	8 Jun 2022	Turbidity	Not Detected	-	No
O 18	8 Jun 2022	Turbidity	6.07	-	Yes
O 19	8 Jun 2022	Turbidity	3.33	-	No
O 20	18 Mar 2021	Turbidity	5.32	-	Yes
O-20a	18 Mar 2021	Turbidity	8.87	-	Yes
O 21	18 Mar 2021	Turbidity	12.03	-	Yes
O 21	16 Jun 2023	Turbidity	24	-	Yes
O 21	11 Apr 2024	Turbidity	2.1	-	No
O 22	18 Mar 2021	Turbidity	7.92	-	Yes
O 22a	18 Mar 2021	Turbidity	101.7	-	Yes
O 22a	16 Jun 2023	Turbidity	2.6	-	No
O 22a	11 Apr 2024	Turbidity	24	-	Yes
O 22b	18 Mar 2021	Turbidity	35.07	-	Yes
O 23	18 Mar 2021	Turbidity	19.79	-	Yes
O 25	18 Mar 2021	Turbidity	17.9	-	Yes
O 25	16 Jun 2023	Turbidity	115	-	Yes
O 25	11 Apr 2024	Turbidity	15	-	Yes
O 25a	18 Mar 2021	Turbidity	23.36	-	Yes
O 26	18 Mar 2021	Turbidity	18.19	-	Yes
O 26b	18 Mar 2021	Turbidity	11.58	-	Yes
O 27	18 Mar 2021	Turbidity	18.7	-	Yes
O 28	18 Mar 2021	Turbidity	16.64	-	Yes
O 29	8 Jun 2022	Turbidity	Not Detected	-	No
O 31	8 Jun 2022	Turbidity	Not Detected	-	No
O 32	8 Jun 2022	Turbidity	Not Detected	-	No
O 32	6 Jun 2024	Turbidity	32	-	Yes
O 32a	8 Jun 2022	Turbidity	Not Detected	-	No
O 33	8 Jun 2022	Turbidity	Not Detected	-	No
O 33a	8 Jun 2022	Turbidity	1.09	-	No

Outfall ID	Sample date	Parameter (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	Results Enterococci / Fecal Coliform (<i>cfu/100mL</i>) 500 / 260 benchmarks	Name of Laboratory (if used)	Follow-up required? *
O 33b	8 Jun 2022	Turbidity	Not Detected	-	No
O 34	8 Jun 2022	Turbidity	Not Detected	-	No
O 35	6 Jun 2020	Turbidity	2.09	-	No
O 35	16 Jun 2023	Turbidity	21	-	Yes
O 35	11 Apr 2024	Turbidity	6.3	-	Yes
O 35-1	5 Jun 2020	Turbidity	0	-	No
O 35-1	16 Jun 2023	Turbidity	5.3	-	Yes
O 35-1	11 Apr 2024	Turbidity	29	-	Yes
O 35-2	8 Jun 2022	Turbidity	Not Detected	-	No
O 35-3	5 Jun 2020	Turbidity	5.93	-	Yes
O 35-4	6 Jun 2020	Turbidity	1.02	-	No
O 35-5	6 Jun 2020	Turbidity	1.1	-	No
O 35-6	6 Jun 2020	Turbidity	0.02	-	No
O 35-7	6 Jun 2020	Turbidity	0	-	No
O 35-8	6 Jun 2020	Turbidity	35.76	-	Yes
O 35-9	6 Jun 2020	Turbidity	6.2	-	Yes
O 35-10	8 Jun 2022	Turbidity	Not Detected	-	No
O 35-11	8 Jun 2022	Turbidity	6.25	-	Yes
O 36	18 Mar 2021	Turbidity	30.18	-	Yes
O 36	16 Jun 2023	Turbidity	9.4	-	No
O 36	11 Apr 2024	Turbidity	76.5	-	Yes
O 37	18 Mar 2021	Turbidity	40.86	-	Yes
O 39	8 Jun 2022	Turbidity	3.01	-	No
O 40	8 Jun 2022	Turbidity	Not Detected	-	No
		Nitrogen (<2.5)			
O 1	8 Jun 2022	Nitrogen	2.014	Phoenix	No
O 2	5 Jun 2020	Nitrogen	1.46	Phoenix	No
O 3	5 Jun 2020	Nitrogen	1.63	Phoenix	No
O 4	6 Jun 2020	Nitrogen	0.96	Phoenix	No
O 5	6 Jun 2020	Nitrogen	1.06	Phoenix	No
O 6	6 Jun 2020	Nitrogen	1.09	Phoenix	No
O 7	6 Jun 2020	Nitrogen	0.83	Phoenix	No
O 8	6 Jun 2020	Nitrogen	0.85	Phoenix	No
O 9	6 Jun 2020	Nitrogen	1.47	Phoenix	No
O 10	6 Jun 2020	Nitrogen	1.97	Phoenix	No
O 11	8 Jun 2022	Nitrogen	1.162	Phoenix	No
O 12	18 Mar 2021	Nitrogen	0.54	Phoenix	No
O 13	18 Mar 2021	Nitrogen	0.91	Phoenix	No
O 15	18 Mar 2021	Nitrogen	0.8	Phoenix	No
O 16	18 Mar 2021	Nitrogen	0.78	Phoenix	No
O 17	18 Mar 2021	Nitrogen	0.32	Phoenix	No
O 17a	8 Jun 2022	Nitrogen	0.754	Phoenix	No
O 18	8 Jun 2022	Nitrogen	0.65	Phoenix	No
O 19	8 Jun 2022	Nitrogen	1.05	Phoenix	No
O 20	18 Mar 2021	Nitrogen	0.67	Phoenix	No
O-20a	18 Mar 2021	Nitrogen	0.23	Phoenix	No
O 21	18 Mar 2021	Nitrogen	0.79	Phoenix	No
O 21 Revisit	8 Jun 2022	Nitrogen	1.35	Phoenix	No
O 21	16 Jun 2023	Nitrogen	2.94	ECL Inc.	Yes
O 21	11 Apr 2024	Nitrogen	1.47	Phoenix	No

