



**CITY OF TROY
CONSTRUCTION
AND POST-
CONSTRUCTION
MANUAL**



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1. INTRODUCTION

1.1 BACKGROUND

The U.S. Environmental Protection Agency (EPA) established the National Pollutant Discharge Elimination System (NPDES) program as part of the Clean Water Act (CWA) to regulate discharges to surface water. In Missouri, the Missouri Department of Natural Resources (herein referred to as "MDNR") has delegated authority to regulate stormwater runoff that enters local waterbodies through Municipal Separate Storm Sewer Systems (MS4s) in "Urbanized Areas," also known as "Regulated Area," which is based on the population density estimated from latest U.S. decennial census. For the City of Troy, Missouri, the regulated area is everywhere within the City limits of Troy.

The City is required to obtain a permit for stormwater discharges from the MDNR, and is currently covered under a Missouri State Operating Permit. The General Operating Permit for Stormwater Discharges from Small MS4s (MS4 Permit, Permit) authorizes the City to discharge stormwater per their Stormwater Management Program (SWMP). In accordance with the MS4 Permit, the SWMP consists of six components called *minimum control measures* which, when implemented, should result in a reduction of pollutants discharging into receiving waters. The minimum control measures are:

1. Public Education and Outreach on Stormwater Impacts;
2. Public Involvement and Participation;
3. Illicit Discharge Detection and Elimination;
4. Construction Site Stormwater Runoff Control;
5. Post-Construction Stormwater Management in New Development and Redevelopment;
6. Pollution Prevention and Good Housekeeping for Municipal Operations.

The Construction and Post-Construction Manual described herein will satisfy the requirements of the fourth and fifth minimum control measures in conjunction with other activities outlined in the Permit including, but not limited to, inspections, record keeping, and training. The importance of these two minimum control measures is described in the following sections.

1.2 WHY IS CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL IMPORTANT?

When vegetation and topsoil are stripped from a construction site, erosion of unprotected land typically follows. *Erosion* is the process by which soil particles are displaced by the forces of water that falls as rainfall or flows over land, or by the force of wind blowing across the ground. Eroded soil particles can travel to nearby waterways, where these particles eventually fall out of suspension and settle to the bottom of waterways as *sediment*.

Although erosion is a natural process, the rate of erosion on most construction sites is as much as 500 times greater than on undisturbed, vegetated sites. Accelerated erosion accounts for the majority of deposited sediment, which degrades water quality and natural habitat by clouding and warming waters, smothering fish eggs, preventing growth of natural vegetation, clogging stormdrain pipes, and interfering with navigation and recreational use.

Erosion and sediment control management procedures, generally referred to as Best Management Practices (BMPs), are important for protecting local waterways from environmental damage caused by sediment pollution. Erosion controls are used to prevent soil displacement by dissipating energy from water and wind over disturbed areas, while sediment controls are used to allow sediment to settle out of stormwater runoff while still on the construction site.

1.3 WHY IS POST-CONSTRUCTION STORMWATER RUNOFF CONTROL IMPORTANT?

Post-construction stormwater management in areas undergoing new development or redevelopment is necessary because increases in stormwater runoff volumes or peak rates of runoff from these areas can impact municipal drainage system capacity and can significantly impact receiving waterbodies. Effective planning and design for the reduction and removal of pollutants in post-construction stormwater discharges can be one of the most cost-effective approaches to long-term stormwater quality management. Stormwater control measures designed to control stormwater runoff and reduce pollutants in stormwater should be incorporated into proposed development and redevelopment projects to reduce the impacts of stormwater. These are referred to as post-construction BMPs.

There are generally two ways that post-construction runoff can negatively impact the environment. The first is caused by an increase in the type and quantity of pollutants in stormwater runoff conveyed to receiving waters through drainage systems. As runoff flows over areas altered by development, it picks up harmful sediment and chemicals such as oil and grease, pesticides, heavy metals, and nutrients (e.g., nitrogen and phosphorus). These pollutants often become suspended in runoff and are carried to receiving waters such as lakes, ponds, and streams. Once deposited, these pollutants can enter the food chain through small aquatic life, eventually entering the tissues of fish and humans, and can pose a human health threat for recreational uses of water.

The second kind of post-construction runoff impact occurs by increasing the quantity of water conveyed to the municipal stormwater drainage system and eventually the receiving waterbody during storm events. Increased impervious surfaces (e.g., parking lots, driveways, and rooftops) interrupt the natural cycle of gradual infiltration of water through vegetation and soil. Instead, water is collected from surfaces such as asphalt and concrete and routed to stormwater drainage systems where large volumes of runoff quickly flow to the downstream receiving waterbody. The effects of this process include reduced stormwater drainage capacity and flooding leading to downstream streambank scouring and channel alteration, and possibly habitat degradation, loss of aquatic life, and damage to property.

1.4 CONSTRUCTION REQUIREMENTS FOR MUNICIPALITIES

Municipalities covered under the MS4 Permit are required to develop, implement, and enforce a program to reduce pollutants from stormwater runoff from construction activities that result in a land disturbance of greater than, or equal to, one acre, or a smaller threshold as denoted by local ordinance (Note: Disturbances less than one acre are included if part of a larger common plan). The Permit therefore directs the City to develop and implement a program that includes the following for construction site runoff control:

- Develop, or review and update as necessary, an ordinance or other regulatory mechanism that requires the use of construction site runoff control BMPs at construction sites consistent with the minimum standards in the General Permit;
- Develop procedures for reviewing pre-construction plans with consideration for existing site and drainage conditions, and consideration for construction site stormwater runoff control;
- Develop procedures for site inspections and enforcement of control measures.
- Develop procedures for construction site operations to control waste that may cause adverse impacts to water quality and perform inspections in accordance with Part 4.4.E. of the MS4 Permit; and
- Maintain an inventory of land disturbances activities, as defined in 4.4. of the MS4 Permit, and document site inspections and enforcement actions.

1.5 POST-CONSTRUCTION REQUIREMENTS FOR MUNICIPALITIES

The MS4 Permit requires permittees develop an additional program to address the quality of long-term stormwater runoff from new development and redevelopment projects. Note that these projects are for land disturbances that are greater than, or equal to, one acre, or a smaller threshold as denoted by local ordinance (Note: Disturbances less than one acre are included if part of a larger common plan). The Permit therefore directs the City to develop and implement a program that includes the following for post-construction stormwater management:

- Ensure adequate long-term operation and maintenance of post-construction BMPs through a post-construction discharge ordinance or other regulatory mechanism that includes provisions for annual reports on post-construction BMPs and records on corrective actions taken when required;
- Promote strategies that include a combination of structural and/or non-structural BMPs appropriate to prevent or minimize water quality impacts, including low impact development;
- Track and record the number of post-construction BMPs, and include information on the applicable operations and maintenance documents, the date of the approved construction site plan, inspections, and enforcement actions;

- Establish enforcement procedures to verify compliance with water quality post-construction requirements of the MS4 Permit; and
- Provide training to applicable City staff during each permit cycle and review this *Construction and Post-Construction Manual* once per year.

