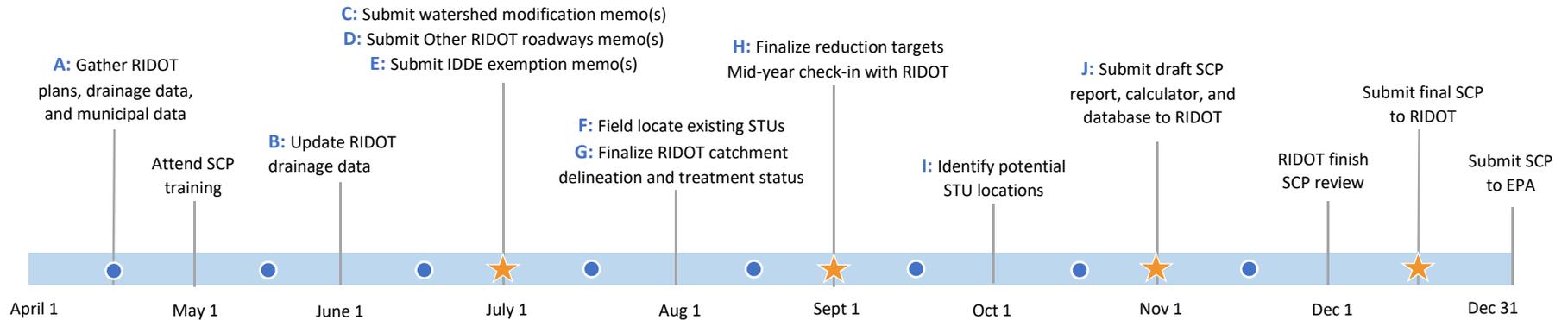




SCP Workflow

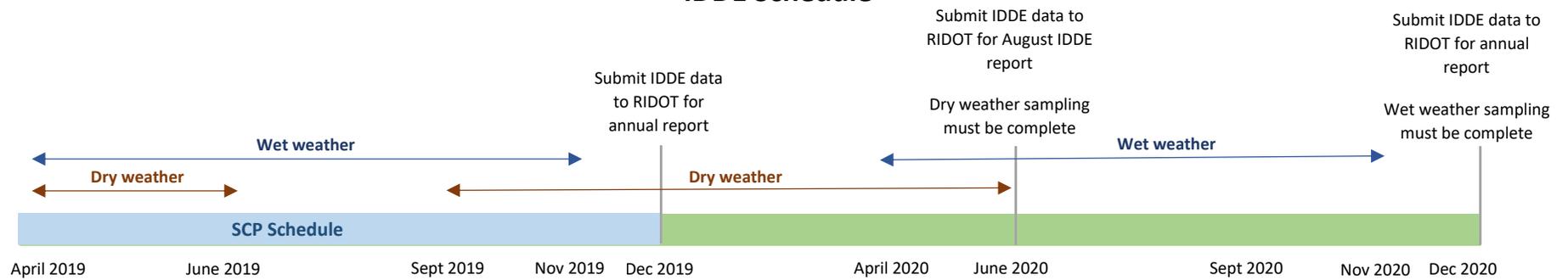


SCP Schedule



- ★ = database submission
- = monthly check-in with RIDOT
- A: = See corresponding section below for more details

IDDE Schedule





SCP Workflow



This document provides additional guidance on SCP workflow to be conducted as outlined in the schedule on Page 1. Work will be documented in memos, reports, and the RIDOT Stormwater Database throughout the project lifetime. Additional guidance will be provided at the SCP training to be held in early May 2019.

