



Construction and Post-Construction Stormwater Quality Program Standard Operating Procedures (SOP)

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Contents

Acronyms List

BCPH	Boulder County Public Health
BMP	Best Management Practice
C.R.S.	Colorado Revised Statute
CCR	Colorado Code of Regulations
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CDPS	Colorado Discharge Permit System
CIP	Capital Improvement Project
CM	Control Measure
CM&I	Construction Management and Inspection
CODE	Boulder County Land Use Code
CP&P	Boulder County Community Planning and Permitting
ECS	Erosion Control Supervisor
FDIC	Federal Deposit Insurance Corporation
KICP	Keep it Clean Partnership
MOU	Memorandum of Understanding
MS4	Municipal Separate Storm Sewer System
MS4SI	MS4 Stormwater Inspector
NDRD	New Development and Redevelopment
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
O&M	operation and maintenance
RFP	Request for Proposal
ROW	Right-of-Way
SCP	General Permit for Stormwater Discharges Associated with Construction Activities
SDCM	Storm Drainage Criteria Manual – Boulder County
SDI	Stormwater Detention and Infiltration Facility
SOP	Standard Operating Procedure
SWMF	Stormwater Management Facility
SWMP	Stormwater Management Plan
SWQE	Stormwater Quality Enforcement
SWQP	Stormwater Quality Permit
TECS	Transportation Erosion Control Supervisor
TSS	Total Suspended Solids
USDCM	Urban Storm Drainage Criteria Manual – Mile High Flood District
WQCD	Water Quality Control Division
WQCV	Water Quality Capture Volume

Introduction

Protecting the quality of stormwater runoff is important to Boulder County (County) and is required by the Colorado Discharge Permit System (CDPS) Regulations. The policy described in this procedure is pursuant to the Boulder County Land Use Code (CODE) and the Municipal Separate Storm Sewer System (MS4) Permit issued from the Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Division (WQCD). The MS4 permit issued to the County requires the County to control and reduce the discharge of pollutants to protect stormwater quality and to satisfy the appropriate water quality requirements of the Colorado Water Quality Control Act and the Colorado Discharge Permit System Regulations (Colorado Regulation 61). The MS4 permit requires the implementation of a program to reduce the discharge of pollutants from public and private construction sites, including post-construction control measures. The Standard Operating Procedure (SOP) provided in this document is a part of the construction and post-construction site plan review and inspection program the County is implementing in accordance with its MS4 permit requirements.

Purpose

This SOP constitutes the County's program description for the Construction Sites Program (program) and the Post Construction Stormwater Management in New Development and Redevelopment Program (Post-Construction). Procedures in this document are used to meet MS4 Program requirements and provide required recordkeeping (Part 1.e.4.b in the MS4 Permit) and program descriptions (Part 1.E.4.c in the MS4 Permit).

This SOP is structured to provide exact language from the MS4 Permit (indicated by boxed text citing the permit section it came from) followed by a description of how each requirement is met by the County. In many cases, there is also information identifying who is responsible for each element of the program and how entities must work together to ensure overall compliance with the County's stormwater program.

Revisions to this SOP may be adopted annually and as often as needed by the Boulder County Public Works Department or their approved designated representatives. This SOP is meant to be dynamic, adapting easily to changes and updates if the procedures are found to be ineffective and/or out of compliance with the County's MS4 permit requirements. This SOP will also be referenced in the County's overall MS4 Program Description Document. This SOP is meant to be a living document that can easily be changed, unlike ordinances, criteria and Land Use Code.

County staff will perform the actions indicated in this document for general compliance with the County's MS4 permit.

Construction Sites Program

Section 1: Construction Regulatory Mechanisms (Part I.E.3.a.ii)

This section documents the County's regulatory mechanism for ensuring compliance with the Construction Sites Program (program). Per the MS4 Permit, *applicable construction activities* that must be regulated as part of the program include construction activities that result in a land disturbance of greater than or equal to one acre or that is less than one acre but is part of a larger common plan of development or sale that would disturb, or has disturbed, one acre or more.

MS4 Permit Requirement

Part I.E.3.a.ii Regulatory Mechanism *...to the extent allowable under state or local law, implement a regulatory mechanism to meet the requirements in Part I.E.3.a., including the following:*

- (A) The ability to implement sanctions against entities responsible for applicable construction activities.*
- (B) Require control measures to be implemented for all applicable construction activities from initial disturbance until final stabilization.*

1.1 County's Regulations

The County utilizes a stormwater permit system, its Land Use Code and Storm Drainage Criteria Manual to ensure controls are implemented for all stages of construction from initial disturbance until final stabilization and to provide the ability to implement sanctions against entities not meeting the requirements of the County's program.

1.1.1 Stormwater Permit System

Boulder County Public Works administers the County's stormwater quality regulations related to construction activities (including private development as well as projects performed by County departments). As part of the County's program, a Stormwater Quality Permit (SWQP) is required for all applicable construction activities. The permit is only issued after the County has reviewed a stormwater management plan (SWMP) that includes information and descriptions for control measures that will be used from initial disturbance until final stabilization. This plan must also indicate the phasing of control measures with construction. These requirements apply to site grading, public improvements and individual lots (applies to developer, builder, homeowner and/or bank/ Federal Deposit Insurance Corporation (FDIC)-owned properties).

The County implements the program countywide to facilitate compliance with the State-issued General Permit for Stormwater Discharges Associated with Construction Activities (SCP); however, the MS4 Permit boundary and regulatory requirements apply only to the unincorporated urbanized area. Additionally, the County also requires construction activities within 100 feet of a waterway (or under waterways) but less than one acre to obtain coverage under a County-issued SWQP; however, the MS4 Permit regulatory requirements only apply to the unincorporated urbanized area. Work under waterways (such as in the case of directional drilling and micro tunneling are required to obtain SWQP coverage due to the location within 100 ft of a waterway.

1.1.2 Land Use Code

The CODE, Article 7-903 Erosion and Sediment Control Part B and C state:

B. The plan shall include good engineering, hydrologic, soil restoration and revegetation and pollution control practices as outlined in the County’s Storm Drainage Criteria Manual, Urban Storm Drainage Criteria Manual, Volume 3–Best Management Practices, or the Colorado Department of Transportation’s Water Quality Control standards.

C. Installation of erosion and sediment control measures is required prior to beginning construction, and may be required to be maintained post-construction, as necessary.

The CODE, Article 7-904, Stormwater Quality Management Permit Requirements, Requirements for Stormwater Quality Permit; Limited Permit Exemptions also states:

A SWQP from the County Engineer is required for construction activity resulting in the following total disturbed area:

a. One acre or more; or

b. Less than one acre if construction activity is part of a larger common plan of development, even if multiple, separate and distinct land development activities may take place at different times on different schedules, so long as the common plan will ultimately disturb one acre or more.

The County Engineer may require a SWQP regardless of the size of the total disturbed area, in conjunction with approval of a final subdivision plat, special use permit, or other site-specific development plan under this CODE, or if the construction activity is adjacent to a watercourse or wetlands.

1.1.3 Boulder County Storm Drainage Criteria Manual

The Boulder County Storm Drainage Criteria Manual (SDCM), Section 1302, requires Stormwater Management Plans (SWMPs) for all construction projects that require a stormwater quality permit (SWQP) from the County and coverage under the CDPS Construction Discharge Permit from CDPHE. The SDCM outlines the criteria that must be followed when developing the SWMP.

1.2 Key Personnel

Through the land use review process, Boulder County staff typically provide potential applicants with information on applicable permits that may be required for their projects by various County agencies. Public Works Engineering and their designated representatives (consultants) review SWQPs, which typically include a full SWMP (unless the project is less than one acre).

Section 2: Exemptions and Exclusions (Parts I.E.3.a. i and iii)

This section documents the County’s requirements for sites exempted or excluded from the program to ensure all exclusions meet the requirements of the program as defined by the MS4 permit.

MS4 Permit Requirement

Part I.E.3.a.iii. Regulatory Mechanism Exemptions- *Procedures must be implemented to ensure that any exemptions, waivers or variances included in the regulatory mechanism are applied in a manner that complies with the terms and conditions of this permit.*

2.1 County's Automatic Exemptions

Automatic Exemptions are outlined in CODE, Article 7-904 Stormwater Quality Management Permit Requirements, Requirements for Stormwater Quality Permit; Limited Permit Exemptions. Automatic Exemptions include:

- Agricultural land management activities, except point source discharges subject to National Pollutant Discharge Elimination System (NPDES) or CDPS stormwater permitting requirements, are exempt from the stormwater quality management plan requirements and County stormwater quality permit (SWQP).
- Some oil and gas operations are exempt from obtaining a stormwater quality permit outside of the County's MS4 defined urbanized area. A Special Review Approval by the County authorizing oil and gas operations subject to a stormwater control plan approved under Article 12-700 or 12-701 of the CODE (conditions of approval), shall be considered the equivalent of a County Engineer stormwater quality permit under this Article 7-904 for areas outside the MS4 urbanized area.

Additional other automatic exemptions include:

- Boulder County does not regulate a CDOT project or any other project, when it is contained within CDOT's ROW, because projects fully contained within CDOT's right of way fall under CDOT's own MS4 Permit. Where part of the project is within CDOT's ROW and part of the project is within Boulder County jurisdiction, CDOT would have to meet its MS4 requirements for the project areas within its ROW and meet Boulder County's MS4 requirements for any areas of the project within county jurisdiction (i.e., outside the CDOT ROW). An agreement/MOU can also be used to clarify the MS4 requirements and specify responsible parties. Projects that occur in the CDOT ROW that are not CDOT projects will need to contact the County to discuss the project automatic exclusion to verify their project qualifies. The County will work with CDOT to confirm the project will be covered under their program and obtain a CDOT contact for notifications if non-compliance is observed by the County during construction or the County will request jurisdictional control over construction activities. The County will not take jurisdictional control over permanent water quality (PWQ) which must be reviewed and conform to CDOT's PWQ program.
- State or Federal lands where the County has no jurisdictional control. Note: If a non-standard MS4 (e.g., school district) submits a project for review and a permit, it can be reviewed by the County but all actions including the submittal would need to be initiated by the non-standard MS4 and they would have to agree to allow the County to perform compliance inspections on their sites or perform their own compliance inspections and enforcement.

2.2 Additional Exclusions and Determinations

Sites that are not considered Automatic Exemptions or have an approved R-Factor determination must obtain coverage from the SWQP. There are no exceptions.

Determinations are the process of internal communications to decide if a project falls within the triggers of a SWQP as an “applicable construction activity” and therefore whether or not a SWQP is required.

Projects that have been granted an R-Factor waiver by the WQCD in accordance with Colorado Regulation 61.3(2)(f)(ii)(B) may request an exception to the permit by submitting information to the MS4 Coordinator or the SWQP Specialist R-Factor waivers tend to be for short-duration projects occurring in months with lower erosion potential (winter) that will be restored with hard surfaces such as linear projects that occur in the roadway.

2.3 Key Personnel

Automatic Exemptions will not likely go through any type of review process; however, other projects that are given exclusions or require determinations must be approved by the MS4 Program Manager in consultation with the County Engineer. Documentation/Email communications will be saved to the Boulder County server (Public Works G-drive) in the SWQP Determinations folder.

Section 3: Standards and Requirements (Part I.E.3.a. iv)

This section provides the MS4 requirements and County standards used for ensuring compliance with the program. It also documents the requirements for submittals.

3.1 County’s Standards and Requirements for Control Measures from Construction Start to Finish

MS4 Permit Requirement

Part I.E.3.a.iv.(A), Appropriate control measures must be implemented prior to the start of construction activity, must control potential pollutants during each phase of construction, and must be continued through final stabilization. Appropriate structural control measures must be maintained in operational condition.

Most of the County’s standards and requirements are outlined in CODE, and detailed in the SWQP application checklist and include the following:

- The CODE, Article 7-903 Erosion and Sediment Control requires installation of erosion and sediment control measures prior to beginning construction. The CODE, Article 7-904.F states “If the County Engineer determines that the application is adequate to reduce the discharge of pollutants to the maximum extent practicable and protect water quality, the County Engineer shall approve the application and issue the stormwater quality permit, including any reasonable conditions to mitigate conditions specific to the site, provide for the adequate installation and maintenance of temporary and permanent best management practices (BMPs) and allow for reasonable adjustments in required BMPs in response to changing or unanticipated conditions in the field. Any approved permit shall also contain the following standard operating requirements:
 - a. The Permittee must keep the accepted SWMP on site at all times and shall make the SWMP available for County Engineer inspection upon request.

- b. The Permittee shall provide timely installation and maintenance of all temporary BMPs required in the SWMP. Nonfunctioning, damaged or destroyed BMPs shall be repaired or restored immediately. All BMP maintenance, repair and restoration work shall be documented on the accepted SWMP required to be kept on site and available for County Engineer inspection.
 - c. The responsibility to maintain and reconstruct or repair all BMPs, both temporary and permanent, shall run with the land and be binding on subsequent owners. Permanent BMPs, which shall be required for construction activity in the urbanized area that meets all applicable requirements (see Section 9 and 14 for more details on Permanent BMPs), shall be maintained in perpetuity by the property owner.
 - d. The Permittee shall inspect all temporary BMPs at least every 14 days and within 24 hours after any precipitation or snowmelt event that causes surface runoff. An erosion control supervisor (ECS) must conduct all BMP inspections and keep a detailed record of same, as part of the SWMP required to be kept on site and available for County Engineer inspection.”
- As part of the SWQP, the County requires that the design of temporary control measures (CMs) for erosion and sediment control be consistent with the guidance in the CDOT Erosion Control and Stormwater Quality Guide or in the Urban Storm Drainage Criteria Manual (USDCM) and with the additional provisions and guidance in the SDCM. In general, CDOT guidance will be used for linear projects such as roadways, and USDCM criteria will be used for other projects. A combination of approaches is also acceptable. In all cases, CMs must be part of the SWQP submittal
 - SWQP Terms and Conditions and SDCM criteria also state that the SWQP Permittees must perform inspection and maintenance of control measures during construction. The SDCM, 1306, Inspection and Maintenance specifically states, “The construction site should be routinely checked for proper construction BMP installation and function in accordance with the SWMP plans and report. Any BMPs with loss of integrity, loss of function or breaches shall be repaired immediately to reduce the potential for stormwater to transport sediment and other pollutants off site.”

3.2 County's Standards and Requirements for Evaluation of Minimum Pollutant Sources

MS4 Permit Requirement

Part I.E.3.a.iv.(B), *Control measures must be selected, designed, installed, implemented and maintained to provide control of all potential pollutants, such as but not limited to sediment, construction site waste, trash, discarded building materials, concrete truck washout, chemicals, sanitary waste and contaminated soils in discharges to the MS4. At a minimum pollutant sources associated with the following activities (if part of the applicable construction activity) must be addressed:*

- 1) *Land disturbance and storage of soils.*
- 2) *Vehicle tracking.*
- 3) *Loading and unloading operations.*
- 4) *Outdoor storage of construction site materials, building materials, fertilizers, and chemicals.*
- 5) *Bulk storage of materials.*
- 6) *Vehicle and equipment maintenance and fueling.*
- 7) *Significant dust or particulate generating processes.*
- 8) *Routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents, and oils*
- 9) *Concrete truck/equipment washing, including the concrete truck chute and associated fixtures and equipment.*
- 10) *Dedicated asphalt and concrete batch plants.*
- 11) *Other areas or operations where spills can occur.*
- 12) *Other non-stormwater discharges including construction dewatering not covered under the Construction Dewatering Discharges general permit and wash water that may contribute pollutants to the MS4.*

The County requires an evaluation of potential pollutants through their SDCM and SWQP checklists. At a minimum, the SDCM requires each of the following sources/activities to be evaluated for the potential to contribute pollutants to stormwater discharges:

1. All disturbed and stored soils.
2. Vehicle tracking of sediments.
3. Management of contaminated soils.
4. Loading and unloading operations.
5. Outdoor storage activities (building materials, fertilizers, chemicals, etc.).
6. Vehicle and equipment maintenance and fueling.
7. Significant dust or particulate generating processes.
8. Routine maintenance activities using fertilizers, pesticides, detergents, fuels, solvents, oils, etc.
9. On-site waste management practices (waste piles, liquid wastes, dumpsters, etc.).
10. Concrete truck/equipment washing, including the concrete truck chute, fixtures and equipment.
11. Dedicated asphalt and concrete batch plants.
12. Non-industrial waste sources such as worker trash and portable toilets.
13. Other areas or procedures where potential spills can occur.