Outfall ID	Sample date	Parameter (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	Results Enterococci / Fecal Coliform (<i>cfu/100mL</i>) 500 / 260 benchmarks	Name of Laboratory (if used)	Follow-up required? *
O 22	18 Mar 2021	Nitrogen	0.44	Phoenix	No
O 22	5 Mar 2024	Nitrogen	0.48	Phoenix	No
O 22a	18 Mar 2021	Nitrogen	0.65	Phoenix	No
O 22a Revisit	8 Jun 2022	Nitrogen	1.45	Phoenix	No
O 22a	16 Jun 2023	Nitrogen	2.43	ECL Inc	No
O 22a	11 Apr 2024	Nitrogen	1.36	Phoenix	No
O 22b	18 Mar 2021	Nitrogen	0.69	Phoenix	No
O 23	18 Mar 2021	Nitrogen	0.37	Phoenix	No
O 25	18 Mar 2021	Nitrogen	0.49	Phoenix	No
O 25 Revisit	8 Jun 2022	Nitrogen	1.69	Phoenix	No
O 25	16 Jun 2023	Nitrogen	2.65	ECL Inc	No
O 25	11 Apr 2024	Nitrogen	4.23	Phoenix	Yes
O 25a	18 Mar 2021	Nitrogen	0.66	Phoenix	No
O 26	18 Mar 2021	Nitrogen	0.37	Phoenix	No
O 26b	18 Mar 2021	Nitrogen	0.48	Phoenix	No
O 27	18 Mar 2021	Nitrogen	0.44	Phoenix	No
O 28	18 Mar 2021	Nitrogen	0.53	Phoenix	No
O 29	8 Jun 2022	Nitrogen	0.82	Phoenix	No
O 31	8 Jun 2022	Nitrogen	0.86	Phoenix	No
O 32	8 Jun 2022	Nitrogen	0.77	Phoenix	No
O 32	6 Jun 2024	Nitrogen	1.92	Phoenix	No
O 32 a	8 Jun 2022	Nitrogen	0.59	Phoenix	No
O 33	8 Jun 2022	Nitrogen	0.64	Phoenix	No
O 33a	8 Jun 2022	Nitrogen	1.03	Phoenix	No
O 33b	8 Jun 2022	Nitrogen	0.942	Phoenix	No
O 34	8 Jun 2022	Nitrogen	0.43	Phoenix	No
O 35	6 Jun 2020	Nitrogen	1	Phoenix	No
O 35 Revisit	8 Jun 2022	Nitrogen	1.46	Phoenix	No
O 35	16 Jun 2023	Nitrogen	2.64	ECL Inc	Yes
O 35	11 Apr 2024	Nitrogen	4.08	Phoenix	Yes
O 35-1	5 Jun 2020	Nitrogen	2.82	Phoenix	Yes
O 35-1 Revisit	8 Jun 2022	Nitrogen	2.02	Phoenix	No
O 35-1	16 Jun 2023	Nitrogen	2.23	ECL Inc.	No
O 35-1	11 Apr 2024	Nitrogen	3.05	Phoenix	Yes
O 35-2	8 Jun 2022	Nitrogen	1.29	Phoenix	No
O 35-3	5 Jun 2020	Nitrogen	1.34	Phoenix	No
O 35-4	6 Jun 2020	Nitrogen	0.82	Phoenix	No
O 35-5	6 Jun 2020	Nitrogen	0.93	Phoenix	No
O 35-5	5 Mar 2024	Nitrogen	0.40	Phoenix	No
O 35-6	6 Jun 2020	Nitrogen	0.86	Phoenix	No
O 35-7	6 Jun 2020	Nitrogen	0.98	Phoenix	No
O 35-8	6 Jun 2020	Nitrogen	1.43	Phoenix	No
O 35-9	6 Jun 2020	Nitrogen	0.94	Phoenix	No
O 35-10	8 Jun 2022	Nitrogen	1.64	Phoenix	No
O 35-11	8 Jun 2022	Nitrogen	1.64	Phoenix	No
O 36	18 Mar 2021	Nitrogen	3.18	Phoenix	Yes
O 36 Revisit	8 Jun 2022	Nitrogen	1.43	Phoenix	No
O 36	16 Jun 2023	Nitrogen	1.64	ECL Inc	No
O 36	11 Apr 2024	Nitrogen	4.82	Phoenix	Yes
O 37	18 Mar 2021	Nitrogen	4.99	Phoenix	Yes

