Arkansas State Highway and Transportation Department

2016 Erosion and Sediment Control Design and Construction Manual

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

MINUTE ORDER

Statewide

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WHEREAS, on October 1, 1992, the National Pollutant Discharge Elimination System Permit was issued by the Arkansas Department of Pollution Control and Ecology to authorize the discharge of storm water from construction sites; and

WHEREAS, the Department is required by law to comply with the Permit conditions; and

WHEREAS, to comply with the Permit conditions, an Erosion and Sediment Control Design and Construction Manual has been written to assist designers in developing proper plans and to provide inspectors with standard procedures to follow; and

WHEREAS, the Manual will be used by other State and Federal agencies to monitor Department compliance with the Permit conditions:

NOW THEREFORE, the June 1, 1994 edition of the Manual and future revisions are adopted as Department guidelines in the control of erosion and sedimentation.

Approved:

Chairman

Vice-Chairman

Member

Member

Member

Submitted By:

Deputy Director and Chief Engineer

Approved:

Director

Minute No. 94 209

Date Passed JUN 1 1994

Form D-456

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PREFACE

Soil erosion is a natural process whereby soil particles are dislodged by rainfall and carried away by runoff. The removal rate of the soil particles is proportional to the intensity and duration of the rainfall, the volume and characteristics of the water flow, the terrain characteristics and soil properties. This erosion process is accelerated where removal of the vegetative or other natural protective cover of the soil has disturbed the land.

Sedimentation is the natural process of deposition of the eroded soil. This eroded soil in the form of sediment may modify the characteristics of lakes, streams, and reservoirs, restrict drainage, plug culverts, affect adjacent properties, and affect the ecosystems of streams.

The National Pollutant Discharge Elimination System (NPDES) was established for regulation of sediment and other pollutants that may enter the waters of the United States. The U.S. Environmental Protection Agency (EPA) administers the national program but has delegated this authority within the State of Arkansas to the Arkansas Department of Environmental Quality (ADEQ). Under this delegated authority, ADEQ issues a NPDES Construction Stormwater Permit that is applicable to all construction sites in Arkansas.

A complete copy of the NPDES Construction General Permit is included in Appendix C of this Manual. The NPDES Construction General Permit is the “source document” for construction stormwater regulation and it should be read and understood by design and field personnel.

Both highway maintenance and construction activities are considered “construction projects” under the NPDES Construction General Permit. This applies to projects undertaken by Department forces or Contractors, which meet the size and scope to require permitting.

In order to comply with the NPDES Construction General Permit when undertaking highway maintenance and construction activities which disturb one acre or more of soil, a Storm Water Pollution Prevention Plan (SWPPP) must be developed and implemented. The goal is to reduce the discharge of sediment and other pollutants to the maximum extent practicable.

Department policy is to install appropriate erosion and sediment control devices for all soil disturbing activities as needed without regard to the area of disturbed land. The Department will authorize installation and maintenance of appropriate erosion control items on projects that do not require a formal SWPPP with the same care and judgment used on projects on which the acreage disturbed requires NPDES permitting. The Department will include necessary pay items in all contracts to provide erosion control.

Development and design of the SWPPP may be the responsibility of Roadway Design Division, State Aid Division, Maintenance Division, or the District, depending on the type of activity involved. Implementation of the SWPPP is the responsibility of field personnel assigned to administer the project. These are normally construction and maintenance personnel in the District.

This Manual is intended to provide guidelines and procedures to assist the designer in the development of a SWPPP and to assist field personnel in implementing the SWPPP.

Electronic versions of this Manual, related documents, and related forms may be downloaded from the Construction or Maintenance Division subdirectories on their respective Local Area Networks (LANs).

1.0 REGULATIONS AND OTHER REQUIREMENTS

The goal of storm water management is simple: protect water quality by reducing pollutants in storm water discharges.

The Clean Water Act of 1972, as amended, addresses various issues related to protecting and improving water quality and requires regulatory programs be established to implement the Act. Various agencies in Arkansas have oversight of these programs including the U.S. Army Corp of Engineers (COE), the U.S. Environmental Protection Agency (EPA), and the Arkansas Department of Environmental Quality (ADEQ).

General guidance for protection of water quality is found in the Department's Standard Specifications, Supplemental Specifications, Special Provisions, and this Manual. Specific guidance pertaining to each project will be found in the Special Provisions of the Contract. These may include special provisions for storm water pollution prevention, Section 404 Permits, protection of public drinking water surface water intakes or wellhead protection areas, and endangered species protection.

Within Arkansas, certain water bodies and areas are designated for special protection. Waterbody designations that affect Department construction and maintenance activities and need to be considered within the erosion and sediment control planning and implementation are:

Extraordinary Resource Waters (ERWs) This beneficial use is a combination of the chemical, physical and biological characteristics of a waterbody and its watershed which is characterized by scenic beauty, aesthetics, scientific values, broad-scope recreation potential and intangible social values.

Ecologically Sensitive Waterbodies (ESWs) These are special aquatic areas known to provide habitat for threatened, endangered or sensitive species of aquatic or semi-aquatic plants or animals.

Natural and Scenic Waterways (NSWs) Federal and state legislation creates extra protection for some rivers that have been selected as having special natural, scenic or recreational qualities.

Impaired Waters (303(d) The ADEQ is required by the Clean Water Act to periodically prepare a list of waters in Arkansas that are impaired for some reason, such as too much turbidity. These waters are shown on ADEQ's 303(d) List and thus are targeted for clean-up. To accomplish this, the waters may be assigned a **Total Maximum Daily Load (TMDL)** which regulates the total amount of a given pollutant that may be discharged into a waterbody without violating the overall water quality limit for the pollutant.

Public Water Supply (PWS) The Arkansas Department of Health oversees regulations related to public drinking water. Many public drinking water intakes and wellhead protection areas are found across the state.

Since highway construction or maintenance may discharge pollutants into any of these special waters, when present on or near a project their presence is identified in the project SWPPP. Extra care must be taken during design and construction to provide the waterbodies with the added protection they deserve.

1.1 NPDES CONSTRUCTION GENERAL PERMIT

Generally, NPDES Construction General Permit (CGP) coverage is required for activities which will result in a total land disturbance equal to or greater than one acre. These activities include such things as clearing, grubbing, grading, excavating, demolition, and the construction of haul roads. Also included in the disturbed area acreages are stockpiles of topsoil and fill material.

Highway maintenance activities also require permit coverage if one or more acres of underlying and/or surrounding soil are cleared, graded, or excavated as part of the operation. Notching and widening would be an example of such an activity. Routine maintenance activities on existing roads where the line and grade of the road is not being altered do not require a permit nor does the paving of existing roads.

If uncertain that a permit is required, the designer (Roadway Design Division, Bridge Division, State Aid Division, Maintenance Division, or the District) should contact the NPDES Section of the Environmental Division for guidance.

Construction activities requiring permit coverage are classified as “small” or “large” based on the amount of disturbed soil on the project.

Automatic Coverage (Small) Construction Sites: Automatic Coverage applies to any construction activity that will disturb/expose a total of one acre or more but less than five acres, or less than one acre if it is part of a larger site that will ultimately disturb/expose one acre or more. The field requirements for a small construction site project receiving automatic coverage are generally the same as those for large construction sites except that ADEQ does not require submission of the SWPPP, a Notice of Intent (NOI), or a Notice of Termination (NOT) unless specifically requested.

Large Construction Sites: A project meeting the definition of a “large construction site” is any construction activity that will disturb/expose a total of five acres or more. For these sites, a SWPPP must be prepared and submitted to ADEQ along with a NOI. When the SWPPP and NOI are deemed complete, ADEQ will issue a Notice of Coverage (NOC). A NOT must be submitted to ADEQ when the project is completed and stabilized to end permit coverage.

Both large and small projects have the following basic requirements for the SWPPP:

- A SWPPP must be developed in accordance with the permit and this Manual.
- The SWPPP must be implemented in accordance with the permit and this Manual. This includes, but is not limited to maintaining detailed documentation of the plan and any changes, inspection records, and correction efforts. These records should be available for review by ADEQ and/or EPA personnel and others when requested.
- A copy of the entire SWPPP and a set of as-built plans must be maintained on the project site and changed as necessary to reflect current site conditions.

1.2 SECTION 404 PERMITS

Section 404 of the Clean Water Act established a permitting program to control discharge of dredged or fill material into waters of the United States. These waters include lakes, rivers, streams (including intermittent streams), mud flats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, natural ponds, and impoundments of waters otherwise defined as Waters of the United States. Sewage lagoons, water treatment systems, and farm reservoirs are not considered Waters of the United States. These permits are issued and regulated by the COE and are obtained by the Special Studies Section of the Environmental Division for construction and maintenance projects which require them.

If proposed work is within a waterbody, a Section 404 permit, Section 401 Water Quality Certification (401 Certification) coverage, and Short Term Activity Authorization (STAA) must be obtained.

The general conditions for issuance of a Section 404 Permit (regardless of type) include:

- **Prior Water Quality Certification.** A state water quality certification must be obtained from ADEQ;
- **Proper maintenance.** Any structure or fill authorized shall be of correct material, properly maintained, including maintenance to ensure public safety, and;
- **Erosion and siltation controls.** Appropriate erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills must be permanently stabilized at the earliest practicable date.

Proposed construction and maintenance activities and changes to any activities involving waterbodies or wetlands must be coordinated with the Environmental Division.

1.3 SECTION 401 WATER QUALITY CERTIFICATION

Section 401 Water Quality Certification requires reasonable assurance that the project will be constructed in a manner that will not physically alter a significant segment of a water body and will not violate ADEQ water quality standards. In Arkansas, water quality certification must be issued by the ADEQ before the 404 Permit is valid. For projects requiring an Individual 404 Permit, the COE will request water quality certification from ADEQ as part of the 404 Permit public notice process. Water quality certification requests for ERWs, ESWs, and NSWs which do not require individual 404 permits are requested by the project designer or the Department's NPDES Section.

1.4 SHORT TERM ACTIVITY AUTHORIZATION

Construction and maintenance projects which require work in a waterbody must have a Short Term Activity Authorization (STAA) from ADEQ. The STAA is granted by letter to the Department and authorizes the temporarily exceedance of turbidity standards during in-stream activities such as bridge or culvert construction, channel alterations, debris removal, and maintenance activities. For work in waterbodies requiring special protection, the STAA may contain a condition requiring periodic turbidity testing in the affected stream. Appendix E contains guidance for this testing as well as general STAA compliance information.

STAA Procedures for Contracted Projects

For every project letting, the NPDES Section reviews the overall list of projects being let to contract and provides a list of water crossings requiring an STAA to the Construction Division. The Construction Office Staff then requests the STAAs from ADEQ. The submittal to ADEQ must contain information showing the location of the project, the type of activity requiring a STAA, the duration of that activity, and the best management practices to be used on the project.

After reviewing the requests, ADEQ issues the STAA to the Construction Division who will provide the Resident Engineer a copy of the authorization. The Resident Engineer must notify the Contractor in writing of receipt of the STAA and remind them of their responsibilities for the protection of water quality. The STAA is valid for a period of six months from the date of initial work in the stream, so if the covered activity is not completed in that time period, a renewal is required. The Construction Division will notify the Resident Engineer by email of the approaching expiration of the STAA. The Resident Engineer must then request an extension or let the STAA lapse if the in-stream work will be completed before the expiration date. If additional activities not covered by the original request are to occur, these must also be authorized by a re-submittal to ADEQ. The Resident Engineer shall notify the Construction Office by email when the activity is completed. Procedures for STAA's are addressed in Construction Memorandum No. 15-06.

STAA Procedures for All Other Projects

Activity in waterbodies involving Maintenance Division personnel or District forces should be coordinated with the Environmental Division to determine if an STAA is required. If required, the Maintenance Division or District will request a STAA from ADEQ by letter along with a completed ADEQ application form. The form can be found on the Maintenance LAN. The in-stream portion of the work may not proceed until authorization is received from ADEQ. Since this will take at least several weeks, be sure to allow sufficient lead time to account for this delay. The STAA is valid for a period of six months from the initial date of work in the stream. If the covered activity is not completed in that time period, a renewal is to be requested at least several weeks prior to the expiration of the authorization. If additional activities not covered by the original request are to occur, these must also be authorized by a re-submittal to ADEQ.

1.5 PENALTIES

Failure to obtain CGP coverage or serious violations of the permit may result in penalties of up to ten thousand dollars ($10,000) per violation. Each additional day of violation may be considered to be a separate violation. Revocation of either results in a Cease and Desist order from the U.S. Army Corp of Engineers. All work on the project is discontinued until corrections are made to be in compliance with the SWPPP.

Any person who knowingly violates any provision of the Endangered Species Act may be assessed a civil penalty of not more than $25,000 for each violation.

Failure to acquire a STAA may result in fines or penalties by ADEQ for water quality violations. Violations of the STAA may result in the revocation of the STAA and further fines or penalties by ADEQ.

2.0 STORM WATER POLLUTION PREVENTION PLAN DEVELOPMENT

2.1. GENERAL

Development of the Storm Water Pollution Prevention Plan (SWPPP) is the responsibility of the designer. The designer may be from Roadway Design Division, Bridge Division, State Aid Division, Maintenance Division, or the District, depending on the type of activity involved.

The CGP requires that the designer develop a detailed erosion and sediment control plan containing all elements required by the CGP so they should be thoroughly familiar with the permit requirements. This section contains general guidance for the designer regarding information to be included in the SWPPP.

The designer should be familiar with the various erosion and sediment control best management practices (BMPs) that are normally utilized for Department projects. These may be found in the Standard Specifications, Supplemental Specifications, Special Provisions, Standard Drawings, and Appendix B of this Manual.

The design should incorporate BMPs with the primary goal of minimizing erosion and retaining sediment on site to the maximum extent practicable. The CGP says that "a goal of 80 percent removal of total suspended solids from flows that exceed predevelopment levels" should be used in designing storm water management controls.

During development and design of the SWPPP, the designer should contact the field personnel to review the items to be included in the SWPPP. Field personnel should provide input and request changes to ensure that the SWPPP is as effective as possible. The input and changes may include additional quantities or changes to locations or types of BMPs.

If the designer includes a BMP in the plans for projects to be contracted, it provides a bid price in the contract and the flexibility to utilize that BMP “as needed” in other places on the project. BMPs not available in the plans must be added by change order which will normally result in a higher cost and could limit or prohibit their use.

The designer should utilize the latest version of the Storm Water Pollution Prevention Plan Special Provision (SWPPP-SP) which contains the SWPPP template developed by the Department and approved by ADEQ. A copy of the template is available in Appendix D of this Manual and electronically on the Department’s Construction and Maintenance LANs.

Some information required for the SWPPP is provided upon request to the NPDES Section of the Department’s Environmental Division. This includes Total Maximum

Daily Load (TMDL) and 303(d) listed waters, Special Category Waterbodies requiring 50 foot vegetated buffers and Municipal Small Separate Storm System ownership.

If the project includes work within a waterbody, information concerning the proposed project must be provided to the Environmental Division. The information provided should include the following items: a project location map (plan title sheet); design data regarding the scope of the proposed project or change order; a conceptual plan, including quantity of excavation; quantity of temporary and/or permanent fill; sizes of pipes, culverts, or bridges installed; information on all work in waters of the United States. These items are needed to apply for Section 404 permits, water quality certification, and Short Term Activity Authorizations (STAAs).

2.2 REQUIREMENTS FOR PROJECT PLANS

Before beginning the plans or developing the SWPPP, site conditions must be reviewed. All existing conditions at the site, including soils topography, drainage patterns, and existing vegetation should be considered. Modifications to site topography will require well-engineered erosion and sediment controls during and after construction. The types and specific locations of erosion and sediment control devices to be used and complete erosion and sediment control plans must be developed using information regarding existing and proposed drainage patterns on the site, the guidance included in this Manual, and personal experience. Erosion and sediment control devices are shown on separate sheets in the project plans. These sheets are typically labeled “Temporary Erosion Control Details” and are prepared using basic principles for erosion and sediment control which are shown below:

- Emphasize erosion control measures with sediment control measures used as a last line of defense.
- Divide the site into drainage areas. BMPs used should take into account the existing terrain and soil conditions.
- Divert runoff from up slope. Overland flow from up slope areas should be diverted around disturbed areas using BMPs (using stabilized ditches with ditch checks, berms, silt fence, filter socks, triangular silt dikes, etc.), to minimize the amount of erosion-generating runoff from the disturbed area.
- Limit the area of unprotected soil exposure. Natural cover will be retained where feasible and scheduling of the project should limit the size of disturbed areas.
- Minimize the duration of unprotected soil exposure. Schedule clearing and grubbing to minimize exposure time and immediately begin stabilization of disturbed areas with vegetative cover, mulch, or other erosion resistant material.
- Stream relocations should be considered as a last resort because of the difficulty of maintaining the stream flow while protecting the waterbody from sediment.
- Maintain a 25 foot vegetative buffer zone from waterbodies and 50 feet for waterbodies described in Section1.0 of this manual which are designated for special protection.
- When and if buffer zone disturbance becomes necessary, record the reason in Site Manager and be prepared to defend this action to a regulator. In these

cases, minimize the exposure time of disturbed soil and stabilize as soon as possible (within 5 days as a maximum) while using BMPs as needed to protect the water body.

- Design and protect slopes consistent with soil properties. Keep runoff velocities low. Measures that interrupt slopes, disperse flows, and divert flows to stabilized outlets can reduce problems associated with concentrated flows and velocities.
- Control concentrated runoff. Protect on-site drainage ditches against scour and erosion. Slope drains, rock, sod, erosion control matting, or other means of stabilization can be used on stormwater outlets.
- Slow or capture runoff with planned engineering measures such as sediment basins and detention basins.
- Retain sediment on-site. Temporary or permanent barriers, basins or other measures to trap sediment should be placed as close to the source as possible, but always on-site. Common drainage areas of ten (10) or more acres require a detention basin. If this is not feasible because of right-of-way limitations or other reason, justification must be included in the SWPPP with other appropriate controls substituted.

When selecting BMPs for a site, the designer should consider the following:

Feasibility - BMPs must be capable of relatively quick and easy application considering field conditions.

Durability - Given the site conditions and the length of construction, the materials must maintain structural integrity during installation and endure until vegetation has established effective cover.

Compatibility – BMPs should be selected with regard to public acceptability and environmental sensitivity, including visual or aesthetic impacts.

Operation – Lack of maintenance is usually the primary cause of the failure of an erosion and sediment control plan. Difficulty and cost of maintenance of BMPs should be considered in erosion control planning, as well as accessibility.

Effectiveness – BMPs should be considered based on effectiveness in a given situation.

Cost - Factors to be considered relative to costs include material costs, preparation costs, installation costs, and maintenance.

Availability – Materials for BMPs must be readily available from local suppliers or for immediate shipment when needed.

The designer should ensure the project plans contain following information required by the CGP as a minimum. Some of the information such as the location of construction exits will not be available until construction begins so it must be added on-site by field personnel.

- Pre-construction topographic view;
- Direction of stormwater flow (i.e., use arrows to show which direction stormwater will flow) and approximate slopes anticipated after grading activities;
- Delineate on the site map areas of soil disturbance and areas that will not be disturbed under the coverage of this permit;
- Location of major structural and nonstructural controls identified in the plan;
- Location of construction exits;
- Location where stabilization practices are expected to occur;
- Locations of off-site materials, waste, borrow area, or equipment storage area;
- Location of areas used for concrete disposal and concrete truck wash-out;
- Location of all Waters of the State with associated natural buffer boundary lines. If these are not on the plans, they may be hand-drawn and labeled using colored pencils. Identify floodplain and floodway boundaries, if available;
- Locations where stormwater is discharged to Waters of the State or a municipal separate storm sewer system if applicable,
- Locations where stormwater is discharged off-site (should be continuously updated);
- Areas where final stabilization has been accomplished and no further construction phase permit requirements apply;
- A legend that clearly specifies any erosion and sediment control measure symbols/labels used in the site map and/or detail sheet; and
- Locations of any storm drain inlets on the site and in the immediate vicinity of the site.

2.3 SPECIAL PROVISION REQUIREMENTS

The SWPPP consists of many documents and publications and a complete list is shown in Section 3.1.a. of this Manual but the key component is the SWPPP Special Provision (SWPPP-SP). The CGP contains specific requirements and these requirements have been used to develop a standard SWPPP-SP template for use by the Department. This template has been approved by ADEQ and the latest version must be used for all Department projects. The designer should complete the SWPPP-SP, inserting the appropriate information as outlined below.

Project Name and Location, Operator Name and Address:
This information is normally taken from the project plans.

A. Site Description

1) Pre-construction Topographic view:
This information is normally provided in the form of the profile and cross-sections.

2) Project Description and Intended Use after NOT is filed:
This may be taken from the description of the work in the project contract if available or must be developed if not a contracted project.