These elements have also been incorporated in the SWQP checklist. The current version of the SWQP Checklist is available on the website <https://www.bouldercounty.org/transportation/permits/stormwater-quality-permit/> and kept on the server (Public Works G-drive).

3.3 Key Personnel

Community Planning and Permitting Development Review alerts applicants with projects that go through a land use review process if they may be subject to SWQP requirements and permits. The County Community Planning and Permitting Department accepts and uploads SWQP applications into the County's software system Accela. Automatic notifications are delivered by Accela to the Public Works SWQP Specialist and other staff. A SWQP Specialist performs the review of SWQP applications and submittal material as well as performs oversight inspections of sites within the program.

Section 4: Site Plans (Part I.E.3.a. v)

This section documents the County's requirements for site plans to ensure compliance with the Program as defined in the MS4 Permit.

MS4 Permit Requirement

Part I.E.3.a.v.(B) Site Plans, require operators to develop site plan(s) that locate (if applicable) and identify all structural and non-structural control measures for the applicable construction activities. The site plan(s) must contain installation and implementation specifications or a reference to the document with installation and implementation specifications for all structural control measures. A narrative description of non-structural control measures must be included in the site plan(s).

4.1 County's SWMP and Site Plan Requirements

SDCM, Section 1300, details the County's requirements for the SWMP. It includes requiring operators to develop a SWMP with all structural and non-structural control measures for the applicable construction activities on the plan. Most Public Works projects will use the CDOT SWMP template. There are also some additional required elements that must be added to the CDOT SWMP Template if it is used to meet the County's criteria. A list of these additional required elements is provided on the County's website (<https://assets.bouldercounty.org/wp-content/uploads/2019/01/cdot-swmp-template-supplement.pdf>) and the County's server (Public Works G-drive).

NOTE: Projects disturbing under one acre but within 100 horizontal feet of a watercourse require Site Plans, CM details and a SWQP checklist for small projects; a full SWMP is not required for small projects.

Control measures criteria can be obtained from USDCM, Volume 3 and/or CDOT's M & S Standards with the additional provisions and guidance in the SDCM. A narrative description of non-structural control measures must be included in the SWMP and are incorporated in the SWQP Checklist. SWMPs are reviewed and documented using the following systems.

4.1.1 SWMP Documentation Signatures

The SWMP and Site Plans are not required to be signed by a licensed professional engineer. The County requires that a qualified stormwater manager prepare the documents. The definition of a qualified stormwater manager is given by CDPHE as “An individual knowledgeable in the principles and practices of erosion and sediment control and pollution prevention, and with the skills to assess conditions at construction sites that could impact stormwater quality and to assess the effectiveness of stormwater controls implemented to meet the requirements of the CDPS/SCP permit.”

4.1.2 SWMP Review (Part I.E.3.a.v[C])

MS4 Permit Requirement

Part I.E.3.a.v(C) Initial Site Plan Review, *site plan review for all applicable construction activities prior to the start of construction activities. Initial site plan review shall include the following: 1) Confirmation that the site plan includes appropriate control measures for all stages of construction, including final stabilization. 2) Confirmation that the control measures meet the requirements in Part I.E.3.a.iv (design criteria).*

The County meets these MS4 requirements by having development proposals and plans submitted to the Community Planning and Permitting Department and referred to the CPP Engineering Development Review staff for review and comment. If the site meets the definition of an applicable construction activity, the County CPP Engineering Development Review staff will require that a County stormwater quality permit be obtained and that a SWMP be developed in accordance with SDCM, Section 1300.

Plans for applicable construction activity located in the County are reviewed using the checklists found on the County’s website and the County’s server (Public Works G-drive). Use of the checklist ensures that the site plan includes appropriate control measures for each stage of construction. The checklist also ensures that control measures are selected, designed and implemented to address all potential pollutants identified on a site. Comments on the submittal are provided to the applicants and resubmittals are made until the submittal package is accepted.

The checklist is based on the requirements outlined in the SDCM, WQCD’s stormwater inspection checklist and the State-issued SCP. The completed checklist is verified and uploaded to the Accela record.

4.1.3 SWMP Review Documentation (Part I.E.3.b.v)

MS4 Permit Requirement

Part I.E.3.b.v Site Plans, *Copy of the final site plan reviewed to meet the initial site plan review requirement, and confirmation of the Permittee’s review and acceptance.*

The County meets these requirements by requiring applicants for applicable construction sites to submit a SWMP, to the Community Planning and Permitting Department as part of the SWQP application materials.

The SWQP application materials, including the SWMP are logged in and uploaded to Accela by the Community Planning and Permitting Department, and a notification is sent to the staff and reviewed by the SWQP Specialist. Once the SWMP has been reviewed and accepted for compliance with erosion,

sediment and waste control requirements, the final site plan accepted by the County is uploaded into the Accela (documents tab) for reference.

A SWMP is not required projects with less than an acre of disturbance that occur within 100 feet of a waterway(Small Projects).

4.1.4 Approving the Stormwater Quality Permit Application

Stormwater Quality Permits are issued electronically for both County-administered and Private projects. Contractor bonding issues have been experienced on some private projects due to withholding of the SWQP. Therefore, the sequencing of Building Permits (BPs) and associated SWQPs uses the following process.

1. CPP Engineering Development Review and other staff receives an Accela auto-generated email on Application Intake, and makes the SWQP (child) a related record to the BP (parent) in Accela, and adds **two conditions** to the BP for all projects that have a BP:
 - **B4 BP TRAN : Stormwater Quality Permit Fees** “The applicant must pay the fee for SWQP-XX-XXX at BP issuance”
 - **ON BP TRAN : Stormwater Quality Permit** “Construction cannot start until SWQP-XX-XXX is issued”
2. SWQP Plan Review and sending comments to the permittee and subsequent reviews until materials are reviewed and accepted as meeting County requirements. Review, revisions needed, and approvals are tracked in Accela.
3. SWQP fees are added in Accela by the SWQP Specialist.
4. The contractor comes to the CP&P counter and pays fees for **SWQP and when applicable the BP fees are paid at the same time. Permit Specialist needs to manually invoice as usual.**
5. **BP** issuance and approval for applicant to install initial CMs and schedule the initial inspection with the appropriate MS4 Stormwater Inspector (MS4SI). Contact information of the assigned MS4SI is provided to the contractor through an automatic message in Accela sent to the permittee.
6. Initial SWQP Inspection and approval
7. SWQP Issuance: CPP Engineering Development Review or its consultant sends the permit via email

Before a Stormwater Quality Permit application can be approved, the submittal materials must be reviewed and accepted by the SWQP Specialist. These materials include:

NOTE: Projects disturbing under one acre but within 100 horizontal feet of a watercourse require Site Plans, CM details and a SWQP checklist for small projects. A checklist for small projects may be found on the County’s website at <https://assets.bouldercounty.org/wp-content/uploads/2019/05/swqp-permit-review-checklist-small-projects.pdf>.

- A **complete** “Stormwater Quality Permit Application” has been signed by the applicant.
 - Signature by the project owner or the contractor and identification of the operator and other persons legally responsible for compliance with the permit, including the assigned erosion control supervisor as required in Boulder County Land Use Code 7-904.F.3.d. The County Engineer shall have the discretion to require that persons identified as operators, or other persons who are known at the time of application as being responsible for implementation of any approved permit, sign the application as applicants.
- A copy of the appropriate SWMP checklist. There is a checklist for small projects and one for projects that disturb an acre or more or part of a larger common plan of development disturbing an acre or more. The checklist submitted by the Permittee and accepted by the County is also uploaded as a document available in Accela.
- Site Maps with all items included as given on the appropriate checklist depicting the affected site in sufficient detail to show significant site features (natural and man-made), areas proposed to be disturbed and developed, existing easement areas, restricted development areas and locations of proposed temporary CMs.
- Identification of any affected MS4 or waters of the state anticipated to receive stormwater discharge from the site.

Additionally, if the projects disturbs an acre or greater or is part of a common plan of development that disturbs one acre or greater, the following items are required:

- A “Stormwater Management Plan” has been received and is in compliance with the County SDCM and meets all of the criteria in the SWQP Checklist. The SWQP cannot be issued until an accepted SWMP is on file in Accela. The SWMP must include: A project description that includes the location and extents of the project, a summary of the construction to be completed and the end product.
- An evaluation of potential pollution sources.
- CMs to be installed on a temporary basis as necessary to control stormwater discharges from the construction site before and during construction until final stabilization. This includes a narrative describing nonstructural CMs such as construction site phasing (e.g., phasing of the project so that existing vegetation can be protected until it has to be disturbed, seeding or restoring areas after area is completed while other areas are being worked, etc.).
- Verification of a State Stormwater Construction Permit (SCP) or verification the permit has been applied for from CDPHE. This documentation should consist of a letter from the WQCD that assigns a certification number to the project (if available).

A copy of the Stormwater Quality Permit Application and checklists can be found on the County’s website <https://assets.bouldercounty.org/wp-content/uploads/2019/06/stormwater-quality-permit-application.pdf> and the County’s server.

Once the SWQP application materials are reviewed and accepted, and the fees for the SWQP have been paid, the applicant contacts the MS4SI for an initial inspection which is conducted prior to permit issuance.

4.1.4 Issuing the Permit

An initial inspection of the control measures installed at the site must be conducted (this initial inspection must occur prior to construction starting) before the SWQP is issued. The initial inspection

must meet the requirements (adequate control measures are installed per design details and are in compliance with the MS4 permit requirements and County’s programs including the SWQP, CODE and SDCM). An initial inspection is required for all SWQPs.

The permit is not issued until there is a passing initial inspection. After the initial inspection, the permit document is created through an Accela report. The Terms and Conditions are added to the pdf and uploaded to the Accela documents and emailed to the permittee. The Accela workflow is updated to reflect the permit was issued.

The stormwater inspection procedures including the initial inspection are detailed in Section 5.

4.2 Key Personnel

CPP Engineering Development Review alerts applicants with projects that go through a land use review process if they may be subject to SWQP requirements and permits. The County Community Planning and Permitting Department accepts and uploads SWQP applications into the County’s software system Accela Automatic notifications are delivered by the program to the CPP Engineering Development Review and other SWQP staff. A SWQP Specialist performs the review of SWQP applications and submittal material as well as performs oversight inspections of sites within the program.

Section 5: Stormwater Quality Inspection Procedures (Part I.E.3.b.vi.; Part I.E.3.c.vi.)

This section details the County’s inspection procedures for compliance with the program as outlined in the MS4 Permit Requirement.

MS4 Permit Requirement

Part I.E.3.c.vi. Site Inspection, *Permittee has written procedures for conducting site inspections, including the citation(s) and location(s) of supporting documents that describe the following:*

- (A) The process for determining, implementing and documenting the inspection frequencies.*
- (B) The process for inspection follow-up, including determining, implementing and documenting the nature of the follow-up action.*
- (C) The process and tools used for documenting inspections.*

5.1 County Stormwater Compliance Inspections and Process

Once a SWQP application process has been completed and permit fees have been paid, the applicant will notify the County’s MS4 Stormwater Inspector (MS4SI) to request an initial inspection. The SWQP is issued as described in Section 4.1.4., after a passing initial inspection.

At the time of this document, the County is using consultants and stormwater consultants to conduct stormwater inspections; however, that may change in the future. This SOP will be updated as needed to reflect the County’s general process for the MS4SI for both private and public projects.

An MS4 Compliance Inspection is not the same as the inspection required by the State General Stormwater Permit for Construction Activities (SCP) performed by the CDPS Permittee.

The purpose of the initial inspection is to review the installation of initial CMs and to ensure the Permittee understands stormwater compliance expectations for the project. The initial pre-construction inspection of control measures occurs prior to construction commencing (other than work to install initial control measures). The SWQP is not issued until there is a passing inspection by the County or their consultant. As discussed in Section 4, a passing inspection indicates that the control measures are adequate for the pollutant sources associated with the project and are installed correctly per the approved plan and details unless a suitable alternative has been installed instead.

The following representatives should attend the initial inspection for private projects:

- General contractor.
- Property owner.
- MS4SI.
- Stormwater administrator/ECS (Person responsible for stormwater management for the project).
- Grading subcontractor, if different from the general contractor, and any other person with a role in stormwater management during construction.

For public projects (Capital Improvement Projects), the same representatives should attend; however, the property owner may be represented by the Boulder County Project Manager or if another MS4's CIP project by their CIP manager. .

The following agenda items are addressed at the initial inspection:

- Introductions.
- Confirm contact information and obtain any changes if they have occurred. A SWQP will not be issued until a SWMP Administrator/ECS is identified for the project and all contact information is obtained.
- The MS4SI will discuss expectations for site compliance, potential pollutants for the project including trash, and will go over the County's enforcement program.
- Limits of construction, disturbance and topsoil stripping will be confirmed.
- Final stabilization for the project will be reviewed and steps to move to a reduced inspection frequency and ultimately a final close-out will be discussed.
- The difference between the MS4SI oversight inspections and the contractor's SCP inspections
- After the inspection of initial control measures, the MS4SI will confirm if any corrections or additional controls are required.
- If the Permittee's project passes the initial inspection, then the SWQP is issued.

The County has created a kick-off/initial inspection agenda form using these initial inspection elements. A copy of this agenda is kept on the County's server (Public Works G-drive). This agenda is given to the Permittee for reference and the County uses this opportunity to provide outreach and education to the contractor regarding stormwater compliance. The MS4SI is also available to provide compliance assistance during the course of the project.

If the MS4SI or the permittee thinks that modifications to initial CMs shown in the SWMP should be made to provide for a more effective plan, it will be indicated on the inspection report assuming the MS4SI agrees to the permittee recommended changes.

A complete table of key actions and responsibilities for inspections for Private Projects and CIPs is provided in Table 1. A table that summarizes the entire process from permitting and inspections through enforcement is provided in Appendix A.

Table 1. MS4 Compliance Tasks and Responsibilities

Inspections		
Task	Responsibility	Details
Discuss permit requirements with SWQP permit holder at initial inspection.	MS4SI	Confirm with the Permittee that the permit and the current site plan will be available at the project site. The site plan must be updated to reflect the most current conditions. Review permit requirements, potential pollutant sources, control measures (also known as best management practices [BMPs]) and expectations for control of pollutants from site.
Perform MS4 initial inspection.	MS4SI	Inspect site once CMs have been installed but before work has started. The Initial MS4 Inspection is required before Permittee can disturb ground other than for the installation of the initial CMs.
Perform MS4 routine inspections.	MS4SI	Perform routine MS4 stormwater inspections—see Frequency, Scope and Documentation of Inspections section below for details.
Address corrective action items identified by MS4SI.	Contractor or Permittee	Corrective action items must be addressed as soon as possible, immediately in most cases. Documentation must be supplied to demonstrate that corrective actions were addressed.
Perform re-inspections as needed.	MS4SI or Operator Compliance Follow-Up	Complete follow-up inspections for observed problems or violations per Section 5.3. Depending on the corrective action items identified, the MS4SI may perform the follow-up inspection or it may be performed by the operator/Permittee. The MS4SI decides who will be responsible for the follow-up inspection based on several factors including but not limited to the severity of the corrective action item, past history of the site, contractor, or location.
Document MS4 compliance inspections.	MS4SI	Document all inspections. Enter inspection results into Accela when back in the office.
Notify owner/operator or in the case of public projects the CIP Project Manager of MS4 Stormwater Inspection results.	MS4SI	Inspector should provide owner/operator and CIP Project Manager, if applicable, copies of the inspection report via email while in the field (if cell service is available) or immediately upon return to the office. In most cases, the Inspector will go over the inspection results in person when in the field either during the site walk or as a debriefing after the site walk prior to the Inspector leaving the site.
File MS4SI Reports.	MS4SI	Inspection reports are uploaded into Accela.