Outfall ID	Sample date	Parameter (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	Results Enterococci / Fecal Coliform (<i>cfu/100mL</i>) 500 / 260 benchmarks	Name of Laboratory (if used)	Follow-up required? *
O 39	8 Jun 2022	Nitrogen	0.46	Phoenix	No
O 40	8 Jun 2022	Nitrogen	0.34	Phoenix	No
		Phosphorus (<i><0.3</i>)			
O-1	8 Jun 2022	Phosphorus	0.215	Phoenix	No
O-2	5 Jun 2020	Phosphorus	0.105	Phoenix	No
O-3	5 Jun 2020	Phosphorus	0.051	Phoenix	No
O-4	6 Jun 2020	Phosphorus	0.043	Phoenix	No
O-5	6 Jun 2020	Phosphorus	0.056	Phoenix	No
O-6	6 Jun 2020	Phosphorus	0.017	Phoenix	No
O-7	6 Jun 2020	Phosphorus	0.013	Phoenix	No
O-8	6 Jun 2020	Phosphorus	0.03	Phoenix	No
O-9	6 Jun 2020	Phosphorus	0.010	Phoenix	No
O-10	6 Jun 2020	Phosphorus	0.050	Phoenix	No
O 11	8 Jun 2022	Phosphorus	0.123	Phoenix	No
O 12	18 Mar 2021	Phosphorus	0.037	Phoenix	No
O 13	18 Mar 2021	Phosphorus	0.113	Phoenix	No
O 15	18 Mar 2021	Phosphorus	0.120	Phoenix	No
O 16	18 Mar 2021	Phosphorus	0.060	Phoenix	No
O 17	18 Mar 2021	Phosphorus	0.017	Phoenix	No
O 17a	8 Jun 2022	Phosphorus	0.108	Phoenix	No
O 18	8 Jun 2022	Phosphorus	0.057	Phoenix	No
O 19	8 Jun 2022	Phosphorus	0.217	Phoenix	No
O 20	18 Mar 2021	Phosphorus	0.031	Phoenix	No
O-20a	18 Mar 2021	Phosphorus	0.014	Phoenix	No
O 21	18 Mar 2021	Phosphorus	0.684	Phoenix	Yes
O 21 Revisit	8 Jun 2022	Phosphorus	0.096	Phoenix	No
O 21	18 Jun 2023	Phosphorus	0.188	ECL Inc	No
O 21	11 Apr 2024	Phosphorus	0.091	Phoenix	No
O 22	18 Mar 2021	Phosphorus	0.048	Phoenix	No
O 22	5 Mar 2024	Phosphorus	0.051	Phoenix	No
O 22a	18 Mar 2021	Phosphorus	0.123	Phoenix	No
O 22a Revisit	8 Jun 2022	Phosphorus	0.201	Phoenix	No
O 22a	18 Jun 2023	Phosphorus	0.164	ECL Inc	No
O 22a	11 Apr 2024	Phosphorus	0.090	Phoenix	No
O 22b	18 Mar 2021	Phosphorus	0.079	Phoenix	No
O 23	18 Mar 2021	Phosphorus	0.094	Phoenix	No
O 25	18 Mar 2021	Phosphorus	0.028	Phoenix	No
O 25 Revisit	8 Jun 2022	Phosphorus	0.248	Phoenix	No
O 25	16 Jun 2023	Phosphorus	0.546	ECL Inc	Yes
O 25	11 Apr 2024	Phosphorus	0.302	Phoenix	Yes
O 25a	18 Mar 2021	Phosphorus	0.167	Phoenix	No
O 26	18 Mar 2021	Phosphorus	0.076	Phoenix	No
O 26b	18 Mar 2021	Phosphorus	0.040	Phoenix	No
O 27	18 Mar 2021	Phosphorus	0.070	Phoenix	No
O 28	18 Mar 2021	Phosphorus	0.128	Phoenix	No
O 29	8 Jun 2022	Phosphorus	0.176	Phoenix	No
O 31	8 Jun 2022	Phosphorus	0.071	Phoenix	No
O 32	8 Jun 2022	Phosphorus	0.094	Phoenix	No
O 32	6 Jun 2024	Phosphorus	0.707	Phoenix	Yes

Outfall ID	Sample date	Parameter (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	Results Enterococcus / Fecal Coliform (cfu/100mL) 500 / 260 benchmarks	Name of Laboratory (if used)	Follow-up required? *
O 32a	8 Jun 2022	Phosphorus	0.088	Phoenix	No
O 33	8 Jun 2022	Phosphorus	0.064	Phoenix	No
O 33a	8 Jun 2022	Phosphorus	0.134	Phoenix	No
O 33b	8 Jun 2022	Phosphorus	0.021	Phoenix	No
O 34	8 Jun 2022	Phosphorus	0.189	Phoenix	No
O 35	6 Jun 2020	Phosphorus	0.06	Phoenix	No
O 35 Revisit	8 Jun 2022	Phosphorus	0.141	Phoenix	No
O 35	16 Jun 2023	Phosphorus	2.94	ECL Inc	Yes
O 35	11 Apr 2024	Phosphorus	0.144	Phoenix	No
O 35-1	5 Jun 2020	Phosphorus	<0.010	Phoenix	No
O 35-1 Revisit	8 Jun 2022	Phosphorus	0.201	Phoenix	No
O 35-1	16 Jun 2023	Phosphorus	0.119	ECL Inc	No
O 35-1	11 Apr 2024	Phosphorus	0.042	Phoenix	No
O 35-3	5 Jun 2020	Phosphorus	0.11	Phoenix	No
O 35-4	6 Jun 2020	Phosphorus	0.071	Phoenix	No
O 35-5	6 Jun 2020	Phosphorus	0.042	Phoenix	No
O 35-5	5 Mar 2024	Phosphorus	0.034	Phoenix	No
O 35-6	6 Jun 2020	Phosphorus	0.028	Phoenix	No
O 35-7	6 Jun 2020	Phosphorus	0.073	Phoenix	No
O 35-8	6 Jun 2020	Phosphorus	0.127	Phoenix	No
O 35-9	6 Jun 2020	Phosphorus	0.042	Phoenix	No
O 35-10	8 Jun 2022	Phosphorus	0.055	Phoenix	No
O 35-11	8 Jun 2022	Phosphorus	0.116	Phoenix	No
O 36	18 Mar 2021	Phosphorus	0.110	Phoenix	No
O 36 Revisit	8 Jun 2022	Phosphorus	0.245	Phoenix	No
O 36	16 Jun 2023	Phosphorus	0.167	ECL Inc	No
O 36	11 Apr 2024	Phosphorus	0.109	Phoenix	No
O 37	18 Mar 2021	Phosphorus	0.277	Phoenix	No
O 39	8 Jun 2022	Phosphorus	0.038	Phoenix	No
O 40	8 Jun 2022	Phosphorus	0.049	Phoenix	No