3) Sequence of Activities:
This is the sequence, in expected chronological order, of major soil disturbing activities.

4) Total Acres Available/Total Disturbed Area:

This information is developed based on the construction plans. An accurate estimate of disturbed areas is especially important since this determines CGP requirements (See Section 1.1 for details).

5) Existing Site Information:

Runoff Coefficients before and after construction:

The runoff coefficients for the site before construction begins and after construction is complete must be provided. A worksheet to determine the runoff coefficient is contained in Annex C of the SWPPP-SP.

Soil Information:

This is the general information about the types of soils on the site.

B. Responsible Parties-General Contractors, Inspectors, etc.:

These will include Prime and Subcontractors and Department personnel involved with the project. The names of Contractor personnel are not known when the SWPPP is being developed and will be added after the Contract is awarded and updated as changes occur.

C. Receiving Water:

1) Location of Surface Water on Construction Site:

This includes all stream crossings on the project including unnamed and intermittent waterbodies, along with their station numbers. The plans must show names of waterbodies and areas of wetlands. Vegetated buffer zone limits must be shown on Erosion Control Detail plan sheets.

2) The following bodies of water receive runoff from the construction site:

- **Name of operator of Municipal Storm Sewer System and/or receiving stream:**
  There will always be a receiving stream. On linear jobs there are often several **but only one must be shown here. Choose the waterbody traversing or nearest** the job that appears to receive the bulk of stormwater runoff. If storm water from the project will discharge into a local separate storm sewer system (MS4), enter the name of the system operator (e.g., City of Benton) provided by the Environmental Division and/or the receiving stream.

- **Narrative Description of Nearest Water:**
  Determine this by starting with the receiving stream from the previous line and following it to the next perennial water (i.e. "unnamed tributary of Fourche Creek thence to Fourche Creek).

- **Name of ultimate receiving water:**
  The map contained in the NOI form (Appendix G) may be utilized to determine the Ultimate Receiving Water for the project area.

- **Waterbodies that would require a fifty foot buffer zone:**
  Enter information provided by Environmental Division.

D. TMDL and 303(d) list:

The NPDES Section of the Environmental Division will provide the information related to waterbodies on the Total Maximum Daily Load and 303(d) lists.

E. Attainment of Water Quality Standards after Authorization:

Enter the statement "BMP's have been selected and will be installed and maintained at the construction site that will minimize the discharge of pollutants as necessary to meet applicable water quality standards."

F. Site Map

The designers include many of the required elements of the Site Map in the plans as part of the design for contracted projects. The remaining elements shown in Section 2.2 of this manual must be added and updated once the job is underway.

G. Stormwater Controls

- **Initial Site Stabilization, Erosion, & Sediment Controls** for the project site are to be included in the plans. The perimeter of the construction area and area for the sediment basins will be cleared. Diversion ditches, rock ditch checks and sediment basins will be installed around the perimeter of the site, and temporary seeding will be used to stabilize the ditches and basins before further clearing of the site will occur.

- **Stabilization Practices** to be used and their scheduling should be shown to the extent practicable. Actual timing of erosion control installations will be determined daily based upon the construction activity occurring and actual field conditions. If there is a waterbody that traverses or is contiguous to the site, the "Natural Buffer Zone" block should be checked.

- **Structural Practices** to be utilized and scheduling of implementation for that practice should be listed. Actual timing of erosion control installations will be determined daily based upon the construction activity occurring and actual field conditions.

The designer should take into account normal construction sequences and any special items or situations that are anticipated on the project. Special items or situations should be discussed with field personnel.

H. Other Controls:

Controls must be included to properly manage solid wastes, hazardous wastes, dust generation, and all other activities that will generate wastes during the construction phase. These include:

- **Solid material control, debris and wastes:** All solid materials discharged to waters of the United States shall be in accordance with Section 110 of the Standard Specifications, the applicable Section 404 Permit, the plans, and the CGP. Litter and construction debris will be prevented from becoming a pollutant source for storm water discharges. Any debris which inadvertently enters a water of the state will be removed daily.

- **Offsite vehicle tracking:** Each vehicle exit from the construction site must either be stabilized or use wheel washing to prevent the tracking of material onto the public roadway. If, despite these measures, sediment escapes the construction site through tracking it will be removed by sweeping at a frequency to minimize off-site impacts to waterbodies. **Sweeping is not a substitute for on-site tracking controls.**

- **Temporary sanitary facilities:** Facilities will be provided and properly maintained by the Contractor in accordance with Section 107.06 of the Standard Specifications. These will not be sited adjacent to a waterbody.

- **Concrete waste area:** Designated concrete washout and waste area(s) will be established and utilized to prevent concrete waste from being discharged to a water of the state.

- **Fuel storage, hazardous materials and truck washing areas:** The following is a partial list of materials which could be sources of pollution in storm water runoff: asphalt materials, concrete, cement, concrete wash water, paint, solvents, petroleum products, fertilizers, concrete curing compound, lime, linseed oil, asphalt additives, concrete additives, and sewage. Handling of the above materials or other potential pollutants shall be in accordance with Subsection 110.06, Pollutants, of the Standard Specifications.

I. Non-Stormwater Discharges:

All non-storm water discharges are prohibited unless in compliance and covered by an NPDES permit (other than the NPDES Construction General Permit) with the exception of those shown below. These discharges may be authorized with appropriate controls.

- Fire-fighting activities
- Fire hydrant flushing
- Water used to wash vehicles (where detergents are not used) or to control dust
- Potable water sources including uncontaminated waterline flushing
- Landscape Irrigation
- External building washing which does not use detergents or other chemicals
- Pavement wash-waters where spills or leaks of toxic or hazardous materials have not occurred and where detergents or other chemicals are not used;
- Uncontaminated air conditioning compressor condensate
- Uncontaminated springs, excavation dewatering and groundwater
- Foundation or footing drains where flows are not contaminated with process materials such as solvents

The Permit doesn't cover discharges from dedicated asphalt and concrete plants.

J. Post-Construction Stormwater Management:

Measures that will be installed during the construction process to control pollutants

in stormwater discharges after construction operations are complete will be described. Such practices may include, but are not limited to:

- Infiltration of runoff onsite
- Flow attenuation by use of open vegetated swales and natural depressions;
- Stormwater retention structures
- Stormwater detention structures (including wet ponds)
- Sequential systems which combine several practices

A goal of at least 80% removal of total suspended solids from flows that exceed predevelopment levels should be used in designing and installing stormwater management controls (where practicable). Where this goal is not met, justification is to be provided for rejecting, based on site conditions, each practice listed above.

K. State or Local Plans:

The Arkansas State Highway Commission and the Arkansas State and Highway Transportation Department have the exclusive authority over the state highway system (See Ark. Code Ann. § 27-67-101, et al), therefore no local agencies would have authority or jurisdiction over the lands owned, controlled and maintained by the AHTD. The AHTD will make every effort to address any concerns of local entities concerning storm water discharges from the state highway right of way.
This authority does not extend to the Contractor's off-site operations. The Contractor is responsible for complying with all State and Local Plans in accordance with Subsection 107.01 of the Standard Specifications.

L. Inspections:

Inspections will be conducted by a qualified inspector at least every seven days. The inspector will complete a report of the inspection and provide a copy to the contractor by the fastest means available. Completed inspection forms will be kept with the SWPPP.

M. Maintenance:

Descriptions of procedures to maintain vegetation, erosion and sediment control measures and other protective measures in good, effective operating condition are contained in the Standard Specifications, Supplemental Specifications, Special Provisions, and plans. Any repairs to erosion and sediment control devices must be completed within three business days of discovery.

N. Adverse Weather Conditions:

Adverse conditions are those that are dangerous or create inaccessibility for personnel, such as local flooding, high winds, electrical storms, or situations that otherwise make inspections impractical, such as extended frozen conditions. When adverse weather conditions prevent the inspection of the site, an inspection should

be completed as soon as safe and feasible. If adverse weather conditions prevent compliance with the permit, documentation of the beginning and ending date of adverse weather condition should be included. This information will be documented in the Site Manager Program job records and the inspection form.

O. Endangered Species:

Endangered species clearance is obtained during the National Environmental Policy Act (NEPA) process for all AHTD projects and is conducted in accordance with Section 7 of the Endangered Species Act. If necessary, a Special Provision will be included in the contract to provide detailed requirements for species protection. Further information about this process can be obtained by contacting the AHTD Environmental Division at (501) 569-2522, or the U. S. Fish and Wildlife Service at (501) 513-4489.

P. Employee Training:

AHTD employees have received formal training in NPDES Storm Water requirements and SWPPP implementation. Training records will be available electronically or will be maintained with the SWPPP after the project commences.

Q. Contractors:

All contractors and subcontractors are required to complete the Contractor certification in the SWPPP Special Provision. The certification is to be signed in accordance with the signatory requirements found in the NPDES Construction General Permit (i.e., principal executive office, vice president, general partner, proprietor, elected official).

R. Inspectors:

A **qualified** inspector who has completed erosion and sediment control training will conduct inspections. Before performing an inspection on the project, the inspector must complete and sign the form in the SWPPP Special Provision.

S. Plan Certification:

The Roadway Design Division Head, State Aid Division Head, the State Maintenance Engineer, or the District Engineer having oversight of the SWPPP preparation, will sign the certification statement in the SWPPP Special Provision.

2.4 SUBMITTAL OF PLANS AND SWPPP-SP TO ADEQ

The requirements for submittal to ADEQ varies depending on the size of the project as indicated below:

Automatic Coverage (Small Construction) Site – Small construction site projects receive automatic coverage under the NPDES Construction General

Permit. The SWPPP is prepared for the project but ADEQ does not require submittal of the document so a tracking number is not issued for those sites. For small site projects by Contract the Resident Engineer will obtain, complete, and post the small site NOC which may be obtained from the Construction LAN or the ADEQ website. For projects by Department forces, this will be done by the District Maintenance Engineer.

Large Construction Sites – For a large construction project site, the SWPPP must be submitted to ADEQ for review and approval before work can begin. The SWPPP and Notice of Intent (NOI) should be submitted at least ten (10) business days prior to the date coverage under the permit is required.

For projects by Contract, the NOI will be completed by Roadway Design. Beginning in July 2016, the Department began using the ADEQ *ePortal* system for electronic submittal of NOIs and associated documents such as the SWPPP and construction plans. This system will become mandatory by December 2017.

For projects by Department forces, the designer will complete the plans, SWPPP, and NOI and submit them to ADEQ.

If the NOI is deemed incomplete, ADEQ will notify the Department of the deficiencies by letter, email, or phone within ten (10) business days of receipt of the NOI. In these cases, the designer is responsible for providing the additional information to ADEQ. If no notification of deficiencies is received within ten (10) business days, the NOI is deemed complete and work may commence after posting the NOI or first page of the *ePortal* NOI submission until the NOC is received.

3.0 STORM WATER POLLUTION PREVENTION PLAN IMPLEMENTATION

3.1 PROJECTS BY CONTRACT

The majority of the actual work on construction projects undertaken by the Department is done by independent contractors. Each of these projects is under the oversight of a Resident Engineer and implementation of the SWPPP is their responsibility.

The SWPPP is composed of several different items, including but not limited to Plans, Special Provisions, and Standard Specifications. This section contains guidance for field personnel regarding implementation and maintenance of the SWPPP.

The success of the SWPPP on a project is highly dependent on cooperation between the Resident Engineer and the Contractor. The Contractor must perform the work necessary to place BMPs on the project and must act promptly to install additional devices when needed or to maintain existing devices. The Resident Engineer provides inspections to ensure the BMPs are in place and properly maintained. The Resident Engineer must act promptly to modify the SWPPP when changes are needed and provide instruction for these changes to the contractor as soon as possible. The Resident Engineer has responsibility under the contract to take action in the event the Contractor fails to comply with their contractual responsibility.

On Department right of way, regulators hold the Department, as the owner and/or operator, responsible for compliance with National Pollutant Discharge Elimination System (NPDES) requirements. The general public may also initiate action against the Department for actual or perceived violations of the Permit

This section also applies to project right of way owned by other entities on Department administered contracts, such as State Aid Projects.

3.1.a. SWPPP COMPONENTS MAINTAINED ON PROJECTS

The CGP requires the SWPPP and any updates to be available on the project during normal business hours (defined by the Permit as 8:00 A.M. to 5:00 P.M.) for review. A copy of the SWPPP will be kept in the project field office or in the inspector's vehicle if a project field office is not used.

Copies of SWPPP documents such as the SWPPP-SP, inspection reports, copy of CGP, and contract should be placed in a three ring binder. Items that cannot be placed in the binder will be maintained with the binder or on a laptop computer.

Copies of the following should be included in or with the binder:

- **Contract for the Project** containing all Supplemental Specifications and Special Provisions for erosion and sediment control items and their installation.

- **Completed SWPPP Special Provision** from the Contract.

- **Contractor** information is contained in the SWPPP Special Provision. A list of Contractors responsible for implementation of each measure identified in the SWPPP is included in the SWPPP Special Provision. Each Contractor must sign the SWPPP Special Provision. If additional Contractors/Subcontractors are added to the project, the list should be updated accordingly.

- **Inspector** information is contained in the SWPPP Special Provision. Each person who will be conducting inspections of the stormwater controls must be identified and sign the SWPPP Special Provision. This information must be updated as necessary for the life of the project.

- **Hazardous Materials Handling** information is found in the Standard Specifications, Supplemental Specifications, and Special Provisions.

- **Approved State or Local Plans** information for storm water management is incorporated into the SWPPP Special Provision.

- **Total Maximum Daily Load (TMDL)** information found in the SWPPP Special Provision provides documentation supporting a determination of NPDES Construction General Permit eligibility with regard to waters that have an established TMDL.

- **Short Term Activity Authorization (STAA)** issued by ADEQ if in-stream work is required. If turbidity monitoring is required records of instream work and sampling should be kept in the binder as well.

- **Any additional Special Provisions** from the Contract relating to the SWPPP. Typically a Water Pollution Control SP related to water quality issues or endangered species protection.

- **AHTD Erosion and Sediment Control Design and Construction Manual**

- **NPDES Construction General Permit.** A copy is located in the Appendix C of this Manual.

- **Notice of Coverage.** A copy of the NOC will be kept in the binder and well as well as being posted on the site.

- **Plans.** A complete set of plans for the project.

- **Quantity Listing for All Erosion and Sediment Control Devices** from the plans and the executed Contract. Wherever possible, plans should show planned locations for these devices.

- **Standard Specifications.** A copy of the latest version of the Standard Specifications for Highway Construction is to be maintained with the other SWPPP items.

- **Any SWPPP related correspondence and/or Change Orders.**

- **Updated As-Built Erosion & Sediment Control Plans.** A set of half size plan sheets showing all erosion and sediment control measures currently in place. These must be updated within seven business days of any changes. Revisions to the plans should be logged with the date of the revisions and initialed by the field personnel making the revision.

- **SWPPP Inspection Reports.** Once the Resident Engineer signs the report, a copy is given to the Contractor and a copy must be maintained on the site. The Resident Engineer is responsible for updating the SWPPP, as needed.

- **Resident Engineer's Construction Diary** is considered part of the SWPPP since it describes when, where, and how the SWPPP is implemented, maintained, and altered to fit conditions. For projects utilizing *SiteManager,* computer files and a laptop computer should be maintained on the Project, since hard copies of this information will not exist. If printed diaries are being utilized in lieu of *SiteManager*, the Resident Engineer must distribute a copy of the RE Diary to the project site on a weekly basis.

3.1.b. GENERAL EROSION AND SEDIMENT CONTROL GOALS

A designer cannot know every detail of a project in advance and develop a SWPPP for every situation. Even the best SWPPP will not produce the desired result of minimizing and controlling sediment unless the devices are properly installed and maintained. Field personnel should recognize when devices or methods are not working even though they may be installed according to the SWPPP and specifications. In these cases, different devices or methods should be used to correct the problem. The following guidelines and the overall goals should be considered when implementing a SWPPP:

- Limiting the area disturbed is better than trying to control erosion.
- Preventing erosion is better than trying to control sediment. Retaining vegetation or reestablishing it (seeding and mulching, sodding, or erosion matting) will greatly reduce erosion. All other methods to retain sediment on the construction site will, on the average, only recover about 50% of the sediment.
- Permanent erosion controls are generally better than temporary controls.
- Routing clean water through or around a project is better than trying to remove sediment from it.
- Slow moving water will erode less soil than fast moving water.

- Slow moving water will deposit more sediment than fast moving water. If erosion is not prevented, the next best practice is to detain the silt laden water for as long as possible to allow the silt to settle out.
- One of the most effective ways of reducing erosion and sediment problems on a project is to build and permanently stabilize the project as quickly as possible.

3.1.c MAKING THE SWPPP WORK, BEGINNING TO END

From the beginning of work on the site, field personnel have the responsibility for making the SWPPP a working plan. This starts with the initial SWPPP and plan review and continues until the work is complete and the NOT has been submitted. The following paragraphs show the primary tasks involved in this process.

Read and Understand the SWPPP: The successful implementation of the SWPPP requires that the components and goals be thoroughly understood. The erosion and sediment controls must be installed and used in accordance with good engineering practices and field personnel should be familiar with the various controls and the proper use of each before the job begins.

Establish Expectations for SWPPP Compliance at the Pre-Construction Conference: The Resident Engineer is to discuss the SWPPP, along with any special details or special provisions related to it, at the project's pre-construction conference. The Contractor must understand the Department's expectations and the Resident Engineer must know in advance how the Contractor plans to address the NPDES Construction General Permit requirements. Items that should be discussed at the pre-construction conference include:

- The Department is responsible for implementing the SWPPP within the right of way. The Standard Specifications, Supplemental Specifications, and applicable Special Provisions tie the NPDES Construction General Permit to the Contract.
- The Contractor's responsibilities on the right of way are to perform temporary and permanent erosion control work in accordance with the Plans and Specifications and as directed by the Resident Engineer. The Contractor is paid for this work in accordance with each item's applicable Specification. The Contractor's prompt installation and maintenance of erosion and sedimentation control items is a significant part of compliance with the SWPPP.
- The Contractor must strictly adhere to the maximum 20 acres of disturbed soil on the project right-of-way unless specifically granted clearance to exceed the limit by the Engineer.
- The contractor may not begin work in a stream or other waterbody until an STAA is received from ADEQ.
- The Engineer will reiterate the importance of not clearing vegetated buffer zones adjacent to waterbodies without obtaining prior clearance.
- The Department will conduct inspections of the erosion and sediment control devices at least every 7 days. A copy of the inspection report will be given to the Contractor the day of the inspection. The Contractor is required to perform the remedial work within three (3) business days of being instructed to do so (i.e., from the date of the inspection).
- The Contractor is to begin temporary stabilization measures as soon as practicable but in no case more than fourteen (14) days on areas of the project where construction activities have temporarily ceased. This work, often involving

temporary seeding, will be paid for in accordance with the contract if the area is abandoned due to no fault of the Contractor. If, however, the Contractor abandons an area for their own convenience or due to their negligence (clears more area than they can work, etc.) payment will not be made for temporary stabilization items.

- The Contractor is to immediately initiate permanent stabilization measures (seeding, mulch cover, ditch paving, etc.) in areas where construction activity has permanently ceased.
- A meeting will be held to discuss the items that need to be completed if work on the project is to be halted for the winter or for any other reason. This meeting will be held early enough to allow time to complete the needed work. All seeding should be accomplished, inasmuch as possible to allow establishment of vegetative growth prior to cold weather. A plan to maintain the project while work is halted should be established at that time.
- The Contractor shall designate stabilized construction exit locations on the project, areas to discharge concrete wastes, waste container locations, and temporary sanitary facility locations. The Contractor should designate the location of at least one of each of these items at the preconstruction meeting for inclusion in the SWPPP. Other locations may be designated during construction but no location is to be utilized prior to inclusion in the SWPPP. Since the number and location of these items are choices of the Contractor, these items are not paid for separately but are considered to be included in the other items of the contract.
- The Contractor and the property owner are responsible for obtaining any and all NPDES permits required for borrow pits, waste areas, plant sites, storage areas, quarries, and any other areas utilized in conjunction with construction projects outside the right of way. This includes developing and adhering to a SWPPP, filing a NOI, inspections, filing a NOT, etc. The Contractor is not paid directly for compliance with these Federal and State mandated requirements on off-site areas. Payment for temporary and permanent erosion control measures in these areas is considered subsidiary to the other items of the contract. Some municipalities require additional permits to clear and excavate within their city limits. The Contractor is responsible for obtaining necessary permits and complying with these local requirements.
- The Resident Engineer generally does not monitor the Contractor's compliance with the NPDES requirements in areas that are not on the right of way. While the primary enforcement of requirements for off-site locations rests with the applicable regulatory agency, the Department retains the right and authority to inspect and enforce Contractor compliance should violations come to the attention of the Department.