1.6 PURPOSE OF THIS PROGRAM

The purpose of this Construction and Post-Construction Manual is to establish written procedures for controlling erosion and sediment from construction sites that disturb an acre or more of land in accordance with the MS4 Permit. Additionally, this Manual provides general construction site inspection guidance for all projects required to obtain a State of Missouri and/or local City of Troy Land Disturbance Permit. This Manual provides guidance to City of Troy staff for implementing the Construction and Post-Construction procedures in a strategic manner, and can be used as a training tool for staff.

2. LEGAL AUTHORITY

2.1 PERMIT AUTHORITY

Part 4.4.A of the City's MS4 Permit requires the City to have procedures for requiring construction site runoff control BMPs at construction and land disturbance sites. The MS4 Permit requires these procedures for sites that are greater than, or equal to one acre, or less than one acre if the activities are associated with a common plan of development that would disturb one acre or more. The City has developed regulatory mechanisms in compliance with Part 4.4 of the MS4 Permit.

The City's *Stormwater Management Ordinance* requires that a State of Missouri Land Disturbance Permit is required on sites that disturb an acre or more (Section 525.020). The City's *Erosion and Sedimentation Control Regulations* are more stringent and require applicants to file a local land disturbance permit application to the City if the project disturbs 8,000 square feet of land or more (Chapter 525 §20). The City's Ordinance requires applicants to submit an erosion and sedimentation control plan and design the site consistent with the Mid-America Regional Council's "Manual of Best Management Practices for Stormwater Quality."

Parts 4.4 and 4.5 of the MS4 Permit requires that the City of Troy address construction and post-construction runoff from construction projects. Ordinances are in place that require certain construction practices, however, the City currently does not have ordinances for post-construction standards. Currently, the City and Woodard & Curran are drafting a post-construction ordinance. The current ordinances and regulations may be amended for post-construction standards. Once the ordinances are amended and/or posted, this section (Permit Authority 2.1) will be revised.

2.2 NOTIFICATION OF PERMIT REQUIREMENTS

The City notifies a potential applicant of their requirement to comply with these stormwater management regulations for the City's Land Disturbance Permit through a phone call or an informal meeting with the Stormwater Coordinator. The Stormwater Coordinator will then send an email to the applicant stating the requirements of the local Land Disturbance Permit, and will attach the application form to an email.

2.3 EXISTING MUNICIPAL DOCUMENTS & PROGRAMS

The City of Troy currently has codes that provide local requirements for construction site erosion and sedimentation control. The local *Stormwater Management Ordinance* references design requirements that align with Mid-America Regional Council's "Manual for Best Management Practices for Stormwater Quality" and the Missouri Guide to Green Infrastructure (DNR) and the "Protecting Water Quality" Field Guide by MDNR. These codes are consistent with the requirements outlined in Part 4.4 of the MS4 Permit and are summarized below.

- Chapter 705 Sewer Ordinance – This document addresses both sanitary sewer and stormwater requirements. The Public Works Department verifies compliance with this ordinance for projects that propose to connect to the sanitary sewer.

- Chapter 250 Stormwater Pollution and Control Ordinance – This ordinance prohibits non-stormwater discharges to the MS4. The City’s Illicit Discharge Detection and Elimination (IDDE) Program Manual details the inspection and enforcement process for illicit discharges.
- Chapter 425 Stormwater Management Ordinance – This ordinance requires a local land disturbance permit from the City for proposed projects that will disturb 8,000 square feet or more. As stated in Section 2.1, this ordinance also states that applicants are required to file a state Land Disturbance Permit on sites that disturb an acre or more (525.020). MDNR is responsible for the issuance of the State’s Land Disturbance Permit.
- Chapter 525 Erosion and Sedimentation Control Regulations – These regulations require site developers to submit a Land Disturbance Permit to the City of Troy when land disturbances result in 8,000 square feet or more. Pursuant to Section 525.040.A., the site developer must submit an erosion and sedimentation control plan. The City has the Land Disturbance Permit Application to obtain a local Land Disturbance Permit. The application can be obtained via the City’s website¹.

2.4 RESPONSIBLE PARTIES

The City of Troy has delegated authority from the State of Missouri to administer and enforce the stormwater management regulations under the MS4 Permit. According to Section 525.070 of the City’s *Erosion and Sedimentation Control Regulations*, enforcement officials consist of the Building Official, the Stormwater Coordinator, the Building Inspector, the Code Enforcement Officer, any officer of the Police Department, the Director of Public Works, personnel designated as the City Engineer, the City Administrator, and the City Clerk. Some of these positions are only involved in violation enforcement actions, see Section 4.4. The City’s current process of administering and enforcing the local codes involves the Building Department, through the Stormwater Coordinator. Table 2-1 on the next page identifies the roles and responsibilities of these departments and positions. Table 2-2 indicates references for implementing the stormwater management and erosion and sedimentation control processes the City utilizes and where they can be accessed.

¹ <https://cityoftroymissouri.com/departments/storm-water/>

Table 2-1: Responsible Parties for Implementing the Stormwater Management and Erosion and Sedimentation Control Processes

Primary Responsible Party	Responsibilities
Public Works Department	<ul style="list-style-type: none"> - Conducts technical review of development applications for impact to sanitary sewer - Notifies Building Department of issues that arise after conducting construction inspections
Building Department/ Stormwater Coordinator	<ul style="list-style-type: none"> - Conducts technical review of development applications for stormwater infrastructure - Attends Pre-Application Meetings - Conducts construction site inspections during building inspections - Notifies Public Works of construction site issues - Coordinate code enforcement actions for stormwater issues

Table 2-2: Internal References for Implementing the Stormwater Management and Erosion and Sedimentation Control Processes

References	Location of References
Stormwater Management Ordinance	<ul style="list-style-type: none"> - https://ecode360.com/28049238
Mid-America Regional Council's "Manual for Best Management Practices for Stormwater Quality"	<ul style="list-style-type: none"> - https://www.marc.org/sites/default/files/2022-05/Best Management Practices for Stormwater Quality.pdf
Missouri Guide to Green Infrastructure (DNR)	<ul style="list-style-type: none"> - https://dnr.mo.gov/document-search/missouri-guide-green-infrastructure - Stormwater Coordinator retains a hardcopy
MDNR's "Protecting Water Quality" Field Guide	<ul style="list-style-type: none"> - https://dnr.mo.gov/document-search/protecting-water-quality-field-guide

3. DEVELOPMENT REVIEW PROCESS

The City has a development review process for larger projects, which includes an in-person meeting with City officials and the applicant's representatives. This review process is discussed further in Section 3.2. In addition, Section 3.2 sets policies that comply with Part 4.4.B. of the MS4 Permit by establishing a pre-construction site plan review process.

3.1 PERMIT APPLICABILITY

As noted in Section 2.1, the City's codes require a local Land Disturbance Permit for construction sites that disturb 8,000 square feet of land or more. The codes also state that a Land Disturbance Permit from the State of Missouri is required if the construction site disturbs one acre of land or more. The local Land Disturbance Permit Application (included as Appendix A) cites these requirements at the top of the application and requires a copy of the Land Disturbance Permit through the State of Missouri, if applicable. Once the Land Disturbance Permit Application is submitted to the City, the Building Department or Stormwater Coordinator reviews the application and the stormwater management plan for compliance with the local codes and the MS4 Permit. See Section 3.2 for more information on the Stormwater Coordinator's review process.

This Construction and Post-Construction Manual focuses on stormwater discharges from construction activities requiring a local Land Disturbance Permit, and the State's Land Disturbance Permit. Procedures are outlined for reviewing, issuing, and tracking permits. The City follows a similar permitting process for other development review applications that do not require a local Land Disturbance Permit.

3.2 DEVELOPMENT REVIEW PROCESS

Building permits are forwarded to the Stormwater Coordinator for an informal review process. The Stormwater Coordinator then confirms if a Land Disturbance Permit is required for any of the projects with a building permit. The Stormwater Coordinator will alert the applicant to any additional requirements and initiate a dialogue to facilitate the City's stormwater goals. In addition, the City has a technical review process for larger projects where City officials will meet with the project's manager and engineer. City officials attending these meetings include Public Works Department staff, Building Department staff, and an alderman or the mayor, and personnel designated as the City Engineer if applicable. During the meeting, the project representatives present the design concept, and the City representatives provide feedback. This technical meeting typically occurs for subdivision, industrial, and commercial projects.

3.2.1 Land Disturbance Application

Applicants are encouraged to request a technical meeting with the City for the review process of larger projects (see Section 3.2). Any proposed projects that will disturb 8,000 square feet of land must submit a Land Disturbance Permit Application (included in Appendix A) to the City's Stormwater Coordinator. Pursuant to 525.030.A., land subdivision applicants are required to post

an escrow account in an amount estimated by the Planning and Zoning Commission. The escrow account is due at the time of the final subdivision approval. To file a Land Disturbance Permit Application, the applicant will submit the following documents to the Stormwater Coordinator:

1. Land Disturbance Permit Application
2. Erosion Control Plans
3. A copy of the State's Land Disturbance Permit, if applicable
4. The Land Disturbance Permit Application Checklist (included in Appendix B)

These documents must demonstrate compliance with the City's *Stormwater Management Ordinance (Chapter 425)*, and the *Erosion and Sedimentation Control Regulations (Chapter 525)*. The Land Disturbance Permit Application contains information on the site's location and the project's scope of work. The Land Disturbance Permit Application is submitted to the City in hard copy via mail or in-person. Applicants are allowed to email² the Land Disturbance Permit Application to the Stormwater Coordinator.

Once all application documents have been submitted, a completeness check is conducted with the materials to ensure that the project is ready for review and issuance. See Section 3.2.3 for the pre-construction site plan review process and Section 3.2.2 below for the issuance of a local Land Disturbance Permit.

3.2.2 Land Disturbance Permit

To issue a local Land Disturbance Permit, the Stormwater Coordinator reviews the Land Disturbance Permit Application for compliance with the *Stormwater Management Ordinance* and the *Erosion and Sedimentation Control Regulations*. The Stormwater Coordinator will also review the application for compliance with Part 4.4 of the MS4 Permit. Specifically, the Stormwater Coordinator will verify submitted information aligns with the Application Checklist in Appendix B. The Stormwater Coordinator will also verify the information is in compliance with the Erosion and Sedimentation Control Plan (Chapter 525.040. A.1.) including Site Phasing and Scheduling (Chapter 525.040. A. 2.) consistent with Table 3-1 below.

The local Land Disturbance Permit will be issued by the Stormwater Coordinator as an email. The permit will contain standard and project specific conditions including requiring the contractor to follow the plans as submitted. The Stormwater Coordinator will track any local Land Disturbance Permits using the tracking sheet included in Appendix C. The tracking sheet contains basic information about the site's location and scope.

² Applicants can submit a copy of the Land Disturbance Permit Application and required associated documents/plans to building@cityoftroymissouri.com and stormwater@cityoftroymissouri.com

3.2.3 Pre-Construction Plan Review Process

Pre-construction site plans will be reviewed to evaluate threats to water quality by assessing site characteristics before the construction site design phase begins. In accordance with Part 4.4.B. of the MS4 Permit, the Stormwater Coordinator will consider the factors outlined in Table 3-1 below by using the checklist included in Appendix B:

Table 3-1: Site Plan Review Process and Considerations

Factors	Considerations
Soil Erosion Potential Grading	<ol style="list-style-type: none"> 1. Current versus proposed grading. 2. Location and types of structural erosion controls to contain and prevent sediment runoff. 3. The season that site grading will occur in relation to seasonal storm events. 4. Steepness of the final slope. 5. Cutting and filling of slope. 6. Mechanisms to stabilize slopes during construction, overnight and over the weekends.
Project size and type	<ol style="list-style-type: none"> 1. The scope of the project including overall land disturbance impacts (area of disturbance). 2. Impervious areas and pervious areas in pre and post conditions. 3. The type of project. For example, a subdivision, commercial project, industrial project, etc.
Sensitivity and proximity of receiving water	<ol style="list-style-type: none"> 1. Nearby receiving waterbodies and sensitive resource areas. For example, wetlands and floodplains. 2. Using the latest 303(d) list to verify impairments of the receiving waterbodies. 3. The project's potential to contribute to listed impairments.
Discharge Flow Type	<ol style="list-style-type: none"> 1. Evaluate current discharges and determine the following: <ol style="list-style-type: none"> a. Sheet flow (preferred on site for final grading) b. Stormwater flow (pipe) (acceptable, but can increase peak flows)

4. CONSTRUCTION SITE INSPECTIONS

4.1 CONSTRUCTION SITE INSPECTION PERMIT REQUIREMENTS

The MS4 Permit Part 4.4.C requires that “The MS4 Operator shall establish authority for site inspections and enforcement of control measures.” Section 525.060 of the *Erosion and Sedimentation Control Regulations* allows the City to perform inspections on construction sites. In compliance with the MS4 Permit Part 4.4.C., the Stormwater Coordinator will:

1. Inventory active public and private land disturbance sites;
2. Identify priority sites for inspection based on nature of the construction activity, topography, disturbed area, and the characteristics of soils and sensitivity of, or proximity to, receiving water;
3. Perform inspections of construction sites that disturb an acre of land or more, or that are part of a common development that disturbs a total of one acre or more;
4. Assess compliance with the *Stormwater Management Ordinance* (Chapter 425), the *Erosion and Sedimentation Control Regulations* (Chapter 525), and the local Land Disturbance Permit;
5. Evaluate erosion control measures and stormwater structures to confirm that these items are properly and fully functional, and;
6. Ensure disturbed areas have been stabilized and temporary erosion controls have been removed at the last inspection.

The Stormwater Coordinator is responsible for maintaining an inventory of active public and private land disturbance sites. Construction sites and inspections are tracked using a spreadsheet. Part 4.4.G. of the MS4 Permit requires that tracking information needs to contain the following information at a minimum:

1. Relevant contact information
2. Size of project/area of disturbance
3. Inspection dates and time
4. Inspector name
5. Inspection findings
6. Follow-up actions and dates, including corrective actions and enforcement actions.

Per the MS4 Permit (Section 4.4.E) the construction site operator must conduct minimum inspections at least:

1. Every fourteen (14) days when construction is active. Checklist must be electronic. These are submitted on a schedule provided by the Stormwater Coordinator.
2. Within 72 hours of any storm event.
3. Within 48 hours after any storm event equal to or greater than a 2-year, 24-hour storm has stopped (3.11 inches based on NOAA Atlas 14, September 2022).

In addition, Section 525.060.B. of the *Erosion and Sedimentation Control Regulations* requires the applicant perform inspections weekly and after “a rainfall that causes runoff (one-quarter (1/4) inch rain event) to occur on-site.” The requirement of the developer to perform these inspections will be a condition of the local Land Disturbance Permit. Requiring the developer to perform site inspections complies with Part 4.4.E. of the MS4 Permit.

Construction Site Inspections by the Stormwater Coordinator should evaluate any structure with the following functions:

1. Prevents pollution of stormwater.
2. Removes pollutants from stormwater.

4.2 PRE-INSPECTION PROCEDURES

Prior to conducting a construction site inspection, the Stormwater Coordinator will review available records, such as the approved local Land Disturbance Permit and approved plans submitted for the project. If applicable, the Stormwater Coordinator will review recent inspection reports to verify past problems have been corrected.

4.3 INSPECTION PROCEDURES

Before entering the construction site or staging areas, the Stormwater Coordinator observes the exterior of the site and notes any issues with sediment transport off of the construction site. This is a good time to look at the condition of construction vehicle exit locations, perimeter controls (e.g. silt fence), and inlet protection in storm drains that could potentially receive runoff from the construction site. The Stormwater Coordinator may choose to use the Construction Site Inspection Checklist (Appendix D), if applicable.

Upon entering the construction site, the Stormwater Coordinator may request to see documentation of the completed inspections and corrective actions (i.e., reports from the weekly self-inspections, inspections before and after storm events, and the final inspection prior to completing permanent stabilization measures). If the necessary records are not available, the Stormwater Coordinator will inform the site superintendent of the requirement to maintain copies of completed inspection reports onsite for inspection by the City. The records should contain the following information:

- The name(s) and qualifications of the person making the inspections;
- The date(s) of the inspections and major observations about the operation and maintenance of erosion and sedimentation controls, materials storage areas, and vehicle access points to the parcel;
- BMPs that need maintenance;
- BMPs that failed to operate as designed or proved inadequate for a particular location and location(s) where additional BMPs are needed; and

- Notes on the corrective action taken and when it was taken for each BMP requiring maintenance, needing replacement, and locations needing additional BMPs.

The Stormwater Coordinator will discuss the project with the construction site operator and review the available records. Questions that may be asked of the construction site operator include, but are not limited to:

- How long has construction been underway? What is the sequence of construction activities?
- Does this project involve concrete pouring at the site? If so, how do you handle concrete washout?
- Is there any dewatering occurring, and if so, is it contained on-site or discharged off-site?
- How do you track rainfall? What procedures are in place to prepare the site for a forecasted rain event?
- Are toxic or hazardous materials (paints, solvents, acids, etc.) stored onsite?
- Do you refuel vehicles or equipment onsite?
- Where does the construction site runoff discharge?
- Have there been any changes or amendments to the ESC Plan?

After discussing the work, the Stormwater Coordinator will then proceed with the site inspection by inspecting the following:

- Disturbed and impervious areas;
- Erosion control measures;
- Materials storage areas exposed to precipitation; and
- Locations where vehicles enter or exit the site.

The Stormwater Coordinator makes note of the location and condition of BMPs, discharge locations and inlets, and documents any concerns or violations. Table 4-1 below identifies common compliance issues on construction sites.

Table 4-1: Common Compliance Issues at Construction Sites

Common Compliance Issue	Description
No perimeter controls onsite	Silt fence or other perimeter controls must be installed at the site before the start of earth-disturbing activities.
No inlet protection	Before earthwork begins, inlet protection must be installed in storm drains that may receive untreated runoff from the site. Storm drain inlet protection is often in the form of “silt sacks” and curb inlet barriers that capture sediment before it can enter the drainage system. Silt sacks need to be cleaned, or removed and replaced, when they become clogged with accumulated sediment or debris. <i>(Note: Inlet protection can be removed in the event of flood conditions or other specific safety concern.)</i>
No erosion or sediment controls for temporary stockpiles	Temporary stockpiles must be surrounded by a silt fence or other temporary perimeter barrier and cannot be placed within natural buffer areas. Wherever feasible, stockpiles should be covered to protect against erosion and prevent sediment discharge.
Lack of maintenance on erosion or sediment controls	Erosion and sediment controls must be properly maintained throughout the construction sequence. Maintenance of these controls consist of replacing sections of failed erosion controls before and after storm events and removing silt to prevent erosion control from failing or being buried.
Vehicle tracking of sediment onto nearby roadways	Construction sites should have designated construction vehicle exit locations with sediment controls such as stone pads to prevent sediment from being tracked onto paved roadways. If sediment has accumulated on the roadway, construction exits should be repaired and street sweeping may be necessary. Also, check that construction vehicles are leaving the site only from designated exit locations.
Improper concrete washout	Concrete washout water must be contained in a leak-proof container or leak-proof pit that is designed so that no overflows can occur due to rainfall or inadequate sizing. Washout should be done in designated areas as far away as possible from surface waters and storm drains.

Common Compliance Issue	Description
Improper solid waste or hazardous waste management	Designated dumpsters or other trash containers must be provided to contain and properly dispose of solid waste. Overflowing trash containers should be cleaned up immediately. Brick, stone, and mortar dust and slurry from cutting activities must be contained. Hazardous waste must be stored separately from solid waste in sealed containers with secondary containment (e.g., spill berms or contaminant pallets). Spill kits should be readily available.
Dewatering at the construction site	Dewatering typically occurs during deep excavations to construct building footing or install underground utilities. Dewatering water that has visible suspended solids or petroleum contamination must be treated to remove sediment prior to discharge. Off-site dewatering operations require the submittal of a Dewatering Plan for approval by the Stormwater Coordinator.

4.4 ENFORCEMENT

Any noncompliance with erosion and sedimentation control during construction is considered a violation of the City's *Stormwater Management Ordinance*, the *Erosion and Sedimentation Control Regulations*, the local Land Disturbance Permit, Missouri's water quality laws (10 CSR 20-7), and the federal Clean Water Act. Failure to comply with local, state and/or federal laws may result in enforcement action by the City, State, or both. Noncompliance issues discovered during inspections (e.g., missing BMPs, sediment tracked offsite, etc.) are the responsibility of the construction site operator to resolve in a timely manner. Erosion and sedimentation control violations are enforced by the Stormwater Coordinator.

4.4.1 Voluntary Compliance

The preferred approach to address compliance problems is to pursue voluntary compliance from the construction site operator. Often, operators are not aware of activities on their sites that may constitute a permit violation. In these cases, providing the operator with information on the area of concern, reference to any relevant permit sections, potential environmental consequences, and suggestions on how to implement corrective actions may be enough to secure voluntary compliance.

4.4.2 Enforcement Actions

Enforcement action authority is derived from the MS4 Permit, the *Erosion and Sedimentation Ordinance* in Chapter 525, and the *Stormwater Management Ordinance* in Chapter 425.

Violations resulting in the discharge of pollutants to the MS4 (i.e. illicit discharges) are enforced pursuant to Chapter 525.060.E., of the *Erosion and Sedimentation Regulations*. Illicit discharges can include discharges of sediment to the City's stormwater drainage system as well as any other pollutant discharges. Construction sites that violate the requirements or conditions of the State's Land Disturbance Permit may constitute a violation of Missouri's water quality laws and the federal Clean Water Act, and are subject to penalties under § 309 of the Clean Water Act.

Upon project completion, the Stormwater Coordinator will inspect the site to ensure that the site is stabilized and that all post-construction BMPs were properly installed. If the site is fully stabilized (no exposed soils or sediment), the Stormwater Coordinator will confirm that temporary construction erosion and sedimentation controls have been removed from the site. The City will issue a Temporary Occupancy permit if a site is not stabilized due to weather/seasons. Once it is stabilized, the City will issue a Final Occupancy Permit. Subdivision developers must apply for dedication to the City before the City will take ownership of constructed stormwater infrastructure. This requires a Public Works review for sewer and stormwater piping infrastructure, as well as streets and drinking water infrastructure. The infrastructure will not be accepted by the City until all requirements, including those associated with the developer's Land Disturbance Permits, are met.

Violations of the *Stormwater Management Ordinance* are typically identified as construction of stormwater infrastructure that does not comply with submitted and approved construction plans. If personnel designated as the City Engineer determine development is not in accordance with the approved drainage permit, the City Engineer will notify the permittee of the nature and location of non-compliance. Per section 425.060, the permittee shall have 72 hours to commence the recommended remedial action. If remedial actions are not taken, the City Engineer, after giving seven days written notice, the action is taken up with the Board of Alderman who may revoke a drainage permit and stop work at the site. Additional penalties include a fine of \$500 or up to one year in City Jail if convicted of the misdemeanor for failing to comply with this ordinance.

5. POST-CONSTRUCTION STORMWATER MANAGEMENT PROGRAM

The MS4 Permit Part 4.5.A. requires the City to pass a post-construction program to address stormwater runoff in development and redevelopment on sites that disturb an acre of land or more, or on sites that are part of a common land of development that disturbs an acre of land or more. The program needs to include both structural controls and non-structural controls.

Structural BMPs are defined by the MS4 Permit as “pollution prevention practices that require the construction, or use of a device, to capture or prevent pollution in stormwater runoff. Structural controls may include but are not limited to: extended detention basins, bio-retention, infiltration basins, stormwater wetlands, bio-swales, vegetative lined ditches, subsurface drains, permeable pavement or concrete, sand filter basins, stormwater planters, proprietary BMPs, storage tanks, and hydrodynamic separators.” Nonstructural controls are defined as “pollution prevention practices that focus on management by limiting or eliminating pollutants before they mix with stormwater. Non-structural controls may include but are not limited to; site and land use planning, vegetated filters, stream buffers, low impact development (LID), open space preservation, and impervious cover restrictions.”

5.1 POST-CONSTRUCTION ORDINANCE REQUIREMENTS

Part of the post-construction program requirements consist of the adoption of a post-construction ordinance. Specific components of the ordinance must include the following:

1. Adoption or development of numeric or technical performance and/or design standards to control post-construction stormwater discharges by using structural BMPs (Part 4.5.A).
2. Requirements of long-term operations and maintenance (O&M) manual of BMPs and that copies of the O&M Manual needs to be retained by the responsible party (Part 4.5.D).
3. Enforcement actions to address the variability and severity of noncompliance (Part 4.5.G).

The City has reviewed their existing ordinance and is considering updates to better reflect the requirements in the MS4 Permit. In addition, Part 4.5.A of the MS4 Permit requires the City to ensure that permanent stormwater structures are in place and have been constructed to prevent or minimize water quality impacts from stormwater. The MS4 Permit provides flexibility to allow the City to:

1. Reference an adopted set of standards, and the City would not need to incorporate the entire set of standards in the ordinance.
2. Accomplish Part 4.5.A through “multiple ordinances or regulatory mechanisms.”

Currently, the City prefers that all projects approved with post-construction stormwater management systems be maintained by a Homeowner’s Association, business, or other entity besides the City. The City does not have sufficient staff resources to conduct regular structural BMP maintenance on private properties.

5.2 POST-CONSTRUCTION STORMWATER MANAGEMENT INVENTORY REQUIREMENTS

In compliance with the MS4 Permit, the City will maintain an inventory of structural BMPs. The inventory should include the following information pursuant to Part 4.5.H:

1. Contact information for the owner of the structural BMPs
2. The type of post-construction BMP
3. Applicable operations and maintenance document
4. Date the City approved the construction site plan

At the time of this *Construction and Post-Construction Manual*, the City does not have record of owning any structural stormwater controls. However, in the future, if the City becomes responsible for any structural BMP, the tracking inventory should also include any maintenance information such as cleaning, or replanting (Part 4.5.H.5.).

5.3 POST-CONSTRUCTION INSPECTION REQUIREMENTS

The Stormwater Coordinator needs to inspect, or require an inspection for, all stormwater structural BMPs on site (pursuant to Part 4.5.E). Three construction inspections need to occur as outlined in Table 5-1 below. The MS4 Permit also requires an annual inspection of post-construction structural controls. In addition, 60-percent of structural controls need to be inspected within the five-year permit cycle (by December 31, 2027). Inspections should verify the integrity and functionality of each structural control, and should note any defects or improper management of each BMP. Any defects or improper management should be communicated to the owner of the structural controls.

Table 5-1: Construction Inspection Schedule

Inspection Number	Development Stage	Timeline
1	During construction	Once after structural BMPs have been installed.
2	Before construction is finalized	Once while the structural BMPs are connected into the storm sewer system and fully operational.
3	Post-construction	Once in the first three years
4	Post-construction	Annual

6. TRAINING AND VOLUNTARY REPORTING

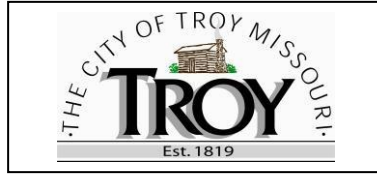
6.1 ANNUAL EMPLOYEE TRAINING

Employee training is an important component of the City of Troy's Construction and Post-Construction Program. City staff are trained in various stormwater management topics throughout the MS4 Permit term. City staff responsible for implementing the Construction and Post-Construction Program, including those that review plans and permit applications, conduct site visits and inspections, maintain tracking database(s), and enforce any of the Program components. Employees involved in any of these aspects of the Construction and Post-Construction Program will be trained to conduct these activities and identify erosion and sediment control problems, recognize permit violations, and document findings.

Training will be conducted annually and/or as needed for staff turnover. Topics may vary each year based on staffing education needs.

APPENDIX A – CITY OF TROY: LAND DISTURBANCE PERMIT APPLICATION

City of Troy
800 Cap-AU-Gris St
Troy, MO 63379
636-528-1254



For office use only
Permit #: _____
Received: _____
Issued Date: _____

Land Disturbance Permit Application

Section 525.020

Any person, firm, corporation, or business proposing to develop, landscape or disturb land within the City of Troy of one (1) acre or more needs a land disturbance permit through the State of Missouri. Land disturbance of 8000 square or more needs a land disturbance permit through the City of Troy. Any ground disturbance activities under 8000 square feet within the City of Troy Limits that may allow containments into the City of Troy storm sewer system will be required to have a storm water permit through the City of Troy, except for farm land, shall apply to the City of Troy Building Department for approval of the required erosion control plans and issuance of the development or construction permit as specified in the City Code. Said applicant shall be required to maintain adequate supervision of the site to insure compliance with this chapter.

Job / Site Information

Name of Owner: _____
Address: _____
Phone: _____ Email _____ Mobile Phone: _____
Project Name: _____
Project Address: _____
Size of Development: _____ Parcel # _____
Name of Developer: _____
Address: _____
Phone: _____ Email _____ Mobile Phone: _____
Storm water Management Plan Attach / Submitted _____
Land disturbance permit through the State of Missouri attach: _____
Owner Signature: _____

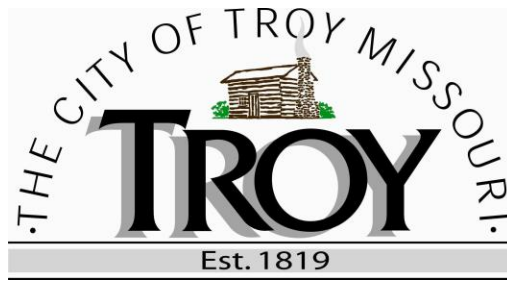
For Office Use Only

Permit Fee: _____ Receipt # _____ Date Paid: _____
Construction plan / Storm water Management Plan approval Date: _____
Construction Start Date: _____

Permission is hereby given to proceed with construction as shown on the approved plans and in compliance with the Ordinances of City of Troy

Signature of Approving Authority: _____ Date: _____

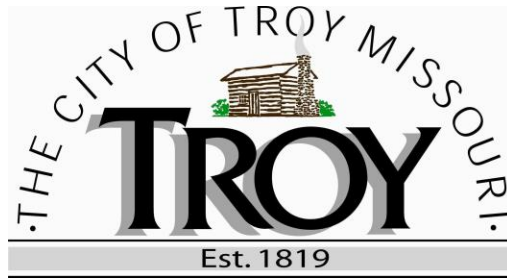
APPENDIX B – CITY OF TROY: LAND DISTURBANCE PERMIT APPLICATION CHECKLIST



Building Department Land Disturbance Permit Application Checklist

This checklist is meant as a guide when preparing a Land Disturbance and Stormwater Discharge Permit Application (Chapter 525). This application is required for construction sites that will disturb 8,000 square feet or more. For sites disturbing an acre or more, applicants will also need to file a land disturbance permit with the State of Missouri. The issuance of the permit does not imply nor ensure the City of Troy Utilities are located on your Lot / Property or Project nor does it imply the City will incur the cost to bring the City of Troy Utilities to your Lot / Property or Project for either Residential or Commercial projects. Definition of the City of Troy Utilities includes Sewer Lateral / Sewer Main / Water Service Connection / Water Main. The Building Department will review all applications to verify compliance with Part 4.4.B of the City of Troy MS4 Permit.

1. **Land Disturbance Permit Application**
2. **Erosion and Sediment Control Plans:** minimum scale is 1" = 50'. The plans must include the following:
 - b. Grading Plans with the following items:
 - Existing and proposed contours at intervals no greater than two (2) feet on USGS datum.
 - Grading during construction.
 - Final grading (cannot exceed a 3:1 slope).
 - c. Site Plans or Preliminary Plan of Subdivision or the Subdivision Improvement Plans for grading land with the following items:
 - The full name, address, and telephone number of the property owner.
 - Location of all proposed and existing utility lines.
 - Location map.
 - Delineation of 100-year flood plain and floodway.
 - Clearing limits.
 - Temporary access.
 - Approved erosion and sediment controls to remove sediment from runoff.
 - d. Landscaping Plans
 - e. Site Phasing and Schedule must include the following items:
 - Date when clearing will begin.
 - Duration of exposure of cleared areas and the sequence of clearing.
 - Installation of temporary and permanent sediment control measures.
 - Installation of storm drainage, paving streets and parking areas.
 - Establishment of temporary and permanent vegetative cover.
 - f. Water Quality Impacts
 - Sensitivity of receiving waterbodies
 - Discharge flow type (pipe or sheet flow)
3. **Construction Site Operator Requirements:**
 - a. Stormwater Control Measures
 - Details of temporary and permanent drainage systems, BMPs, and drainage plan.



- Details of water impoundment structures and proposed stable outlets (see References Table 2-2).
- b. Stormwater Management Plan
 - Construction site waste control includes the following items:
 - Discarded building materials.
 - Concrete truck, and mortar mix washout.
 - Chemicals (such as fertilizer, paint, oils, herbicides, pesticides).
 - Litter.
 - Sanitary waste.

APPENDIX C – LAND DISTURBANCE TRACKING SHEET

APPENDIX D – CONSTRUCTION SITE INSPECTION CHECKLIST

Section A – General Information (If necessary, complete additional inspection checklist for each separate inspection location.)	
Inspector Information	
Inspector Name:	Title:
Company Name:	Email:
Address:	Phone Number:
Inspection Details	
Inspection Date:	Inspection Location:
Inspection Start Time:	Inspection End Time:
Current Phase of Construction:	Weather Conditions During Inspection:
Did you determine that any portion of your site was unsafe for inspection? <input type="checkbox"/> Yes <input type="checkbox"/> No If “Yes,” provide the following information: Location of unsafe conditions: The conditions that prevented you inspecting this location:	
Indicate the required inspection frequency: (Check all that apply. You may be subject to different inspection frequencies in different areas of the site.)	
Standard Frequency (CGP Requirements Part 15): <input type="checkbox"/> At least once every 7 calendar days <i>and</i> within 48 hours of the occurrence; AND <input type="checkbox"/> Once every 14 calendar days <i>and</i> within 24 hours of the occurrence: <ul style="list-style-type: none"> • A storm event that produces 0.25 inches or more of rain within a 24-hour period 	
Was this inspection triggered by a storm event producing 0.25 inches or more of rain within a 24-hour period? <input type="checkbox"/> Yes <input type="checkbox"/> No If “Yes,” how did you determine whether the storm produced 0.25 inches or more of rain? <input type="checkbox"/> On-site rain gauge <input type="checkbox"/> Weather station representative of site. Weather station location:	
Total rainfall amount that triggered the inspection (inches):	

Section B – Condition and Effectiveness of Erosion and Sediment (E&S) Controls (CGP Requirements Part 1)					
<i>(Insert additional rows if needed)</i>					
Type and Location of E&S Control	Conditions Requiring Routine Maintenance?	If "Yes," How Many Times (Including This Occurrence) Has This Condition Been Identified?	Conditions Requiring Corrective Action?	Date on Which Condition First Observed (If Applicable)?	Description of Conditions Observed
1.	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No		
2.	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No		
3.	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No		
4.	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No		
5.	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No		
<p>If the same routine maintenance was found to be necessary three or more times for the same control at the same location (including this occurrence), follow the corrective action requirements and record the required information in your corrective action log, or describe here why you believe the specific condition should still be addressed as routine maintenance:</p>					

Section C – Stabilization of Exposed Soil (CGP Requirements Part 8.b) <i>(Insert additional rows if needed)</i>					
Specific Location That Has Been or Will Be Stabilized	Stabilization Method and Applicable Deadline	Stabilization Initiated?	Final Stabilization Criteria Met?	Final Stabilization Photos Taken?	Notes
1.		<input type="checkbox"/> Yes <input type="checkbox"/> No If "Yes," date initiated:	<input type="checkbox"/> Yes <input type="checkbox"/> No If "Yes," date criteria met:	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2.		<input type="checkbox"/> Yes <input type="checkbox"/> No If "Yes," date initiated:	<input type="checkbox"/> Yes <input type="checkbox"/> No If "Yes," date criteria met:	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3.		<input type="checkbox"/> Yes <input type="checkbox"/> No If "Yes," date initiated:	<input type="checkbox"/> Yes <input type="checkbox"/> No If "Yes," date criteria met:	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4.		<input type="checkbox"/> Yes <input type="checkbox"/> No If "Yes," date initiated:	<input type="checkbox"/> Yes <input type="checkbox"/> No If "Yes," date criteria met:	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5.		<input type="checkbox"/> Yes <input type="checkbox"/> No If "Yes," date initiated:	<input type="checkbox"/> Yes <input type="checkbox"/> No If "Yes," date criteria met:	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Section D – Description of Discharges (CGP Requirements Part 15) (Insert additional rows if needed)	
<p>Was a discharge (not including dewatering) occurring from any part of your site at the time of the inspection?⁴ <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If “Yes,” for each point of discharge, document the following:</p> <ul style="list-style-type: none"> • The visual quality of the discharge. • The characteristics of the discharge, including color; odor; floating, settled, or suspended solids; foam; oil sheen; and other indicators of stormwater pollutants. • Signs of the above pollutant characteristics that are visible from your site and attributable to your discharge in receiving waters or in other constructed or natural site drainage features. 	
Discharge Location	Observations
1.	
2.	
3.	
4.	
5.	

⁴ If a dewatering discharge was occurring, you must conduct a dewatering inspection pursuant to CGP Requirements Part 15.

Section E – Signature and Certification (CGP Standard Conditions Part 5)

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information contained therein. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information contained is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

MANDATORY: Signature of Inspector:

Signature:	Date:
Printed Name:	Affiliation:

OPTIONAL: Signature of Contractor or Subcontractor

Signature:	Date:
Printed Name:	Affiliation:

General Tips for Using This Template

This Site Inspection Checklist Template is provided to assist you in preparing site inspection checklist for MDNR's Construction General Permit (CGP). If you are covered under the CGP, you can use this template to create a site inspection checklist form that is customized to the specific circumstances of your site and that complies with the minimum checklist requirements of Part 15 of the permit. Note that the use of this form is optional; you may use your own site inspection checklist form provided it includes the minimum information required in Part 15 of the CGP.

Discharges from dewatering activities are prohibited unless managed by appropriate controls. The SWPP shall include a description of any anticipated dewatering activity.

Keep in mind that this document is a template and not an "off-the-shelf" inspection checklist that is ready to use without some modification. You must first customize this form to include the specifics of your project in order for it to be useable for your inspection checklist s. Once you have entered all of your site-specific information into the blank fields, you may use this form to complete inspection checklist s.

The following tips for using this template will help you ensure that the minimum permit requirements are met:

- **Review the inspection requirements.** Before you start developing your inspection checklist form, read the CGP's Requirements Part 15 inspection requirements. This will ensure that you have a working understanding of the permit's underlying inspection requirements.
- **Complete all required blank fields.** Fill out all blank fields. Only by filling out all fields will the template be compliant with the requirements of the permit. (Note: Where you do not need the number of rows provided in the template form for your inspection, you may delete these or cross them off as you see fit. Or, if you need more space to document your findings, you may insert additional rows in the electronic version of this form or use the bottom of the page in the field version of this form.)
- **Use your site map to document inspection findings.** In several places in the template, you are directed to specify the location of certain features of your site, including where stormwater controls are installed and where you will be stabilizing exposed soil. You are also asked to fill in location information for unsafe conditions and the locations of any discharges occurring during your inspections. Where you are asked for location information, MDNR encourages you to reference the point on your SWPPP site map that corresponds to the requested location on the inspection form. Using the site map as a tool in this way will help you conduct efficient inspections, will assist you in evaluating problems found, and will ensure proper documentation.
- **Complete the inspection checklist within 24 hours of completing a site inspection.** You must complete an inspection checklist in accordance with Requirements Part 15 of the CGP.
- **Include the inspection form with your SWPPP.** Once your form is complete, make sure to include a copy of the inspection form in your SWPPP in accordance with Requirements Part 15 of the CGP.
- **Retain copies of all inspection checklist s with your records.** You must also retain in your records copies of all inspection checklist s in accordance with the requirements in Records Part 1 of the CGP. These checklist s must be retained for at least 3 years from the date your permit coverage expires or is terminated in accordance with the requirements in Part 15 of the CGP.

Instructions for Section A

Inspector Name

Enter the name of the person that conducted the inspection. Include the person's contact information (title, affiliated company name, address, email, and phone number).

Inspection Date and Time

Enter the date you performed the inspection and the time you started and ended the inspection.

Weather Conditions During Inspection

Enter the weather conditions occurring during the inspection, e.g., sunny, overcast, light rain, heavy rain, snowing, icy, windy.

Current Phase of Construction

If this project is being completed in more than one phase, indicate which phase it is currently in.

Inspection Location

If your project has multiple locations where you conduct separate inspections, specify the location where this inspection is being conducted. If only one inspection is conducted for your entire project, enter "Entire Site." If necessary, complete additional inspection checklist forms for each separate inspection location.

Unsafe Conditions for Inspection

Inspections are not required where a portion of the site or the entire site is subject to unsafe conditions. These conditions should not regularly occur and should not be consistently present on a site. Generally, unsafe conditions are those that render the site (or a portion of it) inaccessible or that would pose a significant probability of injury to applicable personnel. Examples could include severe storm or flood conditions, high winds, and downed electrical wires.

If your site, or a portion of it, is affected by unsafe conditions during the time of your inspection, provide a description of the conditions that prevented you from conducting the inspection and what parts of the site were affected. If the entire site was considered unsafe, specify the location as "Entire Site."

Inspection Frequency

Check all the inspection frequencies that apply to your project. Note that you may be subject to different inspection frequencies in different areas of your site.

Inspection Triggered by a Storm Event

If you were required to conduct this inspection because of a storm event that produced 0.25 inches or more of rain within a 24-hour period, indicate whether you relied on an on-site rain gauge or a nearby weather station (and where the weather station is located). Also, specify the total amount of rainfall for this specific storm event.

Instructions for Section B**Type and Location of Erosion and Sediment (E&S) Controls**

Provide a list of all erosion and sediment (E&S) controls that your SWPPP indicates will be installed and implemented at your site. This list must include at a minimum all E&S controls required by CGP Part 1. Include also any natural buffers established under CGP Requirements Part 1. Buffer requirements apply if your project's earth-disturbing activities will occur within 50 feet of a discharge to receiving water. You may group your E&S controls on your form if you have several of the same type of controls (e.g., you may group "Inlet Protection Measures," "Perimeter Controls," and "Stockpile Controls" together on one line), but if there are any problems with a specific control, you must separately identify the location of the control, whether routine maintenance or corrective action is necessary, and in the notes section you must describe the specifics about the problem you observed.

Conditions Requiring Routine Maintenance?

Answer "Yes" if the E&S control requires routine maintenance as defined in footnote 1 of this template. Note that in many cases, "Yes" answers are expected and indicate a project with an active operation and maintenance program. You should also answer "Yes" if work to fix the problem is still ongoing from the previous inspection, though necessary work must be initiated immediately and completed by the end of the next business day or within seven calendar days if documented in accordance with CGP Requirements Part 1.

If "Yes," How Many Times (Including this Occurrence) Has this Condition Been Identified?

Indicate how many times the routine maintenance has been required for the same control at the same location.

Conditions Requiring Corrective Action?

Answer "Yes" if you found any of the conditions listed in footnote 2 in this template to be present during your inspection (CGP Requirements Part 1). You should also answer "Yes" if work to fix the problem from a previous inspection is still ongoing, though the operator must comply with the corrective action deadlines in CGP Requirements Part 1.

Date on Which Condition First Observed (If Applicable)?

Provide the date on which the condition that triggered the need for routine maintenance or corrective action was first identified. If the condition was just discovered during this inspection, enter the inspection date. If the condition is a carryover from a previous inspection, enter the original date of the condition's discovery.

Description of Conditions Observed

For each E&S control and the area immediately surrounding it, describe whether the control is properly installed and whether it appears to be working to minimize sediment discharge. Indicate also whether a new or modified control is necessary to comply with the permit. Describe any problem condition(s) you observed such as the following:

1. Failure to install or to properly install a required E&S control
2. Damage or destruction to an E&S control caused by vehicles, equipment, or personnel, a storm event, or other event
3. Mud or sediment deposits found downslope from E&S controls, including in receiving waters, or on nearby streets, curbs, or open conveyance channels
4. Sediment tracked out onto paved areas by vehicles leaving construction site
5. Noticeable erosion or sedimentation at discharge outlets or at adjacent streambanks or channels
6. Erosion of the site's sloped areas (e.g., formation of rills or gullies)
7. E&S control is no longer working due to lack of maintenance
8. Other incidents of noncompliance

Describe also why you think the problem condition(s) occurred as well as actions (e.g., routine maintenance or corrective action) you will take or have taken to fix the problem.

For buffer areas, make note of whether they are marked off as required, whether there are signs of construction disturbance within the buffer, which is prohibited under the CGP, and whether there are visible signs of erosion resulting from discharges through the area.

If routine maintenance or corrective action is required, briefly note the reason. If routine maintenance or corrective action has been completed, make a note of the date it was completed and what was done. *If corrective action is required, note that you will need to complete a separate corrective action log describing the condition and your work to fix the problem.*

Routine Maintenance Need Has Been Found to be Necessary Three (3) or More Times for the Same Control at the Same Location (Including this Occurrence)

If routine maintenance has been required three (3) or more times for the same control at the same location, the permit requires (CGP Requirements Part 1) you to fix the problem using the corrective action procedures in CGP Requirements Part 1 or to document why you believe the reoccurring problem can be addressed as a routine maintenance fix. If you believe the problem can continue to be fixed as routine maintenance, describe why you believe the specific condition should still be addressed as routine maintenance.

Instructions for Section C**Specific Location That Has Been or Will Be Stabilized**

List all areas where soil stabilization is required to begin because construction work in that area has permanently stopped or temporarily stopped (i.e., work will stop for 14 or more days), and all areas where stabilization has been implemented (CGP Requirements Part 8.b).

Stabilization Method and Applicable Deadline

For each area, specify the method of stabilization (e.g., hydroseed, sod, planted vegetation, erosion control blanket, mulch, rock).

Stabilization Initiated?

For each area, indicate whether stabilization has been initiated. If "Yes," then enter the date stabilization was initiated.

Final Stabilization Criteria Met?

For each area, indicate whether the final stabilization criteria in CGP Requirements Part 8.b have been met. If "Yes," then enter the date final stabilization criteria were met.

Final Stabilization Photos Taken?

Answer "Yes" if you have taken photos before and after meeting the stabilization criteria as required in CGP Requirements Part 8.b.

Notes

For each area where stabilization has been initiated, describe the progress that has been made and what additional actions are necessary to complete stabilization. Note the effectiveness of stabilization in preventing erosion. If stabilization has been initiated but not completed, make a note of the date it is to be completed. If stabilization has been completed, make a note of the date it was completed. If stabilization has not yet been initiated, make a note of the date it is to be initiated and the date it is to be completed.

Instructions for Section D

You are only required to complete this section if a discharge is occurring at the time of the inspection (CGP Requirements Part 15).

Was a discharge (not including dewatering) occurring from any part of your site at the time of the inspection?

During your inspection, examine all points of discharge from your site, and determine whether a discharge is occurring. If a dewatering discharge was occurring, you must conduct a dewatering inspection pursuant to CGP Part 8.m. If there is a discharge, answer "Yes" and complete the questions below regarding the specific discharge. If there is not a discharge, answer "No" and skip to the next page.

Discharge Location (Repeat as necessary if there are multiple points of discharge.)

Specify the location on your site where the discharge is occurring. The location may be an outlet from a stormwater control or constructed stormwater channel, a discharge into a storm sewer inlet, or a specific point on the site. Be as specific as possible; it is recommended that you refer to a precise point on your site map.

Observations

Document the visual quality of the discharge and take note of the characteristics of the stormwater discharge, including color; odor; floating, settled, or suspended solids; foam; oily sheen; and other indicators of stormwater pollutants. Also, document signs of these same pollutant characteristics that are visible from your site and attributable to your discharge in receiving waters or in other constructed or natural site drainage features.

Instructions for Section E

Each inspection checklist must be signed and certified to be considered complete (CGP Standard Conditions Part 5).

Operator or "Duly Authorized Representative" – MANDATORY

At a minimum, the site inspection checklist must be signed by either (1) the person who signed the NOI, or (2) a duly authorized representative of that person. The following requirements apply:

If the signatory will be the person who signed the NOI for permit coverage, as a reminder, that person must be one of the following types of individuals:

- *For a corporation:* By a responsible corporate officer. For the purpose of this subsection, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
- *For a partnership or sole proprietorship:* By a general partner or the proprietor, respectively.

- *For a municipality, State, Federal, or other public agency:* By either a principal executive officer or ranking elected official. For purposes of this subsection, a principal executive officer of a Federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of EPA).

If the signatory will be a duly authorized representative, the following requirements must be met:

- The authorization is made in writing by the person who signed the NOI (see above);
- The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
- The signed and dated written authorization is included in the SWPPP. A copy must be submitted to EPA, if requested.

Sign, date and print your name and affiliation.

Contractor or Subcontractor - OPTIONAL

Where you rely on a contractor or subcontractor to complete the site inspection checklist, you should consider requiring the individual(s) to sign and certify each checklist. Note that this does not relieve you, the permitted operator, of the requirement to sign and certify the site inspection checklist as well. If applicable, sign, date, and print your name and affiliation.

Note

While EPA has made every effort to ensure the accuracy of all instructions contained in this template, it is the permit, not this template, that determines the actual obligations of regulated construction stormwater discharges. In the event of a conflict between this template and any corresponding provision of the CGP, you must abide by the requirements in the permit. EPA welcomes comments on this Site Inspection Checklist Template at any time and will consider those comments in any future revision. You may contact EPA for CGP-related inquiries at cgp@epa.gov



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