New Permit & EPG Updates for Design

State Operating Permit MO-0137910
New Permit & EPG Updates for Design

• New Stacked Permit
  – Section I – Transportation Separate Storm Sewer System (TS4) Permit Conditions
    • Regulatory Requirement
    • Stormwater Management Plan
    • Minimum Control Measures (MCMs)
      – MCM 1 - MoDOT Community & Public Outreach and Education on Stormwater Impacts
      – MCM 2 - MoDOT Community & Public Involvement/Participation Program
      – MCM 3 - Illicit Discharge Detection and Elimination
      – MCM 4 - Construction Stormwater Runoff Control
      – MCM 5 – Post-Construction Stormwater Management in New Development & Redevelopment
      – MCM 6 – Pollution Prevention /Good Housekeeping
    • Annual Report
• Break
New Permit & EPG Updates for Design cont.

- Section II – Area Wide Land Disturbance Stormwater Permit Conditions
  - Area-wide Land Disturbance Permit Program
    - What is covered
    - Program Requirements
  - Support Activities
  - Storm Water Pollution Prevention Plan (SWPPP) Requirements

- EPG Updates
  - Article 237.2
  - Article 237.4
  - Article 806.1-806.8
New Stacked Permit MO-0137910

- Incorporated TS4 and Land Disturbance under one individual permit;
- Saves MoDOT money;
- Allowed customization;
- Helps align National Pollution Discharge Elimination System (NPDES) requirements.
Regulatory Requirement

• MS4 – Municipal Separate Storm Sewer System (40 CFR 122.26(b)(8)) – a conveyance or a system of conveyances (Including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):
  – Owned or operated by a state, city, town, county, or other public body that discharges into water of the United States.
  – Design or used for collecting or conveying stormwater;
  – Which is not a combined sewer, and;
  – Which is not part of a publicly owned treatment works (POTW)
• TS4 is an MS4 for Transportation Agencies
Regulatory Requirement cont.

- Large, Medium, & Small MS4s
  - Large – Urbanized areas with population ≥ 250,000
  - Medium - Urbanized areas with population between 100,000 - 250,000;
  - Small – Urbanized areas with population of at least 50,000 or an unurbanized area with population of 10,000 or more and a population density of at least 1,000 people per sq. mile.
MS4 Communities in Missouri
<table>
<thead>
<tr>
<th>Community</th>
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</table>
| Newly designated 10K+ communities based on 2010 Census; | Newly designated communities -10K based on 2010 Census and redefined Urbanized Areas. | *Phase I communities with populations of 100,000+ at time of 1990 census. (MSD) = St. Louis Metropolitan Sewer District Co-Permittees (Total = 61); (JnRCo) Jefferson County Co-Permittees (9); (CoMo) Columbia, MU, Boone County Co-Permittees (3)
Regulatory Requirement cont.

- MoDOT’s TS4 permit authorizes stormwater discharges located in:
  - Urbanized areas;
  - Regulated MS4s not located in urbanized areas;
  - Watersheds subject to an approved and effective Total Maximum Daily Load (TMDL);
  - Outstanding National Resource Waters;
  - Outstanding State Resource Waters and;
  - Statewide as established for illicit discharges and bridge washing.
Storm Water Management Program (SWMP)

- Plan for reducing the discharge of pollutants;
  - Must contain Best Management Practices (BMPs) with purpose of reducing stormwater;
  - Must contain measurable goals for each BMP that are quantifiable;
  - Outline a person responsible for the SWMP;
  - Iterative process must be outlined to determine effectiveness of BMPs.
  - Visit [www.modot.org/stormwater](http://www.modot.org/stormwater)
Permit Minimum Control Measures (MCMs)

- 6-focus areas
- Programs for each MCM
- Program obligations only apply in areas where TS4 are applicable (Except for Illicit Discharge)
MCM #1 - Public Education and Outreach

• Educate MoDOT community and public on discharge impacts to waterbodies;

• Steps that MoDOT community can take to reduce pollutants;

• Outreach opportunities MoDOT uses:
  – Earth Day
  – State Fair
  – Other education engagements.
MCM #2 - MoDOT Community & Public Involvement

- Involvement in SWMP development;
- Application renewals;
- Public notice periods,
- Provide Plan to target stakeholders;
- Availability for citizen volunteers to assist with right-of-way clean up efforts
MCM #3 - Illicit Discharge Detection & Elimination (IDDE)

• Plan to detect and eliminate illicit discharges into the TS4;
• Map all outfalls that receive discharges from the TS4;
• Standard operating procedure for notification to appropriate agencies;
• Detection schedule;
• Report a stormwater concern form;
• Vehicle accidents are not considered illicit discharges unless spill enters waters of the state.
MoDOT INCIDENT RESPONSE PLAN (IRP)

PRIVACY STATEMENT

Public disclosure of this document would have a reasonable likelihood of threatening public safety by exposing a vulnerability to terrorist attack. Accordingly, the Department of Transportation (MoDOT) is withholding this document from full public disclosure and is treating it as a confidential document. Note that a public agency that receives a confidential public record from another public agency is required to protect the record as confidential pursuant to MoREV Code § 23-313.3.