Direct the Contractor to Post the ADEQ Notice of Coverage: Ensure that the Contractor posts and maintains the completed Notice of Coverage (NOC) in a place available at all times for public viewing. The NOC must be posted prior to any soil disturbance and remain until the Notice of Termination (NOT) is filed and/or the project is completed and stabilized. Large and small sites have different NOC procedures and

these are shown below:

- **Large Sites -** Notice of Coverage for Large Construction Sites. ADEQ will send the NOC to the State Construction Engineer. The State Construction Engineer will forward the original NOC to the District Engineer with a copy to the Resident Engineer. The District Construction Engineer must review the NOC to ensure that the information ADEQ has supplied is correct and sign it. Until the NOC for a large site has been received, the applicable NOI form must be posted.

- **Small Sites -** Notice of Coverage for Automatic Coverage Sites. If less than five (5) acres will be disturbed on the project, the Resident Engineer will obtain a copy of the small site NOC from the Construction LAN or ADEQ website, complete, sign and have it posted by the Contractor.

Monitor and Enforce SWPPP Compliance: Field personnel must closely monitor and instruct the Contractor with regard to SWPPP compliance on the right of way. The Standard Specifications, Supplemental Specifications, Special Provisions, and/or plans provide much of the guidance to make the Contractor's actions coincide with the NPDES CGP requirements. The devices and procedures required to do this are part of the contract, and the Contractor is to be paid to install and maintain them. Instructions to the contractor will be documented in the inspection reports and the field diary. There are other specific requirements in various parts of the contract and plans that also must be followed. Field personnel must balance the selection of sediment and erosion control devices with the contract cost of the devices to provide a cost effective solution to containing sediment within the project.

Perform Required Stormwater Inspections: One of the principal methods the Resident Engineer uses for documentation of NPDES efforts is the "Storm Water Pollution Prevention Plan Inspection Report" (inspection report). A copy of the inspection report must be provided to the Contractor the day of the inspection to document the instructions. Since the contractor has a short time to correct deficiencies, providing their representative with a copy as quickly as possible is paramount; if this means printing a copy and manually delivering it, this should be done. The report should be uploaded to the Environmental drawer in DocExpress for the project and shared with the contractor to make them aware of the report. An example of this report along with detailed instructions for completion is found in Appendix F of this Manual.

Ensure Erosion and Sediment Control Devices are Maintained: For the SWPPP to be effective, the erosion and sediment control devices must be maintained to fulfill their intended purpose. Maintenance can be divided into two general areas:

- The repair or replacement of erosion and sediment control devices after they have been damaged, destroyed, or deteriorated beyond use.
- The removal and disposal of sediment collected by erosion and sediment control devices. Failure to do this can lead to the unnecessary failure of the devices and unnecessary cost to the Department. Guidelines for removing sediment are

included in the Standard Specifications, Supplemental Specifications, Special Provisions, and this manual. If the pay item, "Sediment Removal and Disposal", is not included in the contract, it will be added by change order.

Regardless of whether the erosion and sediment control devices are permanent or temporary, or if it is winter or the height of the construction season, deficiencies should be corrected in a timely manner in order to have them ready for the next rain event.

Maintenance is not limited to temporary devices. Until the NOT is filed, inspections and maintenance should include all completed permanent devices and structures. If they need sediment removal or other maintenance actions this should be documented and completed.

Some devices, like sediment basins or rock ditch checks could remain in place at the completion of the project and become permanent measures. This decision should be made at the beginning of the project and only if their continuing presence won't create a maintenance problem after the project is completed.

Monitor Contractor's Off-Site Areas: While the primary enforcement of requirements for the Contractor's project related facilities off the right of way rests with the applicable regulatory agency, the Department retains the right and authority to inspect and enforce Contract compliance should violations come to the attention of the Department. In particular, poor erosion and sediment control or control of construction materials on Contractor sites adjacent to the Department's construction area can reflect unfavorably on the Department. It may also draw regulatory scrutiny to both the Contractor's site and the Department's project.

Review and Update Project Plans Continuously: Many of the project plan requirements shown in Section 2.2 will be in the plans produced by the designer but some items must be added or updated by field personnel. The plans and SWPPP must be updated within 7 business days of on-site changes. Confirm the presence and accuracy of the following information on the project plans:

- Actual direction of stormwater flow;
- Areas of soil disturbance and areas not to be disturbed;
- Actual location of major structural and nonstructural controls;
- Construction exits;
- Location where stabilization practices are expected to occur;
- Locations of areas used for concrete disposal and concrete truck wash-out;
- Location of all waters of the state (including wetlands) with associated buffer zone boundaries.
- Locations where stormwater is discharged to a surface water and/or municipal separate storm sewer system, if applicable;
- Locations where stormwater is discharged off-site (continuously update).
- Areas where final stabilization has been accomplished and no further

construction will take place.
- Locations of storm drain inlets on the site or its immediate vicinity.

Document SWPPP and Plan Changes: Modify the SWPPP as necessary to produce effective results and fully document the modifications, including the reasons for the modifications in the SWPPP and as-built plans. Document all Department and Contractor action regarding sedimentation and erosion control.

Ensure BMP Installation Conforms to Requirements: The Contractor must install and maintain all erosion and sediment control BMPs in accordance with Standard Drawing (contained in the plans), the SWPPP, the Standard Specifications, the Contract, the Plans, and manufacturer's directions.

Monitor and Enforce Disturbed Acreage Requirement: Ensure the Contractor limits the exposed acreage to 20 acres or less in accordance with the Standard Specifications unless specific authority to exceed this limit is granted by the Engineer.

Ensure That Sediment Is Not Being Tracked Off-Site: Tracking of dirt onto the roadway may cause citizen complaints to regulators leading to regulatory inspections of the project. Limit the number of places that vehicles are entering and leaving the site and direct the Contractor to install and maintain sufficient Stabilized Construction Exits to control off-site tracking. Locations for Stabilized Construction Exits will be annotated on the as-built drawings prior to utilizing them.

Monitor and Enforce the Disposal of Concrete Waste and Wash Water: Ensure that surplus concrete and concrete drum wash water is disposed of properly, i.e., in an excavation or footing, or other contained area where the wash water cannot leave the site. Never allow wash water to be discharged near or in a waterbody or ditch. The Contractor must designate the location of these areas before using them and the locations will be annotated on the as-built plans by AHTD field personnel. The Standard Specifications, Supplemental Specifications, and Special Provisions may provide additional information.

Monitor and Enforce Good Housekeeping on the Project: Ensure that the Contractor maintains "good housekeeping," i.e., proper storage of materials, proper disposal of trash and construction waste, and clean up and report spills appropriately. The Contractor must designate areas for temporary sanitary facilities and for waste containers to be included in the SWPPP prior to utilizing them. The Standard Specifications, Supplemental Specifications, and Special Provisions may provide additional information.

Prepare and Submit the NOT for Large Projects: Prepare the NOT for Large Construction Site projects when the area is 100% stabilized with 80% density and all other Permit requirements for this step have been completed. Ensure all temporary BMPs have been removed and properly disposed. The District Engineer signs this form for submission to ADEQ. Representative photos of the entire site must accompany the

NOT.

3.1.d DEALING WITH REGULATORY VISITS OR INSPECTIONS

The Resident Engineer and field personnel should be aware that inspectors from ADEQ, EPA, the U.S. Fish and Wildlife Service, or the U.S. Army Corp of Engineers may periodically visit the project and review both the documentation and the erosion and sediment control measures on the project. Many if not most of these visits are in response to a complaint by a citizen or other regulatory agency. Remember the inspector is doing their job and there is no reason to be uneasy or nervous. Just be pleasant, cooperative, and honest and everything will go fine.

The most common visit is by inspectors from ADEQ and field personnel should expect these visits to occur without notice. There are several things field personnel should remember during the visit:

- Only properly trained field personnel familiar with the project, the Contractor operations, the records for the project, and the Department policies regarding NPDES compliance, should speak for the Department to inspectors.
- The Resident Engineer should request that the Contractor contact them immediately if Contractor personnel observe a regulator performing an inspection without a Department representative present.
- Field personnel should inform the Resident Engineer as soon as possible and the RE should try to be present during the inspection, if possible. The Resident Engineer should let the District Construction Engineer and the Staff Construction Engineer know of any problems/citations anticipated as a result of an inspection.
- Field personnel should always accompany the inspectors on their inspection and should answer questions they are asked with clear, direct answers; don't voluntarily provide unnecessary or immaterial information.
- Field personnel should know what the SWPPP consists of and its location on the project.
- If inspectors instruct that certain additional actions/controls be implemented, field personnel should document this and coordinate with the RE or District regarding the suggestions. ADEQ personnel will not normally direct specific actions regarding erosion and sediment control on a project but may offer general advice if requested.
- If inspectors request copies of any of the SWPPP paperwork, arrangements must be made to provide the copies.
- Allow and assist inspectors if they request to view electronic documents, such as *SiteManager* records. This should be done on the project using the Department's laptop computers.
- Fully document the inspector's visit in the form of a diary note and memo to the District Engineer, listing any concerns brought out in the visit and action taken related to the concerns. Record any comments or concerns by the inspector.
- The Resident Engineer or project supervisors should take photos to document areas of concern noted by the inspector no later than the next day.

- All complaints involving water quality, etc., should be corrected as quickly as possible and documented in the SWPPP.
- The Contractor should be informed of these inspections and, if possible, a Contractor representative should be present for the inspection.

3.2 PROJECTS BY DEPARTMENT FORCES

On projects to be undertaken by Department forces, the requirements of the National Pollutant Discharge Elimination System (NPDES) regulations apply just as they do on projects let to contract. Appropriate erosion and sediment control devices are to be installed on all projects undertaken by Department forces, regardless of the area of disturbed land.

The design, implementation, review, and maintenance of the Storm Water Pollution Prevention Plan (SWPPP) are all the responsibility of Department personnel on these projects. When required, a designer from the District or Maintenance Division will develop a SWPPP for a project in the manner described in Section 2.0 of this Manual.

The Responsible Official for NOIs on these projects is normally the District Engineer or the State Maintenance Engineer. If it is a Large Project as defined in Section 2.0, this individual will sign the NOI and submit it to the Arkansas Department of Environmental Quality (ADEQ). The document must be accompanied by a copy of the SWPPP-SP and the plans. ADEQ has recently developed a system called *ePortal* which allows permittees to submit NOIs and SWPPP electronically. Before attempting to use this system for the first time, the District should contact the Maintenance Division for information on how to access and use *ePortal*. Until December 2017, NOIs and associated documents can still be submitted in hard-copy if necessary. Once the project is completed and stabilized, the District Engineer will submit the Notice of Termination for Large Projects.

The Responsible Official will designate a Cognizant Official who will have day-to-day management responsibility for the projects and who will normally perform stormwater inspections and sign the inspection reports. The Cognizant Official is usually the District Maintenance Engineer or Assistant Maintenance Superintendent for the District where the work is to be undertaken.

For Small Projects (Automatic Coverage Sites) of one to five acres, the submission of an NOI is not required. After developing a SWPPP, the Cognizant Official obtains a Notice of Coverage form from the Maintenance LAN or the ADEQ website, completes, signs and posts it on the project. As soon as these actions are complete, work can begin immediately.

The Cognizant Official will direct Department forces (field personnel) in the implementation of the SWPPP. During development and design of the SWPPP, the designer should assess the site and work with field personnel to review the items to be included in the SWPPP. Field personnel should provide input and request changes at any time to ensure that the SWPPP is as effective as possible. The input and changes may include additional quantities, or changes to locations or types of Best Management Practices (BMPs). After the project begins, field personnel are responsible for making the SWPPP a working plan.

Standard Specifications, Supplemental Specifications, and Special Provisions provide guidance that can be utilized to ensure compliance with the NPDES Construction General Permit (CGP) requirements. The Department is responsible for developing and implementing a SWPPP to cover all disturbed areas on projects that contain one acre or more of total disturbed area whether on or off the right of way.

The SWPPP is composed of several different items and the next section contains a complete list and explanation of the SWPPP requirements.

3.2.a SWPPP COMPONENTS ON THE PROJECT

The SWPPP, along with all updates, must be available on the project during normal business hours (defined by the CGP as 8:00 A.M. to 5:00 P.M.) for review. A copy of the SWPPP will be placed in the project field office or maintained in the project supervisor's vehicle if a project field office is not used.

Copies of SWPPP components such as the SWPPP-SP, inspection reports, this manual and a copy of CGP should be placed in a three ring binder. Items that cannot be placed in the binder will be maintained with the binder or on a laptop computer. A sheet should be placed at the front of the binder indicating that details for quantities and locations of erosion and sediment control items, rainfall records, and the resident engineer's diary are available from the Cognizant Official during normal business hours.

Copies of the following should be included in or maintained with the binder:

- **Completed SWPPP-SP and other SPs** for erosion and sediment control items.

- **Inspector** information is contained in the SWPPP Special Provision. Each person who will be conducting inspections of the stormwater controls must sign the SWPPP Special Provision before performing their first inspection

- **Hazardous Materials Handling** information is found in the Standard Specifications, Supplemental Specifications, and Special Provisions.

- **Approved State or Local Plans** information for storm water management is incorporated into the SWPPP Special Provision.

- **Total Maximum Daily Load (TMDL)** information will be found in the SWPPP Special Provision

- **Completed NOI**. This must be posted on the site until receipt of the Notice of Coverage from ADEQ. This is not required for Automatic Coverage sites (under five acres).

- **Short Term Activity Authorizations (STAAs)** issued by ADEQ if in-stream work is required.

- **Any additional Special Provisions** from the Contract relating to the SWPPP. Typically Water Pollution Control, related to water quality issues or endangered species protection.

- **AHTD Erosion and Sediment Control Design and Construction Manual**

- **NPDES Construction General Permit.** A copy is located in the Appendix C of this Manual.

- **Notice of Coverage** The notice is to be posted on the site and a copy should also be maintained in the binder.

- **Plans.** A complete set of plans for the project, updated with changes as the job progresses.

- **Quantity Listing for All Erosion and Sediment Control Devices** from the plans.

- **Standard Specifications.** A copy of the latest version of the Standard Specifications for Highway Construction is to be maintained with the other SWPPP items.

- **Any SWPPP related correspondence.**

- **Updated As-Built Erosion & Sediment Control Plans.** A set of plan sheets showing all erosion and sediment control measures currently in place. These must be updated within seven business days of any changes. Revisions to the plans should include the date of the revisions and initialed by the field personnel making the revision.

- **SWPPP Inspection Reports.** Once the Cognizant Official completes and signs the report, a copy should be placed in the SWPPP Binder. This official is responsible for updating the SWPPP, as needed based on the inspection.

- **Project Diary.** Written diaries of daily activities on the project are to be completed by field personnel in charge of the site. Weather conditions, including general conditions, rainfall, and other information will be recorded in the diary. The diary should include when, where, and how the SWPPP is implemented, maintained, and altered to fit conditions. A copy of the diary must be included with other SWPPP items on a weekly basis.

3.2.b. GENERAL EROSION AND SEDIMENT CONTROL GOALS

A designer cannot know every detail of a project in advance and develop a SWPPP for every situation that may develop on a project. Even the best SWPPP, however, will not produce the desired result of minimizing and controlling sediment unless the devices are installed and maintained in a timely manner. Field personnel should understand the importance of recognizing when devices or methods are not working even though they may be installed according to the SWPPP. In these cases, different devices or methods should be utilized. The following guidelines and the overall goals should be considered when implementing a SWPPP:

- Limiting the area disturbed is better than trying to control erosion.
- Preventing erosion is better than trying to control sediment. Retaining vegetation or reestablishing it (seeding and mulching, sodding, or erosion control matting) will greatly reduce erosion.
- Permanent erosion controls are generally better than temporary controls.
- Routing clean water through or around a project is better than trying to remove sediment from it.
- Slow moving water will erode less soil than fast moving water.
- Slow moving water will drop more sediment than fast moving water. If erosion is not prevented, the next best practice is to detain the silt laden water for as long as possible to allow the silt to settle out.
- One of the most effective ways of reducing erosion and sediment problems on a project is to build and permanently stabilize the project as quickly as possible.

3.2.c. MAKING THE SWPPP WORK, BEGINNING TO END

From the beginning of work on the site, field personnel have the responsibility for making the SWPPP a working plan. This begins with the initial SWPPP and plan review and continues until the work is complete and the NOT has been submitted. The following paragraphs show the primary tasks involved in this process.

Read and Understand the SWPPP: The successful implementation of the SWPPP requires that the components and goals are understood. The erosion and sediment controls must be installed and used in accordance with good engineering practices. Field personnel should make themselves aware of the various controls and the proper use of each before the job begins.

Post the ADEQ Notice of Coverage: Post the completed Notice of Coverage (NOC) in a place available at all times for public viewing. The NOC must be posted prior to beginning work and remain available until the Notice of Termination (NOT) is filed and/or the project is completed and stabilized. Large and small sites have different NOC procedures and these are shown below:

- **Large Sites -** Notice of Coverage for Large Construction Sites. ADEQ will send a NOC to the District Engineer if the project site is five acres or more. The District Engineer will forward the NOC to the District Maintenance Engineer who should review it for accuracy and sign it. Until the NOC for a large site has been received, the NOI must be posted.

- **Small Sites -** Notice of Coverage for Automatic Coverage Sites. If less than five (5) acres will be disturbed on the project, the District Maintenance Engineer will obtain a copy of the small site NOC from the Maintenance LAN or ADEQ website, complete, sign and have it posted on the project.

Perform Required Stormwater Inspections: One of the principal methods used to document NPDES efforts is the "Storm Water Pollution Prevention Plan Inspection Report" (inspection report). An example of this report along with detailed instructions for its completion is found in Appendix F of this Manual.

Maintain Erosion and Sediment Control Devices: For the SWPPP to be effective, the erosion and sediment control devices must be maintained to fulfill their intended purpose. Maintenance can be divided into two general areas:

- The repair or replacement of erosion and sediment control devices after they have been damaged, destroyed, or deteriorated beyond use.
- The removal and disposal of sediment collected by erosion and sediment control devices. Failure to do this can lead to the unnecessary failure of the devices and unnecessary cost to the Department. Guidelines for removing sediment are included in the Standard Specifications, Supplemental Specifications, Special Provisions, and/or plans.

Regardless of whether the erosion and sediment control devices are permanent or temporary, or if it is winter or the height of the construction season, deficiencies should be corrected in a timely manner in order to have them ready for the next rain event.

Maintenance is not limited to temporary devices. Until the NOT is filed, inspections and maintenance should include all completed permanent devices and structures to determine if they have been damaged, if they are performing as intended, or need other maintenance, such as sediment removal.

Some devices, like sediment basins or rock ditch checks could remain in place at the completion of the project and become a permanent measure. Utilization of these devices permanently should be determined at the beginning of the project and allowed only if it does not defeat the purpose of the SWPPP and only if it will not create a future maintenance problem.

Review and Update Project Plans Continuously: Many of the project plan requirements shown in Section 2.2 will be in the plans produced by the designer but some items must be added or updated by field personnel. The plans and SWPPP must be updated within 7 business days of on-site changes. Confirm the presence and accuracy of the following information on the project plans:

- Actual direction of stormwater flow;
- Areas of soil disturbance and areas not to be disturbed;
- Actual location of major structural and nonstructural controls;
- Construction exits;
- Location where stabilization practices are expected to occur;
- Locations of areas used for concrete disposal and concrete truck wash-out;
- Location of all waters of the state (including wetlands) with associated buffer zone boundaries.
- Locations where stormwater is discharged to a surface water and/or municipal separate storm sewer system, if applicable;
- Locations where stormwater is discharged off-site (continuously update).
- Areas where final stabilization has been accomplished and no further construction will take place.
- Locations of storm drain inlets on the site or its immediate vicinity.

Document SWPPP and Plan Changes: Modify the SWPPP as necessary to produce effective results and fully document the modifications on the SWPPP inspection report, the SWPPP-SP, and on the as-built plans. Document all actions regarding sedimentation and erosion control.

Ensure BMP Installation Conforms to Requirements: All BMPs must be installed and maintained in accordance with Standard Drawing, the SWPPP, the Standard Specifications, the manufacturer's instructions, and the Plans.

Control Stockpiled Material: Ensure material such as removed sediment or other potential pollutants are not stockpiled in a location where they could be washed into a waterbody or off site. Consider surrounding them with silt fence or other protective measures to prevent this possibility.

Ensure That Sediment Is Not Being Tracked Off-Site: Tracking of dirt onto the roadway increases citizen complaints to regulators which can lead to ADEQ or EPA inspections of the project. Limit the number of places that vehicles are entering and leaving the site and install and maintain sufficient Stabilized Construction Exits to control off-site tracking. Locations for Stabilized Construction Exits will be annotated on the as-built drawings prior to using them.