*Follow-up investigation required (last column) if the following pollutant thresholds are exceeded:

Pollutant of concern	Pollutant threshold
Nitrogen	Total N > 2.5 mg/l
Phosphorus	Total P > 0.3 mg/l
Bacteria (fresh waterbody)	<ul style="list-style-type: none"> E. coli > 235 col/100ml for swimming areas or 410 col/100ml for all others Total Coliform > 500 col/100ml
Bacteria (salt waterbody)	<ul style="list-style-type: none"> Fecal Coliform > 31 col/100ml for Class SA and > 260 col/100ml for Class SB Enterococci > 104 col/100ml for swimming areas or 500 col/100 for all others
Other pollutants of concern	Sample turbidity is 5 NTU > in-stream sample

3. Follow-up investigations (Section 6(i)(1)(D) / page 43)

Provide the following information for outfalls exceeding the pollutant threshold.

Outfall	Status of drainage area investigation	Control measure implementation to address impairment
O17, O21, O22A, O25, O27, O35, O35-1, and O36	Ongoing (Industrial permitted area)	Monthly inspections, feral cat management program, general Housekeeping efforts have addressed the Bacteria (O17, O21, O22A, O25, O27, O35, O35-1, O36) and N (O21, O25, O35 exceedances, turbidity exceedances at O21, O25, O35, O35-1, and O36 is addressed below
Various	Turbidity exceedances along the lower base corridor have been impacted by extensive sewer repair work, though BMPs were employed vehicle traffic and extent of work resulted in raised levels, with repair work largely completed existing BMPs will be adequate for normal operations.	Focus on BMP upkeep after initial installation (for example, fabric screens were so loaded down with material they would tear).
O 40	Ongoing	This is one of the Outfalls impacted by the Weapons Area recapitalization project, control measures are in final design stage.

4. Prioritized outfall monitoring (Section 6(i)(1)(D) / page 43)

Once outfall screening has been completed for at least 50% of outfalls to impaired waters, identify 6 of the highest contributors of any pollutants of concern. Begin monitoring these outfalls on an annual basis by July 1, 2021.

Outfall	Sample Date	Parameter(s)	Annual Results	Name of Laboratory (if used)	Results
O 21	3/18/2021 6/8/2022 6/16/2023 4/11/2024	P, N, Bacteria (FC & Enteroc)	High Bacteria, Fecal Coliform, and Turbidity	ECL	Enterococcus Bacteria 75 MPN/mL; Fecal Coliform Bacteria 10 MPN/100mL; pH 6.01 S.U.; Turbidity 2.1 NTU; Nitrate-Nitrite 0.76 mg/L; Nitrogen Tot Kjeldahl 0.71 mg/L; Total Nitrogen 1.47 mg/L; Phosphorus as P 0.091 mg/L
O 22a	3/18/2021 6/8/2022 6/16/2023 4/11/2024	P, N, Bacteria (FC & Enteroc)	High Bacteria	ECL	Enterococcus Bacteria 120 MPN/100mL; Fecal Coliform Bacteria 10 MPN/100mL; pH 6.94 S.U.; Turbidity 24 NTU; Nitrate-Nitrite 0.80 mg/L; Nitrogen Total Kjeldahl 0.56 mg/L; Total Nitrogen 1.36 mg/L; Phosphorus as P 0.090mg/L
O 25	3/18/2021 6/8/2022 6/16/2023 4/11/2024	P, N, Bacteria (FC & Enteroc)	High Bacteria, Fecal Coliform, Turbidity, and Phosphorus	ECL	Enterococcus Bacteria 63 MPN/100mL; Fecal Coliform Bacteria <10 MPN/100mL; pH 5.95 S.U.; Turbidity 15 NTU;

					Nitrate-Nitrite 1.13 mg/L; Nitrogen Total Kjeldahl 3.10 mg/L; Total Nitrogen 4.23 mg/L; Phosphorus as P 0.302 mg/L
O 35	3/18/2021 6/8/2022 6/16/2023 4/11/2024	P, N, Bacteria (FC & Entero)	High Bacteria, Fecal Coliform, Turbidity, and Phosphorus	ECL	Enterococcus Bacteria 249 MPN/100mL; Fecal Coliform Bacteria <10 MPN/100mL; pH 7.13 S.U.; Turbidity 6.3 NTU; Nitrate-Nitrite 1.32 mg/L; Nitrogen Total Kjeldahl 2.76 mg/L; Total Nitrogen 4.08 mg/L; Phosphorus as P 0.144 mg/L
O 35-1	3/18/2021 6/8/2022 6/16/2023 4/11/2024	P, N, Bacteria (FC & Entero)	High Bacteria, Fecal Coliform, and Turbidity	ECL	Enterococcus Bacteria <10 MPN/100mL; Fecal Coliform Bacteria <10 MPN/100mL; pH 6.58 S.U.; Turbidity 29 NTU; Nitrate-Nitrite 1.36 mg/L; Nitrogen Total Kjeldahl 1.69 mg/L; Total Nitrogen 3.05 mg/L Phosphorus as P 0.042 mg/L
O 36	3/18/2021 6/8/2022 6/16/2023 4/11/2024	P, N, Bacteria (FC & Entero)	High Bacteria, Fecal coliform, and Turbidity	ECL	Enterococcus Bacteria 379 MPN/100mL; Fecal Coliform Bacteria <10 MPN/100mL; pH 5.71 S.U.; Turbidity 76.5 NTU; Nitrate-Nitrite 1.82 mg/L; Nitrogen Total Kjeldahl 3.00 mg/L; Total Nitrogen 4.82 mg/L; Phosphorus as P 0.109 mg/L