5.2 County Stormwater Compliance Inspections on a County-Administered Project (Capital Improvement Projects)

Capital Improvement Projects (CIPs) follow the same general process as outlined in Section 5.1 *County Stormwater Compliance Inspections* with the exception of a few items. The MS4SI for CIP projects may not necessarily be the same MS4SI as private projects. The MS4SI may be a third party hired by the CIP department or potentially hired by the General Contractor to perform MS4SI. The MS4SI may be internal

SWQP staff. The MS4SI must be a qualified inspector that can represent the County and be unbiased in their assessment of the contractor.

Attendees for the initial inspection for CIP projects are similar to those for the private projects but the Boulder County Project Engineer may be present acting as the project owner.

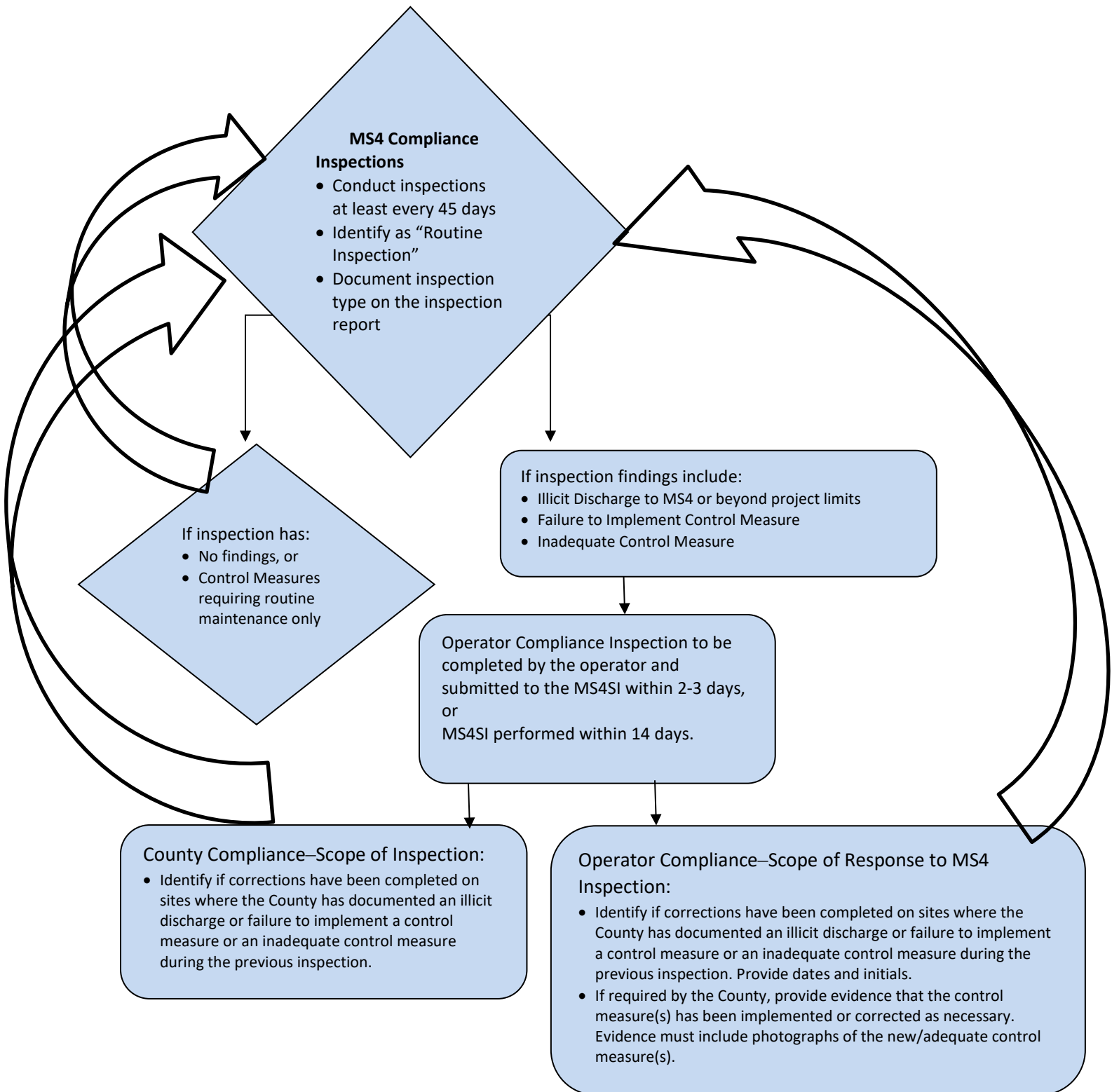
Since the majority of CIP projects do not intersect the unincorporated urbanized area, a major purpose of the SWQP and oversight inspections is to help County Departments comply with the State General Stormwater Permit for Construction Activities (SCP). When the State Water Quality Control Division (WQCD) selects a Boulder County-administered project for inspection, the State will send an email notification (titled WQCD Permit Compliance Inspection Notice) to the co-permittees (both the County's contractor and County legal contact) and MS4 Program Manager. This email notification is automatically forwarded to SWQP staff, to ensure coverage of the following steps if the MS4 contact is out of the office. These steps are time sensitive.

1. Immediately forward the notification to the applicable County Department (Project Engineer and Management) to ensure they have been alerted and have directed their contractor to prepare for the inspection, both documentation and site improvements. To determine the applicable department you may need to refer to the list of active CDPS certifications at <https://www.colorado.gov/pacific/cdphe/clean-water-active-permits> (sort by county).
2. Determine whether the project is located in the urbanized area. If so, the project is required to have oversight and the State inspection can have MS4 compliance implications. Prioritize compliance assistance if the project is located in the urbanized area.
3. Determine whether the project was issued a SWQP. If so, offer any form of compliance assistance you see fit. The County Department may choose to have the contract MS4SI for CIP projects provide site specific recommendations, particularly after the WQCD inspection is complete and the preliminary report is received.
4. When the final report and compliance advisory is sent from the WQCD, the County and its contractor will need to formally respond back in writing and demonstrate corrective actions have been taken. Have the County Department Project Engineer request the draft response from their contractor 4 days in advance of the deadline. **The BCPH Stormwater Quality Program Manager will review the contractor's responses based on experience dealing with CDPHE.** This is an ideal way to assist by making sure the corrections look good and the site gets inspected in a fair and impartial manner.

5.3 Frequency, Scope and Documentation of Inspections (Part I.E.3.c.vi [A] [B] [C])

Inspection frequencies, scope and documentation are described in the flow chart for active sites and in the remaining subsections of this section for inactive sites. These inspections are conducted for program compliance and to facilitate compliance with the State-issued SCP for both private and public projects.

Figure 1. Active Sites Inspection Flow Chart



5.3.1. Active Sites

County inspections and subsequent reports are not intended to exhaustively identify every violation or deficiency on a site. Similarly, photo logs, which may accompany inspection reports, are not intended to document every issue, every instance of every issue of concern, or every violation identified or existing on a site. MS4 inspections are performed to meet the requirements of the MS4 Permit and facilitate compliance with the SCP. **County inspection reports do not fulfill the requirement for self-inspections by the owner/operator of the site (required by the CODE and State Construction Stormwater Permit).**

5.3.1.1 Routine Inspections

The MS4SI conducts and documents Routine Inspections at least once every 45 days for active sites meeting the applicable definition of a construction site. Routine Inspections are not conducted on Small Projects (sites under an acre that are near a waterway).

One exception to this inspection frequency is allowed for a Staff Vacancy Inspection. These inspections are allowed to accommodate a staff vacancy or temporary leave due to vacation or illness.

During a Local, State or National State of Emergency – At such time as a State of Emergency has been declared by Boulder County, the State of Colorado, or the Federal Government, staff may evaluate if conducting routine stormwater inspections of applicable construction sites is advisable. The staff vacancy inspections may be used if the County determines that it is not advisable to perform inspections due to the safety of their staff or construction site permittees.

In March 2020, Boulder County briefly used this reduced inspection frequency during the COVID-19 outbreak while inspector safety procedures were being developed. Boulder County Public Health worked with the MS4 program determining that routine inspections should not occur during the social distancing and stay-at-home orders, but that compliance inspections and initial inspections may continue to be performed as independently performed inspections (i.e., solo). Staff vacancy inspections are conducted at least every 90 days. The County used staff vacancy to temporarily stop routine inspections and provide time to take into consideration the following:

- The safety and health of inspectors and facility personnel and assess whether travel should be limited to reduce the spread.
- Assess whether staff were symptomatic, in a high-risk group, or living with someone in this category.
- Set specific procedures for county inspection staff to model best behavior to limit the spread of the disease with proper travel, social distancing, and PPE.

The following notification was provided to permittees once safety procedures were developed and routine inspections were resumed.

Due to COVID-19, we will not be meeting in person for Boulder County Stormwater Quality Permit (SWQP) Inspections. Please practice strict social distancing and do not meet with us while onsite. Boulder County SWQP inspectors will be conducting the inspections independently and sending reports via email. We would be happy to go over the results of the inspections or any questions you have by phone or email.

The County does not anticipate using the reduced inspections for staff vacancies except in unprecedented times such as the COVID-19 outbreak or other atypical situation. If this option is utilized, documentation will be provided below to substantiate this exception and give the duration of its utilization.

Reduced inspections under staff vacancies are listed below:

- COVID-19 Reduced inspections started March 12, 2020 and the County restarted the 45-day routine inspections on April 6, 2020. Reduced inspections were only utilized on 3 sites (SWQPs).

5.3.1.2 Scope of MS4 Inspections

A typical MS4SI inspection includes visual examinations of site conditions, construction activities, work practices and CMs. These CMs may be structural, physically installed features (structural CMs) or administrative/procedural activities that are part of the operator’s work practices and procedures (non-structural CMs). Installed CMs will be reviewed for correct application, correct installation, adequacy and maintenance. The County-accepted SWMP or the site operator’s updated version in the field for the project phase of construction may be used to verify features that should be in place and their specific locations. The scope of the inspection includes:

- Identification of failures to implement control measures.
- Identification of inadequate control measures.
- Identification of control measures requiring routine maintenance.
- Evaluation of all pollutant sources, including trash, to determine if an illicit discharge has occurred.
- Evaluation of discharge points to the MS4 or beyond the limits of the construction site as necessary to determine if an illicit discharge has occurred.

A discussion of general conditions of the site and any concerns regarding site conditions and compliance should be held in-person at the time of the inspection if someone representing the Permittee is available and ABSOLUTELY no later than the day after the inspection was conducted. A copy of the inspection report should be emailed to the Permittee and other project contacts upon return to the office and uploaded to Accela for record keeping. The MS4SI is responsible for filing the completed inspection reports in Accela.

A copy of the MS4 Compliance inspection form is in Appendix B and on the County’s server (Public Works G-drive).

The inspection result will be identified in the report based on the following options:

<input type="checkbox"/> Passing Inspection: No deficiencies exist.	<input type="checkbox"/> Notice of Non-compliance: Numerous deficiencies are noted and corrective actions must be addressed immediately in most cases.
<input type="checkbox"/> Passing Inspection: No deficiencies exist but routine maintenance identified.	<input type="checkbox"/> Notice of Violation: Indicates a site with sitewide or systematic BMP issues, chronic site violations, and/or repeated non-compliance items which must be resolved immediately.
<input type="checkbox"/> Deficiencies Exist: actions must be addressed immediately in most cases.	

5.3.2 Follow Up/Compliance Inspections

If the MS4SI determines a site has failed to implement control measures, has inadequate control measures, or has an illicit discharge of pollutants, then a follow-up inspection must occur within 14 days from the time of the observation. The follow-up inspection may be either an Operator Compliance

Inspection or a MS4SI Compliance Inspection at the discretion of the MS4SI. For illicit discharges of pollutants under the SWQP permit, the follow-up Compliance Inspection will be performed onsite by the MS4SI and the use of an Operator Compliance Form will not be allowed. The two inspections types are discussed in detail below.

5.3.2.1 Operator Compliance Inspections (typically by the Contractor or Permittee)

Operator Compliance Inspections are conducted within 14 days of Routine Inspections when a site has failures to implement control measures or inadequate control measures documented on the inspection report. Typically, the MS4SI requires the Operator Compliance Inspection to be performed and sent back in a shorter time frame than the 14 days. This is a decision made by the MS4SI. The Operator Compliance Inspection does not fully assess the adequacy of the CMs or the overall site management and only addresses the findings from the Routine Inspection conducted by the County. The inspection must be sent to the MS4SI with 14 days of the Routine Inspection and be on the County-issued form or other approved method of documentation. The form includes the following information: inspection date, name of the operator inspector, site identification, inspection results including photos of the new or additional control measure to resolve issues from the previous inspection and any inadequate control measures that have not been resolved from the previous inspection. A copy of the form is in Appendix C and on the County's server (Public Works G-drive).

The MS4SI files the response from the operator (typically the contractor) in Accela. If the operator fails to supply the form or adequate photos documenting the corrective actions taken, or the response is inadequate based on the MS4SI's professional judgment, the County will perform a MS4SI Compliance Inspection.

5.3.2.2 County Compliance Inspections

County Compliance Inspections may be conducted in lieu of an Operator Compliance Inspection at the MS4 Stormwater Inspector's discretion and are conducted within 14 days of the Routine Inspection, when required. The Compliance Inspection does not fully assess the adequacy of the all of the CMs or the overall site management and only addresses the findings from the previous Routine Inspection conducted by the County. The inspection is documented on the MS4 Compliance Inspection Form. The inspection should be marked as a Compliance Inspection under the Inspection Type section of the inspection report (See Appendix B for MS4 Inspection Form).

5.3.3 Indicator Inspection

Indicator inspections, such as drive-by or screening, are conducted to assess sites for indicators of noncompliance and do not fully assess the adequacy of control measures and overall site management. A Routine Inspection must be conducted at least once at the site before an indicator inspection can be used. Indicator inspections must be conducted at least every 14 days and if an indicator inspector identifies noncompliance issues, then a Routine Inspection must be conducted before another indicator inspection can be utilized. The County has opted not to use indicator inspections under most circumstances.

5.3.4 Inactive Sites–Reduced Inspections

A site may be transferred to a Reduced Site Inspection schedule (every 90 days) if:

- 1) a site has completed all ground-disturbing activities and final stabilization measures have been implemented and are pending growth, or
- 2) if no construction activity has occurred since the last inspection at a site (inactive site).

The same MS4 Inspection Form is used. The completed inspection form is filed in Accela by the MS4SI.

The Permittee is also allowed a reduced SCP site inspection frequency for inactive sites.

5.3.5 Final Inspection and close out of the SWQP

In order to complete the Stormwater Quality Permit process and terminate an active permit, the site owner/operator must contact the County for a final inspection. Once this request is received, the County MS4 Stormwater Inspector completes a final inspection to confirm compliance with the SWMP. The inspection is documented on the MS4 Final Compliance Inspection Form found in Appendix D and on the County's server (Public Works G-drive). The permit is not closed-out until the County MS4SI completes these steps:

1. Completes the MS4 Final Inspection Form and files it in Accela.
2. Verifies that all disturbed areas are stabilized, per County criteria. This means the site has achieved 70% uniform vegetative cover on all exposed soil that has not been stabilized by another method (e.g., driveway, building or house, landscape cover).
3. Verifies that all streets, sidewalks and flowlines are free of sediment from the project work. WASHING OF STREETS, SIDEWALKS AND FLOWLINES IS IN DIRECT VIOLATION OF CODE. Verify all inlets, storm pipes, trickle channels and all other drainage features are free of project-related sediment and construction debris/waste.
4. Verifies removal of temporary erosion and sediment controls and materials. This includes the removal of all stockpiles of soil, construction material/debris, construction equipment, and other materials from the construction site.
5. If applicable, verifies that the Post-construction/Permanent Control has been accepted by the County per the County requirements (see Section 14: Long-Term Operation and Maintenance and Post Acceptance Oversight for details on those requirements).
6. Ensures any damaged public infrastructure caused by the Permittee's construction activity has been adequately repaired if such damage occurred.
7. Enters date of permit close-out in Accela.

For any site requiring installation of post-construction/permanent Stormwater Management Facilities (SWMF)s, the owner or operator must prepare and submit a certification signed by a professional engineer verifying that the post-construction/permanent SWMFs have been installed, as per approved plans and specifications, accompanied by as-built plans. Details for permanent SWMFs and their documentation are discussed in detail in Sections 9 through 15.

Upon confirmation that the site complies with the SWMP, the work flow in Accela is closed under permit completion and the owner/operator is notified by the MS4SI that termination of the SWQP is complete.