Monitor the Disposal of Concrete Waste and Wash Water: Ensure that concrete drum wash water and surplus concrete is disposed of properly, i.e., in an excavation or footing, or other contained area where pollutants cannot leave the site. Never dispose

of these materials near or in a waterbody or ditch. An area on the project must be designated for this disposal and annotated on the as-built plans by AHTD field personnel

Good Housekeeping on the Project: "Good housekeeping" such as proper storage of materials, proper disposal of trash and construction waste, and clean up and reporting of spills is required by the CGP. If required, an area for temporary sanitary facilities and for waste containers should be designated on the plans.

Prepare and Submit the NOT for Large Projects: Prepare the NOT for Large Construction Site projects when the area is 100% stabilized with 80% density, removal and disposal of all temporary BMPs, and all other Permit requirements for this step have been completed. The District Engineer signs this form for submission to ADEQ. Representative photos of the entire site must accompany the NOT.

3.2.e INSPECTIONS OF PROJECTS DONE BY DEPARTMENT FORCES

Maintenance of erosion and sediment control devices is considered important enough to warrant a formal inspection program. The inspection program is a requirement of the NPDES Construction General Permit and is Department policy. To comply with the NPDES Construction General Permit, a "Storm Water Pollution Prevention Plan Inspection Report" form has been developed for use by field personnel. The form and instructions for its completion are shown in Appendix F. The form was developed primarily for use by construction personnel on contracted projects and may not be the best choice for small maintenance projects. At the option of the District, the ADEQ Inspection Form shown in Appendix F may be used for the inspections of maintenance projects. It is a simple, one page document and the entries should be self-explanatory. All completed inspection reports must be retained as a part of the SWPPP and maintained for at least three years from the date the site is stabilized.

3.2.f DEALING WITH REGULATORY VISITS OR INSPECTIONS

Field personnel should be aware that inspectors from ADEQ, EPA, or the U.S. Army Corp of Engineers and personnel from within the Department might periodically visit the project and review both the documentation and the project itself regarding erosion and sedimentation control. If you receive such a visit it will likely be because of a complaint by a citizen or other regulatory agency. Just remember the inspector is just doing their job. Be helpful, polite, and honest during the inspection and you have nothing to fear.

The most common visits are by inspectors from ADEQ. These visits are normally unannounced and there are several things on-site personnel should remember when these inspectors visit:

- All supervisory field personnel on a project should have received Construction

Stormwater Erosion and Sediment Control training and have a working knowledge of NPDES Construction General Permit requirements.

- Field personnel should inform the District Maintenance Engineer as soon as possible. The District Maintenance Engineer should be present during the inspection, if possible. The District Maintenance Engineer should immediately let the District Engineer know of any problems/citations anticipated as a result of the inspection.
- Only field personnel familiar with the project, the Department operations, the Department project records, and the Department policies regarding NPDES compliance, should interact with the inspectors.
- Field personnel should always accompany the inspectors on their inspection and provide clear, direct answers to any questions; don't provide unnecessary or immaterial information.
- Field personnel should understand the SWPPP components and the location of it on the project.
- If the inspector asks that certain additional actions/controls be implemented, field personnel should be cooperative but should coordinate any on-site changes with the District before actually implementing changes.
- Allow and assist inspectors if they request to view documents. If a particular document is not available on-site, arrange to obtain copies and email or mail them to the inspector as soon as possible.
- Field personnel should fully document the inspector's visit in the form of a diary note and memo to the District listing any concerns brought out in the visit and action taken related to the concerns. Record the inspector's comments and concerns.
- Field personnel should take photos to document areas of concern noted by the inspector no later than the next day.
- When the formal inspection report is received any deficiencies noted in the report should be corrected and a full response provided, along with photos documenting the corrections. These changes should be noted in the plans and the SWPPP.

4.0 ACTIVITIES BY OTHERS

4.1 UTILITY WORK

Utility companies performing work both within and outside the right of way are responsible for developing and implementing their own SWPPP's and obtaining their own NPDES Permits. The Department should work with the Utility to ensure that erosion and sediment are kept to a minimum and that the Utility complies with applicable permits.

If problems with utility work are encountered on highway projects, the Department's Resident Engineer or other Cognizant Official should first make every effort to have the responsible utility perform erosion control necessitated by utility adjustments whether on or off the right of way. This individual should contact the Utilities Section and the

District if a utility fails to construct or maintain the necessary BMPs. The Resident Engineer may be required to direct the utility adjustment efforts be stopped until cooperation is obtained. If the utility work is on the right of way and a utility does not cooperate, the Cognizant Official may be required to authorize and instruct the Department's Contractor or Department maintenance forces to perform necessary erosion control. This will not relieve the Utility of the permit or agreement responsibilities. When the Utility is working on the right of way other than within the limits of a highway construction project, Department personnel should monitor the erosion control efforts and contact the District if a utility fails to construct or maintain the necessary BMPs.

4.2 OTHER ENTITIES, AGENCIES, AND INDIVIDUALS

The Department often permits other entities, agencies and individuals to perform work within highway right of way. This work may be to provide improvements at intersections, improvements within the right of way associated with adjoining property development or other reasons. The other entity, agency, or individual is responsible for preparation, submittal, and execution of the SWPPP.

Department personnel should work through the District Permit Officer and District Staff to make every effort to have the responsible party perform erosion control resulting from their work within the right of way. The District Engineer may find it necessary to demand the work be stopped until the requirements of the permit are met. This is not intended to relieve the permitted party from the permit responsibilities.

The Department does not approve or inspect these operations. They are the responsibility of the other entity, agency, or individuals.

4.3 OTHER ENTITIES AND AGENCIES WITH FUNDING THROUGH THE DEPARTMENT

The Department is involved in funding of projects which are often not within Department right of way. Examples are Enhancement Projects, Safe Routes to Schools projects, and other owner inspected projects. For these projects, the responsible entity, normally the project sponsor and/or owner of the project right of way, is responsible for preparation, submittal, and execution of the SWPPP. Additionally, the owner of the site or sponsor of the project is responsible for performing all CGP required inspections.

Department personnel should work through the District Permit Officer and District Staff to ensure the responsible party perform erosion and sediment control on disturbed areas within the right of way. The District Engineer may find it necessary to demand the work be stopped until the requirements of the CGP are met.

APPENDIX A

Abbreviations and Definitions

Following are the most common abbreviations and definitions used in this manual which are associated with the NPDES Construction General Permit (Permit). A more extensive list is shown in the Permit beginning on Page C-5 of Appendix C.

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ABBREVIATIONS AND DEFINITIONS

ADEQ **Arkansas Department of Environmental Quality**
The Department is the governing authority for the National Pollutant Discharge Elimination System program in the State of Arkansas, to include the NPDES Construction General Permit.

BMP **Best Management Practice**
A measure or practice used to reduce the amount of pollutants entering the waters of the United States. These may be physical items such as ditch checks or management practices such as a formal stormwater inspection program. The use of BMP's is required by the Permit and are incorporated into the SWPPP.

EPA **U. S. Environmental Protection Agency**
The Federal agency responsible for implementation of all facets of the U.S. Clean Water Act, to include the NPDES Program. In Arkansas, this authority is delegated to ADEQ.

Large Site **Large Construction Site**
Any construction project with a land disturbance of five (5) or more acres. Large sites must have a SWPPP and file a Notice of Intent with ADEQ to obtain Permit coverage.

MS4 **Municipal Separate Storm Sewer System**
A system of conveyances, including roads with drainage systems, municipal streets, curbs, gutters, ditches, and storm drains, designed or used for collecting or conveying storm water.

NOI **Notice of Intent**
The Permit requires the Department to file a NOI if the work is expected to disturb five or more acres. The SWPPP-SP and construction plans must be submitted to ADEQ for review as part of the NOI process.

NOT **Notice of Termination**
When all soil disturbing activities are complete, the site has reached final effective stabilization and all temporary BMPs have been removed, a Notice of Termination (NOT) will be filed with the ADEQ for Large Sites. The District Engineer signs and submits this form.

NPDES **National Pollutant Discharge Elimination System**
A national program administered by the EPA which authorizes the discharge of pollutants into the Waters of the U.S. The program within Arkansas is delegated to ADEQ who issue and oversee NPDES permits, including the Construction General Stormwater Permit.

Small Site **Small Construction Site**
Sites which result in the land disturbance of equal to or greater than one acre and less than five acres. Small sites must develop and implement a SWPPP but a NOI is not required.

STAA **Short Term Activity Authorization**
Any work being conducted in Waters of the State will require a Short Term Activity Authorization (STAA) from ADEQ. This includes such activities as gravel removal, bridge replacement or maintenance, bank stabilization, debris removal, culvert replacement, flood control projects, and stream relocation. The STAA authorizes short-term exceedance of water quality standards for sediment on construction projects.

Standard Specifications
Also referred to as the "Specifications" or “specs" is the current edition of the *AHTD Standard Specifications for Highway Construction.*

SWPPP **Storm Water Pollution Prevention Plan**
The Permit requires that a SWPPP be developed for each construction site covered by the Construction General Permit before beginning work. The SWPPP must use good engineering design and BMP’s to reduce the pollution in storm water discharges. The SWPPP includes both permanent and temporary erosion control devices, procedures, restrictions, and other requirements set forth in the Permit, plans, and Standard Specifications.

TMDL **Total Maximum Daily Load**
The amount of a pollutant which a waterbody may contain without violating the State water quality standards for the pollutant. Waterbodies which have a TMDL designation will require special care in project design and construction to avoid exceeding the TMDL. This designation will be identified in the SWPPP-SP.

Waters of the State
All streams, lakes, marshes, ponds, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, which are contained within, flow through, or border upon this state or any portion of the state.

APPENDIX B

BEST MANAGEMENT PRACTICES (BMP'S)

The key to a successful Storm Water Pollution Prevention Plan is the selection of the appropriate erosion and sediment control devices and actions. Following is information on more common Best Management Practices used on Department projects.

BEST MANAGEMENT PRACTICES (BMP'S)

A. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES

Temporary erosion and sediment control measures can be defined as those devices or procedures employed during construction to control erosion and sediment until such time that permanent protection can be provided. These temporary measures can be categorized into three general areas of effort.

- Measures that provide direct protection to the soil surface (ground cover, channel liners, riprap, etc.)

- Measures which tend to control the runoff pattern to an area of acceptable flow conditions (diversion ditches and slope drains)

- Measures which serve to remove sediment from waters by filtering or slowing the velocity of the sediment laden water to such an extent that it can no longer keep the particles in suspension or moving along the channel bed (ditch checks, silt fences, sediment basins, etc.)

The following sections address the application and design criteria for the various temporary erosion control measures.

A.1 LIMITATION OF DISTURBED AREA

Section 110 of the Standard Specifications requires the Engineer to limit the amount of disturbed ground on each construction site to a maximum of 20 acres. The Engineer has the authority to increase or decrease this limit based upon the Contractor's demonstrated capability to effectively control erosion and sediment on the disturbed areas and to contain sediment within the right-of-way area.

Definition:
Disturbed soil is defined as exposed bare soil denuded of vegetative cover or lacking stabilization. It also includes stockpiles of topsoil, fill material, haul roads and areas used for staging. Stabilized soil is defined as soil that is covered by grass, seeded and mulched, mulched, covered by erosion control matting, or covered by permanent stabilization as shown on the plans or directed by the Engineer.

Application:
Limiting the amount of disturbed soils and minimizing the time of exposure should be applied to all projects as a primary objective to control erosion and sediment.

Design Criteria:
Unless modified on the plans or directed by the Engineer, the Standard Specifications limit the total surface area of disturbed soil on the right-of-way at any one time to a maximum of

20 acres. Design plans should take into consideration this limitation.

- The Engineer will have the authority to increase or decrease the limitation on surface area of disturbed land based upon the Contractor's capability to effectively control erosion and sedimentation on these areas and contain sediment within the right-of-way limits.

- This limitation will include any area on the right-of-way that the contractor requests to utilize for his operations, such as borrow sites.

- Disturbed areas that are temporarily abandoned shall be stabilized within 14 days after activity ceases.

- Cut and fill slopes shall be stabilized in increments not to exceed 25 feet, measured vertically, as construction progresses.

- Stabilization shall be initiated immediately in portions of the site where construction activities have permanently ceased.

A.2 GROUND COVER

Definition:
Ground cover is vegetation, mulch, or a combination of both used to protect the soil from the erosive force of water.

Application:
Ground covers are used on disturbed areas that are not to final grade and will be exposed for a period of time, or in areas where seasonal limitations or a delay in final construction preclude permanent seeding. In areas of steep slopes or when mulch is applied during dry or cold periods and prompt vegetative establishment is not expected, mulch control netting should be considered. Ground covers are also to be used in areas at final grade that are erodible and will be exposed for an extended period of time.

Design Criteria:

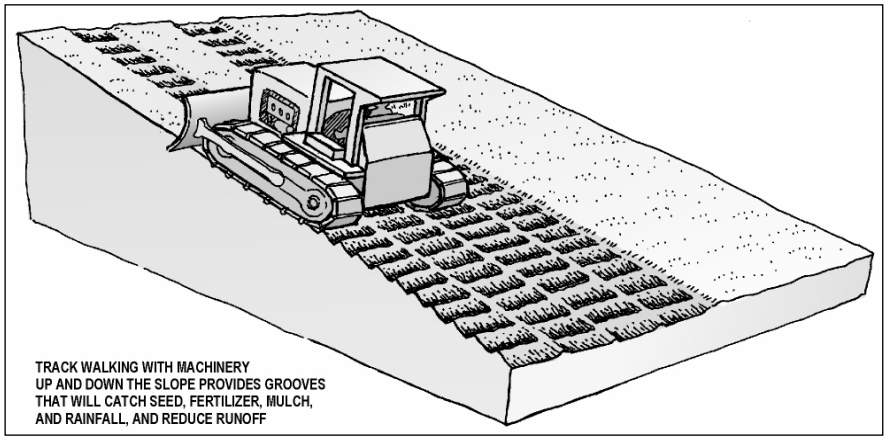
- Provide temporary seeding and mulch cover for entire area of disturbed soil.
- If an area has been brought to final grade and will not be disturbed again, proceed with permanent seeding in lieu of temporary seeding.
- Provide Erosion Control Matting for steep slopes (normally 2:1 or steeper) in selected problem areas.

A.3 TRACKING

Definition:
A method of surface roughening that is achieved by operating tracked machinery up and down the slope to leave horizontal depressions in the soil. Done properly, it is a highly effective measure.

Application:
Tracking is used on all slopes for the following purposes:

- To reduce runoff velocity and increase infiltration.
- To reduce erosion and provide for sediment trapping (the formation of erosion rills is encouraged by tracking across the slope).
- To aid in the establishment of vegetative cover with seed.



Track Walking

A.4 DUST CONTROL

Section 110 of the Standard Specifications requires dust generation to be minimized. The following information provides some of the methods that may be used by the contractor to meet this requirement. The Contractor is not paid for this directly. Compensation for dust control is included in the unit prices for the various items of work in the contract (per Subsection 110.08 of the Standard Specifications for Highway Construction).

Definition:
Methods used to prevent surface and air movement of dust from exposed soil surfaces and reduce the presence of airborne substances that may present health hazards, traffic safety problems or harm animal or plant life.

Application:
In areas where dust may drift off-site.

Design Criteria:
Several measures can be taken to control dust. Some commonly used measures include:

- Irrigation – This is the most commonly used dust control practice. The site is sprinkled with water until the surface is wet. This offers fast protection for haul roads and other heavy traffic area.
- Mulch – When properly applied, mulch offers a fast effective means of controlling dust. This is not recommended for areas with heavy traffic pathways.
- Vegetative Covers –Undisturbed vegetation can be very helpful in dust control when left as buffers between work areas and protected areas.
- Spray-on Adhesives – Many of the spray-on adhesives will withstand heavy traffic.

NOTE: Since this is not paid for directly, the method used for controlling dust is the Contractor's option. The Department's only concern is that the option utilized is effective.

A.5 EROSION CONTROL MATTING

Definition:
Erosion control matting consists of various types of materials used to allow the establishment of vegetative growth in an area of concentrated water flow.

Application:
Erosion control matting is used in ditches, swales, or channels where excessive or detrimental water flow velocities are encountered.

Design Criteria:

Choose type of erosion control matting consistent with the velocity and amount of water flow. Ensure good contact with soil to keep water from flowing under the matting.

A.6 DIVERSION BERMS AND DITCHES

Definition:
A diversion ditch, berm or berm and channel combination is used to divert water flow.

Application:
Diversion ditches are to be used to intercept surface runoff and direct it to a desirable collection or discharge point. These ditches shall be constructed to intercept and divert flow away from disturbed areas. They should also be used within a disturbed area to control flow. Diversion ditches should be one of the first features installed on the construction site.

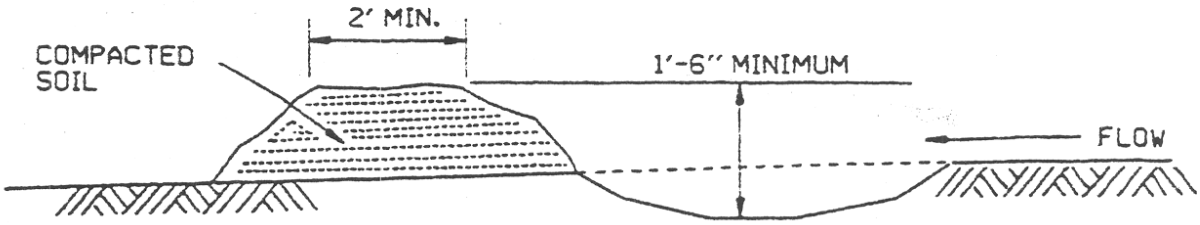
Diversion ditches can be used in the following situations:

- Above disturbed existing slopes and above cut or fill slopes to prevent runoff over the slope.
- Across unprotected slopes, as slope breaks, to reduce slope length.
- Below slopes to divert excess runoff to stabilized outlets.
- To divert sediment laden water to sediment basins.
- At or near the perimeter of the construction area to keep sediment from leaving the site.

Design Criteria:

- If included on the plans as E-8, the design shall conform to FIGURE A-1 unless a special design is required.
- If the need to divert stormwater arises during construction, diversion barriers can also be created from compacted earthen berms, sandbags, wattles, and triangular silt dikes.
- Maximum drainage area is 5 acres.
- Use special design if drainage area is greater than 5 acres.
- Provide diversion ditches at top of embankments when fill height exceeds approximately 20 feet or in areas of erodible soils.
- Diversion ditches used as perimeter controls should be located as to minimize damages by construction operation and traffic.
- For diversion ditches at the top of cut slopes or in other designated areas, consider stabilization of ditch as follows:

Channel Grade	**Type of Treatment**
0.5% -5%	**Seed and Mulch**
5% -8%	**Seed and Erosion Control Matting**
8%	**Dumped Riprap**



DIVERSION DITCH (E-8)

FIGURE A-1

A.7 SLOPE DRAINS

Definition:

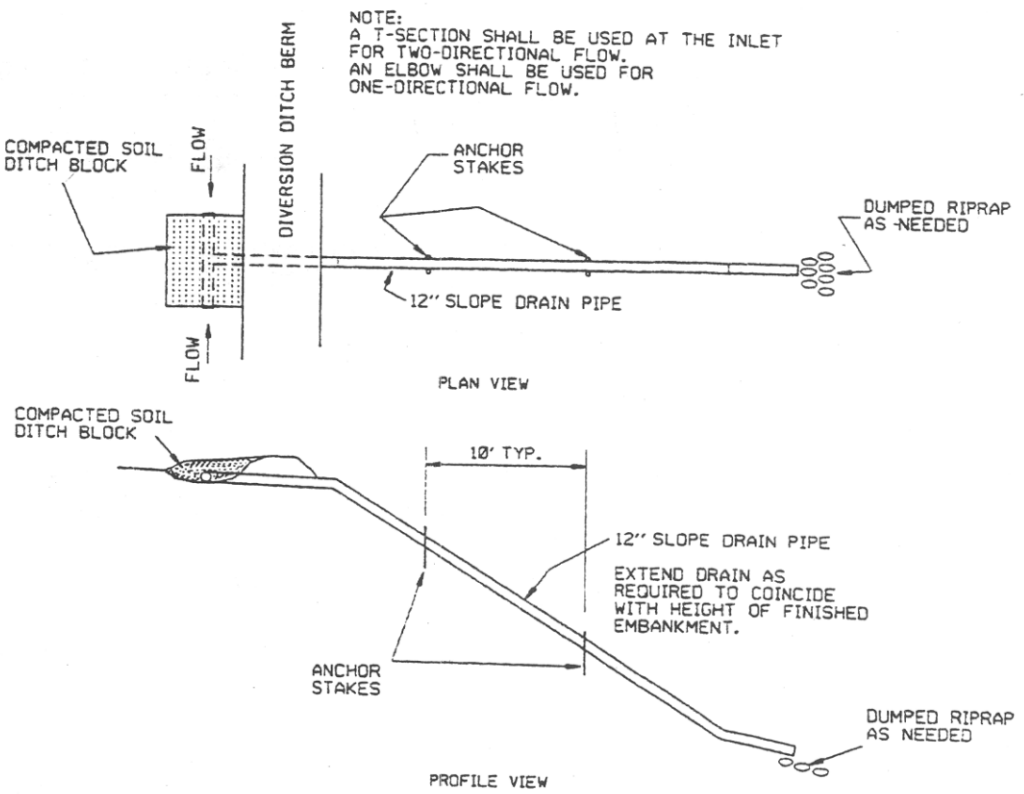
A slope drain is a device to confine and transport surface water from one elevation to another, normally down an unprotected slope.