Part III: Additional IDDE Program Data

1. Assessment and Priority Ranking of Catchments data (Appendix B (A)(7)(c) / page 5)

Provide a list of all catchments with ranking results (DEEP basins may be used instead of manual catchment delineations).

Catchment Area ID	Catchment Classification	Catchment Priority Rank		Catchment Area ID	Catchment Classification	Catchment Priority Rank
DA-35-5	Problem	1		DA-7	Low	30
DA-22	High	2		DA-9	Low	31
DA-35-1	Low	3		DA-6	Low	32
Sheet Flow	Low	4		DA-16	Low	33
DA-21	Low	5		DA-10	Low	34
DA-35	Low	6		DA-33-2	Low	35
DA-35-3	Low	7		DA-35-10	Low	36
DA-36	Low	8		DA-29	Low	37
DA-23	Low	9		DA-33-1	Low	38
DA-18	Low	10		DA-35-6	Low	39
DA-17-1	Low	11		DA-12	Low	40
DA-15	Low	12		DA-35-11	Low	41
DA-13	Low	13		DA-35-13	Low	42
DA-32	Low	14		DA-34	Low	43
DA-25	Low	15		DA-20/22	Low	44
DA-11	Low	16		DA-19	Low	45
DA-26	Low	17		DA-3	Low	46
DA-20	Low	18		DA-35-12	Low	47
DA-27	Low	19		DA-4	Low	48
DA-33	Low	20		DA-2/11	Low	49
DA-37	Low	21		DA-5	Low	50
DA-31	Low	22		DA-35-2	Low	51
DA-2	Low	23		DA-39	Low	52
DA-17	Low	24		DA-40	Low	53
DA-32-1	Low	25		DA-35-7/8	Low	54
DA-28	Low	26		DA-35-9	Low	55
DA-20A	Low	27		DA-26-1	Low	56
DA-35-4	Low	28		DA-1	Low	57
DA-8	Low	29				

2. Outfall and Interconnection Screening and Sampling data (Appendix B (A)(7)(d) / page 7)

2.1 Dry weather screening and sampling data from outfalls and interconnections

Provide sample data for outfalls where flow is observed. Only include Pollutant of concern data for outfalls that discharge into stormwater impaired waterbodies.

Outfall / Interconnection ID	Screening / sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or enterococcus	Surfactants	Water Temp	Pollutant of concern	If required, follow-up actions taken
022 - 106	8/22/2019 10:30	0.165	<0.05	760	<1	<10 / 10	<0.0500	28.1	Bacteria	
022 - Shark	8/22/2019 9:40	0.0798	0.08	350	<1	80 / 360	0.063	25.4	Bacteria	
035 - 433	8/22/2019 11:25	<0.0500	<0.05	350	<1	30 / 150	<0.0500	25.3	Bacteria	
035 - 484	8/22/2019 11:20	0.168	<0.05	330	<1	50 / 540	0.156	26.1	Bacteria	O-35 complex is under investigation, including sampling and projects such as 549 tank replacement, suspect findings are all related to high-groundwater "Crystal Lake" site.
035 - Tang	8/22/2019 12:20	0.646	0.06	2400	1.2	60 / 610	0.148	24.8	Bacteria	
035 - Track	8/22/2019 13:10	0.71	0.09	980	<1	10 / <10	0.079	24.5	Bacteria	
035 - Baseball	8/22/2019 12:45	0.38	0.07	1010	<1	70 / 290	0.086	24.2	Bacteria	
Thames (background sample)	8/22/2019 13:40	0.094	<0.05	Above limits	Unable to calculate	<10 / <10	0.14	28.1	Bacteria	
020/22 - Rock	8/22/2019 10:00	<0.0500	<0.05	280	<1	<10 / <10	<0.0500	24.5	Bacteria	