A. SCP Watershed Review

- Obtain access to RIDOT ArcGIS Online data and VUEworks, to be able to view and edit data
- Obtain editing rights to RIDOT SCP database
- Request and review all available drainage data
 - Review RIDOT drainage GIS data
 - Request and review available RIDOT plans
 - Obtain and review available municipal data
- Collect and review information related to RIDOT from the Integrated Waterbody Report, associated Water Quality reports and sampling data
- Confirm stormwater-related impairments from RIDOT's 2016 303(d) list and if the TMDL and/or IC Method are applicable
- Review TMDL for information related to RIDOT (if applicable):
 - Identify primary sources of impairments
 - Identify RIDOT obligations specifically listed in the TMDL, if available
 - Identify priority outfalls
 - Confirm pollutant reduction target
- Determine upcoming projects in watershed using latest 5-year TIP Plan (provided by RIDOT)
- Review dry weather outfall inspections. If an outfall is flagged as "No" for dry weather flow in VUEworks, confirm inspection date qualifies as dry weather conditions to determine if additional dry weather screening is required.
- Review results of IDDE inspections for Consent Decree Outfalls (check with RIDOT for IDDE investigation status and schedule):
 - High Priority (Appendix 6)
 - RIDOT MS4 Discharge Points (Appendix 8)
 - Priority (RIDOT identified outfalls)

B. Update RIDOT Drainage Data

- Identify all RIDOT outfalls in watershed via existing RIDOT GIS drainage inventory and plan review
- Field confirm accuracy of RIDOT GIS drainage data
- Update RIDOT GIS drainage data, as necessary, using ArcGIS Collector or Webmap applications

C. SCP Watershed Boundary Modification

- Confirm or modify RIDEM SCP watershed delineation
 - Ensure watershed boundaries reflect latest RIDOT GIS drainage data
 - Conduct field investigation to confirm and modify watershed boundary
 - Review neighboring watershed boundaries to ensure boundaries still align. Modify neighboring watershed boundaries, as necessary.
- Submit watershed modification memo and supporting documentation to RIDOT for review, as necessary

D. “Other” Roadway Assessment and Review

- Determine if additional roads (other than those shown in RIDOT Maintained Roadways layer) are owned or operated by RIDOT (see Consent Decree Paragraph 18.e)
 - Identify possible roadways from mapping and plans obtained from RIDOT and municipalities.
 - Discuss possible “other” roadways with RIDOT to determine what roads to include in SCP analysis. If needed, develop a figure for discussion.
- Submit memo with list of additional RIDOT roads to EPA and RIDEM
- Supplement inventory of catch basins, manholes, outfalls, and STUs for any “other” roads in RIDOT GIS drainage inventory

E. IDDE Exemption Memos

- Determine outfalls not requiring IDDE (see Consent Decree Paragraph 22) using exemption criteria listed below
- Develop IDDE Exemption request for SCP Group, as appropriate

Exemption Criteria

Outfalls may be exempt from IDDE inspection requirements because they meet one of the exemption criteria outlined below:

- Roadway does not include underground RIDOT stormwater infrastructure
- There is limited potential for sanitary sewage to access and enter the RIDOT stormwater infrastructure (for example, on a limited access highway)
- None of the following system vulnerability criteria (see Consent Decree Appendix 7) are present:
 - nearby residential/commercial/industrial land use
 - municipal sewer areas within watershed
 - failed onsite wastewater treatment systems
 - outfalls discharge to the Narragansett Bay Commission (NBC) combined sewer overflows (CSOs) and are therefore not part of the MS4 permit

F. Existing STU Identification

- Identify existing STUs (from RIDOT GIS drainage inventory and field investigation) and request plans, if necessary
 - Identify opportunities for enhancements to existing STUs
- Confirm existing STUs and determine STU status (see below)
 - Take photos and determine functionality of existing STU
 - Take measurements to estimate treatment volume or calculate from plans
- Identify additional existing STUs including QPAs and pervious land enhancements

All STUs are assigned a current STU status. There are three options for existing STUs:

STU Status	Description	SCP Credit
Active	STU is functioning as designed	STU receives credit in the SCP as-is, as an existing control
Existing needs maintenance	STU requires maintenance to function properly	STU must first be maintained before it can receive credit and therefore credit is considered potential for SCP purposes
Existing retrofit	Opportunity to upgrade STU identified during SCP process	STU must be first retrofitted before it can receive full credit and therefore credit is considered potential for SCP purposes

G. Catchment Delineation

RIDOT right-of-way and areas draining to RIDOT’s system are mapped together in one layer, and designated by ownership, discharge ID, treatment status, and land use.

- Delineate overall RIDOT right-of-way using drainage data and plat plans (for RIDOT approximate property boundaries)
 - Ensure catchment boundaries align with the modified watershed boundary
- Delineate catchment polygons for Non-RIDOT areas that contribute to structural STUs (i.e., existing or potential STUs receiving treatment credit), subdivided by land use
- Subdivide catchments based on discharge location
 - Discharge locations should be recorded as the structure ID of the outfall or interconnecting structure
- Subdivide catchments by treatment status (see example)
 - Identify areas that are non-discharging
 - Identify areas that discharge to CSOs using the NBC datalayer provided by RIDOT
 - Identify areas that are part of upcoming TIP projects
 - Identify treatment potential of remaining areas
- Subdivide catchment polygons to delineate STU drainage areas
 - Multiple catchment polygons may have the same Discharge ID. However, in general, each RIDOT owned catchment polygon is associated with a maximum of one structural STU.
 - There may be more than one catchment that is not owned by RIDOT associated with a STU. For partnership STUs that do not treat any RIDOT area, the STU will not be associated with a RIDOT owned catchment.
- Conduct field investigations to confirm and modify catchment delineations and confirm treatment statuses



SCP Workflow



Treatment Status Definitions

Each catchment is given a treatment status:

Treatment Status	Description	SCP Water Quality Treatment Credit
Non-discharge	Flows fully infiltrate before reaching the waterbody (see example on Page 6)	
TIP – Non-discharge	Area within a future TIP project where flows fully infiltrate before reaching the waterbody	Catchment is removed from area requiring treatment (i.e., reduces reduction target)
Discharge to CSO	Area where RIDOT’s drainage system flows to a CSO	
TIP – Discharge to CSO	Area within a future TIP project where RIDOT’s drainage system flows to a CSO	
Not feasible	Area where treatment is not feasible due to site constraints (documented in the Catchment Constraints related table)	None
TIP – Not feasible	Area that is part of an upcoming TIP project, but treatment is not feasible due to site constraints	
Potential	Area where treatment is feasible and individual STU locations have been identified	Potential STU within catchment receives potential credit
TIP - Potential	Area that is part of an upcoming TIP project where treatment is feasible and individual STU locations were identified as part of the SCP process	
Existing	Area treated by an existing STU. Note: Only STUs with a status of active should be associated with a catchment with a treatment status of existing. STUs with a status of Existing needs maintenance or Existing retrofit should be associated with a catchment with a potential treatment status.	Existing STU within catchment receives existing credit
TIP - Existing	Area that is part of a future TIP project that is treated by an existing STU	
Limited ROW	Area with limited right of way that limits STU potential. Individual STUs were not identified during the SCP	Catchment receives assumed credit (10% of the impervious catchment area treated at 0.25-inch treatment depth with bioretention STUs)
TIP – Limited ROW	Area that is part of a future TIP project with limited right of way that limits STU potential. Individual STUs were not identified during the SCP.	
TIP	Area is part of a future TIP project, but individual STUs were not identified during the SCP	Area assumed to receive 50% treatment credit

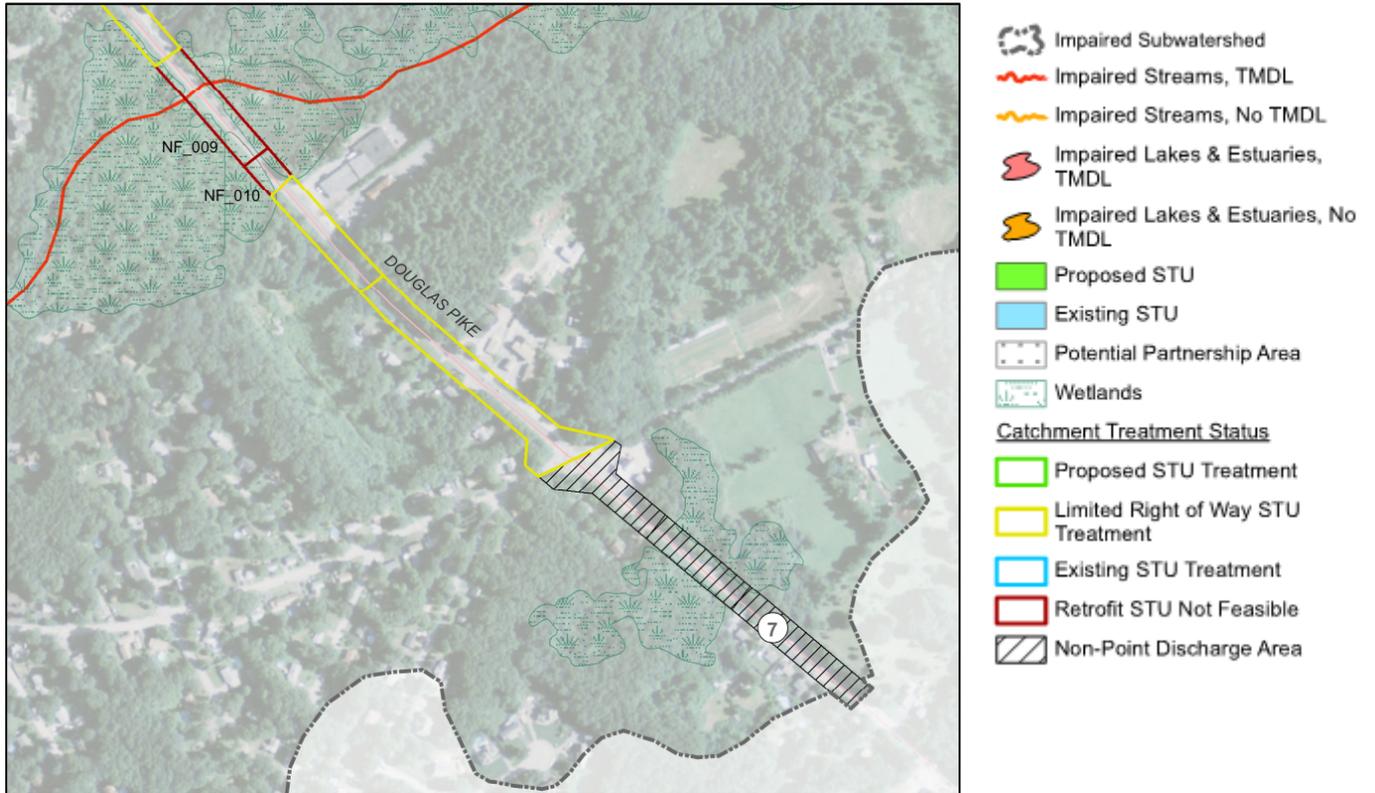
Non-Discharge Area Definition

Definition: Area where flows fully infiltrate into the ground before reaching the waterbody (including its banks) or wetlands adjacent to the waterbody (see Consent Decree Paragraph 6.cc).

Demonstrated with hydrologic layers (including hydrography) and topography that flows do not reach the waterbody (i.e. flow to an isolated wetland system, depression etc.).

SCP Requirements: Catchment can be removed from area requiring treatment but still described and shown as such in the SCP report.

Example: Non-discharge catchment flows to an isolated wetland system.



H. SCP Target Reduction Target

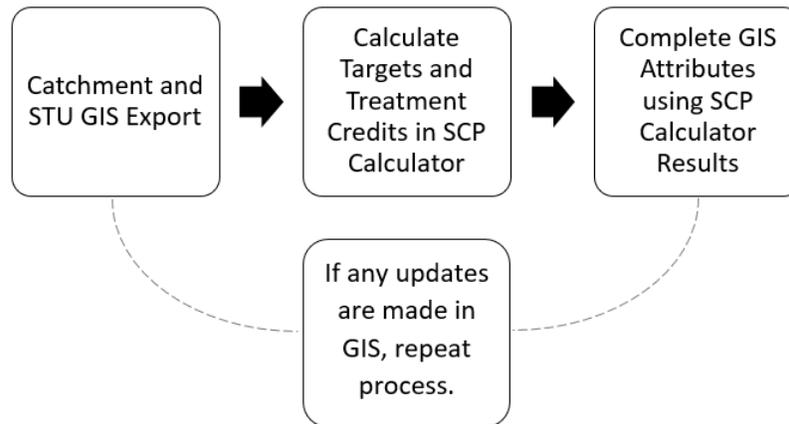
- Calculate TMDL pollutant or IC reduction targets using modified watershed boundaries and RIDOT owned catchments, excluding non-discharge and CSO catchments (as necessary)

I. STU Locations

- Identify potential enhanced non-structural controls and locations to address TMDL requirements and pollutant sources including:
 - Source reductions and run-on reduction
 - Impervious cover and agricultural disconnection
 - Pavement reductions
 - Enhanced street sweeping and CB cleaning
 - Leaf litter removal
 - Animal waste or manure pile removal
 - Dredging
 - Streambank and floodplain restoration
- Identify potential STU opportunities and locations using Section 1.2 (Step 4) of the RIDOT Linear Stormwater Manual
 - Also consider partnerships with municipalities and watershed groups
 - See Water Quality Methodology Report and Calculator for more information on approach and SCP treatment credits
- Identify and record not feasible STU locations as polygons with a status of “not feasible”. These STUs do not need to be associated with a specific catchment.
- Conduct field investigation to confirm/modify potential STU locations, STU types, and contributing catchment areas
 - Roughly size STU treatment volume based on observed conditions

J. SCP Treatment Calculations and Report Development

- Use the SCP Calculator to calculate treatment provided by existing and potential STUs and TIP and LROW catchments using the following workflow:



- Calculate treatment provided by selected enhanced non-structural controls (work with VHB/RIDOT to further refine methods for these calculations and treatment credits).
- Use the SCP Calculator and engineering judgement to assign costs to the STUs and use those values along with other factors (e.g., ownership, constructability) to prioritize STUs
 - Note existing STUs with a status of “active” do not need a retrofit priority.
- Finalize SCP database
 - Populate SCP data, Catchment, and STU layers
 - Populate Catchment Constraints table for all catchments except those identified as non-discharge or discharging to a CSO
 - Populate RIDOT STU History table with STU treatment credits
 - Populate RIDOT SCP History table summarizing SCP results and total treatment
- Populate draft SCP template report, tables, appendices, and Figure 1-A
 - RIDOT to provide review comments to Consultant on draft SCP report
- Provide final SCP report, tables, appendices and Figure 1-A in pdf for RIDOT to submit to EPA/RIDEM

Follow-Up Support after SCP Submission

- Upload final SCP Report PDF to database as an attachment
- Respond to DEP/EPA questions to facilitate SCP review
- Complete IDDE Outfall Sampling
 - Complete dry weather sampling for non-exempt outfalls using ArcGIS Collector
 - Complete within 6 months of SCP submission
 - Complete wet weather sampling for non-exempt outfalls using ArcGIS Collector
 - Complete within 12 months of SCP submission
 - Provide IDDE data in December of each year for use in annual report
 - Provide IDDE data in June of second year for inclusion in semi-annual report
 - Write investigation needed memos for outfalls that require follow-up investigations