ANNEXES - SUPPLEMENTAL PLANS

A. Continuity of Operations Plan (COOP)
   Appendix A - Leadership Succession
   Appendix B - Drive-Away Kits
   Appendix C - Implementation Checklist
   Appendix D1 - Critical Function Summary
   Appendix D2 - Supplemental Critical Functions for Pandemic Influenza

B. Severe Weather Response Plan

C. Hazardous Materials Response Plan

D. Radiological Response Plan

E. Terrorism Response Plan

F. Pandemic Influenza Response Plan
   Appendix A - Federal Government Response Stages
   Appendix B - MoDOT's Pandemic Influenza Communications Plan
   Attachment 1 - Detailed guidelines for what triggers a media alert in the event roads are closed due to pandemic influenza
   Appendix C - Determination of Pandemic Influenza Response Plan
Outfalls within MoDOT’s TS4 Area
MCM #4 - Construction Stormwater Runoff Control

- Program to reduce pollutants from construction activities one-acre or greater within the TS4 area;
- Program is developed around land disturbance permit requirements;
  - Good housekeeping requirements;
  - Inspection procedures;
  - Plan reviews;
  - Sanctions to insure compliance.
- TS4 program is not any different than what we do for any project.
MCM #5 - Post-Construction Runoff Control

- Applicable to New Development or Redevelopment projects in TS4 area one-acre or greater;

- New Development – development where transportation facility previously did not exist. (EPG 127.29)

- Redevelopment - non-maintenance work to existing facility which provides an increased through lane of travel. (EPG 127.29)

- Post-construction BMPs must be considered to mimic pre-construction runoff condition in new development
MCM #5 - Post-Construction Runoff Control

### Land Disturbance / Stormwater:

- Will project involve 1 acre of land disturbance: □ Yes □ No □ Unknown
- Projects with one acre or greater land disturbance activities must comply with the Land Disturbance Permit requirements.

### Define project type (see definitions below):

- New Development
- Redevelopment
- Maintenance

### Number of Displacements (do not include partial takes that do not displace):

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<tr>
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No. of People: [Blank]
Residences: [Blank]
No. of Employees: [Blank]
Businesses: [Blank]

Public Hearing/Meeting Information [Blank]
EPG 127.29.7

BMP Types

- Detention/Retention
- Infiltration
- Vegetative
MCM #6 – Pollution Prevention/Good Housekeeping

- Program to address runoff from MoDOT’s operations and maintenance areas within the TS4 area.

- Training to reduce or prevent pollution from:
  - Welcome centers, rest areas, & commuter lots;
  - Maintenance buildings;
  - New construction and land disturbance; and
  - Bridge washing/cleaning activities

- Inspection frequencies for structural BMP implementation (FRCP)
Annual Report

• Submit no later than February 28;

• Outlines BMPs, quantifiable measurable goals, and results of compliance effort for the year, and consideration for each BMP and measurable goal through the iterative process to determine effectiveness for future use.

• Documentation is key – if it is not documented it did not happen.
Questions?
Over TS4
Let's take a Break

Be back in 10 min
Section II - Area-Wide Land Disturbance Stormwater Permit Conditions

- Land Disturbance Permit – not just a Construction problem;
- Key to success in land disturbance begins with Design;
- Erosion & Sediment control just as important as asphalt, steel, and concrete.
Area-Wide Land Disturbance Permit Program

What is covered???

- All projects one-acre or greater;
- Projects less than an acre if they are part of a common plan;
- Permitted site – areas within the site boundary where work is performed or contracted by MoDOT:
  - Area within MoDOT R/W
  - Easements and
Program Requirements

- Ensure the **DESIGN**, installation, and maintenance of effective erosion and sediment controls to minimize the discharge of pollutants by:
  - Controlling stormwater volume and velocity within the site;
  - Controlling stormwater discharges, including peak flow rates and total stormwater volume, to minimize erosion at outlets
  - Address factors such as amount, frequency, intensity, and duration of precipitation, to minimize sediment discharges from the site
Program Requirements cont.