Outfall / Interconnection ID	Screening / sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or enterococcus	Surfactants	Water Temp	Pollutant of concern	If required, follow-up actions taken
020/022-449	9/23/2019 9:30	2.32	<0.05	190	<1	<10 / 28	0.79	21.6	Bacteria	Building check
037-519	9/23/2019 10:30	0.177	<0.05	20	<1	150 / 50	0.139	22.9	Bacteria	
035-5-520	9/23/2019 11:00	0.408	<0.05	30	<1	240 / 691	0.231	23.1	Bacteria	
035-461	9/23/2019 11:40	0.066	<0.05	500	<1	100 / 39	0.051	19.6	Bacteria	
034-A571	9/23/2019 12:10	0.0613	0.08	1470	<1	<10 / 1	0.056	22.7	Bacteria	
02-PR1	9/23/2019 13:00	0.0664	0.12	740	<1	<10 / 722	0.089	23.8	Bacteria	Looked at Golf course area and surface flow, nothing found
011-SHARK	9/23/2019 13:20	0.106	0.07	1720	<1	<10 / 232	0.099	22.2	Bacteria	
035-582	9/23/2019 14:00	<0.0500	0.05	300	<1	<10 / 60	<0.0500	25.7	Bacteria	
035-4-518	9/26/2019 9:20	0.121	0.06	830	<1	<10 / 6	0.14	21.9	Bacteria	
035-3-569	9/26/2019 9:50	0.403	<0.05	660	<1	<10 / 261	<0.500	21.5	Bacteria	
026-84	9/26/2019 10:20	0.367	<0.05	70	<1	<10 / <1	ND	23.4	Bacteria	
032-499	9/26/2019 11:20	2.54	<0.05	50	<1	<10 / 10	0.116	21.7	Bacteria	Building check uphill, nothing found
035-9-434	9/26/2019 12:20	0.0627	<0.05	1320	<1	50 / 33	<0.0500	19.0	Bacteria	
026-492	9/26/2019 13:00	<0.0500	<0.05	20	<1	<10 / 37	<0.0500	21.9	Bacteria	
035-Tautog	9/26/2019 13:40	0.105	<0.05	1110	<1	<10 / 68	0.085	21.8	Bacteria	

Outfall / Interconnection ID	Screening / sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or enterococcus	Surfactants	Water Temp	Pollutant of concern	If required, follow-up actions taken
032-168	9/26/2019 14:20	0.289	<0.05	40	<1	<10 / 83	0.204	21.3	Bacteria	

2.2 Wet weather sample and inspection data

Provide sample data for outfalls and key junction manholes of any catchment area with at least one System Vulnerability Factor.

Outfall / Interconnection ID	Sample date	Ammonia	Chlorine	Conductivity	Salinity	Fecal coliform / Enterococcus (Sampled on 3/18/2021)	Surfactants	Water Temp C	Pollutant of concern
O 1	6/8/2022	0.42	0.16	690	0.34	457 / 1660	0.14	19	Bacteria
O-2	6/5/2020	0.31	0	817	0.4	<10 / <10	<0.10	20.3	Bacteria
O-3	6/5/2020	0.11	0.06	15674	9.18	10 / 20	0.64	20.7	Bacteria
O-4	6/6/2020	0.28	0	53.2	0.02	<10 / 30	0.22	19.9	Bacteria
O-5	6/6/2020	0.36	0	42.6	0.02	<10 / 20	0.28	19.8	Bacteria
O-6	6/6/2020	0.24	0	31.5	0.01	<10 / <10	0.12	19.9	Bacteria
O-7	6/6/2020	0.19	0	120.2	0.06	<10 / 10	0.19	19.9	Bacteria
O-8	6/6/2020	0.29	0	67	0.03	<10 / <10	0.06	19	Bacteria
O-9	6/6/2020	0.14	0.03	18593	11.06	<10 / <10	0.52	19.4	Bacteria
O-10	6/6/2020	0.35	0.01	2385	1.23	<10 / 10	0.64	19.8	Bacteria
O 11	6/8/2022	0.21	0.33	523.1	0.25	2360 / 2280	0.1	19	Bacteria
O 12	3/18/2021	0.12	0	58.6	0.02	<10 / 20	0.18	8.5	Bacteria
O 13	3/18/2021	0.23	0	38.6	0.01	<10 / 30	0.06	8.5	Bacteria
O 15	3/18/2021	0.13	0.22	58	0	<10 / 10	0.12	8.4	Bacteria
O 16	3/18/2021	0.15	0.20	571	0.3	<10 / <10	0.28	8.4	Bacteria
O 17	3/18/2021	0.10	0.01	211.8	0.1	<10 / <10	<0.05	8.6	Bacteria
O 17a	6/8/2022	0.13	0.11	36.7	0.02	521 / 4350	0.07	19.7	Bacteria
O 18	6/8/2022	0.23	0	19.1	0.01	1660 / >24200	0.12	19.7	Bacteria
O 19	6/8/2022	0.30	0.04	50.6	0.02	548 / 9800	0.08	19.5	Bacteria
O 20	3/18/2021	0.08	0	106	0.1	20 / 132	<0.05	8.4	Bacteria
O-20a	3/18/2021	0.05	0	32.3	0	<10 / 10	<0.05	8.3	Bacteria
O 21	3/18/2021	0.14	0	65.1	0	<10 / 62	<0.05	8.5	Bacteria
O 22	3/18/2021	0.09	0.01	18.1	0	243 / 20	0.11	8.4	Bacteria
O 22a	3/18/2021	0.12	0	33.3	0	<10 / 462	0.10	8.6	Bacteria