5.3.6 Closing out the Stormwater Quality Permit

The Permittee may request close-out of the Stormwater Quality Permit when all disturbed areas have reached final stabilization through the use of vegetation or are otherwise stabilized in accordance with the County-accepted SWMP.

5.3.7 Transferring Inspections of Stormwater Management Facilities to the Long-term Operation and Maintenance Inspection Program

Once a site has been completely vegetated or otherwise stabilized and the County-issued Stormwater Quality Permit has been closed out using the procedure in Section 5.3.6, the Stormwater Consultant will change the status and relevant data in the Permanent Stormwater Management Facility (SWMF) inventory in Accela. Accela auto-schedules an Operation and Maintenance Inspection deadline via script, so that these inspections occur at least once per MS4 Permit term. Please refer to Section 14 below for a detailed step by step chronological process and procedures for long term SWMF oversight.

5.4 Key Personnel

As outlined in Table 1, the MS4SI, Permittee, CIP Project Engineer if applicable, project owner, general contractor and subcontractors are all key players in effective stormwater inspections. The MS4SI performs an MS4 stormwater inspection meant to ensure the Permittee is in compliance with the program. The Permittee is still responsible for performing self-inspections and completing Operator Compliance Forms as required by the State-issued SCP and the County-issued SWQP.

The MS4SI is responsible for determining when sites can move to reduced inspections and have reached final stabilization. The MS4SI will work with the County Engineer and Public Works to determine if the permanent SWMF are acceptable. The MS4SI will be responsible for documentation uploaded to Accela.

Section 6: Enforcement (Part I.E.3.a.vii)

This section details the County's stormwater quality enforcement procedures for compliance with the program. It augments Article 7-904.I of the Land Use Code, Enforcement and Penalties, which is administered by the County Engineer and designees (e.g., CPP Engineering Development Review and consultants).

MS4 Permit Requirement

Part I.E.3.a.vii. Enforcement Response: Implement appropriate enforcement procedures and actions to meet the requirements of Part I.E.3.

(A) The Permittee must have processes and sanctions to minimize the occurrence of, and obtain compliance from, chronic and recalcitrant violators of control measure requirements.

(B) The Permittee must escalate enforcement as necessary based on the severity of violation and/or the recalcitrance of the violator to ensure that findings of a similar nature are enforced upon consistently. Enforcement procedures must include informal, formal and judicial enforcement responses.

6.1 Enforcement Response Tools

This section describes the available enforcement tools and provides guidance on the type and level of enforcement that CPP Engineering Development Review staff may take to resolve an instance of non-compliance and describes how to properly administer and track enforcement actions. The procedures described in this section are guidelines, not rules. Departure from these guidelines will sometimes be appropriate, justified and acceptable. The intent of these procedures is to ensure that findings of a similar nature are enforced consistently (Part I.E.3.a.vii (B) of the MS4 Permit).

At this time, CPP Engineering Development Review does not refer enforcement matters to Code Enforcement, but that may change in the future. Generally, the enforcement begins gradually, with efforts to obtain voluntary compliance and escalating to increasingly severe enforcement actions if compliance is not obtained. The County Engineer may be brought in if enforcement measures need to be escalated. The following CODE language gives the authority for many of the enforcement response tools:

Article 7-904 of the Land Use Code, Stormwater Quality Management Permit Requirements provides right of entry and includes the following tools for enforcement by the County.

Enforcement: All personnel authorized by the County Engineer shall have the power to conduct inspections, give verbal direction, issue notices of violations, perform abatement actions, seek judicial permission and relief, and implement other enforcement actions under this section or as otherwise authorized by law.

Enforcement actions are described in detail in the following subsections. These actions can be used in any order and can be used concurrently.

6.1.1 Informal Enforcement Response

Informal enforcement response includes notice to the operator or property owners such as verbal warnings at the time of inspection, telephone calls with responsible parties, technical compliance assistance, and distribution of educational materials (e.g., handouts, CM cut sheets from the SDCM, websites). Additional informal actions can include:

- Informal meetings.
- Written field inspection reports.
- Warning Notice –these written warnings do not constitute a Notice of Violation. A Warning Notice is the same as a “Notice of Non-compliance,” as it is referred to in the MS4 Compliance Inspection Form. **A Warning Notice is typically used to prevent deficiencies from becoming violations, or when voluntary compliance may be achieved.**
- Combination of any or all of the above.

In an effort to prioritize limited resources, MS4SIs may consider discretionary factors to determine whether immediate investigation or enforcement response is needed. Alleged construction stormwater quality violations that are not an immediate threat to water quality are investigated (responded to) on the next available field day on the inspector’s schedule. Immediate threats to water quality are investigated (responded to) as soon as possible, immediately in most cases.

6.1.2 Formal Enforcement Response

Formal enforcement response consists of a Notice of Violation (NOV) or Stop Work Order. The NOV is issued under the signature of County Engineer or their designated representative with authority to inspect and determine the existence of a violation. The NOV should describe the alleged violation and state the timeframe for compliance and abatement of the violation.

The Stop Work Order is issued in a similar fashion or can be posted in a conspicuous location where the alleged violation is occurring. The Stop Work Order requires that the activity constituting a violation be stopped until further notice from the County Engineer or designees. The Stop Work Order should state the nature of the alleged violation.

Involvement of State or Federal authorities may be sought if the violation is believed to be occurring at a site with SCP coverage or other NPDES permit coverage.

Time periods for investigation or enforcement response are based on the discretionary factors listed in Section 6.2. The time period for formal enforcement response is typically within a few days and immediate when necessary.

In the event a property in violation fails to correct the violation or comply with the requirements under the NOV by the timeframes specified therein, including any reasonable extensions of time granted at the discretion of Public Works, the matter may be referred to the County Attorney's Office for determination of further enforcement steps. Upon consultation with the County Attorney's Office on a particular case, it may be appropriate to issue the responsible party or property owner a formal letter from the County Attorney's Office requiring compliance and abatement prior to a judicial enforcement response or move straight to a judicial enforcement response. County Attorney's Office contacts include:

- Attorney's Office Main Line, (303) 441-3190.
- Code Enforcement Attorney, (303) 441-4558.

6.1.3 Judicial Enforcement Response

Judicial enforcement response includes using the court process to obtain compliance. It is triggered only when a site has been through a formal enforcement response and is still not compliant. Judicial enforcement may be initiated in conjunction with the County Attorney's Office. The timeline for judicial enforcement response is determined by court schedules.

6.1.4 Enforcement Escalation Process

Each incident of non-compliance or violation requires a response that is appropriate for the nature of the violation. Enforcement actions include an assessment of the need for any corrective action, which may include an appropriate penalty. Enforcement response levels generally escalate progressively; however, an evaluation of the incident takes into consideration the discretionary factors in Section 6.2 to decide which level (or combination of levels) is used first. The typical enforcement escalation progress is:

1. MS4SI compliance follow up
2. Verbal notice of non-compliance
3. Written Warning Notice or MS4 Compliance Inspection Report
4. Notice of Violation (NOV)
5. Stop Work Order with Parcel Condition/Hold
6. County Attorney Action

6.2 Discretionary Factors

CPP Engineering Development Review staff and MS4SIs may investigate public complaints pertaining to erosion and sediment control. In doing so, staff use professional judgment and may consider the following discretionary factors to determine whether immediate investigation is needed and in determining the appropriate level of compliance assistance and enforcement action in a given situation. Any action the County takes against the party in non-compliance is based on the nature and severity of the situation and in accordance with Article 7-904. Discretionary factors include, but are not limited to:

- Severity (per MS4 Permit), Duration and Impact of the Violation(s)—Consider the following questions:
 - Did the violation result in an actual or potential threat to human health and the environment?
 - Did the violation impact the County’s drainage system, MS4 or receiving waters?
 - What were the type and volume of pollutants discharged?
- Actions by the Responsible Party—Consider the following questions:
 - Was the violation intentional or was it caused by an unforeseen action?
 - What was the degree of negligence involved?
 - What control measures, if any, were installed to prevent the violation?
 - Did the owner/operator obtain required permits, particularly a SWQP or other applicable county permits?
- Compliance History—Use Accela to research whether there are chronic violations (as referred to in the MS4 Permit) and consider the following questions:
 - Is there a pattern of previous recurring violations, whether the same or of a different nature, that indicate a disregard for compliance with County ordinances, or other environmental laws and regulations? **Boulder County defines these as chronic violations.**
- Responsiveness (as Opposed to Recalcitrance Referred to in MS4 Permit)—Consider the following questions:
 - How did the responsible party respond once the violation was discovered or documented?
 - Did they cooperate? Did they act in good faith to respond to the violation in a timely manner? **Boulder County defines these qualities as being “responsive.” “Recalcitrant” is the opposite of “responsive.”**
- Circumstances—Consider the following questions:
 - Are there any mitigating factors outside the person’s control that contributed to the violation?
 - Was the violation a result of an extreme rainfall event or other unpredictable natural event?

6.3 Division of Labor with Boulder County Public Health

Construction stormwater quality violations are corrected using Article 7-904.I of the Land Use Code, Enforcement and Penalties, which is administered by the County Engineer and designees (e.g., CPP Engineering Development Review staff).

Boulder County Public Health’s (BCPH) illegal discharge ordinance is generally intended to control pollution from other sources such as commercial and industrial activities. To establish clear division of labor, Boulder County Public Health generally does not use the illegal discharge ordinance for construction stormwater quality violations unless support is requested by the County Engineer or designees.

If enforceable conditions of approval (for erosion and sediment control) do not exist in the applicable SWQP, Grading Permit, Building Permit or Community Planning and Permitting approval, then the violation and all supporting evidence should be referred to BCPH. CPP Engineering Development Review staff need to ensure the case file in Accela is fully up to date with all relevant documents and information at the time of referral. BCPH will work with the Enforcement Attorneys to determine whether the illegal discharge ordinance can be used. BCPH intends to use the illegal discharge ordinance when it is deemed the most effective and applicable ordinance to enforce, or even to support another ordinance.

6.4 General Procedures for Construction Stormwater Quality Complaints and Violations

The goal of enforcement is to protect the public health, safety and welfare of Boulder County citizens by controlling pollution associated with construction activities. Under routine circumstances, construction stormwater quality violations are corrected using Article 7-904.I of the Land Use Code, Enforcement and Penalties, that is administered by the County Engineer and designees (e.g., CPP Engineering Development Review staff). Routine circumstances include sites where the owner/operator has properly obtained a SWQP or should have obtained a SWQP but failed to do so.

The MS4 Permit requires consistency in enforcement approach. Therefore, the enforcement procedures in this document apply to violations on projects conducted by private parties and projects administered by Boulder County. For County-administered projects, the main difference is that the enforcement steps need to be conducted in coordination with the Department that is administering the contract with the construction site operator (i.e., contractor). CPP Engineering Development Review staff will work with the applicable department to enforce the contract provisions.

The following table shows how complaints are to be routed, who is responsible for response and communication, and coordination of communication. More step by step details are provided in Section 6.5.

Table 2. Routing of Construction Stormwater Complaints/Inquiries

Task	Responsibility	Communication Details
Private Development		
Complaint response, Accela entry, and enforcement through completion	CPP Engineering Development Review or its consultant	Keep BCPH Stormwater Quality Program Manager copied and seek assistance from BCPH if needed.
County-administered project (e.g., CIP)		
Referral to correct County Department CIP Project Manager	Person that receives the complaint	Environmental advocacy groups typically contact the BCPH Stormwater Quality Program Manager
Accela entry and oversight to ensure corrective action	Transportation Development Review or its consultant	Keep BCPH Stormwater Quality Program Manager copied and informed of progress
Communication with complainant	County Department CIP Project Manager	Keep BCPH Stormwater Quality Program Manager and MS4SI copied and informed of progress
Ensure contractor resolves complaint and takes corrective action	County Department CIP Project Manager	Transportation Development Review staff will work with the applicable department to enforce the contract provisions if needed.

Right of entry is provided by the Article 7-904. Consent for entry onto private property must be obtained as described in Article 7-904.1.3 of the Land Use Code, unless the site has an open Stormwater Quality Permit issued by the County.

If such consent cannot be obtained while onsite, CPP Engineering Development Review staff or their designees will:

- Observe and document conditions as well as possible from public property or public right-of-way (e.g., county road).
- Make observations of a premises under investigation from adjacent private property when the owner of the private property gives consent to do so.

Observations from public property, public right-of-way or with permission from adjacent private property may provide a sufficient and good-faith basis on which to initiate an informal or formal enforcement action. For example, an NOV can be issued based on the evidence gained, and it can describe the County’s efforts to obtain access. This approach is more likely to lead to the owner agreeing to give CPP Engineering Development Review staff or their designee access.

If consent of the owner or other person having charge or control of the property under investigation cannot be obtained and CPP Engineering Development Review staff have a reasonable basis for suspecting

a violation of the ordinance on the property, they can seek entry by submitting a sworn affidavit to the proper court of jurisdiction, setting forth facts sufficient to support a reasonable belief that a violation exists or is likely to exist and that further investigation of the property is thus warranted. A request to the court for entry must be reviewed and filed with the court by the County Attorney's Office. Such request for entry may include the right for Transportation Development Review staff or its designees to set up devices on the property, conduct sampling, take photographs, or perform other investigations deemed reasonably necessary to investigate the alleged violation or assess the effect of any unauthorized erosion or discharges. In a situation where the owner cannot be located and the discharge is ongoing or egregious, then Transportation Development Review staff or its designees may make a request to the court for an administrative abatement warrant rather than a search warrant.

Because of the potential for enforcement actions to be appealed, complete documentation of all circumstances and activities related to a violation is essential. The MS4I must collect defensible documentation of the violation including clear photographic evidence that shows the relationship of the issue to downstream drainage features and waterbodies. **The MS4 Compliance Inspection form needs to be filled out to include information on the issue (e.g., discharge), potentially responsible party, nature of the violation, the specific code alleged to have been violated, the date which the violation was observed (i.e., date of project inspection) and the circumstances of the violation.** Furthermore, communication with the responsible party is critical because no enforcement action should come as a surprise to the recipient.

Enforcement for construction stormwater quality violations can be initiated as a result of Stormwater Quality Permit inspections, which promote compliance, or as a result of citizen or employee complaints and observations. The enforcement process for each is detailed below.

6.5 Enforcement Process and Procedures for Violations Resulting from Complaints

The enforcement process and procedures for violations resulting from complaints include:

1. **Complaint or referral of violation received**—CPP Development Review staff or its consultant make initial entry into Accela (database) as a SWQE (Stormwater Quality Enforcement) record and review the nature of the complaint. If the enforcement record is associated with a SWQP record, then the enforcement record needs to be related to the SWQP record as a child in Accela. Use the [Accela Wiki](#) for instructions.
2. **Preliminary Research**—Research property and compliance history in Accela for relevant information, determine potential project owner, determine potential code citations for alleged violation, etc. Importantly, use Plan-X or another mapping program to determine if the site is within the MS4 Permit Area (i.e., unincorporated urbanized area). **If so, the incident needs to be tracked for the MS4 Annual Report and resolution needs to be carefully demonstrated.** Determine whether the parcel is "Inside the MS4 Permit Area." This determination must be confirmed by the inspector in the field, particularly when the location is a specific portion of a parcel or within the road right-of-way, etc.

If the owner/operator has not obtained proper permits, then a major goal of enforcement is to get the site under permit, particularly a SWQP or other applicable county permits. This information may not be known until a Complaint Inspection is performed.

3. **Initial Prioritization**—Complete initial prioritization based on information from the complainant and use of the discretionary factors listed in Section 6.2, as applicable.
4. **Site Investigation (i.e., Inspection)**—Use the MS4 Compliance Inspection Report form to document the inspection and note this as an inspection resulting from a complaint. Obtain consent for entry as needed and attempt to contact contractor/owner at site or immediately after inspection to discuss the nature of the violation and corrective actions that are needed. No enforcement action should come as a surprise to the recipient.

If “No Violation” is found, note this in the Accela workflow and database, notify complainant, and close the case.

If there are potential violations outside of construction stormwater quality (Article 7-904), the Transportation Development Review Inspector may notify other potential enforcement agencies (Zoning, Army Corps, etc.) that other violations may be involved.

5. **Informal and Formal Enforcement**—If a “Violation” is found, use the **discretionary factors listed in Section 6.2**, as applicable, to decide what type of enforcement is most appropriate to achieve the desired results. For consistency, the following guidelines are used.
 - a. **A Written Warning Notice or MS4 Compliance Inspection Report is typically issued to prevent deficiencies from becoming violations, or when voluntary compliance may be achieved.** At times, owners are unaware of the violation and will agree to voluntary compliance. Meet or discuss violation with owner and follow up in writing (MS4 Compliance Inspection Report or Written Warning Notice) with a **voluntary compliance timeline**. If using the MS4 Compliance Inspection Report, due dates can be included in the “Corrective Action Needed” column. If the voluntary compliance timeline is satisfactorily met, note the compliance in Accela database, notify complainant, and close the case. The **Written Warning Notice must be uploaded to Accela** using the document naming standards.
 - b. **A Notice of Violation (NOV) is typically issued when the violations are severe in duration or impact (as explained in the discretionary factors in Section 6.2).** Severe violations can include illegal discharges from the site, impacts to the County drainage system or waterbodies, or conditions that threaten human health and/or the environment. **Severe violations and needed corrections are communicated verbally and in writing (using the MS4 Compliance Inspection Report Form) to the contractor/owner at site or immediately thereafter.**

Specific NOV response times by violation type are as follows:

- i. Construction commencing without a SWQP or associated plan review will be issued an NOV within 10 business days of identification unless there are extenuating circumstances. If the owner/operator has not obtained proper permits, then a major goal of enforcement is to get the site under permit.
 - ii. Inadequate control measure resulting in a discharge of pollutants from the applicable construction site or to the MS4 will be issued an NOV within 3 business days of identification unless there are extenuating circumstances.
- c. **A Notice of Violation (NOV) is also issued to chronic and recalcitrant violators (as explained in the discretionary factors in Section 6.2).** The Transportation Development

Review Inspector will evaluate the following violation types and deficiencies as a whole to determine whether there is a pattern that qualifies as a chronic or recalcitrant violation, in which case the violator will be issued an NOV within 10 business days of identification, unless there are extenuating circumstances.

- i. Control measures not maintained in operational condition at time of Permittee inspection, including sites that have temporarily shut down construction activities.
- ii. Uncorrected finding(s) from previous inspections.
- iii. Failure to implement a control measure for a pollutant source.

Non-standard or complex NOVs can be reviewed by the County Attorney's Office upon request by staff or the County Engineer. The **NOV must be uploaded to Accela** using the document naming standards.

- d. If using an MS4 Compliance Inspection Report or Warning Notice to document violations and the voluntary compliance timeline is not satisfactorily met, the Transportation Development Review Inspector will issue an NOV.
- e. If using an NOV to document violations and the corrections have not been completed or satisfactory arrangements made by the established deadline, a **Stop Work Order** is posted at the site by the Transportation Development Review Inspector and a **Parcel Condition/hold** is placed on the parent project (typically a Building Permit) in Accela. This serves to ensure that the contractor/owner cannot obtain inspections or approvals from the Building Division until the stormwater quality violations are resolved. The **Parcel Condition/hold** is often sufficient incentive to resolve the issue since the project cannot proceed, and this can cause the contractor/owner significant time and monetary delays on the project.

6. Referral to County Attorney

- a. If the violator has failed to remedy the violation after the established deadlines in the NOV and no extensions have been granted, the matter may be referred to the County Attorney's Office. Prior to referral, Transportation Development Review staff shall confirm (generally through field inspection) that the violation still exists and ensure support from the County Engineer or Engineering Manager. The case file in Accela should be fully up to date with all relevant documents and information at the time of referral.
- b. An attorney with the County Attorney's Office will review the matter and send a letter to the violator stating that the case has been referred to the County Attorney's Office and that an enforcement action will be commenced unless the property is brought into compliance within 14 days. The letter will instruct the recipient to respond to the Transportation Development Review staff member assigned to the case if they wish to resolve the case short of court action. If the violator is represented by legal counsel, all communications should be routed through the County Attorney's Office.
- c. If the violator responds to the letter and desires to correct the violation, the County Attorneys' Office and CPP Engineering Development Review staff will discuss available options to achieve compliance, including a written compliance agreement with the violator.

- d. If the violator does not respond to the letter or fails to correct the violation, an enforcement action may be filed in County Court (Judicial Enforcement Response). Depending on the nature of the violation, the enforcement action filed in court may be to seek monetary fines or other available relief under Article 7-904.I.7, or to request an administrative abatement warrant under Article 7-904.I.8.

6.6 Enforcement Process and Procedures for Violations Resulting from SWQP Inspection

The enforcement process and procedures for violations resulting from a SWQP inspection include:

1. **Violation observed during SWQP inspection**—Use the MS4 Compliance Inspection Report Form to document the inspection and note the anticipated enforcement response in the Inspection Results section of the form. Contact contractor/owner at site or immediately after inspection to discuss the nature of the violation and corrective actions that are needed. No enforcement action should come as a surprise to the recipient.
2. **Initial entry into Accela (database) as a SWQE (Stormwater Quality Enforcement) record if violation requires more than a follow up inspection or operator compliance response**—Because the enforcement record is associated with a SWQP record, the enforcement record needs to be related to the SWQP record as a subset of the SWQP record (often referred to as a child) in Accela. Use the [Accela Wiki](#) for instructions.
3. **Research and Review of Circumstances of the Violation**—Research compliance history in Accela, determine potential code citations for alleged violation and formal enforcement, and review other background information. Use Plan-X or another mapping program to determine if the site is within the MS4 Permit Area (i.e., unincorporated urbanized area). **If the site is in the MS4 Permit Area, the incident needs tracked for the MS4 Annual Report and resolution needs to be carefully demonstrated.** When a new SWQE record is created, Accela will perform a GIS check to determine whether the parcel is “Inside the MS4 Permit Area.” However, this determination must be confirmed by the inspector, particularly when the location is a specific portion of a parcel or within the road right-of-way, etc.
4. **Formal Enforcement**—Once a “Violation” is identified, Boulder County CPP Engineering Development Review staff and their designees will use a series of escalating enforcement responses. Guidelines for responses to common violation types and time periods within which responses will take place (MS4 requirement) include:
 - a. **A Notice of Violation (NOV) is issued when the violations are severe.** Severe violations can include illegal discharges from the site, impacts to the County drainage system or waterbodies, or conditions that threaten human health and/or the environment. **Severe violations and needed corrections are communicated verbally and in writing (using the MS4 Compliance Inspection Report Form) to the contractor/owner at site or immediately thereafter.** Inadequate control measure resulting in a discharge of pollutants from the applicable construction site or to the MS4 will be issued an NOV within 3 business days of identification unless there are extenuating circumstances.
 - b. **A Notice of Violation (NOV) is also issued to chronic and recalcitrant violators (as explained in the discretionary factors listed in Section 6.2).** The MS4SI will evaluate

the following violation types and deficiencies as whole to determine whether there is a pattern that qualifies as a chronic or recalcitrant violation, in which case the violator will be issued an NOV within 10 business days of identification, unless there are extenuating circumstances. Violation types include:

- i. Control measures not maintained in operational condition at time of Permittee inspection, including sites that have temporarily shut down construction activities.
- ii. Uncorrected finding(s) from previous inspections.
- iii. Failure to implement a control measure for a pollutant source.

Non-standard or complex NOV's can be reviewed by the County Attorney's Office upon request by staff or the County Engineer. The **NOV must be uploaded to Accela** using the document naming standards.

If using an NOV to document violations and the corrections have not been completed or satisfactory arrangements made by the established deadline, a **Stop Work Order** may be posted at the site by the Transportation Development Review Inspector and a **Parcel Condition/hold** is placed on the parent project (typically a Building Permit) in Accela. This serves to ensure that the contractor/owner cannot obtain inspections or approvals from the Building Division until the stormwater quality violations are resolved. The **Parcel Condition/hold** is often sufficient incentive to resolve the issue since the project cannot proceed, and this can cause the contractor/owner significant time and monetary delays on the project.

5. Referral to County Attorney

- a. If the violator has failed to remedy the violation after the established deadlines in the NOV and no extensions have been granted, the matter may be referred to the County Attorney's Office. Prior to referral, CPP Engineering Development Review staff shall confirm (generally through field inspection) that the violation still exists and ensure support from the County Engineering. The case file in Accela should be fully up to date with all relevant documents and information at the time of referral.
- b. An attorney with the County Attorney's Office will review the matter and send a letter to the violator stating that the case has been referred to the County Attorney's Office and that an enforcement action will be commenced unless the property is brought into compliance within 14 days. The letter will instruct the recipient to respond to the CPP Engineering Development Review staff assigned to the case if they wish to resolve the case short of court action. If the violator is represented by legal counsel, all communications should be routed through the County Attorney's Office.
- c. If the violator responds to the letter and desires to correct the violation, the County Attorney's Office and Transportation staff will discuss available options to achieve compliance, including as appropriate, a written compliance agreement with the violator.
- d. If the violator does not respond to the letter or fails to correct the violation, an enforcement action may be filed in County Court (Judicial Enforcement Response). Depending on the nature of the violation, the enforcement action filed in court may be to seek monetary fines or other available relief under Article 7-904.I.7 or to request an administrative abatement warrant under Article 7-904.I.8.

6.7 Administrative Procedures for Proper Tracking of Enforcement Actions in Accela

Use the Accela permitting and enforcement system to track workflow, case materials, photographs, and all other forms of evidence. Administrative procedures include:

1. All items related to the case must be tracked within Accela in a SWQE record if non-compliance could not be resolved with follow-up inspections or Operator Compliance Forms.
2. Staff work product and any attorney consultation must be marked as **internal and not available over the public web portal** or other manner without approval from County Attorney's Office.
3. Information regarding an investigation shall be posted on Accela Citizen Access so that complainants can view case progress. Cases will be listed by address without any names.
4. Any conversations, e-mail, mail, meetings, documents, photographs, agreements and other information need to be captured and uploaded into Accela.
5. All cases shall have their statuses updated as events occur and in no case shall go longer than 30-days without the status being updated in Accela.

6.8 Development Review Team Meetings for Resolving Enforcement Actions

Use the Accela permitting and enforcement system to track workflow, case materials, photographs, and all other forms of evidence. Meeting should be held with MS4SI, CPP Engineering Development Review staff and potentially the County Engineer and MS4 Program Coordinator to discuss ongoing enforcement actions.

6.9 Key Personnel

The MS4SI typically starts enforcement with site observations, verbal warnings, documenting noncompliance on inspections, distributing inspection reports requesting corrective actions, researching complaints and coordinating with the Transportation Development Review staff on findings that may need enforcement actions. The County Engineer and MS4 Program Coordinator will be brought into escalating enforcement such as NOVs, Stop Work Orders and Judicial Enforcement Actions.

Section 7: Training (Part I.E.3.a.viii)

This section details how the County informs operators of the County requirements for controlling pollutants, including trash, for compliance with the program.

MS4 Permit Requirement

viii. Training: *The Permittee must provide information to operators of applicable construction activities as necessary to ensure that each operator is aware of the Permittee's applicable requirements, including controlling pollutants such as trash. The training must also include information on trash as pollutant source.*

The County provides information on permitting and plan review, including checklists on the County's webpage at <https://www.bouldercounty.org/transportation/permits/stormwater-quality-permit/>.

In addition, the County encourages contractors to attend training sponsored by Keep it Clean Partnership (KICP), CDOT, Colorado Stormwater Council, CIP Stormwater Compliance Training, Red Rocks Altitude Trainings and CDOT Transportation Erosion Control Supervisor (TECS). Boulder County sponsors several

trainings through KICP including several Stormwater Compliance trainings for Construction as well as Post-Construction Inspection training.

The County's initial inspection also serves as an opportunity to inform operators of the County requirements, including pollutant sources such as trash.

Section 8: Overlapping Permit Areas (Part I.E.3.a.ix)

This section details the County's stormwater procedures in cases of overlapping permit areas for compliance with the program.

MS4 Permit Requirement

For Applicable Construction Activities that Overlap Multiple Permit Areas, when a written agreement is in place with a co-regulating MS4 Permittee:

(A) Control measure requirements may be imposed on the operator in accordance with the requirements of a co-regulating MS4 Permittee pursuant to the written agreement.

(B) Site plan review/acceptance and site inspection actions may be conducted by a co-regulating MS4 Permittee to meet the requirement of the permit.

Projects with overlapping permit areas between the County and other MS4 Permit holders are handled on a case-by-case basis. Applicable construction sites that disturb area in the County and another MS4 Permit holder are reviewed, inspected and enforced on by both agencies or one agency is delegated authority to implement stormwater construction oversight. For applicable construction sites where the County delegates review, inspection and/or enforcement to another MS4, a written agreement must be completed and filed on the County's server (Development Review Folder under SWQP determinations). The County retains the right to perform inspections and must take part in the final inspection and concur that the project has met the requirements of final stabilization. The written agreement is typically outlined in a Memorandum of Understanding (MOU). This document must be reviewed by the County Attorney and signed off on by the County Engineer as this agreement directly pertains to the ability to issue a Boulder County Stormwater Quality Permit under Article 7-904. This process is very similar to the process used for overlapping permit areas for post-construction controls (Section 18).

Projects entirely within in the CDOT right-of-way are not issued a permit by Boulder County. This applies to projects owned by CDOT as well as projects by a different entity. When a portion of the project or a staging area extends outside of the CDOT right-of-way and into Boulder County jurisdiction the project will be permitted under the SWQP. The County will only enforce and inspect on the portions of the project outside of the CDOT right of way that are in Boulder County jurisdiction.

Post-Construction Stormwater Management in New Development and Redevelopment Program

Section 9: Post Construction Regulatory Mechanisms (Part I.E.4.a.ii)

This section documents the County’s post-construction regulatory mechanism to reduce the discharge of pollutants to the MS4 from applicable development sites in the County and meet the requirements of the Post-Construction Stormwater Management in New Development and Redevelopment Program. The County implements the program within the MS4 Permit boundary (a.k.a., urbanized area) rather than countywide.

MS4 Permit Requirement

ii. Regulatory Mechanism: *To the extent allowable under state or local law, implement a regulatory mechanism to meet the requirements in Part I.E.4.a., including:*

(A) Require control measures to be implemented for all applicable development sites.

(B) Enforce the conditions of the exclusions above if applicable.

(C) Require the long-term operation and maintenance of control measures

(D) Ensure that mechanisms are in place as necessary to meet this requirement for control measures used to meet the requirements of this permit by an applicable development site in the permit area that are located outside of the jurisdictional control of the Permittee.

(E) Implement sanctions against entities responsible for applicable development sites and for the long-term operation and maintenance of the control measures.

For the purposes of this document, the terms post-construction control measure, post-construction BMP, permanent BMP, and permanent control measure have the same meaning. The term “Stormwater Management Facility (SWMF)” is used for the inventory in Accela to more generally refer to facilities that function for flood control or other purposes. SWMFs may or may not provide water quality functionality, so this information is tracked in Accela along with the type of facility as designated in the Urban Storm Drainage Criteria Manual (USDCM).

9.1 County Regulatory Mechanisms for Post-Construction Controls

The following regulatory mechanisms are the stormwater quality requirements for post-construction for new development and redevelopment (NDRD) pertaining to sites disturbing one acre or more or sites less than one acre if they are part of a larger common plan of development disturbing an acre or more in the urbanized area, unless excluded in Section 10, Exemptions and Exclusions.

The County’s stormwater regulations related to post-construction requirements for NDRD (including private development and projects performed or contracted by County departments) are administered by the County’s CPP Engineering Development Review staff. CODE requires the use of drainage plans and clearly describes the required elements by referencing the SDCM. This language includes the following:

- Article 7-900, of the CODE states, “All drainage plans required to be submitted as part of a land use application under this CODE must comply with the SDCM. The drainage system plan shall be depicted graphically identifying all existing drainage features which are to be used; all proposed surface drainage structures; and all appropriate designs, details and dimensions necessary to clearly explain proposed construction materials and elevations.”
- Article 7-904, of the CODE outlines the noncompliance remedies for failure to comply with any of the requirements in that section. For any activity that is occurring which is not in compliance with a Stormwater Quality Permit and/or the requirements of that section, the Public Works Department may give in-person warnings, issue notices of violations, perform abatement actions, seek judicial permission and relief and implement other enforcement actions.
- Section 1204.1 of the SDCM states that permanent water quality treatment is required for all new development and redevelopment. However, the County only implements its Post-Construction for NDRD program in the unincorporated urbanized area.

9.2 Key Personnel

The SWQP Specialist will review the SWQP submittals using the Post-Construction Checklist to ensure all applicable development sites, except those that meet the exemptions or exclusions listed in Section 10, meet post-construction requirements before issuing a SWQP.

Section 10: Exemptions and Exclusions (Part I.E.4.a.i and iii)

This section documents the County’s requirements for sites exempted or excluded from the Post-Construction Stormwater Management in NDRD Program to ensure all exclusions meet the requirements of the County’s Post-Construction Program.

MS4 Permit requirement

b.i. Excluded Sites: *Maintain records for activities covered under Part I.E.4.a.i. Records must include the site name, owner name, location, completion date, site acreage, reason for exclusion and any information required below.*

a.iii. Regulatory Mechanism Exemptions: Procedures must be implemented to ensure that any exclusions, exemptions, waivers and variances included in the regulatory mechanism are applied in a manner that complies with the terms and conditions of this permit.

Based on the allowed exclusions listed in the MS4 Permit, the County allows the following applicable development sites to be excluded from the requirements in the Post-Construction Stormwater Management in NDRD Program implemented in the urbanized area of the County.

10.1 Roadways

Pavement Management Sites: Sites, or portions of sites, for the rehabilitation, maintenance and reconstruction of roadway pavement, which includes roadway resurfacing, mill and overlay, white topping, black topping, curb and gutter replacement, concrete panel replacement and pothole repair. The

purpose of the site must be to provide additional years of service life and optimize service and safety. The site also must be limited to the repair and replacement of pavement in a manner that does not result in an increased impervious area and the infrastructure must not substantially change. The types of sites covered under this exclusion include day-to-day maintenance activities, rehabilitation and reconstruction of pavement. "Roadways" include roads and bridges that are improved, designed or ordinarily used for vehicular travel and contiguous areas improved, designed or ordinarily used for pedestrian or bicycle traffic, drainage for the roadway and/or parking along the roadway. Areas primarily used for parking or access to parking are not roadways.

Excluded Roadway Redevelopment: Redevelopment sites for existing roadways, when one of the following criteria is met:

1. The site adds less than 1 acre of paved area per mile of roadway to an existing roadway, or
2. The site does not add more than 8.25 feet of paved width at any location to the existing roadway.

Excluded Existing Roadway Areas: For redevelopment sites for existing roadways, only the area of the existing roadway is excluded from the requirements of an applicable development site when the site does not increase the width by two times or more, on average, of the original roadway area. The entire site is not excluded from being considered an applicable development site. The area of the site that is part of the added new roadway area is still an applicable development site.

10.2 Specific Sites with Infiltration

Aboveground and Underground Utilities: Activities for installation or maintenance of underground utilities or infrastructure that does not permanently alter the terrain, ground cover, or drainage patterns from those present prior to the construction activity. This exclusion includes, but is not limited to, activities to install, replace or maintain utilities under roadways or other paved areas that return the surface to the same condition.

Non-Residential and Non-Commercial Infiltration Conditions: This exclusion does not apply to residential or commercial sites for buildings. This exclusion applies to applicable development sites for which post-development surface conditions do not result in concentrated stormwater flow during the 80th percentile stormwater runoff event. In addition, post-development surface conditions must not be projected to result in a surface water discharge from the 80th percentile stormwater runoff events. Specifically, the 80th percentile event must be infiltrated and not discharged as concentrated flow. For this exclusion to apply, a study specific to the site, watershed and/or MS4 must be conducted. The study must show rainfall and soil conditions present within the permitted area and must include allowable slopes, surface conditions and ratios of impervious area to pervious area.

Sites with Land Disturbance to Undeveloped Land that will Remain Undeveloped: Permittees may exclude sites with land disturbance to undeveloped land (land with no human-made structures such as buildings or pavement) that will remain undeveloped after the project is complete.

Stream Stabilization Sites.

Trails: Bike and pedestrian trails. Bike lanes for roadways are not included in this exclusion, unless attached to a roadway that qualifies under another exclusion in this section. Boulder County allows the Trails exclusion to apply for multi-use pathways regardless of the surface type that are horizontally or

vertically separated from the roadway but are constructed as a standalone or as part of a roadway project. Any portion of the trail that conjoins with the roadway is not allowed the Trails exclusion.

10.3 Oil and Gas

The County has a separate review and permitting process for facilities associated with oil and gas exploration, production, processing, treatment operations or transmission facilities, including activities necessary to prepare a site for drilling and for the movement and placement of drilling equipment, whether or not such field activities or operations may be considered to be an applicable construction activity. These facilities are excluded from the County's post-construction program.

10.4 Facilities Located Outside the MS4 Permit Area

Boulder County has found that applicants may choose to install permanent Stormwater Management Facilities (SWMFs) even though they are not required as part of the MS4 Permit. While these situations are not considered an exclusion from the County's post-construction program, they are unique situations that are handled outside of the MS4 regulations and warrant established procedures for consistency.

If it is a private development project, the permanent SWMFs are tracked in GIS but SWMF records are not entered into Accela because the SWMFs will not be inspected or maintained by the County. During stormwater quality permitting, the applicant may need to develop an O&M Plan and drainage report depending on how significant the SWMF is. A maintenance agreement is not required.

If it is a County project where the permanent SWMFs will be owned and maintained by the county, the SWMF is to go through the full process of submittal, review, acceptance, tracking, etc. This is performed because either the County or a partnering municipality (by Agreement) will be maintaining the SWMFs and we benefit from ensuring the SWMFs are properly designed and installed.

10.5 Documentation of Exclusions

For an exclusion to be used, the following information must be documented in the project file located in Accela: site name, owner name, location, completion date, site acreage, reason for exclusion and any of the following applicable information:

1. Pavement Management Sites: The acreage of the excluded impervious area for rehabilitation and reconstruction of pavement that are not maintenance sites.
2. Excluded Roadway Redevelopment: The acreage of the excluded impervious area.
3. Excluded Existing Roadway Areas for Roadway Redevelopment: The acreage of the excluded impervious area.
4. Non-Residential and Non-Commercial Infiltration Conditions: The acreage of the excluded impervious area.
5. Sites with Land Disturbance to Undeveloped Land that will Remain Undeveloped Redevelopment: The acreage of the excluded impervious area.
6. Stream Stabilization Sites Redevelopment: The acreage of the excluded impervious area.
7. Trails: The acreage of the excluded impervious area.

This information is captured on the Post-Construction Checklist Form (Appendix E), which is posted on the County's website <https://www.bouldercounty.org/transportation/permits/stormwater-quality-permit/> and the County's server. This form is required for all projects in the urbanized area, except oil and gas facilities, that disturb greater than or equal to one acre within the urbanized area. The County has also

developed several guidance documents to help Permittees understand if they might be subject to post-construction requirements. The guidance documents have been posted to the County's website.

10.6 Key Personnel

The SWQP Specialist will review the Post Construction Checklist and upload all related documents into the SWQP record in Accela.

Section 11: Standards and Requirements (Part I.E.4.a.iv)

This section documents the standards and requirements used for ensuring compliance with the Post-Construction Stormwater Management in NDRD Program. It also documents the requirements for submittals to ensure procedures to determine the design standards are documented.

MS4 Permit Requirement

Part I.E.4.a.iv. Control Measure Requirements: *The Permittee's requirements and oversight for applicable development sites must be implemented to address the selection, installation, implementation, and maintenance of control measures in accordance with requirements in Part I.B. The "base design standard" is the minimum design standard for new development and redevelopment.*

b.iv. Control Measure Requirements: *Procedures to determine which design standard applies to each applicable development site and the design specifications for each design standard (if applicable).*

Article 7-900, Drainage, of the CODE describes the standards and requirements to address the selection, installation, implementation and maintenance of control measures. Article 7-900 states, "*The 2016 Storm Drainage Criteria Manual (SDCM), available from the County Engineer, shall be the authoritative reference for drainage and is incorporated into the Land Use Code by this reference. The Urban Storm Drainage Criteria Manual, available through the Urban Drainage and Flood Control District, may be used as an authoritative supplement. The Transportation Standards shall be used for design standards and specifications.*"

The County bases stormwater maintenance facility design on UDSCM criteria. All design standards in the permit that are based on the UDSCM are acceptable in the County, including: water quality capture volume (WQCV) Standard, Runoff Reduction Standard, Regional WQCV Control Measure, Regional WQCV Facility and Constrained Redevelopment Standard.

The MS4 permit requires the following base design standard be met:

(A) **WQCV Standard:** The control measure(s) is designed to provide treatment and/or infiltration of the WQCV and:

- 1) 100% of the applicable development site is captured, except the permittee may exclude up to 20 percent, not to exceed 1 acre, of the applicable development site area when the permittee has determined that it is not practicable to capture runoff from portions of the site that will not drain towards control measures. In addition, the permittee must also determine that the

implementation of a separate control measure for that portion of the site is not practicable (e.g., driveway access that drains directly to street).

2) Evaluation of the minimum drain time shall be based on the pollutant removal mechanism and functionality of the control measure implemented. Consideration of drain time shall include maintaining vegetation necessary for operation of the control measure (e.g., wetland vegetation).

(B) Pollutant Removal Standard: The control measure(s) is designed to treat at a minimum the 80th percentile storm event. The control measure(s) shall be designed to treat stormwater runoff in a manner expected to reduce the event mean concentration of total suspended solids (TSS) to a median value of 30 mg/L or less.

1) 100% of the applicable development site is captured, except the permittee may exclude up to 20 percent not to exceed 1 acre of the applicable development site area when the permittee has determined that it is not practicable to capture runoff from portions of the site that will not drain towards control measures. In addition, the permittee must also determine that the implementation of a separate control measure for that portion of the site is not practicable (e.g., driveway access that drains directly to street).

(C) Runoff Reduction Standard: The control measure(s) is designed to infiltrate into the ground where site geology permits, evaporate or evapotranspire a quantity of water equal to 60% of what the calculated WQCV would be if all impervious area for the applicable development site discharged without infiltration. This base design standard can be met through practices such as green infrastructure. “Green infrastructure” generally refers to control measures that use vegetation, soils and natural processes or mimic natural processes to manage stormwater. Green infrastructure can be used in place of or in addition to low impact development principles.

(D) Applicable Development Site Draining to a Regional WQCV Control Measure: The regional WQCV control measure must be designed to accept the drainage from the applicable development site. Stormwater from the site must not discharge to a water of the state before being discharged to the regional WQCV control measure. The regional WQCV control measure must meet the requirements of the WQCV in Part I.E.4.a.iv(A).

(E) Applicable Development Site Draining to a Regional WQCV Facility: The regional WQCV facility is designed to accept drainage from the applicable development site. Stormwater from the site may discharge to a water of the state before being discharged to the regional WQCV facility. Before discharging to a water of the state, 20 percent of the total impervious surface of the applicable development site must first drain to a control measure covering an area equal to 10 percent of the total impervious surface of the applicable development site. The control measure must be designed in accordance with a design manual identified by the permittee. In addition, the stream channel between the discharge point of the applicable development site and the regional WQCV facility must be stabilized.

The regional WQCV facility must meet the following requirements:

1) The regional WQCV facility must be implemented, functional and maintained following good engineering, hydrologic and pollution control practices.

2) The regional WQCV facility must be designed and maintained for 100% WQCV for its entire drainage area.

- 3) The regional WQCV facility must have capacity to accommodate the drainage from the applicable development site.
- 4) The regional WQCV facility be designed and built to comply with all assumptions for the development activities planned by the permittee within its drainage area, including the imperviousness of its drainage area and the applicable development site.
- 5) Evaluation of the minimum drain time shall be based on the pollutant removal mechanism and functionality of the facility. Consideration of drain time shall include maintaining vegetation necessary for operation of the facility (e.g., wetland vegetation).
- 6) The permittee shall meet the requirements in Parts I.E.4.a.v. and vii. and Part I.E.4.b. for the regional WQCV facility consistent with requirements and actions for control measures.
- 7) The regional WQCV facility must be subject to the permittee's authority consistent with requirements and actions for a Control Measure in accordance with Part I.E.4.a.iv.
- 8) Regional Facilities must be designed and implemented with flood control or water quality as the primary use. Recreational ponds and reservoirs may not be considered Regional Facilities. Water bodies listed by name in surface water quality classifications and standards regulations (5 CCR 1002-32 through 5 CCR 1002-38) may not be considered regional facilities.

(F) Constrained Redevelopment Sites Standard:

- 1) Applicability: The constrained redevelopment sites standard applies to redevelopment sites meeting the following criteria:
 - (a) The applicable redevelopment site is for a site that has greater than 75% impervious area, and
 - (b) The permittee has determined that it is not practicable to meet any of the design standards in Parts I.E.4.a.iv(A),(B), or (C). The permittee's determination shall include an evaluation of the applicable redevelopment site's ability to install a control measure without reducing surface area covered with the structures.
- 2) Constrained Redevelopment Sites Design Standard: The control measure(s) is designed to meet **one** of the following:
 - (a) Provide treatment of the WQCV for the area captured. The captured area shall be 50% or more of the impervious area of the applicable redevelopment site. Evaluation of the minimum drain time shall be based on the pollutant removal mechanism and functionality of the control measure implemented,
 - (b) The control measure(s) is designed to provide for treatment of the 80th percentile storm event. The control measure(s) shall be designed to treat stormwater runoff in a manner expected to reduce the event mean concentration of total suspended solids (TSS) to a median value of 30 mg/L or less. A minimum of 50% of the applicable development area including 50% or more of the impervious area of the applicable development area shall drain to the control measure(s). This standard does not require that 100% of the applicable redevelopment site area be directed to control measure(s) as long as the overall removal goal is met or exceeded (e.g., providing increased removal for a smaller area), or
 - (c) Infiltrate, evaporate, or evapotranspire, through practices such as green infrastructure, a quantity of water equal to 30% of what the calculated WQCV would be if all impervious area for the applicable redevelopment site discharged without infiltration.

There is also a potential to use a previous permit term standard but there are specific criteria the applicable development activity would need to meet outlined in the MS4 Permit. To determine which design standard is applied to the applicable development site, the design specification is documented in the drainage report.

Section 12: Post Construction Site Plan Requirements (Part 1.E.4.a.v) and Site Plan Review (Part I.E.4.a.v [B and C])

12.1 Site Plan Requirements

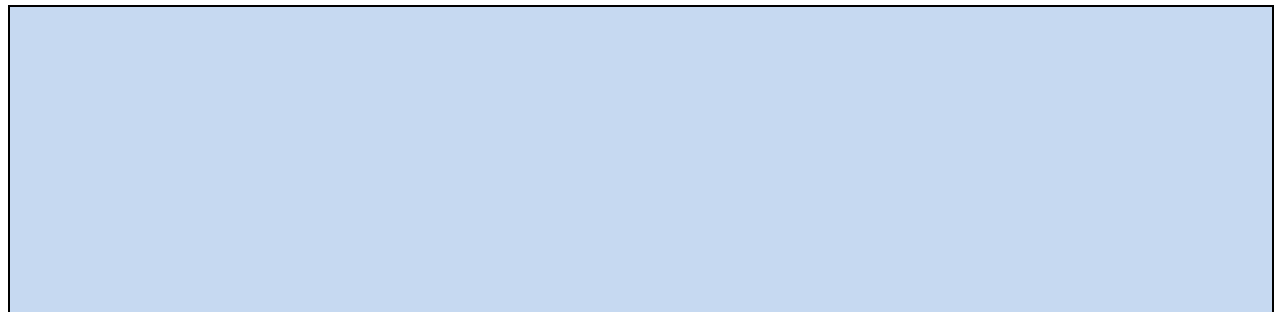
This section documents the County's requirements for site plan submittal requirements and review procedures to ensure compliance with Post-Construction Stormwater Management in NDRD Program.

MS4 Permit Requirement

Part I.E.4.a.v. (A) Site Plans, Site Plan Requirements: Site plans that include control measures for the applicable development sites must include the following:

- 1) Design details for all structural control measures implemented to meet the requirements of Part I.E.4.*
- 2) A narrative reference for all non-structural control measures for the site, if applicable. "Non-structural control measures" are control measures that not structural control measures, and include, but are not limited to; control measures that prevent or reduce pollutants being introduced to water or that prevent or reduce the generation of runoff or illicit discharges.*
- 3) Documentation of operation and maintenance procedures to ensure the long-term observation, maintenance, and operation of the control measures. The documentation shall include frequencies for routine inspections and maintenance activities.*
- 4) Documentation regarding easements or other legal means for access of the control measure sites for operation, maintenance, and inspection of control measures.*

As part of application requirements for a Stormwater Quality Permit in the County, Article 7-904 of the CODE requires: "For construction activity within the urbanized area, a final drainage plan including a narrative describing proposed permanent BMPs and methods for their perpetual maintenance, identification of the parties responsible for perpetual maintenance of proposed permanent BMPs, a site plan showing locations of the proposed permanent BMPs and, as required by the County Engineer, engineered drawings or design schematics for proposed permanent BMPs."



Per Article 7-900 Drainage of the CODE, *“If a development is proposed in phases, a general drainage plan for the entire area shall be presented with the first phase and appropriate development stages for the drainage system for each section shall be indicated.”* By requiring drainage to be addressed as part of the phasing of the project, each area will have appropriate controls in place until the final project is complete.

The County requires the following information to be included as part of the Post-Construction submittal:

- A final drainage plan and report that follows the County’s Storm Drainage Criteria Manual (SDCM) and includes a narrative describing the proposed post-construction controls (permanent BMPs) and methods for perpetual maintenance. This must be stamped by a Colorado Professional Engineer.
- A site plan showing the locations of the proposed post-construction controls and easements.
- Identification of the parties responsible for perpetual maintenance of proposed post-construction controls.
- Operation and Maintenance Manual and easement for County inspections and access. The County has developed Guidelines for the Preparation of an Operation and Maintenance Plan including the site plan. The guidelines are on the County’s website <https://www.bouldercounty.org/transportation/permits/stormwater-quality-permit/> and the County’s server.
- Stormwater Detention and Infiltration Facility (SDI) design data sheets (accessible at <https://maperture.digitaldataservices.com/gvh/?viewer=cswdif#> under Download SDI Design Data Sheet).
- Post-Construction Review Checklist.
- “As-Builts” once the post-construction control has been completed.

Article 7-901 of the CODE requires drainage easements and requires easements to be indicated on the plat or site plan.

12.2 Site Plan Review (Part I.E.4.a.v [B and C])

MS4 Permit Requirement

Part I.E.4.a.v (B) Site Plan Review: *The Permittee shall implement a site plan review process for applicable development sites. The site plan review shall include the following minimum requirements designed to prevent inadequate control measures from being implemented or modified:*

- 1) *Confirmation that control measures meet the requirements of Part I.E.4.*
- 2) *Confirmation that site plans meet the requirements of Part I.E.4.a.v.*

(C) The Permittee must meet the requirements of Part I.E.4.a.v(A) and (B) before approving any modifications to the site plan.

The submittal is made to the Building Department and referred to the Transportation Development Review staff for review and comment as part of the SWQP submittal prior to the project starting construction. If

the site meets the definition of an applicable development site, the County Transportation Review staff will require that post-construction controls be included as part of the SWQP submittal and permit.

Applicable development sites discharging to the County's permitted MS4 are reviewed using the Post-construction Review Checklist Form. Use of the checklists confirms that control measures meet the MS4 Permit requirements in the Post-Construction Program. The checklist also ensures the site plan includes the required items. Once the County receives the submittal from the owner/operator of the site, the drainage report and Operation and Maintenance Manual (and any other supporting documents) are reviewed for general compliance with the requirements listed in Section 11, Site Plan Requirements.

If the submittal has addressed all requirements, acceptance is documented in Accela. If the submittal does not address the requirements, the County Transportation Development Review staff provides comments to the applicant for revision as needed.

Per the recordkeeping requirement in Part I.E.4.b.v, approved site plans (drainage reports and operation and maintenance plans) for the project are uploaded to Accela.

Section 13: Construction Inspection and Acceptance (Part I.E.4.a.vi)

This section documents the County's requirements for site inspections to ensure compliance with Post-Construction Stormwater Management in NDRD Program.

MS4 Permit Requirement

Part I.E.4.a.vi. Construction Inspection and Acceptance: *The Permittee must implement inspection and acceptance procedures to ensure that control measures are installed and implemented in accordance with the site plan and include the following:*

(A) Confirmation that the completed control measure operates in accordance with the approved site plan.

(B) All applicable development sites must have operational permanent water quality control measures at the completion of the site. In the case where permanent water quality control measures are part of future phasing, the Permittee must have a mechanism to ensure that all control measures will be implemented, regardless of completion of future phases or site ownership. In such cases, temporary water quality control measures must be implemented as feasible and maintained until removed or modified. All temporary water quality control measure must meet one of the design standards in Part I.E.4.a.iv.

For the purpose of this section, completion of a site or phase shall be determined by the issuance of a certificate of occupancy, use of the completed site area according to the site plan, payment marking the completion of a site control measure, the nature of the selected control measure or equivalent determination of completion as appropriate to the nature of the site.

To determine if the project owner installed and implemented the control measure in accordance with the site plan (design), the County requires the submittal of as-built drawings (inspection) as well as an engineering certification (verification) stating that the stormwater management facility is built as

designed and will function as designed. This submittal is required before the County will issue a certificate of occupancy or accept the control measure.

Inspections and associated documentation are entered in Accela under the applicable SWMF record. Select the “Acceptance Inspection” type from the pull-down menu and enter the results in the “Inspection Detail” tab and answer each question in the “Checklist” tab.

In addition, structural control measures should be inspected by the design engineer as they are installed to ensure proper installation and proper long-term operation of the control measure. The construction plans and the Operation and Maintenance Plan can be used by the design engineer as guidance for proper installation. If an element of the control measure is installed incorrectly, the element should be removed and replaced. Each permanent structural control measure should be inspected at key points during the installation. The key points are dependent on the specific permanent structural SMWF that is installed.

Section 14: Long-Term Operation and Maintenance and Post Acceptance Oversight (Part I.E.4.a.vii)

This section documents the County’s process for oversight to ensure compliance with the Post-Construction Stormwater Management in Development and Redevelopment Program.

14.1 Long-term Operation and Maintenance

MS4 Permit Requirement

Part I.E.4.a.vii. Long-Term Operation and Maintenance and Post Acceptance Oversight: *The County must implement written procedures which include the following minimum requirements to ensure adequate long-term operation and maintenance of control measures to ensure that they are functioning as designed.*

(A) Procedures to enforce the requirements for the owner or operator to implement and maintain control measures when necessary.

Article 7-904.H.2.a of the CODE requires that as a condition of approval of the County stormwater quality permit and its required permanent Stormwater Management Facilities (hereinafter “SWMFs”), the Permittee shall agree to maintain the SWMFs to their design capacity in perpetuity.

Because the SWMFs will exist long after the stormwater quality permit is closed out, the County requires maintenance agreements for private development projects where SWMFs are built for MS4 purposes. Maintenance agreements are the mechanism Boulder County uses to clarify roles and responsibilities and hold HOAs/private parties accountable for long term operation and maintenance of SWMFs. Maintenance agreements are recorded by the County in the real property records of the office of the Clerk and Recorder to ensure the requirements are bound to the property and any subsequent buyer. In enforcement matters the maintenance agreement enables the use of a lien against the property and reimbursement to the County for abatement work to ensure proper functioning of the SWMFs.

The County’s chronological process and procedures for conditioning private projects to ensure SWMFs are built and properly maintained include the following. The process used for most county-administered projects is similar except that a maintenance agreement cannot be used for the road right-of-way since parcels do not exist for this type of county-owned property.

1. **Referral response by CPP Engineering Development Review staff** – If the applicable development site is located within the MS4 Permit boundary (a.k.a., urbanized area) and requires permanent SWMFs to be built, CPP Engineering Development Review staff notify applicants of this requirement in their referral response and include it as a condition of approval during the land use process. Maintenance agreements are also included as a condition of approval.
2. **Initial entry into Accela (database) as a SWMF record by Stormwater Consultant** – SWMFs are added to Accela when they are “Proposed” as part of a SWQP application. If there isn’t an existing SWMF record in Accela, create one. Associate SWMF records with the applicable Stormwater Quality Permit that generated the facility. To do this, the SWMF record needs to be related to the SWQP record as a subset of the SWQP record (often referred to as a child) in Accela. Use the [Accela Wiki](#) for instructions.

Documents that are common to multiple SWMFs at the site (i.e., Drainage Report and Maintenance Agreement) should be uploaded to the parent SWQP record.

If CPP Engineering Development Review staff did not notify the applicant of the SWMF and maintenance agreement requirement in their referral response, the Transportation Consultant will need to educate the applicant on the maintenance agreement language as part of a SWQP application.

3. **Inspections during construction by the Design Engineer (i.e., applicant’s engineer)** – refer to Section 13 above on “Construction Inspection” process that the design engineer should perform.
4. **Stormwater Consultant Inspection for SWMF final acceptance**—refer to Section 13 above on “Acceptance Inspection” process that ensures SWMFs are installed per the design.
5. **Stormwater Consultant updates SWMF record in Accela**—The MS4 Permit-required SWMF inventory is maintained in Accela because of its capabilities to schedule and track inspections along with relevant documents (e.g., as-builts and inspection forms). SWMFs built since the inception of Stormwater Quality Permitting (August 2017) must be entered into Accela.

Change the status of the SWMF to “Online” once the SWMF has been accepted by the County, so that the MS4 Permit-required SWMF inventory is “real time.” Additional updates will be ongoing for Operation and Maintenance inspections and document upload. Documents uploaded to the SWMF record are the ones that are useful for Operation and Maintenance inspections such as the approved O&M plan and SWMF Inspection forms.

6. **Stormwater Consultant contacts property owner (e.g., HOA) for maintenance agreement signature**—Stormwater Consultant fills out the template (BOULDER_COUNTY-#274681-v3-Permanent_SWMF_Maintenance_Agreement-Draft_of_11_27_19.doc) and sends it to the owner for signature and notarization. A signed maintenance agreement needs submitted by the owner to the Stormwater Consultant prior to the SWQP Final Inspection. Once the maintenance agreement

is complete (signed and notarized), a hard copy needs to be submitted to the Boulder County Clerk and Recorder for recording.

7. **Road Maintenance GIS Specialist obtains location (e.g., point data) of SWMF and includes in GIS**—SWMF location and other information are kept in a geodatabase available in GIS at V:\gisrd\Storm Drain\Boulder County MS4.mxd. When new features such as SWMFs or outfalls are built and accepted as part of stormwater quality permitting (SWQPs), the Transportation Consultant will contact the Road Maintenance GIS Specialist and request an update to the GIS. If necessary, the Road Maintenance GIS Specialist will take point data in the field.
8. **Recording by Boulder County Land Officer** uses the County Clerk and Recorder system to record the maintenance agreement in the real property records. Once complete, the recorded maintenance agreement is uploaded to the SWMF record Accela.
9. **Stormwater Consultant conducts ongoing SWMF Operation and Maintenance inspections**—refer to Section 14.2 below on “Operation and Maintenance Inspection” process that ensures SWMFs function per the design and Operation and Maintenance Plan. In Accela, select the “Operation and Maintenance Inspection” category from the inspection pull-down menu and enter the results in the “Inspection Detail” tab and answer each question in the “Checklist” tab. Deficiencies identified during the inspection need corrected by the responsible party.

14.2 Post Acceptance Oversight

MS4 Permit Requirement

Part I.E.3.a.vii. Long-Term Operation and Maintenance and Post Acceptance Oversight:
(B) Oversight shall include inspections of field conditions and control measures to confirm conformity with the site plan, identify any inadequate control measures, and identify control measures requiring routine maintenance, such as trash removal. All functional elements of control measures shall be inspected at a frequency determined by the Permittee. Inspections of each control measure shall occur at least once during the permit term except when Inspections for oversight of control measures on individual residential lots serving only the individual lot shall occur as determined by the Permittee and may rely on alternative oversight process.

The County hired a consultant in January 2017 to assist with the County’s MS4 and drainage system mapping. Specifically, the consultant was tasked with evaluating the current county drainage system records and geographic information system (GIS) data and conducting desktop and field analysis to perform GIS map updates. The Request for Proposal (RFP # 6539-16) shows the scope of work included in the contract, and the depth and breadth of mapping performed for water quality purposes. Operation and Maintenance inspections of SWMFs conducted by the consultant are used to satisfy the inspection requirements for the 2016-2021 Permit Term. Additional Operation and Maintenance inspections of SWMFs are documented in Accela.

To enforce the requirements for the owner to implement and maintain control measures, control measures implemented within the County are inspected by the County Engineer or their designee at least once per 5-year permit term and if a complaint is received. The intent of the inspection is to assess whether the control measure is functioning as designed. The as-built drawing, and, if available, the Operation and Maintenance Plan, are checked when needed to confirm conformity with the plan. The

inspection identifies any inadequate control measures and identifies control measures requiring routine maintenance, such as trash removal. County owned and/or operated control measures are tracked in the same database with privately owned control measures. County owned control measures also receive the same minimum inspection frequency that privately owned and/or operated permanent control measures have to meet.

If corrective action(s) or maintenance is needed, Transportation Development Review staff communicates these needs to the responsible party.

Inspections and associated documentation are entered in Accela under the applicable SWMF record. Select the “Operation and Maintenance Inspection” category from the pull-down menu and enter the results in the “Inspection Detail” tab and answer each question in the “Checklist” tab.

Section 15: Enforcement Response (Part I.E.4.a.viii)

This section documents the County’s requirements for enforcement to ensure compliance with Post-Construction Stormwater Management in Development and Redevelopment Program.

MS4 Permit Requirement

Part I.E.4.a.viii. Enforcement Response:

Implement appropriate written enforcement procedures and actions to meet the requirements of Part I.E.4. The Permittee must escalate enforcement as necessary based on the severity of violation and/or the recalcitrance of the violator to ensure that findings of a similar nature are enforced upon consistently. The Permittee must have processes and sanctions to minimize the occurrence of, and obtain compliance from, chronic and recalcitrant violators of control measure requirements. Written enforcement procedures must include informal, formal and judicial enforcement responses.

The County’s enforcement procedures guide inspectors on proper escalation of enforcement, as necessary, when inspecting control measures for long-term operation and maintenance.

Per the CODE, it is unlawful for any person to violate any provision of a Stormwater Quality Permit or fail to comply with any of the requirements of Article 7-904. Any person who violates any of the provisions may be subject to one or more of the enforcement actions outlined in Article 7-904.I.

Failure to maintain permanent BMPs may include the following escalation procedures:

1. Discussion of maintenance requirements with the property owner;
2. A written request for maintenance to the property owner; and/or
3. Escalation to code enforcement procedures including a written compliance order containing a compliance schedule or fines.

Each of these items can be used in any order and can be used concurrently. See the detailed discussion in Section 6 describing the enforcement escalation process, which applies to the construction and post-construction programs. Documentation of any enforcement of noncompliance issues associated with

long-term operation and maintenance is located in Accela under the SWQE record type (Stormwater Quality Enforcement).

When stormwater non-compliance is identified by the County, enforcement actions are taken promptly. An action the County takes against the party in non-compliance is based on the nature and severity of the situation and in accordance with the CODE. The County uses professional judgment and enforcement discretion to determine the appropriate level of compliance assistance and enforcement actions in a given situation.

15.1 Informal Enforcement Response

Informal enforcement response includes in-person warnings in response to minor violations such as control measures needing routine maintenance and is often used on sites that do not have systemic violations or are responsive to previous County inspection reports and directions.

15.2 Formal Enforcement Response

Formal enforcement response includes written warnings in response to systemic violations and neglected control measures in need replacement. This includes compliance schedules.

15.3 Judicial Enforcement Response

Judicial enforcement response includes using the court process to obtain compliance on a site. It involves escalation to code enforcement procedures including a written compliance order containing fines and court appearances. Monetary fines are assessed as outlined in the CODE, and judicial enforcement remedies include legal enforcement authority under C.R.S. Sections 30-28-124 and 30-28-124.5; County building code enforcement under C.R.S. Section 30-28-209; and County ordinance enforcement under Part 4 of Article 15 of Title 30, C.R.S.

Judicial enforcement response is rare and is typically triggered only when a site has been through a formal enforcement response and is still not compliant.

Section 16: Tracking (Part I.E.4.a.ix)

This section documents the County's tracking methods for control measures to ensure compliance with Post-Construction Stormwater Management in Development and Redevelopment Program.

MS4 Permit Requirement

Part I.E.3.a.ix. Tracking:

Implement and document procedures and mechanisms to track the location of and adequacy of operation of control measures implemented in accordance with the program.

During the 2016-2021 permit term, Operation and Maintenance inspections conducted by a consultant have been used to enhance Boulder County's inventory of SWMFs. This SWMF inventory is a geodatabase available in GIS. Mapping of the storm drain system (e.g., SWMFs, outfalls, and other features) is an important tool because it enables the County to spatially view how these features collectively interact to influence downstream water quality. Many of these SWMFs only function for flood control purposes, but

additional data were collected on all facilities to better assess retrofit potential (i.e., the ability to add water quality functionality in the future). Importantly, 19 SWMFs were identified within the unincorporated urbanized area. All 19 SWMFs are located in subdivisions so Boulder County subdivision records were used for additional research. Drainage reports and other records confirmed that only one of these SWMFs provides water quality treatment and it came online prior to 03-09-2008 (pre-dating the MS4 regulations). A spreadsheet is maintained to document these results (Boulder County and Private SWMF Within 2010 UA Updated.xlsx). Inspections of these SWMFs are not required; therefore, the SWMFs are not included in Accela.

The County hired a consultant in April 2017 to design and configure the Accela Civic Platform for stormwater quality purposes such as tracking and the majority of the MS4 Permit-required recordkeeping. The request for proposal (RFP # 6642-17) shows the enormous undertaking and scope of work included in the contract. The MS4 Permit-required SWMF inventory will be maintained in Accela because of its capabilities to schedule and track inspections along with relevant documents (e.g., as-builts and inspection forms). In addition, the SWMF inventory in Accela enables us to associate SWMF records with the applicable Stormwater Quality Permit that generated the facility. SWMFs built since the inception of Stormwater Quality Permitting (August 2017) will be included in Accela.

SWMFs are added to Accela when they are “Proposed” as part of a SWQP application and then the status is changed to “Online” once the SWMF has been accepted by the County. Acceptance of the SWMF usually occurs when the site has been stabilized and a certificate of occupancy for the site has been issued.

Section 17: Training (Part I.E.4.a.x)

This section documents the County’s training for review, inspection and enforcement of control measures to ensure compliance with Post-Construction Stormwater Management in Development and Redevelopment Program.

MS4 Permit Requirement

Part I.E.3.a.x. Training:

Train applicable municipal staff to inspect the control measures in accordance with the Permittee’s procedures in Part I.E.4.a.vi and vii. The Permittee must identify those who will be likely to inspect the control measures and provide training to those individuals. The training must also include information on trash and its effects on water quality.

The County currently contracts out long-term operation and maintenance inspections of permanent control measures to a consulting firm. Contracted employees that inspect control measures are trained through on-the-job experience as well as attending classes offered by the Colorado Stormwater Training Center or other reputable training sources such as Environmental Protection Agency, the International Erosion Control Association, Center for Watershed Protection, etc. KICP and other community agencies such as Colorado Stormwater Council also periodically offer trainings using qualified staff from the Colorado Stormwater Training Center or other reputable training sources.

Training records for all program areas are maintained on the BCPH server under “Training Records.” All applicable training certificates and course descriptions must be emailed to the BCPH Stormwater Quality Program Manager.

Outside professional engineers (P.E.s) or qualified professionals who provide inspections or certifications are assumed to have proper training for their accreditations.

Section 18: Overlapping Permit Areas (Part I.E.4.a.xi)

This section details the County’s stormwater procedures in cases of overlapping permit areas for compliance with the Post-Construction Stormwater Management in Development and Redevelopment Program.

MS4 Permit Requirement

Part I.E.4.a.xi. For Applicable Development Sites that Overlap Multiple Permit Areas co-regulating MS4 Permittee), when a written agreement is in place with a co-regulating MS4 Permittee the following is required:

(A) Control measure requirements may be imposed on the operator in accordance with the requirements of a co-regulating MS4 Permittee pursuant to the written agreement. This requirement does not apply to applicable development sites in the permit area of the Colorado Department of Transportation.

(B) Site plan review/acceptance and site inspection actions may be conducted by a co-regulating MS4 Permittee to meet the requirement of the permit.

Projects with overlapping permit areas between the County and other MS4 Permit holders are handled on a case-by-case basis. Although construction responsibilities may be delegated to another jurisdiction, rarely will a post-construction control measure be delegated to another entity other than the County.

In the rare case that the County Engineer delegates post construction authority to another MS4, this is done through a written agreement and filed on the County’s server (Development Review Folder under SWMF Determinations). The written agreement is typically outlined in a Memorandum of Understanding (MOU). This document must be reviewed by the County Attorney and signed off on by the County Engineer because this agreement directly pertains to the ability to issue a Boulder County Stormwater Quality Permit under Article 7-904.

Appendix A: Key Actions and Responsibility Table

Permit Application		
Key Actions	Responsibility	Process
Determine if Stormwater Quality Permit is required	County Engineer, Project Manager, Permit Tech	Private Development: requirements are explained during development review process or during pre-application meeting, including applications for other County permits. CIP: Department Project Manager includes permit application into Bid documents at preconstruction meeting.
Have owner/operator submit application for Stormwater Quality Permit	County Engineer, Project Manager, or Permit Tech	Supply owner/operator with application. Determine if other permits are required.
Verify application is complete	Community Planning & Permitting Dept	Application must be complete before proceeding
Permit Review and Approval		
Complete review of application	SWQP Specialist or consultant	Review SWMP for compliance with County requirements. Work with applicant to resolve deficiencies.
Document Erosion Control Supervisor and Inspector(s)	SWQP Specialist or consultant	Document the project's Erosion Control Supervisor and Inspector(s). The Permittee's responsible parties are identified on the permit application.
Enter any site-specific requirements into Permit	SWQP Specialist or consultant	Add any additional requirements to the conditions in the Accela Record
Accept the application	SWQP Specialist	Sign the checklist for application acceptance...
Enter information into Accela	SWQP Specialist	Enter all information into Accela, confirm status as APPROVED.
Notify Permittee	SWQP Specialist	Inform Permittee that review is complete, the application is approved and that permit fees are due.
Collect payment	Community Planning and Permitting department	Fees must be paid prior to permit issuance. Enter payment information into Accela. When applicable, Stormwater Quality Permit fee is collected with fees for additional County permits.
Inspections		
CIP: Discuss permit requirements at preconstruction meeting	Project Manager	Confirm with the Permittee that the permit and the current site plan will be available at the project site. The site plan must be updated to reflect the most current conditions. Review permit requirements, CMs and expectations for control of pollutants from site.
Perform Initial Inspection	MS4SI	Inspect site once CMs have been installed but before work has started. Inspection required before Permittee can disturb ground.

Permit Application		
Key Actions	Responsibility	Process
Perform Routine Inspections	MS4SI	Perform Routine Inspections. Reconnaissance Inspections are typically performed on a normal site visit. Full Level Inspections are performed when a site has indications of site-wide or specific BMP issues, or when repeated non-compliance items are not resolved. All pollutants must be controlled through the use of CMs to prevent them from leaving the site. The frequency can be reduced if circumstances allow, such as winter shut down or waiting for final stabilization. The maximum inspection frequency is quarterly and the reason for reduced inspections must be documented in Accela and on the last inspection report. If significant changes that would require a new development review are made, the site plan may need to be reviewed by the County again. Minor changes can be reflected on the field copy of the SWMP.
Perform re-inspections as needed	MS4SI	Complete follow-up inspections for observed problems or violations. Any observed violations must be corrected immediately; re-inspections can be done at any time within 5 business days to verify the corrective actions. This is in addition to the Routine Inspections unless the Routine Inspection falls within the re-inspection time window.
Document Inspections	MS4SI	Document all inspections. Within 5 business days of the inspection, enter inspection results into Accela.
Notify owner/operator and Project Manager of inspection results	MS4SI	Within 2 business days of inspection, inspector should provide owner/operator and Project Manager, if applicable, copies of the inspection report. If the owner/operator does not have email the report should be mailed within 2 business days.
File Inspection Reports	MS4SI	Inspection reports are uploaded into Accela and included in project file.
Construction		
Take enforcement actions as necessary in accordance with County regulations.	MS4SI, Project Manager, County Engineer	Follow the Violation Escalation process. Most enforcement actions will be initiated by the Inspector and coordinated with the Project Manager and the County Engineer. Project Inspector typically does in-person and written warnings, the Project Manager typically does NOVs and abatement and the County Engineer typically does stop work orders.
Follow up on enforcement actions.	MS4SI, Project Manager	The initiator of the in-person or written warnings will follow up to ensure the issues are corrected. For NOVs and stop work orders, the Project Manager and Project Inspector will assist the County Engineer to confirm that all conditions of the enforcement action have been met.
Document enforcement and follow up.	MS4SI, Project Manager, County Engineer	The initiator of the enforcement needs to document it in Accela.

Permit Application		
Key Actions	Responsibility	Process
Data Management		
Track and review permit assignments.	SWQP Specialist or consultant	On a monthly basis, use Report Manager to view permits Review and track to ensure procedures and responsibilities are being followed.
Review and update Accela.	SWQP Specialist or consultant	On a monthly basis, review Accela and see if anything needs to be done. Compare to State List, determine if any need to get a new permit or renew, modify, transfer, or terminate existing permits. Use Report Manager to review upcoming expirations as well as report that shows status of all permits. Work with owner/operator, County Inspector, and Project Manager to get any additional information needed. (i.e., can the permit be closed or is work still going on?)
Notify owner/operator of permit expiration, modification, transfer, termination.	SWQP Specialist or consultant	Let owner/operator know in person or in writing of any actions needed for permit expiration, modification, transfer, termination. Document notifications in Accela.
Document permit renewal, modification and transfers.	SWQP Specialist or consultant	Document renewals, modifications, and transfers in Accela.
Owner/operator submits Notice of Termination.	SWQP Specialist or consultant	The termination process typically begins with the owner/operator requesting termination of the permit.
Notify Permittee to close permit.	SWQP Specialist or consultant	If the owner/operator does not initiate the termination process, the County Inspector or Project Manager will notify the owner/operator that the site is ready to close. For Development projects: Permit Tech will work on getting the permit closed (with assistance from the County Inspector if needed). For CIP: The Project Manager will work on getting the permit closed.
Final Inspection.	SWQP Specialist or consultant	Project Manager will coordinate with County Inspector to verify final stabilization and temporary BMP removal. The County Inspector will take photos to document re-vegetation/stabilization of the site and notify Project Manager and County Engineer that permit is ready to be closed.
Collect all pending fees.	Admin, or Permit Tech	Check for pending fees and notify Permittee to pay fees. All fees must be paid in order to close permit.
Close permit.	SWQP Specialist or consultant	Sign the permit approval and enter close out date in Accela. Send confirmation of termination to the owner/operator. Notify Project Manager and County Inspector that permit closed. Email is sufficient.
Clean up permit files.	SWQP Specialist or consultant	Review permit files annually. Permits with termination dates over 3 years old are discarded. Use Report Manager to generate a report of all permits ready for discard.

Appendix B: MS4 Compliance Inspection Form

Appendix C: Operator Compliance Follow-Up Form

Appendix D: Final Inspection

Appendix E: Post-Construction Checklist

Appendix F: Guidelines for Preparing the Operation and Maintenance Manual

Overview

Boulder County requires that a Maintenance Site Plan (Plan) be submitted for all private development and County-administered projects including a permanent post-construction control measure. The Plan shall consist of a single sheet, 22"x34" that includes all the necessary information for long-term maintenance of the site and shall generally conform to the guidelines that follow. Graphical elements included on the sheet are to reflect as-built Record Drawing information associated with the completed project.

Contents of Maintenance Site Plan

The following outline shall be used to guide the development of the Maintenance Site Plan. Some items may not apply to all projects, and any unique features may warrant inclusion of additional information if pertinent to the anticipated maintenance of the site.

Section 1 - Project Information- can be listed in drawing title

- 1.0 General Information
 - A. Property Owner - Including contact number
 - B. Design Engineer- Including contact number
 - C. Project Completion Date
 - D. County Approval Block
- 1.1 Hydraulic Information
 - A. Flow Rates- All applicable flow rates should be listed, e.g. base flow, design flow, any storm flows that were evaluated, etc. Detention facilities should include inflow and outflow rates.
 - B. Facility Description- Include additional design information for the facility, including volumes, water surface elevations, and surface types for forebays and micropools.
 - C. Outlet Type
 - D. WQCV Drain Time
- 1.2 Miscellaneous Information
 - A. Project Survey Information- Include survey control information and at least one on-site "Maintenance Control Point" established during construction for use during maintenance activities.
 - B. Seed Mix
 - C. Mow Area- Include area in acres and description of mow limits.
 - D. Long Term Monitoring Requirements- If applicable, list monitoring requirements such as 404 Permit Reports or any other required monitoring.

Section 2 - Project Notes

- 2.0 General Facility Description- Include function, flow source, flow pattern through project, any special features, and any additional information that may be helpful in understanding the basic workings of the facility.
- 2.1 Maintenance Notes
 - A. Maintenance Frequency
 - B. Equipment and Special Tools Required
 - C. Power Source (*if applicable*)
- 2.2 Maintenance Procedure
 - A. Dewatering
 - B. Sediment Removal

- C. Debris Removal
- D. Site Inspection- List all general features and equipment that should be inspected to ascertain additional maintenance needs. See attached examples.
- E. Materials Testing- List any contaminant testing requirements for sediment removed from the pond.
- F. Post-Maintenance Considerations- Any additional maintenance-related tasks should be listed here. These may include restoring flow patterns, replacing or removing stoplogs, or additional cleanup requirements.

Section 3–Site Plan

3.0 Vicinity Map

3.1 Plan View- All major features of the facility should be labeled, including the following:

- Trickle Channel
- Forebay, longest reach distance required from access road
- Micropool, longest reach distance required from access road
- Entrance Structure
- Outlet Structure

In addition, special maintenance-related information should be identified:

- Maintenance Control Point location and elevation
- Maintenance entrance / access road / gates / turnarounds. List applicable information such as road material, width, maximum grade, etc.
- Power source
- Weight-restricted areas
- Wetland or natural areas to avoid

3.2 Hydraulic Profile

- Major features
- Permanent pool elevations
- Other applicable water surface elevations
- Flow direction
- Shading identifying forebay and micropool sediment removal zones

Section 4–Details (relevant to the BMP on site- Rain Garden/Porous Landscape Detention, Extended Detention Basin, Sand Filter Basin, etc.)

4.0 Trickle Channel Section

4.1 Maintenance Road/Access

4.2 Inlet Structure(s)

4.3 Forebay Release Structure

4.4 Outlet Structure

Submittal Requirements

The Engineer shall submit one 22"x34" and one 11"x17" Maintenance Site Plan with the project's as-built Record Drawings. Any comments shall be addressed by the Engineer until approval has been granted by the County. Once approval has been granted, the final submittal shall include:

- Two 22"x34" Maintenance Site Plans (one mylar, one bond)
- One 11"x17" plan
- Flash Drive containing the AutoCAD file and a PDF of the plan

Appendix G: References and Resources

- Boulder County's Stormwater Quality Permit, <https://www.bouldercounty.org/transportation/permits/stormwater-quality-permit/>
- Boulder County Storm Drainage Criteria Manual, <https://www.bouldercounty.org/transportation/floodplain-management/storm-drainage-criteria-manual/>
- Colorado Department of Public Health and Environment, MS4 Phase 2 General Permit, https://www.colorado.gov/pacific/sites/default/files/COR090000_Permit_Certification_mod3.pdf
- Colorado Stormwater Center, <http://stormwatercenter.colostate.edu/>
- EPA NPDES Stormwater program, <https://www.epa.gov/npdes/npdes-stormwater-program>
- Keep it Clean Partnership, <https://www.keepitcleanpartnership.org/>
- Urban Drainage and Flood Control District, <http://udfcd.org/>

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