– Provide and maintain 50 ft. natural buffers around surface waters or provide BMPs to provide equal protection;

– Direct stormwater to vegetated areas to maximize infiltration and filtering;

– Minimize soil compaction, preserve topsoil; and

– Install sediment controls along any perimeter of the permitted site where stormwater has the potential to leave the site.
Items To Consider When Developing E&S Plans

• Are you controlling stormwater volume and velocity
• Phases of Construction;
• Design for the pre-construction topography as well as the final design template;
• Where will water go during each phase;
• Where are the outfalls or where does water exit MoDOT R/W and are those areas protected;
• Does the plan address runoff control during each phase.
Support Activities (Borrow, Waste, Staging Areas)

<table>
<thead>
<tr>
<th>Inside MoDOT Right-of-Way</th>
<th>Out-Side MoDOT Right-of-Way</th>
</tr>
</thead>
<tbody>
<tr>
<td>• MoDOT’s State Operating Permit applies to all disturbed areas one-acre and greater;</td>
<td>• Contractor will be required to obtain their own land disturbance permit for areas one-acre or greater and areas less than one-acre when those areas and MoDOT’s permitted site equal one-acre or more;</td>
</tr>
<tr>
<td>• MoDOT will address all clearances;</td>
<td>• Contractor will be responsible for all clearances;</td>
</tr>
<tr>
<td>• BMPs must be designed, installed, maintained;</td>
<td>• Contractor responsible for their SWPPP development and implementation;</td>
</tr>
<tr>
<td>• Inspections must be conducted until final stabilization.</td>
<td>• Contractor is responsible for support activity area inspections.</td>
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</tbody>
</table>
Stormwater Pollution Prevention Plan Requirements (SWPPP)

• SWPPP is required for each site;

• Shall incorporate site-specific practices to best minimize soil exposure, soil erosion, and the discharge of pollutants;

• Shall be specific to the land disturbance site and be developed prior to conducting land disturbance activities;

• SWPPP contains all information, location, and practices to be used at the site to protect the waters of the state and comply with the permit.
Stormwater Pollution Prevention Plan Requirements (SWPPP) cont.

- SWPPP is composed of multiple page document describing:
  - Location of the project;
  - List of Prime and sub-contractor responsible for erosion & sediment control;
  - Estimated acres to be disturbed;
  - Off-site support activity permits;
  - 2-year, 24-hour storm event totals;
  - List of BMPs & description;
  - And more……..

- General map
  - Map with sufficient detail to show project location and all waters of the state within a mile of the site.
• Site maps (Erosion & Sediment Control Sheets)
  – Legible
  – Must show permitted site boundary
  – Points of discharge to receiving waters
  – Direction of stormwater flows and approximate slopes for all phase of construction;
  – Areas of non-disturbance;
  – Location of all structural and non-structural BMPs;
  – Locations where stabilization is expected to occur;
  – Locations of all waters of the state and wetlands;
  – Locations where stormwater discharge to another regulated MS4.
Surface Water Buffers

• Must provide and maintain 50-foot undisturbed natural buffer; or

• If infeasible, maintain some amount of natural buffer and supplement with BMPs to achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.
Sediment Basins

- Must be provided for each drainage area with 10 or more acres disturbed at one time;
- Basins shall be sized to the local 2-year, 24-hour storm for the project location; (see NOAA Atlas 14 for storm frequency accounts)
- Discharges from basins shall not cause scouring of banks or bottom of receiving streams.
Roadway and Inlet Protection

• Stormwater inlets susceptible to receiving sediment shall have curb inlet protection;

• Where stormwater flows off the end of where a road terminates, a sediment catching BMP such as a berm, or silt fence shall be provided;

• Permit requires cleaning of BMPs weekly following a precipitation event (*set up sediment removal*).
Stabilization of Disturbed Areas

• **Interim Stabilization** – well established and maintained BMPs that are reasonably certain to protect waters of the State from Sediment pollution over an extended period of time.

• **Temporary Stabilization** – when BMPs have been installed with the intent to prevent erosion in areas of a project that may or are intended to be disturbed before the whole project has achieved final stabilization.