Outfall / Interconnection ID	Sample date	Ammonia	Chlorine	Conductivity	Salinity	Fecal coliform / Enterococcus (Sampled on 3/18/2021)	Surfactants	Water Temp C	Pollutant of concern
O 22b	3/18/2021	0.09	0	176.7	0.1	20 / 52	0.07	8.6	Bacteria
O 23	3/18/2021	0.10	0	73.4	0	10 / 10	<0.05	8.3	Bacteria
O 25	3/18/2021	0.10	0	63.3	0	364 / 41	<0.05	8.6	Bacteria
O 25a	3/18/2021	0.14	0	38.4	0	<10 / 63	<0.05	8.7	Bacteria
O 26	3/18/2021	0.07	0	19.0	0	<10 / 288	0.16	8.5	Bacteria
O 26b	3/18/2021	0.09	0.01	90.7	0	109 / 74	<0.05	8.5	Bacteria
O 27	3/18/2021	0.09	0	116.4	0.1	10 / 122	<0.05	8.6	Bacteria
O 28	3/18/2021	0.12	0	176.1	0.1	<10 / 185	0.09	8.4	Bacteria
O 29	6/8/2022	0.17	0.04	18.5	0.01	85 / 132	0.09	18.9	Bacteria
O 31	6/8/2022	0.25	0.01	37.4	0.02	173 / 262	0.14	19.6	Bacteria
O 32	6/8/2022	0.22	0.02	41.7	0.02	309 / 1110	0.09	19.7	Bacteria
O 32a	6/8/2022	0.2	0	40	0.02	<10 / <10	<0.05	19.2	Bacteria
O 33	6/8/2022	0.12	0.04	40	0.02	842 / 2610	<0.05	19.5	Bacteria
O 33a	6/8/2022	0.16	0.07	54	0.02	279 / 2480	0.10	19.6	Bacteria
O 33b	6/8/2022	0.21	0.02	33.7	0.01	1920 / 173	0.27	19.6	Bacteria
O 34	6/8/2022	0.05	0.09	253	12	5790 / 2480	<0.05	18.5	Bacteria
O 35	6/6/2020	0.22	0	40.6	0.02	135 / 504	0.07	19.1	Bacteria
O 35-1	6/5/2020	0.06	0	637	0.31	<10 / <10	<0.05	21.1	Bacteria
O 35-2	6/8/2022	0.43	0.09	107.1	0.05	10 / 2480	0.08	19.6	Bacteria
O 35-3	6/5/2020	0.11	0	633	0.31	73 / 52	0.14	19.5	Bacteria
O 35-4	6/6/2020	0.1	0	388.2	0.19	<10 / <10	0.07	18.9	Bacteria
O 35-5	6/6/2020	0.13	0	120	0.06	30 / 294	0.08	19.7	Bacteria
O 35-6	6/6/2020	0.19	0	0.2	0	<10 / <10	0.11	19.4	Bacteria
O 35-7	6/6/2020	0.11	0	113.9	0.05	<10 / 10	<0.05	19.9	Bacteria
O 35-8	6/6/2020	0.16	0	86.9	0.04	<10 / <10	0.09	19.6	Bacteria
O 35-9	6/6/2020	0.24	0	137.3	0.06	<10 / <10	0.09	20.1	Bacteria
O 35-10	6/8/2022	0.43	0.23	33.6	0.01	<10 / 122	0.08	19.7	Bacteria
O 35-11	6/8/2022	0.48	0.12	34.4	0.01	3040 / 5170	0.15	18.7	Bacteria
O 36	3/18/2021	0.35	0.04	5,480	3.4	<10 / 30	0.16	8.4	Bacteria
O 37	3/18/2021	1.28	0.01	2352	1.2	<10 / 41	0.34	9.1	Bacteria
O 39	6/8/2022	<0.05	0	403.9	0.19	259 / 211	0.1	17.9	Bacteria
O 40	6/8/2022	<0.05	0	181.7	0.09	565 / 455	<0.05	17.7	Bacteria

3. Catchment Investigation data (Appendix B (A)(7)(e) / page 9)

3.1 System Vulnerability Factor Summary

For those catchments being investigated for illicit discharges (i.e. categorized as high priority, low priority, or problem) document the presence or absence of System Vulnerability Factors (SVF). If present, report which SVF's were identified. An example is provided below.

Outfall ID	Receiving Water	System Vulnerability Factors
All	Thames River	SUBASE Catchment Assessments were conducted for our IDDE Program Plan and then ranked, based off of the SVF's listed below. When documenting the presence or absence of specific SVFs, it was apparent SVF #10 (below) applied universally to SUBASE, with very few isolated areas within a given catchment having significant updates/upgrades. As such, the entire Stormwater sewer system falls under the illicit discharge elimination screening program. Screening selection/baselines were conducted from 25-26 October 2016 and verified from 17 July-15 August 2018. DA 35-5 ("Problem") and DA 22 ("High priority") were investigated, results below (Table 3.3 & 3.4). Additionally, a contracted screening action ending 26 September 2019 added a single (potential) floor drain cross-connection within DA 32 (Bldg 499)—reasonable and prudent measures have been taken to minimize the discharge of pollutants through "plugs", and the site has been inducted for permanent correction, with verification sampling to follow. All repair actions have been completed, awaiting final verification sampling.

Where SVFs are:

1. History of SSOs, including, but not limited to, those resulting from wet weather, high water table, or fat/oil/grease blockages.
2. Sewer pump/lift stations, siphons, or known sanitary sewer restrictions where power/equipment failures or blockages could readily result in SSOs.
3. Inadequate sanitary sewer level of service (LOS) resulting in regular surcharging, customer back-ups, or frequent customer complaints.
4. Common or twin-invert manholes serving storm and sanitary sewer alignments.
5. Common trench construction serving both storm and sanitary sewer alignments.
6. Crossings of storm and sanitary sewer alignments.
7. Sanitary sewer alignments known or suspected to have been constructed with an underdrain system;
8. Sanitary sewer infrastructure defects such as leaking service laterals, cracked, broken, or offset sanitary infrastructure, directly piped connections between storm drain and sanitary sewer infrastructure, or other vulnerability factors identified through Inflow/Infiltration Analyses, Sanitary Sewer Evaluation Surveys, or other infrastructure investigations.
9. Areas formerly served by combined sewer systems.
10. Any sanitary sewer and storm drain infrastructure greater than 40 years old in medium and densely developed areas.
11. Widespread code-required septic system upgrades required at property transfers (indicative of inadequate soils, water table separation, or other physical constraints of the area rather than poor owner maintenance).
12. History of multiple local health department or sanitarian actions addressing widespread septic system failures (indicative of inadequate soils, water table separation, or other physical constraints of the area rather than poor owner maintenance).

