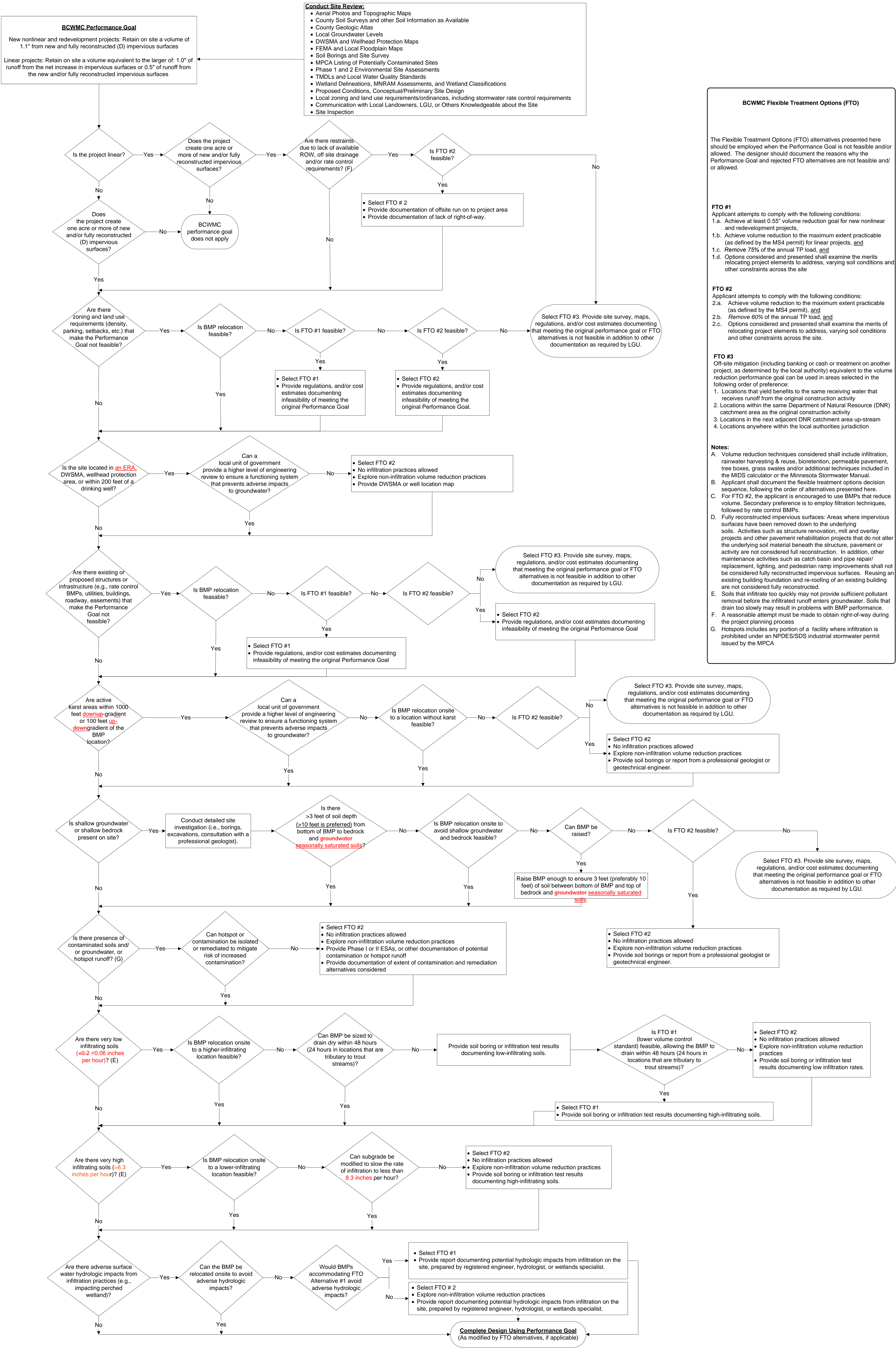


BCWMC DESIGN SEQUENCE FLOW CHART



Conduct Site Review:

- Aerial Photos and Topographic Maps
- County Soil Surveys and other Soil Information as Available
- County Geologic Atlas
- Local Groundwater Levels
- DWSMA and Wellhead Protection Maps
- FEMA and Local Floodplain Maps
- Soil Borings and Site Survey
- MPCA Listing of Potentially Contaminated Sites
- Phase 1 and 2 Environmental Site Assessments
- TMDLs and Local Water Quality Standards
- Wetland Delineations, MNRAM Assessments, and Wetland Classifications
- Proposed Conditions, Conceptual/Preliminary Site Design
- Local zoning and land use requirements/ordinances, including stormwater rate control requirements
- Communication with Local Landowners, LGU, or Others Knowledgeable about the Site
- Site Inspection

BCWMC Performance Goal

New nonlinear and redevelopment projects: Retain on site a volume of 1.1" from new and fully reconstructed (D) impervious surfaces

Linear projects: Retain on site a volume equivalent to the larger of: 1.0" of runoff from the net increase in impervious surfaces or 0.5" of runoff from the new and/or fully reconstructed impervious surfaces

BCWMC Flexible Treatment Options (FTO)

The Flexible Treatment Options (FTO) alternatives presented here should be employed when the Performance Goal is not feasible and/or allowed. The designer should document the reasons why the Performance Goal and rejected FTO alternatives are not feasible and/or allowed.

FTO #1
 Applicant attempts to comply with the following conditions:
 1.a. Achieve at least 0.55" volume reduction goal for new nonlinear and redevelopment projects.
 1.b. Achieve volume reduction to the maximum extent practicable (as defined by the MS4 permit) for linear projects, and
 1.c. Remove 75% of the annual TP load, and
 1.d. Options considered and presented shall examine the merits of relocating project elements to address, varying soil conditions and other constraints across the site

FTO #2
 Applicant attempts to comply with the following conditions:
 2.a. Achieve volume reduction to the maximum extent practicable (as defined by the MS4 permit) and
 2.b. Remove 60% of the annual TP load, and
 2.c. Options considered and presented shall examine the merits of relocating project elements to address, varying soil conditions and other constraints across the site.

FTO #3
 Off-site mitigation (including banking or cash or treatment on another project, as determined by the local authority) equivalent to the volume reduction performance goal can be used in areas selected in the following order of preference:
 1. Locations that yield benefits to the same receiving water that receives runoff from the original construction activity
 2. Locations within the same Department of Natural Resource (DNR) catchment area as the original construction activity
 3. Locations in the next adjacent DNR catchment area up-stream
 4. Locations anywhere within the local authorities jurisdiction

Notes:

A. Volume reduction techniques considered shall include infiltration, rainwater harvesting & reuse, bioretention, permeable pavement, tree boxes, grass swales and/or additional techniques included in the MDS calculator or the Minnesota Stormwater Manual.

B. Applicant shall document the flexible treatment options decision sequence, following the order of alternatives presented here.

C. For FTO #2, the applicant is encouraged to use BMPs that reduce volume. Secondary preference is to employ filtration techniques, followed by rate control BMPs.

D. Fully reconstructed impervious surfaces: Areas where impervious surfaces have been removed down to the underlying soils. Activities such as structure renovation, mill and overlay projects and other pavement rehabilitation projects that do not alter the underlying soil material beneath the structure, pavement or activity are not considered full reconstruction. In addition, other maintenance activities such as catch basin and pipe repair/replacement, lighting, and pedestrian ramp improvements shall not be considered fully reconstructed impervious surfaces. Reusing an existing building foundation and re-roofing of an existing building are not considered fully reconstructed.

E. Soils that infiltrate too quickly may not provide sufficient pollutant removal before the infiltrated runoff enters groundwater. Soils that drain too slowly may result in problems with BMP performance.

F. A reasonable attempt must be made to obtain right-of-way during the project planning process

G. Hotspots includes any portion of a facility where infiltration is prohibited under an NPDES/SDS industrial stormwater permit issued by the MPCA

Complete Design Using Performance Goal
 (As modified by FTO alternatives, if applicable)