• **Final Stabilization** – when perennial vegetation, pavement, buildings, or structures using permanent materials cover all areas that have been disturbed and all support activities, which are not intended to be permanent, have been removed.
Questions Over Permit Requirements
EPG Updates

Article 237.2 – Title Sheet

• More projects will fall under the Permit requirements and common plan definition;

• Bidders need to know how large MoDOT’s permitted site is prior to bid;

• If permitted site and contractor’s support activity sites combine to be one-acre or more, permitting is required.
Estimated Acres (For Information Only)

Area 1 + Area 2 = Estimated Disturbed area (for Information Only)
EPG Updates

Article 237.4 Plan-Profile Sheets

• Added new Section 237.4.12 Erosion & Sediment Control Plans;

• Added permit obligations to MoDOT guidance;

• Erosion and sediment control plans should be provided for all phases/stages of construction;

• Controlling stormwater is similar to traffic control.
EPG Updates

Articles 806 through 806.8

- Reconstructed Article 806 to be consistent with article/sub-article concept;

- Sub-articles for erosion control BMPs (*Article 806.1*) and sediment control BMPs (*Article 806.2*);
  - Design considerations;
  - Construction considerations;

- Guidance items moved out of SWPPP (*Article 806.8*)
806.1 and 806.2 Changes

806.2.2 Sediment Trap

A sediment trap is a temporary sediment collection structure constructed of rock or other non-earth material used to detain runoff so that sediments are allowed to drop out. The trap may also be excavated in lieu of rock construction.

806.2.2.1 Design Considerations

The location of sediment traps will be shown on the plans. The length and height of the sediment trap depends on the volume of water that flows through the drainage structure and the width of the drainage channel. Sediment traps will be utilized at every outfall and may be used downrange of drainage structures to control sediment. Sediment traps are not appropriate where impounded sediment and gravel could accumulate inside of the culvert. Estimated quantities for each trap located on the project will be shown to the nearest cubic yard. See Standard Plan 806.10 for sediment trap details.

Sediment traps are not typically appropriate in streams that are regulated by the US Army Corps of Engineers under Section 404 of the Clean Water Act. However, certain construction within the regulated channel may necessitate their use. The design of a sediment trap in this situation must be approved by the Design Division’s Environmental and Historic Preservation section prior to inclusion in the plans.

806.2.2.2 Construction Considerations

Sediment traps need to be in place prior to clearing and grubbing operations and will remain in place until the site has achieved final stabilization.

Sediment traps will be constructed of rock or other non-erodible material sufficient to impound water in accordance with Standard Plan 806.10 and Standard Specification 806.60. Estimated quantities for each trap located on the project will be shown to the nearest cubic yard. Sediment traps may be dewatered through a single riser pipe, over a stabilized spillway (rock-lined, lined with erosion control blanket or turf reinforcement matting, vegetated), or, where applicable, allowed to filter through the interstices of a constructed rock barrier.

Maintenance of the trap must be completed once the sediment deposits accumulate to \( \frac{1}{4} \) the height of the trap. In situations where long-term maintenance issues are absent, and permanent vegetation has established, sediment traps may be left in place as a permanent structure as long as there is no threat to the natural or human environment.
806.8 Shouldering Project Guidance

806.8.3.1 Shoulder Addition Project Plan Development and Implementation

Shoulder addition projects involving land disturbance of an acre or more can be particularly challenging to design, bid and implement BMPs. Design and construction personnel should collaborate to establish typical, desired BMP layouts for outfall and perimeter protection. These layouts should then be illustrated on a “Typical” erosion and sediment control plan as detailed plan sheets are not usually developed for these projects (There are a few exceptions to this when right of way acquisition or extensive grading is required).

Like other land disturbance projects of an acre or more, shoulder addition projects are required by permit to have a site map depicting the location of all installed BMPs. If a full set of plan sheets is not developed, an acceptable alternative is to develop an aerial photography site map of the project corridor at a scale of 1” = 200’, labeling named bodies of water, intersecting routes and county roads, and labeling log miles every 0.5 mile for the project (depicting tick marks every 0.1 mile is recommended for better accuracy). If full survey data was collected for the project, the log mile stationing may be set up precisely based on survey data. Full surveys are not typical for shoulder addition projects, so a “rough” log mile stationing may be set up. The aerial map shall identify approximate BMP locations to enhance communication, illustration and documentation for inspectors and contractors. The aerial sheets will not be included as part of the contract documents but will be provided as electronic deliverables.

In addition to the “typical” erosion control detail in the contract plans, designers shall provide an estimated quantity of BMPs necessary to construct the project. The estimated quantity and location of each type of BMP shall be expressed in a table on the quantity sheet included in the contract plans for contractors.

It is important to be aware that all designed BMP quantities may have to be adjusted depending on the contractor’s selected method of shoulder construction. Any expected adjustment in BMP quantities or implementation should be expressed to the prime and subcontractor, if applicable, during the erosion and sediment control discussion at the project preconstruction conference.
Any Questions????
Thank you!!

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