3.2 Key junction manhole dry weather screening and sampling data

Key Junction Manhole ID	Sample date / Time	Visual / olfactory evidence of illicit discharge	Ammonia mg/L	Chlorine mg/L	Surfactants mg/L
022 - 106	22 Aug 2019 10:30	Flow (~5 gpm)	0.165	<0.05	<0.0500
022 - Shark	22 Aug 2019 9:40	Flow (~5 gpm)	0.0798	0.08	0.063
035 - 433	22 Aug 2019 11:25	Flow (~5 gpm)	<0.0500	<0.05	<0.0500
035 - 484	22 Aug 2019 11:20	Flow (~1 gpm)	0.168	<0.05	0.156
035 - Tang	22 Aug 2019 12:20	Flow (~5-10 gpm)	0.646	0.06	0.148
035 - Track	22 Aug 2019 13:10	Flow (~3-5 gpm)	0.71	0.09	0.079
035 - Baseball	22 Aug 2019 12:45	Flow (~3-5 gpm)	0.38	0.07	0.086
Thames (background sample)	22 Aug 2019 13:40	N/A	0.094	<0.05	0.14
020/22 - Rock	22 Aug 2019 10:00	Flow (~10-15 gpm)	<0.0500	<0.05	<0.0500
020/022-449	23 Sept 2019 9:30	Flow (~1 gpm)	2.32	<0.05	0.79
037-519	23 Sept 2019 10:30	Flow (~1-3 gpm)	0.177	<0.05	0.139
035-5-520	23 Sept 2019 11:00	Flow (<0.5 gpm)	0.408	<0.05	0.231
035-461	23 Sept 2019 11:40	Stream Flow (50+ gpm)	0.066	<0.05	0.051
034-A571	23 Sept 2019 12:10	Flow (~1 gpm)	0.0613	0.08	0.056
02-PR1	23 Sept 2019 13:00	Stream Flow (20+ gpm)	0.0664	0.12	0.089
011-SHARK	23 Sept 2019 13:20	Stream Flow (20+ gpm)	0.106	0.07	0.099
035-582	23 Sept 2019 14:00	Flow (~1 gpm)	<0.0500	0.05	<0.0500
035-4-518	26 Sept 2019 9:20	Flow (~100 gpm)	0.121	0.06	0.14
035-3-569	26 Sept 2019 9:50	Flow (~1 gpm)	0.403	<0.05	<0.500
026-84	26 Sept 2019 10:20	Flow (<.1 gpm)	0.367	<0.05	ND
032-499	26 Sept 2019 11:20	Flow (<1 gpm)	2.54	<0.05	0.116
035-9-434	26 Sept 2019 12:20	Flow (~1-2 gpm)	0.0627	<0.05	<0.0500
026-492	26 Sept 2019 13:00	Flow (~1 gpm)	<0.0500	<0.05	<0.0500
035-Tautog	26 Sept 2019 13:40	Flow (~5-10 gpm)	0.105	<0.05	0.085
032-168	26 Sept 2019 14:20	Flow (~1-3 gpm)	0.289	<0.05	0.204

3.3 Wet weather investigation outfall sampling data

Outfall ID	Sample date	Ammonia	Chlorine	Surfactants
DA 35-5	26 Apr 2019 (5-year confirmation test due before Apr 2024) /Retest completed 05 Mar 2024	0.25/retest 0.05	0.14/retest 0.02 (6 Jun 2019) / retest	0.11/retest <0.10
DA 22	26 Mar 2019 (5-year confirmation test due before Apr 2024)/Retest completed 05 Mar 2024	0.25/retest 0.14	0.00 (6 Jun 2019)/ retest <0.02	0.13/retest <0.10
DA 32	26 Sept 2019 (5-year confirmation test due before Jun 2024)/Retest completed 06 Jun 2024	0.22/retest 0.14	0.02/retest <0.02	0.09/retest 0.12

3.4 Data for each illicit discharge source confirmed through the catchment investigation procedure

Discharge location	Source location	Discharge description	Method of discovery	Date of discovery	Date of elimination	Mitigation or enforcement action	Estimated volume of flow removed
DA 35-5	Bldg 439	Floor drain in mech room appeared to flow to Storm sewer system	IDDE survey	Verified 24 Jul 2018	Verified 6 Jun 2019	Removed drain and plugged with concrete pour, re-routed floor drains to known sanitary sewer connection.	Intermittent, likely only from HVAC use
DA 32	Bldg 499	Floor drain in mech room appears to flow to Storm sewer system	IDDE survey	Verified 5 Dec 2019	Verified 5 Mar 2021	Re-routed to nearby sanitary sewer, direct connection for condensate sources within mechanical room.	Intermittent, likely only from HVAC use
DA 22a	Bldg 106	Sewage odor	IDDE survey	Various	Verified 6 Jun 2019	Sampled and Shops investigated via Work Order.	N/A

Part IV: Certification

<p>“I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in this document or its attachments may be punishable as a criminal offense, in accordance with Section 22a-6 of the Connecticut General Statutes, pursuant to Section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute.”</p>	
Chief Elected Official or Principal Executive Officer	Document Prepared by
Print name:	Print name:
Signature / Date:	Signature / Date: