# Chapter 54 Submittal Checklist v1.0

## ROAD OR LINEAR PROJECTS

**CH 54 Stormwater requirement is to treat the project's disturbed area**

**Additional links for guidance:**

Chapter 54 Ordinance

3.3E Green Stormwater Infrastructure :: Minneapolis Street Guide (minneapolismn.gov)

Mpls Stormwater and Sanitary Sewer Guide

Minnesota Stormwater Manual

**The project design engineer or their consultant is responsible for completion of the following tasks at the designated milestones**

### 0% Project Scope and Requirements/Restrictions

- Estimate preliminary information:
  - Project scope
  - Disturbed area
  - Does the project need to meet Chapter 54 requirements?
  - Total proposed impervious area
    - Change in impervious (increasing, decreasing, new)
  - Estimated required treatment volume
  - (TPP) Provide GI Cost Estimate calculator results– Suitability level (could this go on complete streets checklist also/instead?)
- Identify:
  - Infiltration prohibitions
  - Watershed District
  - Receiving water body
  - TMDL(s) and WQ requirements
- Verify with SWS contact:
  - Flooding concerns
  - Asset Management needs
  - Other relevant stormwater studies/priorities in the area
  - Sustainable Landscaping Index (tree canopy, impervious area/vegetative cover)

**By Layout/30% Plan**

- **30% Plan should include all existing conditions including underground utilities and proposed project design curb lines and features in addition to the below stormwater information**

- Total drainage area (impervious and pervious calculated), total area within the LOD (impervious and pervious calculated) (as needed based on ordinance compliance)
- Rate control: Increases to impervious area or changes in the total drainage area to an outfall or to a trunk system connection may require analysis and should be discussed with the SWS contact
    - At 30%, document whether this analysis will be needed
    - By pipeshed, outfall, or at connections to conveyance systems
- Water quality
    - TSS goal and preliminary expected removal
    - TP goal and preliminary expected removal
    - Other pollutant removals required
- Volume requirements
    - Volume (greater of)
        - 0.55" over new and fully reconstructed impervious
        - 1.1" over new impervious
    - Estimates of equivalent runoff depths in inches treated by each GSI facility (facility volume below overflow divided by the impervious area)
    - Volume reduction method if no or reduced ability to infiltrate
- Preliminary soil investigation:
    - Estimate infiltration potential based on soil borings/sewer plats/other information
    - Potential issues (high groundwater, bedrock, contaminated soils, steep slopes, etc.)
    - Plan for infiltration test locations/depths to be completed ahead of 60%
- Stormwater management facilities (per facility):
    - Type(s)
    - Location(s) and extent (area)
        - Drainage area(s) - Total DA to each facility
        - DA in the LOD to each facility
        - Impervious in the LOD to each facility
        - Tabulate DA and impervious in and out of ROW separately
    - Design (cross-section, infiltration/filtration, underdrains, connections to SW system, etc.)
        - Storage volume (separated by underground and aboveground)
        - WQ treatment
        - Updated determination of rate control needs, and estimated extent provided with GSI
    - Inlet/pre-treatment/energy dissipation
    - If filtration facilities are proposed:
        - Estimated pollutant removal efficiency of media/device
        - Documentation for proprietary devices
- Potential above-and-beyond treatment opportunities and goals
    - List anticipated constraints to meeting stormwater requirements
    - Percent of ROW treated by GSI/other practices (Maximize surface BMPs first)
    - List of constraints (transit stop, etc.)
    - List of options/alternatives for requirements
- O&M:
    - Initial coordination with SWS Operations through the SWS point of contact for the project if it's not a stormwater management facility/device we've used before

    - Draft Plan
        - Responsible parties for each task
        - Maintenance by type of facility
            - Primary facility
            - Pre-treatment devices
            - Unique maintenance requirement
            - Access and safety considerations
- Cost Estimates for GI/Stormwater management and other proposed storm and sanitary improvements *(and identified funding sources/cost splits)*

**Transition from 30% to 60%**

- If needed - Comment resolution meeting or communication if design team has questions about comments or design team doesn't accept/agree to implement all SWS comments

**60%**

- 30% Comment Resolution Responses submitted with 60% submittal
- Updated Soils:
    - Estimated or measured infiltration rates
    - Location of any issues (poorly infiltrating soils layer, high groundwater, etc. and any solutions)
- Refined treatment calculations based on soils information
    - Volume (required and provided)
    - WQ model to demonstrate compliance with WQ requirements
    - H&H Model of the BMPs for total drainage area, overflow design, for 2-, 10-, and 100-year 24-hour rainfall events
- Layout showing designed bypass and overflow paths
- Draft Stormwater Management Report:
    - Narrative documenting special conditions for the project – flooding, pipe capacity, soils/environmental/geotechnical, etc.
    - Modeling results showing 100-year HWL for storage basins (some types of basins are "exempt" from this – discuss with the SWS engineer)
    - BMP model outputs/summary
    - Rate control modeling for 2-, 10-, and 100-year 24-hour rainfall events or statement saying that impervious area is not increasing to any system and that drainage area is not increasing to any system
        - Some redirection of flows to another system may be acceptable – discuss with the SWS engineer
    - Table documenting volume control and water quality treatment required and provided for entire project and each proposed BMP by receiving water body.
    - Drainage area map with areas per BMP and/or per "outfall" from project clearly shown
    - Figures depicting DAs, facility locations, inlet/pretreatment locations, LOD portion of DA's, impervious portion of LOD, general details for each of the treatment types
- *Meeting/coordination with SWS staff if BMP isn't standard or if access won't be straightforward*
- Update Draft O&M Plan
    - Access points (aboveground)
    - Underground access description
- Update Cost Estimates

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**Transition from 60% to 90%**

- If needed - Comment resolution meeting or communication if design team has questions about comments or design team doesn't accept/agree to implement all SWS comments

**90%**

- **90% Plan should include all project design elements and calculations including the stormwater requirements such that comments are limited to minor changes**
- 60% Comment Resolution Responses
- Updates to 60% submittals
- Draft Specifications

**Final Submittals**

- 90% comment resolution responses
- 100% plans
- Engineer's Estimate (Broken out by funding source)
- Specifications
- Final Stormwater Management Report (includes Engineer's Certification project meets requirements or expectation has been approved)
- O&M Plan
- SWM Facility Tracking Entry Forms

# PROJECT MILESTONE APPROVALS

Project Name:

Project Description:

Is this project required to meet Ch54?  Y/N? _____

## 0% PROJECT SCOPE AND REQUIREMENTS/RESTRICTIONS

_____ _____

Documents submitted to SWS Date

_____ _____

SWS Reviewer Date

Is the project ready to move to next milestone? Y/N? _____

Follow up/resubmittals required: _____

## LAYOUT/30% PLANS

_____ _____

Documents submitted to SWS Date

_____ _____

SWS Reviewer Date

Is the project ready to move to next milestone? Y/N? _____

Follow up/resubmittals required: _____

## DESIGN APPROVAL: 60%

_____ _____

Documents submitted to SWS Date

_____ _____

SWS Reviewer Date

Is the project ready to move to next milestone? Y/N? _____

Follow up/resubmittals required: _____

## DESIGN APPROVAL: 90%

_____ _____

Documents submitted to SWS Date

_____ _____

SWS Reviewer Date

Is the project ready to move to next milestone? Y/N? _____

Follow up/resubmittals required: _____

## FINAL SUBMITTALS 100%

_____ _____

Documents submitted to SWS Date

_____ _____

Approval by SWS Date