Application:

Slope drains are normally used as outlets for diversion ditches running along the top of fill slopes. Other uses could include conveying runoff from undisturbed areas across the construction site.

Design Criteria:

- If included in the plans as E-12, the design shall conform to FIGURE A-2 unless a special design is required.
- As construction progresses and slope drains are needed, they can also be constructed of triangular silt dike or sandbags and plastic sheeting.
- Maximum drainage area is 5 acres.
- Maximum spacing for draining diversion ditches is 500 ft.



SLOPE DRAIN (E-12)

FIGURE A-2

A.8 DITCH CHECKS

Definition:
Ditch checks are temporary barriers constructed of rock, sand bags, wattles, triangular silt dikes, or filter socks placed across a natural or artificial channel.

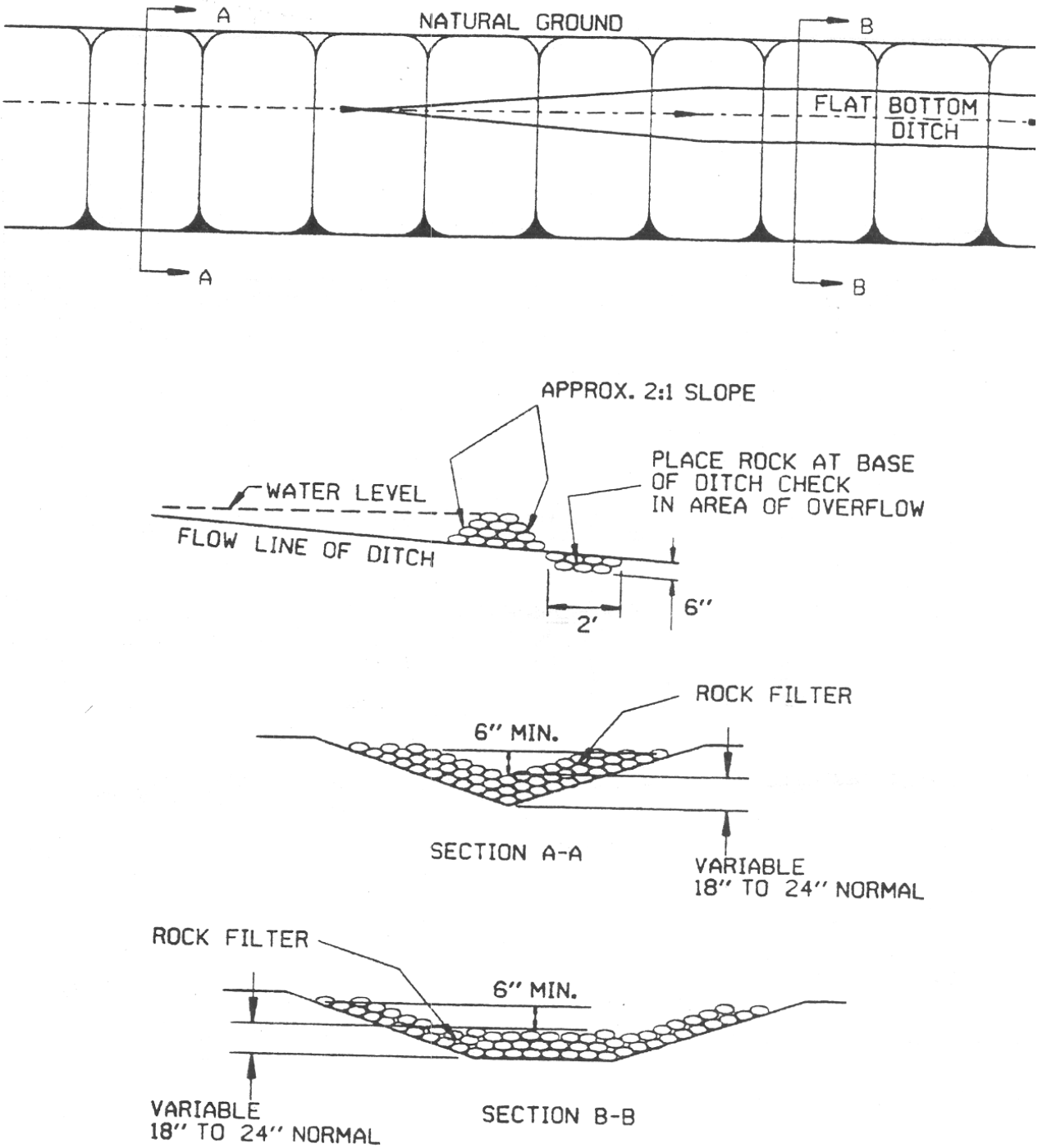
Application:
Ditch checks should be placed in drainage ditches to reduce the velocity of flow. Normally ditch checks will be required in ditches where vegetation has not yet been established. Baled straw *will not* be used as ditch checks. Rock ditch checks may be used as permanent devices in appropriate locations. Ditch checks will not be used in a live stream.

Design Criteria:

- The design shall conform to FIGURES A-3, A-4, A-5, or A-6 unless special designs are required.
- When sand bag ditch checks are called for in higher water velocity locations three rows of sand bags with the middle row rotated parallel to the flow may be necessary to prevent failure due to blowout.
- If a rock ditch check blows out due to high water velocity a substantially larger rock should be used.
- Maximum drainage area is 10 acres.
- In general, space so that the toe of the upstream ditch check is no higher than the top of the downstream ditch check. Steeper terrain requires more closely spaced ditch checks.
- Sediment basins may be excavated behind ditch checks to help trap additional sediment.

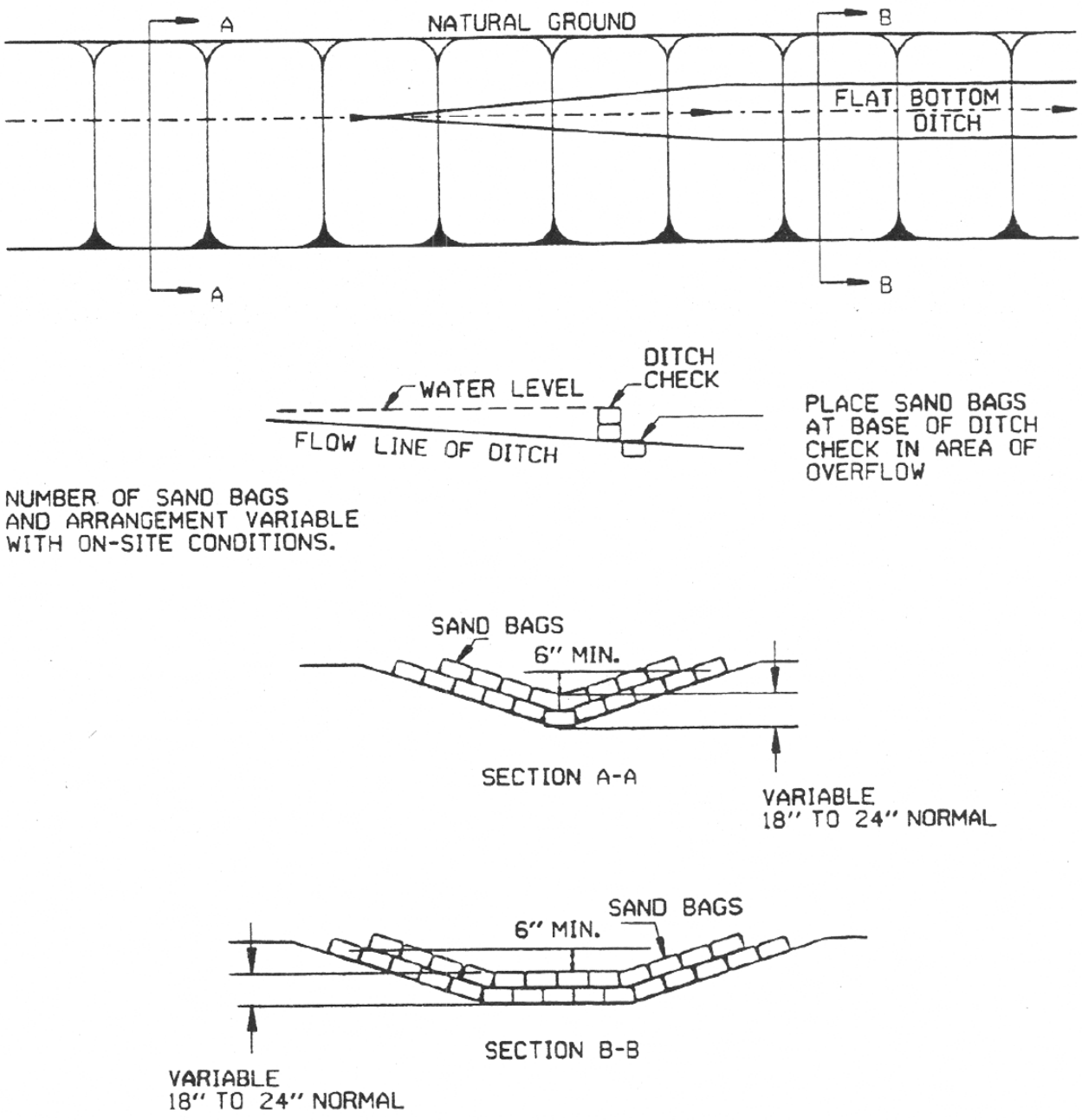
BMP Maintenance

- Inspect BMPs according to normal maintenance schedule.
- Sediment removal and disposal is required for ditch checks whenever sediment has reduced the capacity by half.



ROCK DITCH CHECK (E-6)

FIGURE A-3

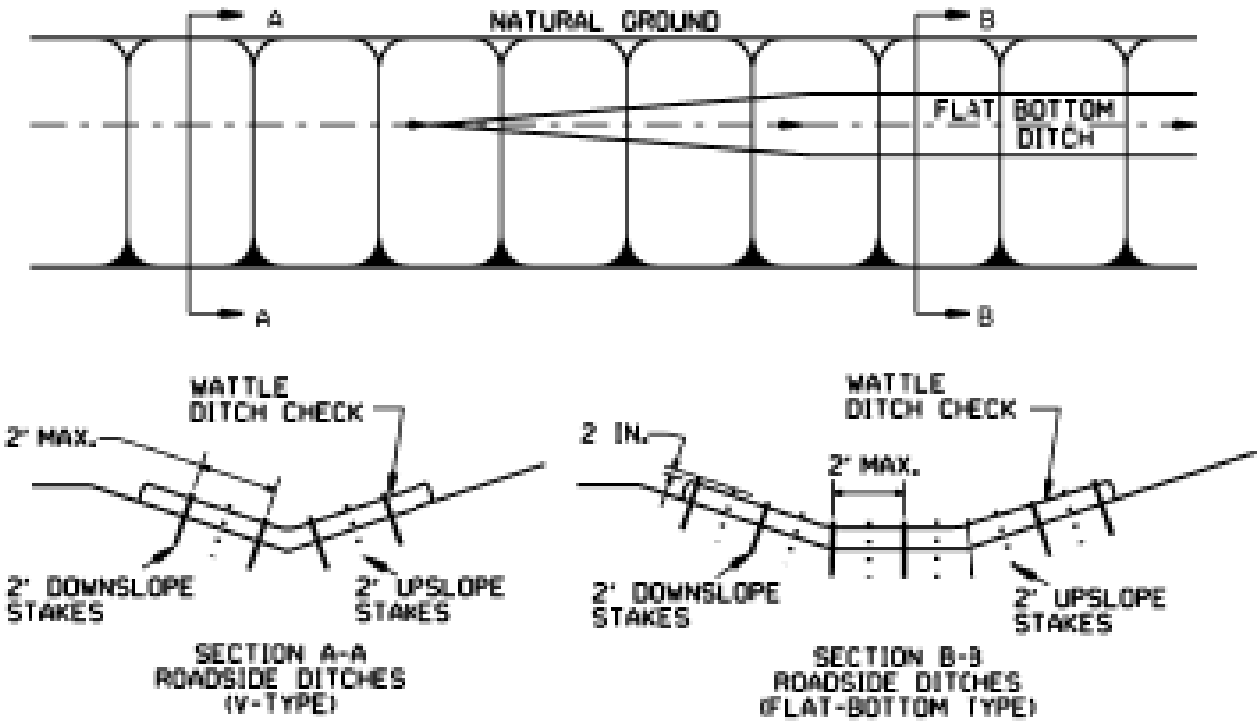


SAND BAG DITCH CHECK (E-5)

FIGURE A-4

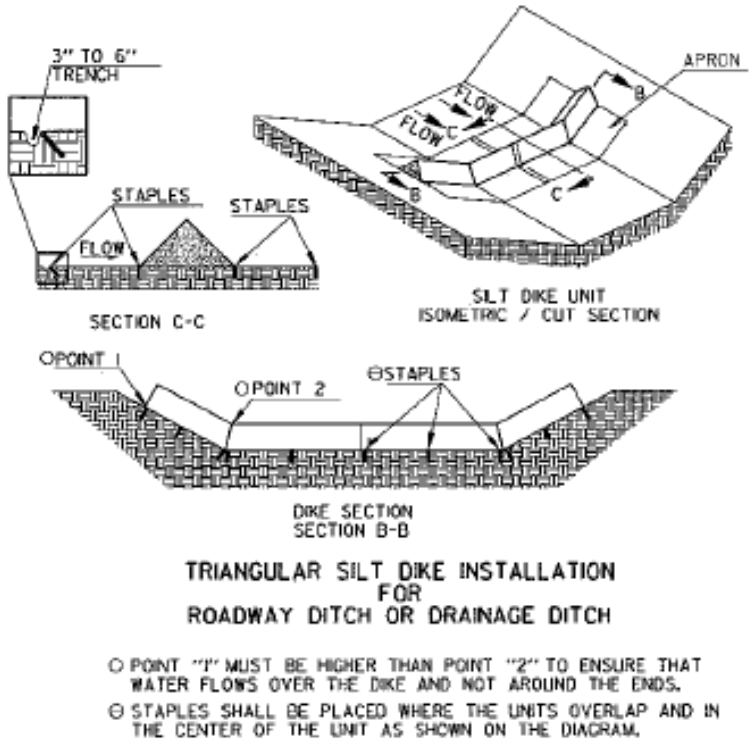
GENERAL NOTES

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)

FIGURE A-5



TRIANGULAR SILT DIKE CHECK

FIGURE A-6

A.9 SILT FENCE

Definition:

A silt fence is a vertical barrier of filter fabric used to contain sediment.

Application:

Silt fences are placed around drop inlets, at the toe of fill slopes, and along areas to be protected, such as natural streams, wetlands, and developed property. They are also used at the perimeter of a project to ensure that eroded sediment does not leave the site. Silt fence will NOT be utilized as a ditch check or in streams. Because of the pressure of water behind them, silt fences should not be used where large flows are expected. Silt fence use should normally be limited to overland and sheet flows.

Design Criteria:

- The design shall conform to FIGURE A-7 or A-8 unless a special design is required.
- The design of a Drop Inlet Silt Fence shall conform to FIGURE A-9 unless a special design is required.

- The drainage area should not exceed 0.25 acre per 100 feet of barrier length.

- The fence should follow the contour of the slope and have no dips or low areas where water will accumulate and pool. Pooled water is a major cause of failure because of the high pressure it places on the fence.

- Ends of the fence should always be angled up slope so water cannot flow around them.

- The maximum up slope grade perpendicular to the fence line should not exceed 1:1.

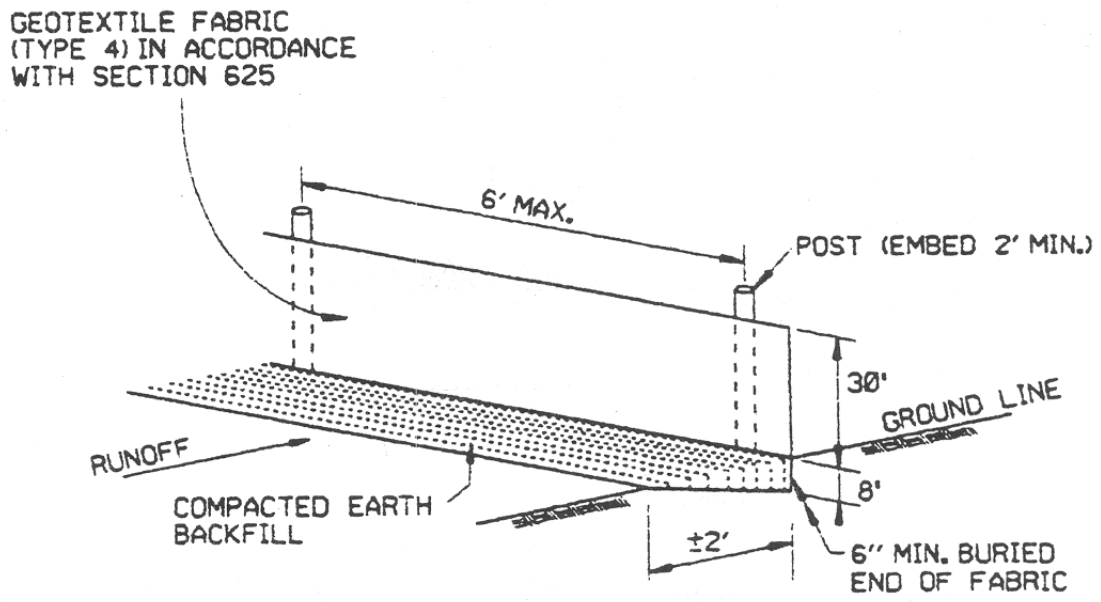
- The drainage area for drop inlet silt fence should not exceed one acre.

BMP Maintenance:

- Inspect BMPs according to normal maintenance schedule.

- Inspection should include ensuring fabric is properly trenched into the ground and fabric is not torn or sagging.

- Sediment removal and disposal is required when sediment covers 1/3 of the height of the fence.

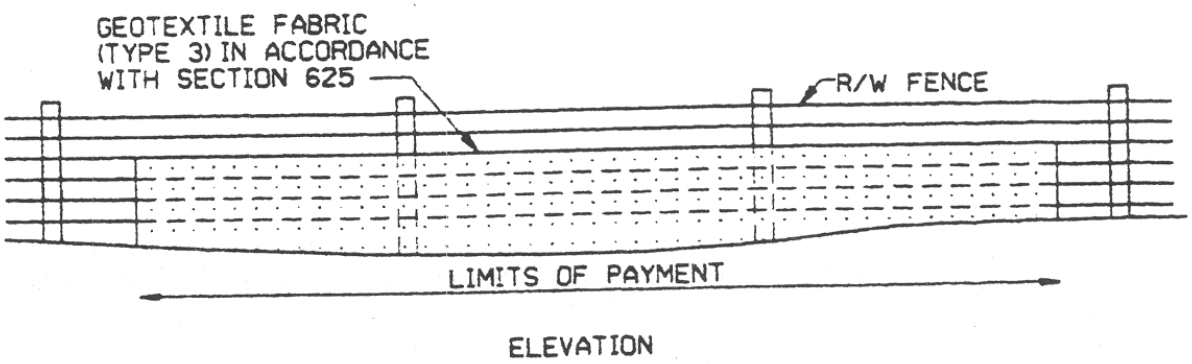


SILT FENCE (E-11)

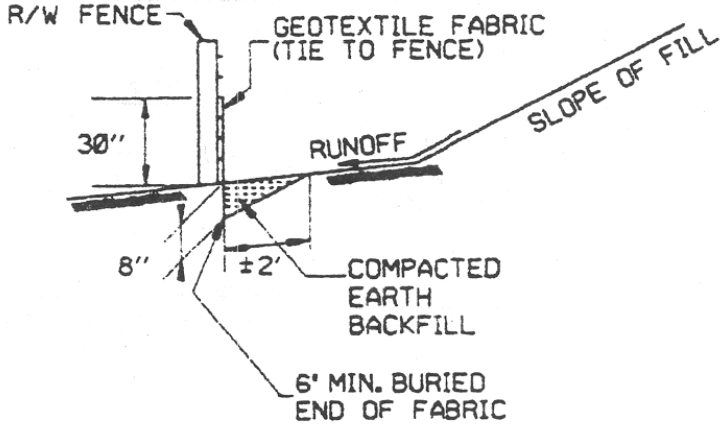
GENERAL NOTES

GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

FIGURE A-7



ELEVATION

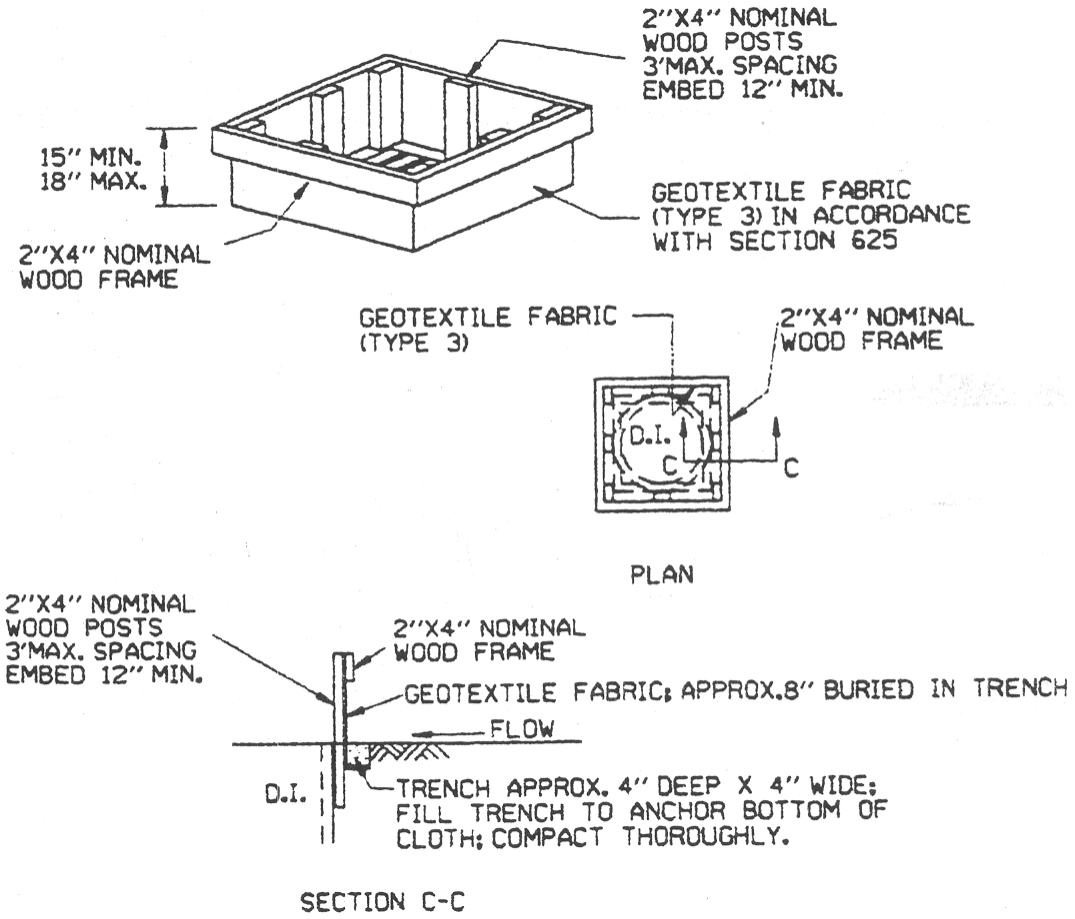


SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

FIGURE A-8



DROP INLET SILT FENCE

FIGURE A-9

A.10 SEDIMENT BASINS

Definition:

A sediment basin is a water storage area provided by excavating a pond or by placing an earthen embankment across a low area or drainage swale.

Application:

The Construction General Permit states that for common drainage locations that serve an area with 10 or more acres (including run-on from other areas) at one time, a temporary or permanent detention basin based on either the smaller of 3,600 cubic feet per acre, or a size based on the runoff volume of a 10 year, 24 hour storm, shall be provided where attainable until stabilization of the site.

Sediment basins are recommended at the following locations:

- At the outlet or located periodically along excavated roadway ditches or diversion ditches.
- At the end of drainage structures.
- At the outlet of slope drains.
- At any location deemed necessary to trap sediment laden water prior to discharge offsite or into a stream. Sediment basins should not be used in live streams.

Design Criteria:

- The design shall conform to FIGURES A-10, A-11, or A-12 unless a special design is required.
- The capacity of the sedimentation pool should provide a storage volume for 3600 cubic feet per acre of drainage area.
- The drainage area for each type of sediment basin is as follows:

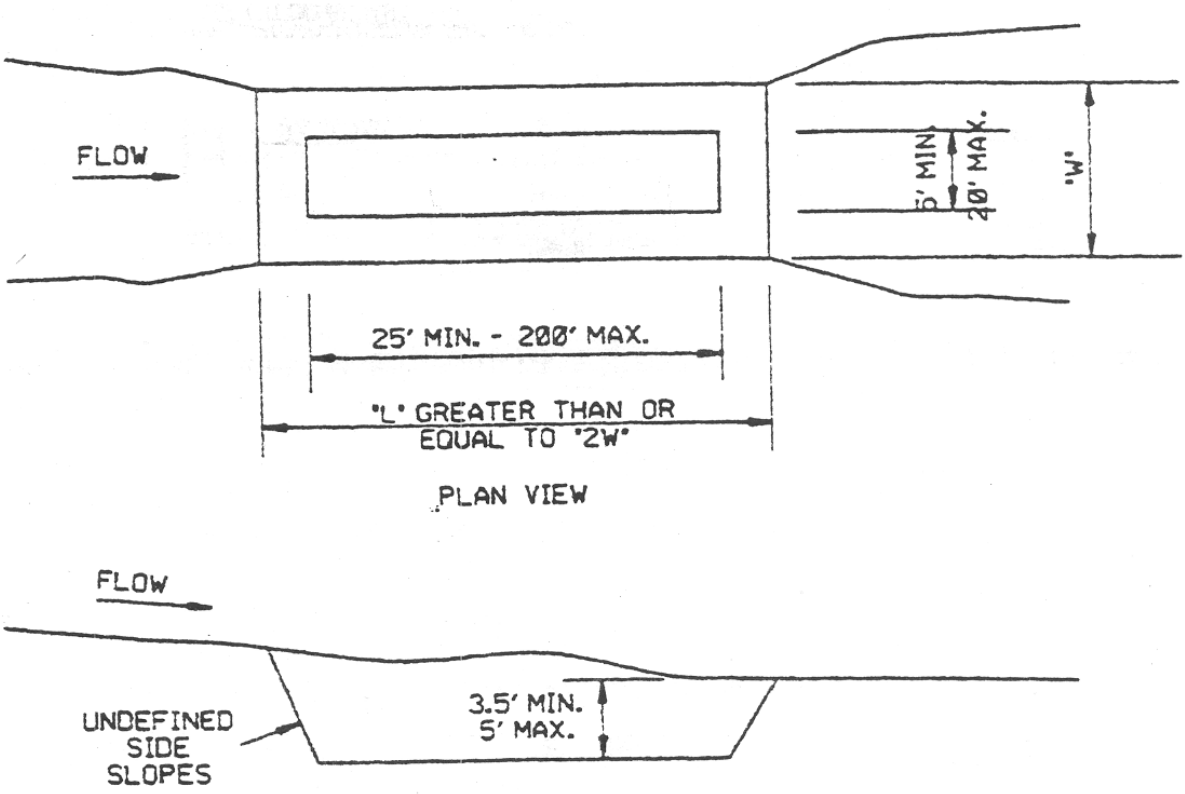
Sediment Basin Type	Drainage Area
E-14	Less than 10 acres
E-9	10 to 20 acres
E-10	20 acres or greater

- Sediment basins must be located and designed such that failure of the basin would not result in damage to homes, businesses, streets, or highways.

- The outlet should be designed to drain the basin within twenty-four to seventy-two hours. (A rule of thumb is one square foot per acre for a spillway design).
- Sediment removal and disposal is required for all sediment basins whenever their capacity is reduced by half.

BMP Maintenance:

- Inspect BMPs according to normal maintenance schedule. Inspection should include assessment of capacity.
- Sediment removal and disposal is required for all sediment basins whenever their capacity is reduced by half.
- If the SWPPP includes a temporary sediment basin, a plan for removal of the basin at the completion of construction must be included in the SWPPP.



SEDIMENT BASIN (E-14)

FIGURE A-10

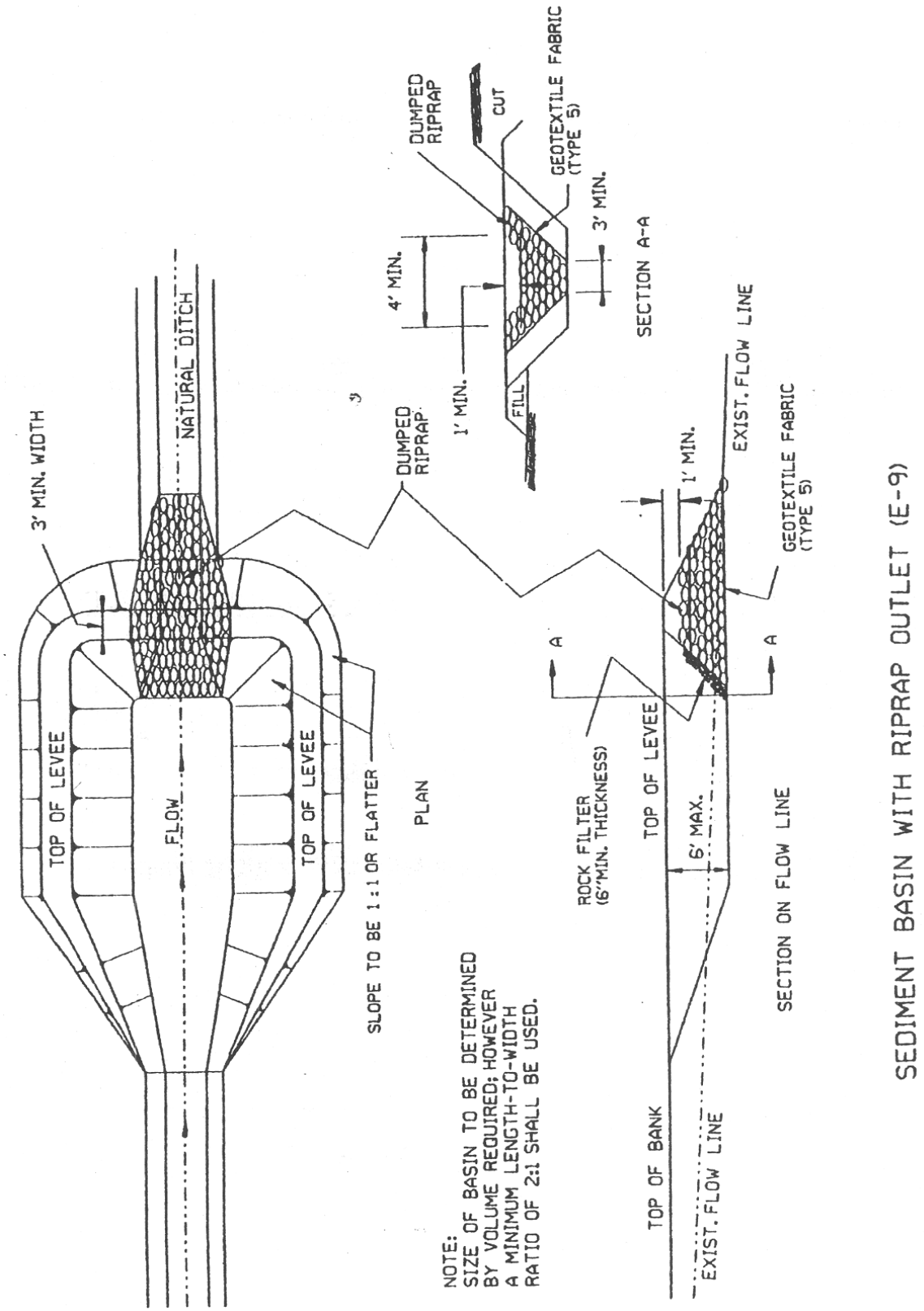
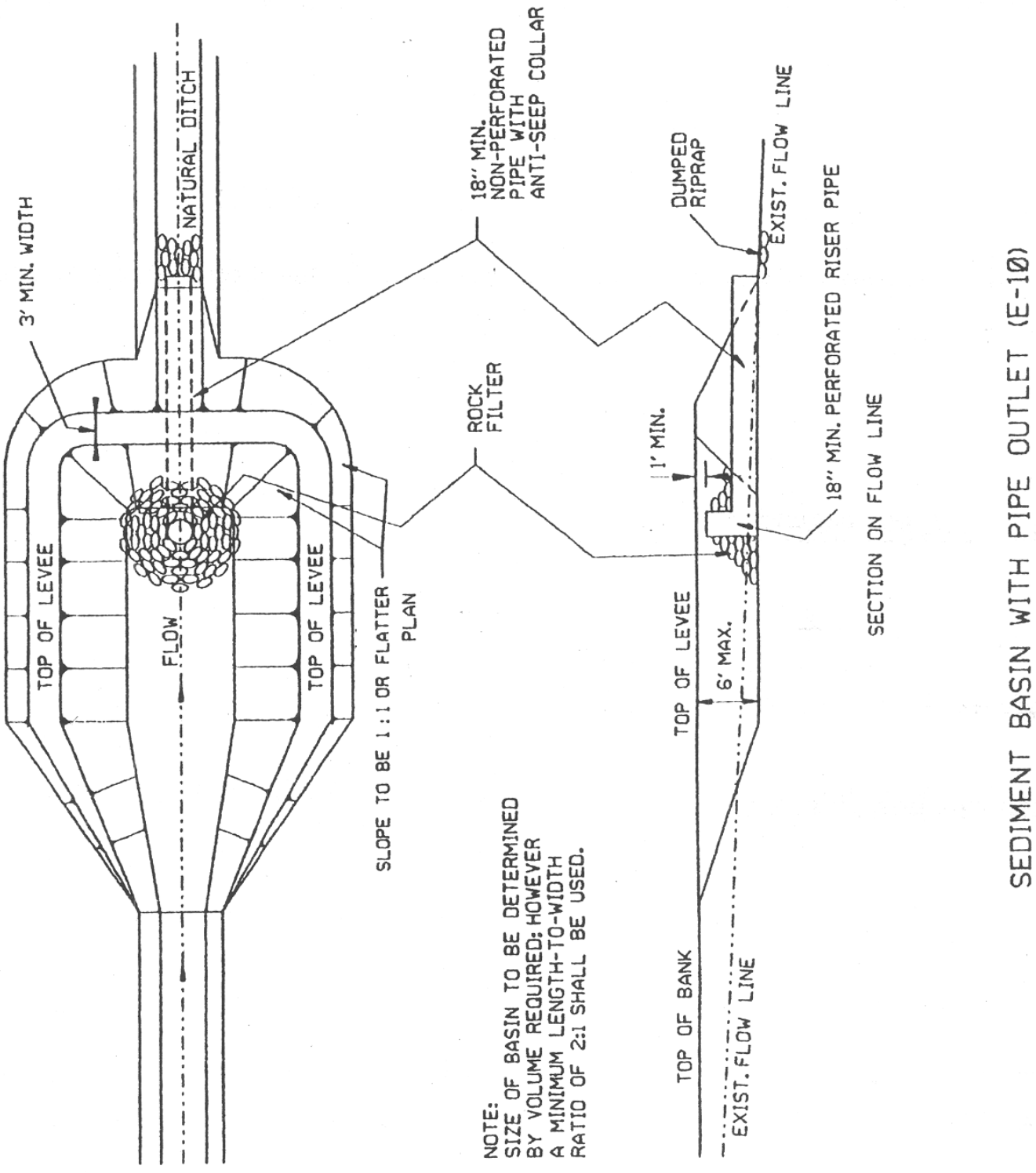

3' MIN. WIDTH
NATURAL DITCH
TOP OF LEVEE
FLOW
TOP OF LEVEE
SLOPE TO BE 1:1 OR FLATTER
DUMPED RIPRAP
PLAN
NOTE:
SIZE OF BASIN TO BE DETERMINED
BY VOLUME REQUIRED; HOWEVER
A MINIMUM LENGTH-TO-WIDTH
RATIO OF 2:1 SHALL BE USED.
DUMPED RIPRAP
CUT
GEOTEXTILE FABRIC (TYPE 5)
4' MIN.
3' MIN.
1' MIN.
FILL
SECTION A-A
EXIST. FLOW LINE
1' MIN.
GEOTEXTILE FABRIC (TYPE 5)
A
A
ROCK FILTER (6"MIN. THICKNESS)
TOP OF LEVEE
6' MAX.
TOP OF BANK
EXIST. FLOW LINE
SECTION ON FLOW LINE
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)

FIGURE A-11



SEDIMENT BASIN WITH PIPE OUTLET (E-10)

FIGURE A-12

A.11 STABILIZED CONSTRUCTION EXIT

Both Section 110 of the Standard Specifications for Highway Construction and the General NPDES Construction Permit require that off-site tracking of sediment be minimized. The following information may be used to meet this requirement.

NOTE: The actual design and expense of stabilization of exits to prevent tracking of material off-site is the responsibility of the Contractor. The main criteria are that at least one stabilized exit (or wheel washing in lieu of the exit) be installed on each project and that the exit be maintained so it will work satisfactorily at all times.

Definition:

A stabilized construction exit is used to reduce the amount of soil being tracked off-site.

Application:

Wherever traffic will be moving directly onto a public road or other paved areas.

Design Criteria:

Stabilized construction exits are to be provided on each job. Construction traffic should not be allowed to move directly onto public areas other than at locations of stabilized exits. An example of design criteria that has been known to be effective in "normal" instances which the Contractor might use is as follows:

- Coarse aggregate (3 inch or larger stone) should be used.
- Entrance should have a minimum width of 12 feet extending the entire length of the entrance.
- The entrance length should be AT LEAST 50 feet.
- Filter cloth should be used below the coarse aggregate.
- If conditions exist such that a majority of mud is not removed by the vehicles traveling over the stone, then the tires of the vehicles should be washed before entering the public road.
- If slope towards the exiting end of the entrance exceeds 2 percent, a 6 to 8-inch high rise with 3:1 side slopes should be constructed across the entire width of the entrance to divert runoff away from the exiting end of the entrance. This berm should be approximately 15 feet from the exit end.

BMP Maintenance:

- Inspect BMPs according to normal maintenance schedule. Inspection should include ensuring sediment is not being tracked into the roadway.
- If sediment is being tracked onto the roadway sweeping of the road surface may be necessary.
- When the surface of the stabilized exit is caked with dirt and sediment the top layer of rock should be scraped back and removed and replaced with clean stone.

A.12 WATTLES

Definition

A wattle consists of an elongated tube of netting filled with coir, wood fibers, mulch, straw, or a combination or rolls of organic material reinforced with a biodegradable netting for the purpose of controlling erosion and sedimentation. Wattles are typically used in diameters of 12, 18, and 20 inches. They are designed to divert or block stormwater flow.

Applications

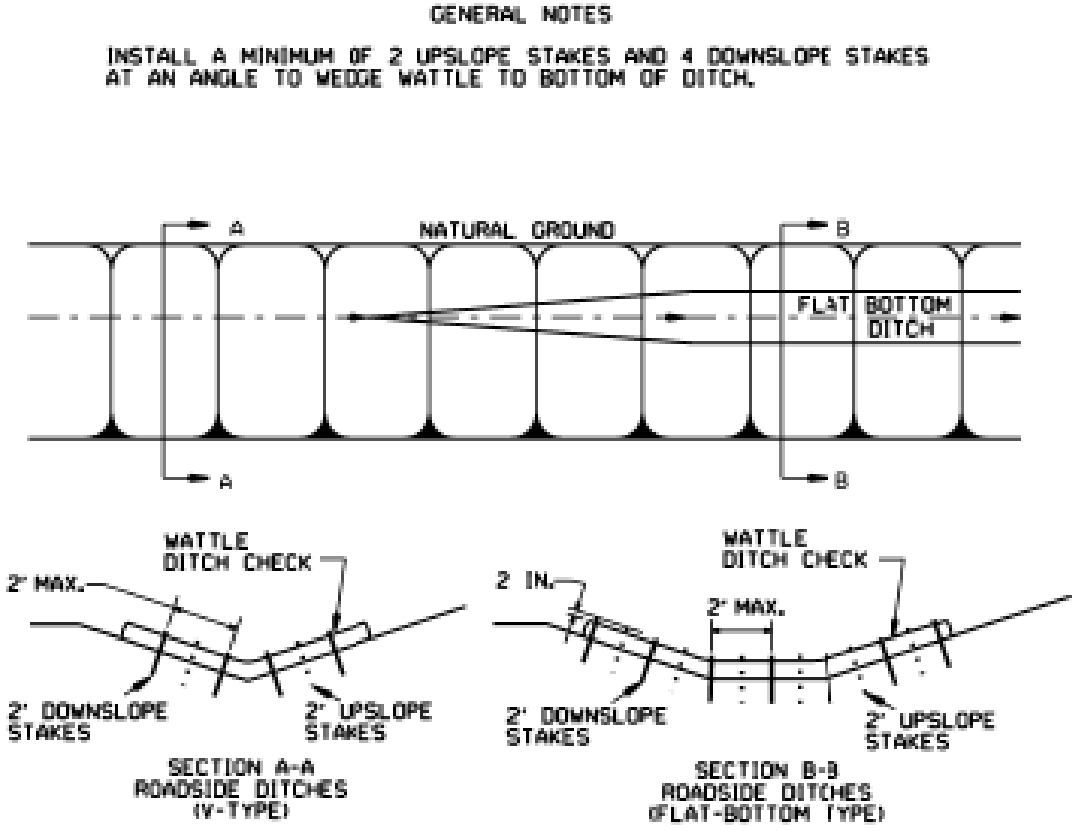
Wattles may be used as ditch checks in low flow situations. They may also be used to break up long slopes and for perimeter protection. Proper installation is critical to success. Wattles are relatively light weight and the surface must be well prepared so the wattle can make appropriate contact with the ground. Installation in a shallow trench improves sediment capture. Wattles are staked in place to resist water flow.

Design Criteria

- If called for in the plans as E-1, the design shall conform to FIGURE A-13 unless a special design is required.
- Install in a shallow trench to improve performance and ensure adequate contact between the wattle and soil surface.
- Be aware trenching will also reduce the sediment holding capacity of the device.
- Place the soil from the shallow trench excavation up gradient. Place the wattle in the trench and backfill the excavated soil with foot tamping to keep water from flowing under the wattle.
- Stakes should be driven both upslope and downslope, angling toward the center of the device to form a “teepee” effect. This will wedge the wattle to the ground.

BMP Maintenance

- Inspect BMPs according to normal maintenance schedule. Inspection should include ensuring flow is not undermining the wattle creating erosion and the wattle maintains good contact with the ground.
- Sediment should be removed when capacity is reduced by half.



WATTLE

FIGURE A-13

A.13 TRIANGULAR SILT DIKE

Definition

A triangular silt dike is a sediment control device made of foam sewn into a woven geo-synthetic fabric. It is triangular in shape, 8 to 14 inches high in the center, with a 16 to 20 inch base. An apron extends beyond both sides of the triangle along its standard section length of 7 ft. A sleeve at one end allows attachment of additional sections as needed. This BMP can be used to provide settling and/or reduction in water velocity/erosive forces.

Applications

Triangular silt dike may be used for temporary check dams in ditches of any dimension. This BMP may be used for perimeter protection and in combination with other barriers. Triangular silt dike may be used as a diversion berm or to break up long slopes as well as provide drop inlet protection. It may also be used to construct temporary slope drains using manufacturer's directions.

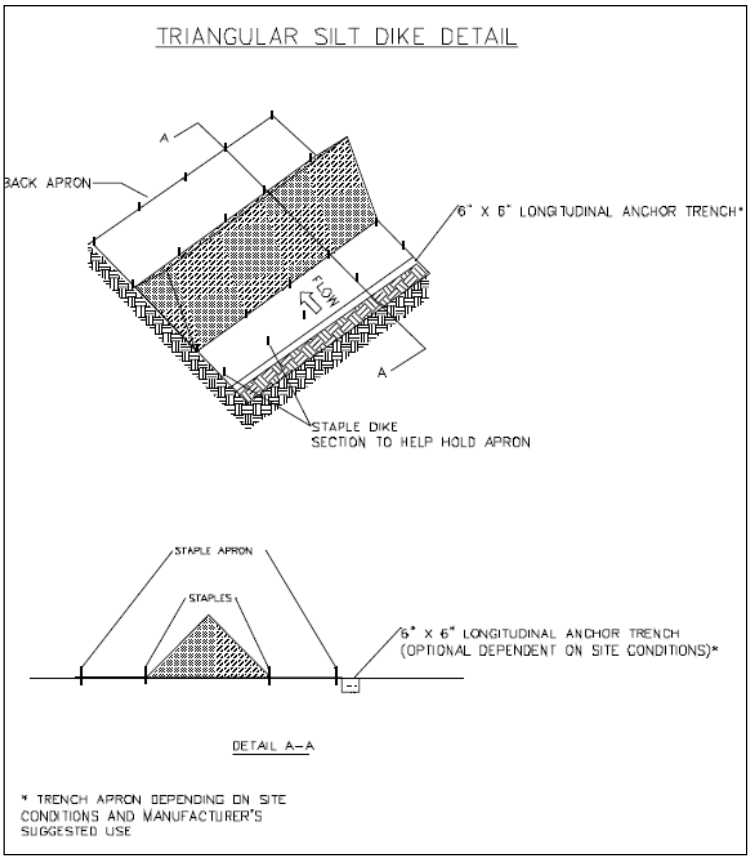
This BMP may be used below disturbed areas subject to sheet and rill erosion where drainage area is no greater than .25 acre per 100 linear feet of barrier and the slope behind the barrier should be no steeper than 2:1. On relatively flat slopes the maximum disturbed slope distance should not exceed 100 feet. The allowable disturbed slope distance decreases as the slope gets steeper.

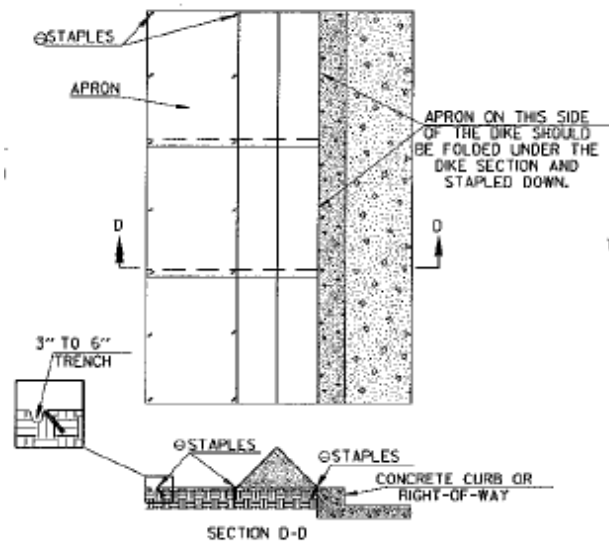
Design Criteria

- The design shall conform to FIGURE A-14 through A-17 unless a special design is required.
- Carefully follow manufacturer's direction for installation, paying particular attention to the proper apron orientation, to ensure proper performance.
- Secure by burying the first six inches of the up-gradient apron in a three-inch trench. The triangular silt dike is attached to the ground with No. 11 gauge wire staples which are least six to eight inches long. Eight to ten staples shall be installed in both the front and rear aprons.
- Install to prevent water from going around or under BMP.
- BMP should be placed along contours.
- BMP may be anchored with adhesive or liquid asphalt on roadway surfaces.

BMP Maintenance

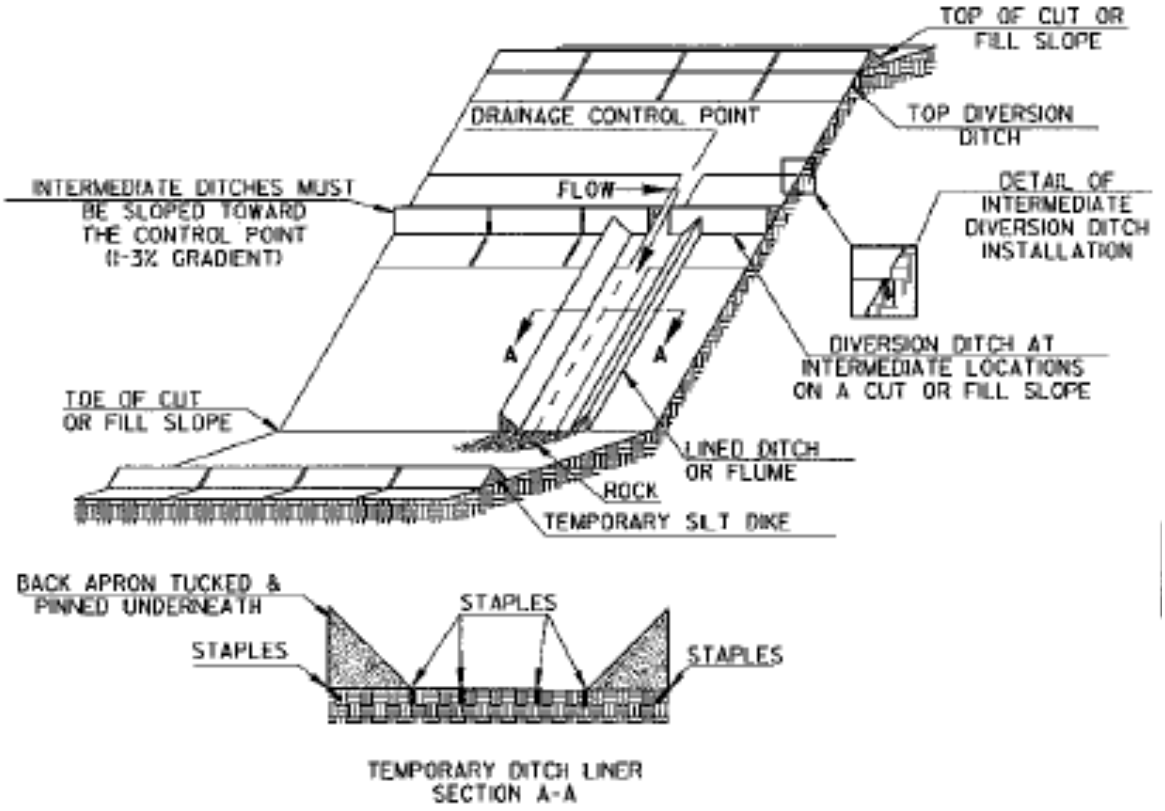
- Inspect BMPs according to normal maintenance schedule. Additional inspections are recommended after storm events. Make any required repairs.
- Sediment should be removed when deposits reach one-half the height of the BMP.





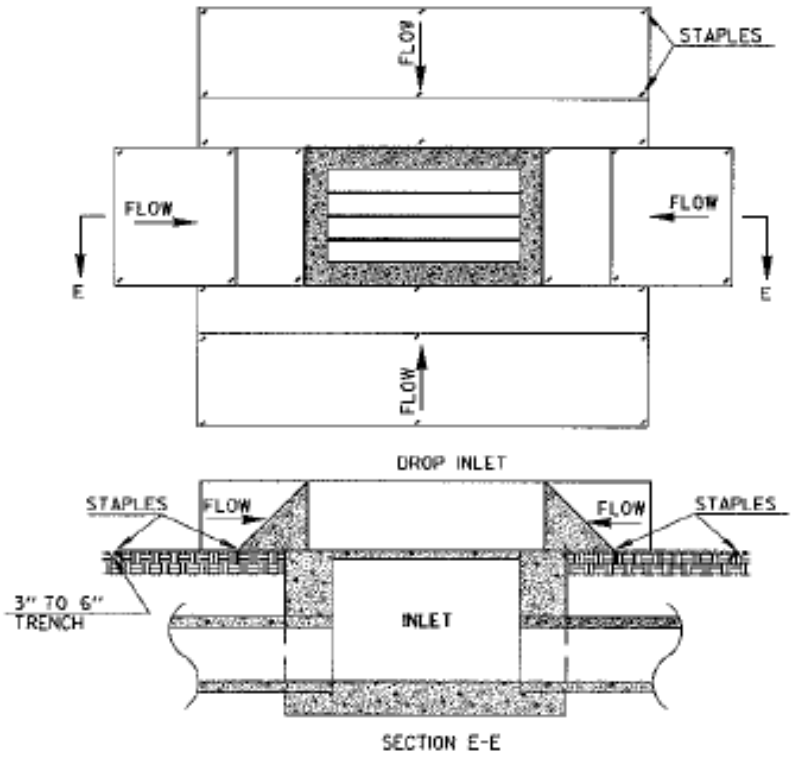
TRIANGULAR SILT DIKE INSTALLATION
FOR
CONTINUOUS BARRIER

FIGURE A-14



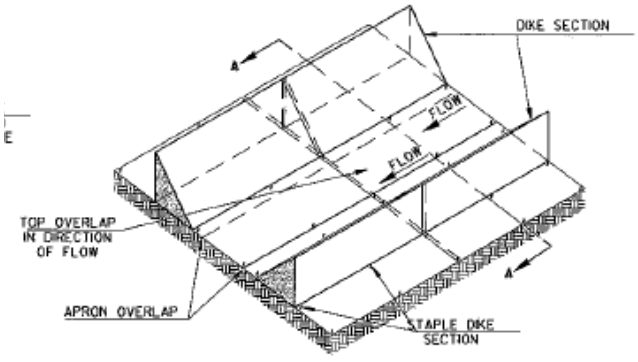
TRIANGULAR SILT DIKE INSTALLATION
FOR
DIVERSION DITCH AND/OR DITCH LINER

FIGURE A-15



TRIANGULAR SILT DIKE INSTALLATION
FOR
DROP INLETS

FIGURE A-16



TRIANGULAR SILT DIKE INSTALLATION
FOR
TEMPORARY DITCH LINER

FIGURE A-17

A.14 FILTER SOCKS

Definition

A filter sock consists of filter media (compost or non-treated wood) encased in a three-dimensional synthetic mesh tube for the purposes of erosion, sediment, and pollution control. The tubes are available in several diameters, normally ranging from 8 to 24 inches, and in various lengths. Since they filter rather than divert stormwater and have been shown to remove and retain such pollutants as hydrocarbons, heavy metals, and sediment they are particularly useful to protect sensitive waters.

Applications

Filter socks may be used as temporary check dams in ditches where low or medium flows are expected. The BMP may also be used for perimeter or stockpile protection, as a slope interruption device, or to protect curb or drop inlets. Because they are heavy when wet, they may be used on paved surfaces to prevent run-on of sediment laden water. In these cases, they may be secured with concrete blocks or sandbags placed on either side of the device. Since filter socks are flexible they are especially useful on steep or rocky slopes where installation of other erosion control devices is not feasible. Their flexibility combined with their weight allows greater surface area contact with soil than typical sediment control devices. This reduces the potential for runoff to create rills under the device and/or create channels carrying unfiltered sediment.

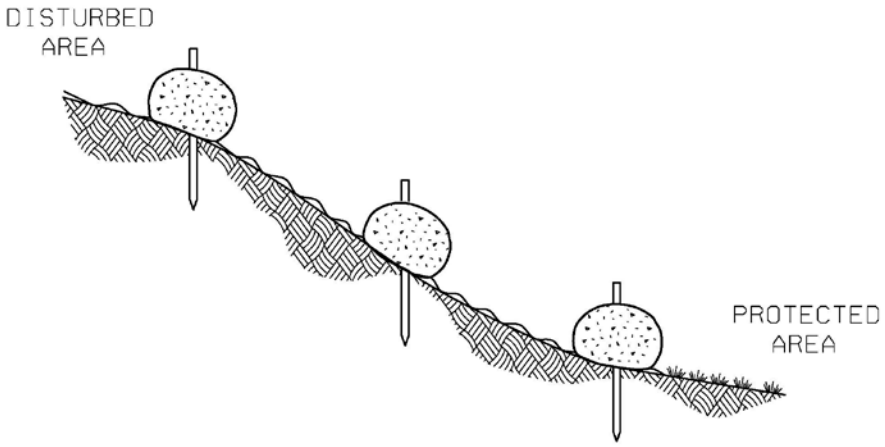
Design Criteria

- No trenching is required; therefore, soil is not disturbed upon installation.
- Anchor by driving stakes through the center of the sock at specified intervals; alternatively stakes can be placed on the downstream side of the sock or driven at an angle on either side to form a “teepee” effect.
- The ends of the filter sock should be directed upslope to prevent stormwater from running around the end of the device.
- Since trenching is not needed, socks can be installed on frozen ground or other hard surfaces.
- To ensure optimum performance, heavy vegetation should be cut down or removed and very uneven surfaces should be leveled to ensure that the filter sock uniformly contacts the ground surface.
- Filter socks should be installed perpendicular to flow in areas where a large volume of sheet-flow runoff is likely.

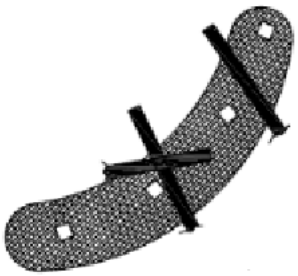
BMP Maintenance

- Inspect BMPs according to normal maintenance schedule. Additional inspections are recommended after storm events to ensure that they are intact and the area behind the sock is not filled with sediment.

- If the filter sock was overtopped during a storm event, the operator should consider installing an additional filter sock on top of the original, placing an additional filter sock further up the slope, or using an additional BMP in conjunction with the sock(s).
- Make any required repairs to damaged socks or replace the sock if damaged beyond repair. Small tears may be repaired by bunching the fabric around the hole and securing with a zip tie or by stitching small tears with zip ties.
- Sediment should be removed when deposits reach one-half the height of the BMP, taking care not to damage the fabric during the process.

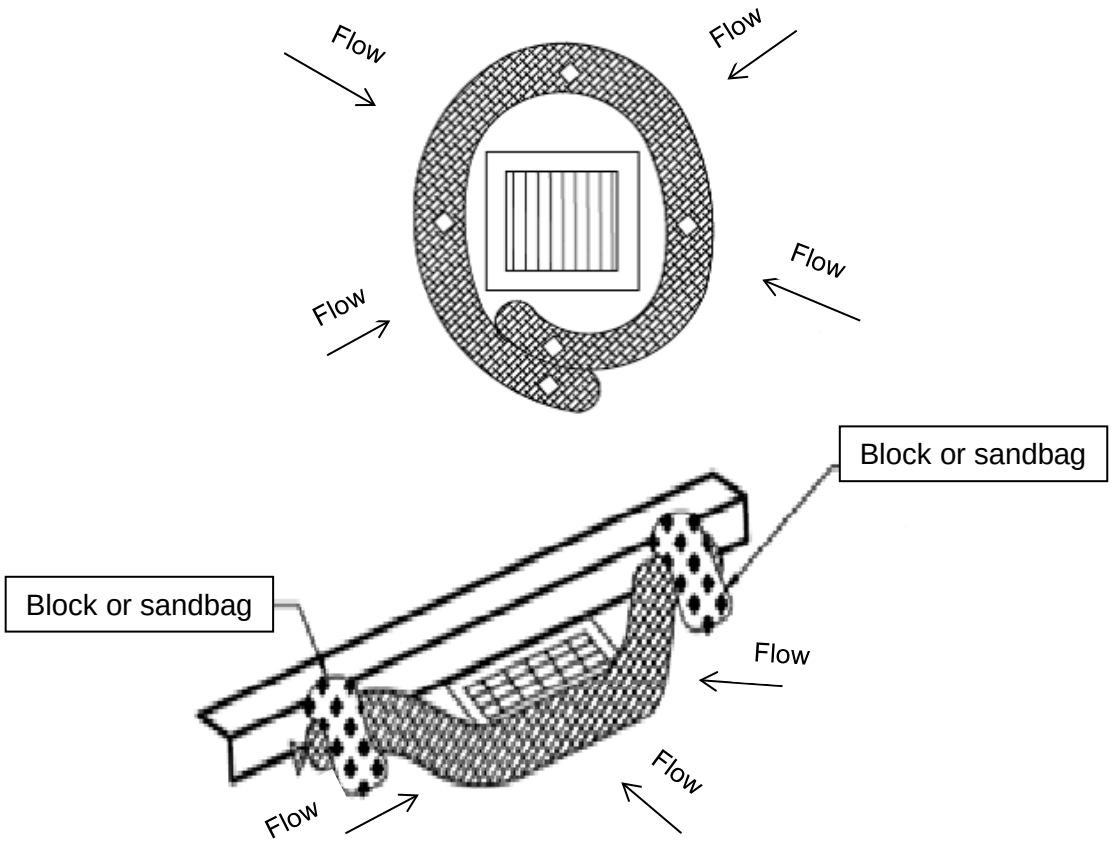


SLOPE INTERUPTION

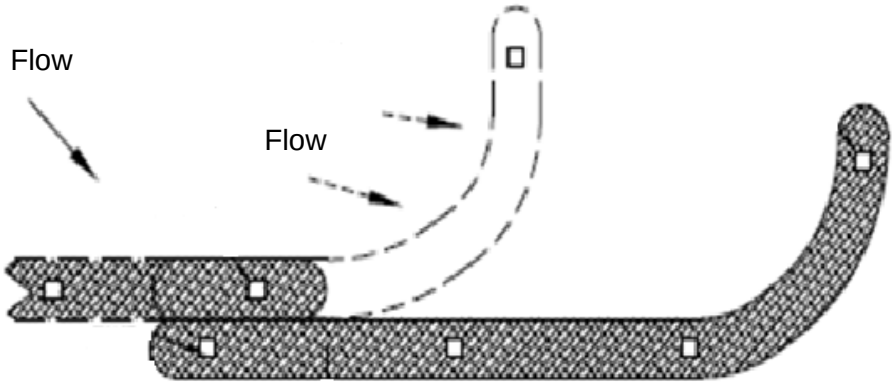


DITCH CHECK

FIGURE A-18



DROP INLET (top) and CURB INLET PROTECTION (bottom)



PERIMETER CONTROL

FIGURE A-17 (Continued)

B. PERMANENT EROSION AND SEDIMENT CONTROL MEASURES

Permanent control measures are those design features that are incorporated into a project to control long-term sediment in the project area. These permanent measures include, but are not limited to the following:

- Vegetative Cover
- Slope Design
- Channel Linings
- Culverts
- Underdrains

The following sections address these permanent features.

B.1 VEGETATIVE COVER

A good vegetative cover is one of the best erosion control measures available. Its ability to absorb the energy from falling rain and to hold soil together through extensive root systems makes it of primary importance. The best vegetative cover is preserved vegetation.

Methods to provide vegetative cover consist of seeding with mulch cover, sod mulch with overseeding, and solid sodding. Each project should be evaluated to determine the best method of application.

Stripping and stockpiling of topsoil to be spread over slopes prior to the placement of permanent vegetation should be used when possible. In some cases additional topsoil from off the job site may be necessary.

One hundred percent **perennial vegetative cover with a vegetation density of at least 80%** (or other permanent stabilization measures such as riprap or paving) must be established on disturbed areas before final stabilization is considered to be achieved and the Notice of Termination (NOT) can be filed.

B.2 SLOPE DESIGN

Roadway embankment or cut slopes vary with the height of cut or fill and, depending on the erosion potential of the materials involved, can directly affect erosion control and re-vegetation measures. While flat slopes (2:1 or flatter) facilitate the establishment and maintenance of vegetation, they do increase the total surface area that is subject to erosion. However, experience has shown that the advantages of the slope flattening outweigh the disadvantages of the additional exposed area. Benching is an effective method of breaking and controlling sheet flow on long steep slopes.

Flat slopes allow better compaction of the fill surface reducing slump problems and slide

potential in cut sections. Serrated cuts have been utilized in decomposed or fragmented rock to provide areas in which vegetation can become established.

B.3 CHANNEL LININGS

Channel linings should be considered when expected velocity, depth of flow, and/or particular geometric channel features are such that a scour problem would be anticipated.

Channel linings may consist of erosion control matting, solid sod, concrete paving, and/or rock riprap. In areas of high flow and high velocities flexible liners such as riprap should be considered in lieu of concrete paving. Consideration should be given to specifying a stone larger than dumped riprap where velocities are excessive.

Sharp bends and sudden changes to steeper gradients should be avoided since these conditions increase the scour potential of the channel.

B.4 CULVERTS

Culverts generally constrict flood flows and increase velocities, giving a much higher than normal erosion potential for a particular site. In many instances, erosion and scour at culvert crossings are damaging to either the highway embankment, the structure itself, or the downstream channel if not designed and protected properly. A good indication of the need for outlet protection at culverts is the performance of other culverts in the area.

Selection of a structure size may be dependent on acceptable outlet velocities. The outlet velocity should be determined and where a potential for erosion at the outlet exists, proper protective measures should be taken. This protective measure usually consists of reduction of the velocity by means of some energy dissipation device or the provision for a channel lining protection.

Culverts should be located to minimize channel changes where practical. The invert grade of the culvert should closely match that of the natural channel.

B.5 UNDERDRAINS

Subsurface water is a frequent cause of landslides, unstable shoulders, and other soil disturbances that contribute to the surface water erosion problem. Underdrain systems can alleviate these unstable conditions by preventing sloping soils from becoming excessively wet and subject to sloughing.

C. GOOD HOUSEKEEPING

The NPDES permit also restricts discharge of wastes. Among the Contractor procedures and Resident Engineer responsibilities in this area are:

- Ensure that storage areas are kept clean and spills cleaned up and reported in conformance with the applicable Safety Data Sheet (SDS) and standard specifications.

- Ensure that used oil, transmission fluid, etc. expended when servicing equipment are disposed of properly, not discharged on the job site.

- Ensure that wash water or waste material from concrete ready-mix trucks is emptied into a contained area designated for that purpose, i.e., an excavation or some other contained area where the wash water cannot leave the site. Never near or into a waterbody or ditch. These areas must be identified on the as-built drawings.

- Ensure that the Contractor properly disposes of concentrated waste water resulting from concrete pavement grinding. If grinding is required the Contract will contain a special provision for the disposal of this material. The contractor’s plan for disposal must be provided to the Environmental Division for review before grinding begins.

- Ensure that flammable “trade waste” (i.e., lumber, plywood, etc.) are NOT disposed of by burning unless used for warming in a “burn barrel”.

- Ensure that material spills are cleaned up and disposed of properly. Spills of "reportable" quantities of hazardous substances must be reported to ADEQ in accordance with the Construction General Stormwater Permit requirements.

- Inspect Contractor materials, stockpiles, petroleum and other pollutants located on the right-of-way and ensure that adequate measures are taken to prevent their discharge. Use of containment berms in fueling and maintenance areas and where the potential for spills is high is recommended. Storage of these materials is prohibited within 100 feet of a wetland or waterbody. Storage of the materials in a floodplain is at the discretion of the Engineer. If unsure about the Contractor's proposed storage location, the Department’s Environmental Division is available for consultation.

- “Normal” inspection of the Contractor’s housekeeping procedures.

D. CONCRETE WASTE MANAGEMENT

Discharge of surplus concrete, concrete wash water, or concrete grinding slurry is considered an illegal discharge unless these discharges are properly addressed by the construction plans and documented in the SWPPP.

Section 110.06(b)(3) of the Standard Specifications For Highway Construction requires that the Engineer designate and document specific area(s) in the SWPPP for the discharge of surplus concrete and concrete wash water. These areas cannot be located where the discharge can enter a nearby waterbody, or leave the construction site either directly or with storm water runoff. The following information provides some of the methods that may be used by the contractor to meet this requirement.

Definition:
These are procedures and practices that are designed to minimize or eliminate the discharge of concrete waste materials to the storm drain systems or nearby waterbodies.

Application:

- On construction sites where concrete is used as a construction material or where concrete dust and debris result from demolition activities.
- Where concrete trucks or other concrete-coated equipment are washing on site.

Design Criteria:

- Perform washout of concrete mixers, delivery trucks, and other delivery systems in designated area only.
- Temporary concrete washout facilities shall be located a minimum of 50 feet from storm drain inlets, open drainage facilities, and waterbodies unless determined to be infeasible by the Engineer. Each facility is to be located away from construction traffic or access areas to prevent disturbance or tracking.
- Temporary concrete washout facilities should be constructed above grade or below grade at the option of the contractor. Temporary concrete washout facilities must be constructed and maintained in sufficient quantity and size to contain all liquid and concrete waste generated by washout operations. Temporary concrete washout facilities should be maintained to provide adequate holding capacity. (A minimum freeboard of 4 inches for above ground facilities and 12 inches for below ground facilities is recommended.)
- Washout may be collected in an impermeable bag or other impermeable containment devices for disposal.
- Once concrete wastes are washed into the designated area and allowed to harden,

the concrete may be broken up, removed and disposed of.

- Concentrated residue from saw cutting, coring, and grinding operations will be picked up by means of a vacuum device. This concentrated residue is not to be allowed to flow across the pavement and cannot be left on the surface of the pavement.

- Grinding slurry and waste water from grinding operations may not be disposed of on the project. Handling of the material will be in accordance with the special provision contained in the contract.

APPENDIX C

NPDES GENERAL CONSTRUCTION PERMIT

This is the regulatory document issued by the Arkansas Department of Environmental Quality. It contains the requirements which the Department and the Contractor are legally obligated to follow.

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AUTHORIZATION TO DISCHARGE STORMWATER UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM AND THE ARKANSAS WATER AND AIR POLLUTION CONTROL ACT

In accordance with the provisions of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. 8-4-101 et seq.), and the Clean Water Act (33 U.S.C. 1251 et seq.), an

Operator of Facilities with Stormwater Discharges Associated with Construction Activity

is authorized to discharge to all receiving waters except as stated in Part I.B.11 (Exclusions).

For facilities that are eligible for coverage under this General Permit (GP), the Department sends a cover letter (Notice of Coverage with tracking permit number which starts with ARR15) and a copy of the permit to the facility. The cover letter includes the Department's determination that a facility is covered under the GP and may specify alternate requirements outlined in the permit.

Effective Date: November 1, 2016

Expiration Date: October 31, 2021

Caleb J. Osborne
Associate Director, Office of Water Quality
Arkansas Department of Environmental Quality

5/4/16
Issue Date

PART I
PERMIT REQUIREMENTS

Information in **Part I** is organized as follows:

Section A: Definitions with Included Commentary
Section B: Coverage Under this Permit:

1. Permitted Area
2. Eligibility
3. Responsibilities of the Operator
4. Where to Submit
5. Requirements for Qualifying Local Program (QLP)
6. Requirements for Coverage
7. Notice of Intent (NOI) Requirements
8. Posting Notice of Coverage (NOC)
9. Applicable Federal, State or Local Requirements
10. Allowable Non-Stormwater Discharges
11. Limitations on Coverage (Exclusions)
12. Short Term Activity Authorization (STAA)
13. Effluent Limitation Guidelines (ELG)
14. Natural Buffer Zones
15. Waivers from Permit Coverage
16. Notice of Termination (NOT)
17. Responsibilities of the Operator of a Larger Common Plan of Development for a Subdivision
18. Change in Operator
19. Late Notifications
20. Failure to Notify
21. Maintenance
22. Releases in Excess of Reportable Quantities
23. Attainment of Water Quality Standards
24. Requiring an Individual Permit

SECTION A: DEFINITIONS WITH INCLUDED COMMENTARY

1. **"ADEQ"** or **"Department"** is referencing the Arkansas Department of Environmental Quality. The Department is the governing authority for the National Pollutant Discharge Elimination System program in the state of Arkansas.

2. **"Arkansas Pollution Control and Ecology Commission"** shall be referred to as APCEC throughout this permit.

3. **"Automatic Coverage"** is for those sites that are defined as a small construction site.

4. **"Best Management Practices (BMPs)"** schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to Waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control construction site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. According to the EPA BMP manual, the use of hay-bales in concentrated flow areas is not recommended as a best management practice.

5. **"Cognizant Official"** a duly authorized representative, as defined in Part II.B.9.B.

6. **"Commencement of Construction"** the initial disturbance of soils associated with clearing, grading, or excavating activities or other construction-related activities.

7. **"Contaminated"** means a substance the entry of which into the MS4, Waters of the State, or Waters of the United States may cause or contribute to a violation of Arkansas water quality standards.

8. **"Control Measure"** as used in this permit, refers to any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to Waters of the State.

9. **"Construction Site"** an area upon which one or more land disturbing construction activities occur that in total will disturb one acre or more of land, including areas that are part of a larger common plan of development or sale where multiple separate and distinct land disturbing construction activities may be taking place at different times on different schedules but under one plan such that the total disturbed area is one acre or more.

10. **"CWA"** the Clean Water Act or the Federal Water Pollution Control Act.

11. **"Dedicated Portable Asphalt Plant"** a portable asphalt plant that is located on or contiguous to a construction site that provides asphalt only to the construction site on which the plant is located or adjacent to. The term does not include facilities that are subject to the asphalt emulsion effluent guideline limitations at 40 CFR Part 443.

12. **"Dedicated Portable Concrete Plant"** a portable concrete plant that is located on or contiguous to a construction site and that provides concrete only to the construction site on which the plant is located on or adjacent to.

13. **"Detention Basin"** a detention basin is an area where excess stormwater is stored or held temporarily and then slowly drains when water levels in the receiving channel recede. In essence, the water in a detention basin is temporarily detained until additional room becomes available in the receiving channel.

14. **"Director"** the Director, Arkansas Department of Environmental Quality, or a designated representative.

15. **"Discharge"** when used without qualification means the "discharge of a pollutant".

16. "Discharge of Stormwater Associated with Construction Activity" as used in this permit, refers to a discharge of pollutants in stormwater runoff from areas where soil disturbing activities (e.g., clearing, grading, or excavation), construction materials or equipment storage or maintenance (e.g., fill piles, borrow area, concrete truck washout, fueling), or other industrial stormwater directly related to the construction process (e.g., concrete or asphalt batch plants) are located.

17. "Discharge-Related Activities" as used in this permit, include: activities that cause, contribute to, or result in stormwater point source pollutant discharges, including but not limited to: excavation, site development, grading and other surface disturbance activities; management of solid waste and debris; and measures to control stormwater including the construction and operation of BMPs to control, reduce or prevent stormwater pollution.

18. "Disturbed area" the total area of the site where any construction activity is expected to disturb the ground surface. This includes any activity that could increase the rate of erosion, including, but not limited to, clearing, grubbing, grading, excavation, demolition activities, haul roads, and areas used for staging. Also included are stockpiles of topsoil, fill material and any other stockpiles with a potential to create additional runoff.

19. "Drainageway" an open linear depression, whether constructed or natural, that functions for the collection and drainage of surface water.

20. "Duly Authorized Representative" a representative of the Responsible Official meeting the requirements specified in Part II.B.9.B.

21. "Eligible" qualified for authorization to discharge stormwater under this general permit.

22. "Erosion" the process by which the land's surface is worn away by the action of wind, water, ice or gravity.

23. "ERW" Extraordinary Resource Water, in accordance with Regulation 2.

24. "ESW" Ecologically Sensitive Waterbodies, in accordance with Regulation 2.

25. "Facility" or "Activity" any NPDES "point source" or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES program.

26. "Final Stabilization":

A. All soil disturbing activities at the site have been completed and either of the two following criteria are met:

   1) A uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a density of 80% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or
   2) Equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.

B. When background native vegetation will cover less than 100% of the ground (e.g., arid areas, beaches), the 80% coverage criteria is adjusted as follows: if the native vegetation covers 50% of the ground, 80% of 50% (0.80 x 0.50 = 0.40) would require 40% total cover for final stabilization. On a beach with no natural vegetation, no stabilization is required.

C. For individual lots in residential construction, final stabilization means that either:

1) The homebuilder has completed final stabilization as specified above, or
2) The homebuilder has established temporary stabilization including perimeter controls for an individual lot prior to occupation of the home by the homeowner and informing the homeowner of the need for, and benefits of, final stabilization.

D. For construction projects on land used for agricultural purposes (e.g., pipelines across crop or range land, staging areas for highway construction, etc.), final stabilization may be accomplished by returning the disturbed land to its pre-construction agricultural use. Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to "Waters of the State", and areas which are not being returned to their pre-construction agricultural use shall meet the final stabilization criteria in A, B**,** or C above.

27. "Grading Activities" as used in this permit are those actions that disturb the surface layer of the ground to change the contouring, surface drainage pattern, or any other slope characteristics of the land without significantly adding or removing on-site rock, soil, and other materials. This can include demolition, excavation, and filling.

28. "Infrastructure" streets, drainage, curbs, utilities, etc.

29. "Impaired Water" a waterbody listed in the current, approved Arkansas 303(d) list.

30. "Landscaping" improving the natural beauty of a piece of land (i.e. entrance of subdivision) through plantings or altering the contours of the ground.

31. "Large and Medium Municipal Separate Storm Sewer System" all municipal separate storm sewer systems that are either:

A. Located in an incorporated place with a population of 100,000 or more as determined by the latest Decennial Census by the Bureau of Census: or
B. Located in the counties with unincorporated urbanized populations of 100,000 or more, except municipal, separate storm sewers that are located in the incorporated places, townships or towns within such counties; or
C. Owned or operated by a municipality other than those described in paragraphs A or B and that are designated by the Director as part of the large or medium municipal separate storm sewer system.

32. "Large Construction Site" construction activity including clearing, grading and excavation, **except** operations that result in the disturbance of less than five acres of total land area. Construction activity also includes the disturbance of less than five acres of total land area that is a part of a larger common plan of development or sale if the larger common plan will ultimately disturb five acres. (Please see Part I.B.15 for partial waivers.)

33. "Larger Common Plan of Development" a contiguous (sharing a boundary or edge; adjacent; touching) area where multiple and distinct construction activities may be taking place at different times on different schedules under one plan. Such a plan might consist of many small projects (e.g. a common plan of development for a residential subdivision might lay out the streets, house lots, and areas for parks, schools and commercial development that the developer plans to build or sell to others for development). All these areas would remain part of the common plan of development or sale. The following items can be used as guidance for deciding what might or might not be considered a "Common Plan of Development or Sale." The ''plan'' in a common plan of development or sale is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, sales pitch, advertisement, drawing, permit application, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating construction activities may occur on a specific plot. The applicant shall still meet the definition of operator in order to be required to get permit coverage,

regardless of the acreage that is personally disturbed.

If a smaller project (i.e., less than 1 acre) is part of a large common plan of development or sale (e.g., you are building a residential home on a ½ acre lot in a 40 acre subdivision or are putting in a fast food restaurant on a ¾ acre pad that is part of a 20 acre retail center), permit coverage is required. Under 40 CFR 122.26(b)(2)(vi), smaller parts of a larger common plan of development are automatically authorized under this general permit and should follow the conditions of a site with automatic coverage set forth in this permit (see Part I.B.6.A).

34. "Natural Buffer" for purposes of this permit, an area of undisturbed natural cover surrounding surface waters. Natural cover includes vegetation, exposed rock, or barren ground that exists prior to commencement of construction activities at the site.

35. "NOC" Notice of Coverage.

36. "NOI" Notice of Intent to be covered by this permit.

37. "NOT" Notice of Termination.

38. "NSW" Natural and Scenic Waterways, in accordance with Regulation 2.

39. "Operator"/ "Permittee" for the purpose of this permit and in the context of stormwater associated with construction activity, means any person (an individual, association, partnership, corporation, municipality, state or federal agency) who has the primary management and ultimate decision-making responsibility over the operation of a facility or activity. The operator is responsible for ensuring compliance with all applicable environmental regulations and conditions.

In addition, for purposes of this permit and determining who is an operator, ''owner'' refers to the party that owns the structure being built. Ownership of the land where construction is occurring does not necessarily imply the property owner is an operator (e.g., a landowner whose property is being disturbed by construction of a gas pipeline or a landowner who allows a mining company to remove dirt, shale, clay, sand, gravel, etc. from a portion of his property). Likewise, if the erection of a structure has been contracted for, but possession of the title or lease to the land or structure is not to occur until after construction, the would-be owner may not be considered an operator (e.g., having a house built by a residential homebuilder).

40. "Outfall" a point source where stormwater leaves the construction site.

41. "Owner" the owner or operator of any "facility or activity" subject to regulation under the NPDES program. In addition, for purposes of this permit and determining who is an operator, ''owner'' refers to the party that owns the structure being built. Ownership of the land where construction is occurring does not necessarily imply the property owner is an operator (e.g., a landowner whose property is being disturbed by construction of a gas pipeline). Likewise, if the erection of a structure has been contracted for, but possession of the title or lease to the land or structure is not to occur until after construction, the would-be owner may not be considered an operator (e.g. having a house built by a residential homebuilder).

42. "Physically Interconnected" means that one municipal separate storm sewer system is connected to a second municipal separate storm sewer system in such a way that it allows for direct discharges into the second system.

43. "Point Source" any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

44. "Qualified Local Program" is a municipal program for stormwater discharges associated with construction sites that has been formally approved by the Department.

45. "Qualified personnel" a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact stormwater quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of stormwater discharges from the construction activity.

46. "Regulated Small Municipal Separate Storm Sewer System" all municipal separate storm sewer systems that are either:

A. Located within the boundaries of an "urbanized area" with a population of 50,000 or more as determined by the latest Decennial Census by the Bureau of Census; or
B. Owned or operated by a municipality other than those described in paragraph A and that serve a jurisdiction with a population of at least 10,000 and a population density of at least 1,000 people per square mile; or
C. Owned or operated by a municipality other than those described in paragraphs A and B and that contributes substantially to the pollutant loadings of a "physically interconnected" municipal separate storm sewer system.

47. "Retention Basin" a basin that is designed to hold the stormwater from a rain event and allow the water to infiltrate through the bottom of the basin. A retention basin also stores stormwater, but the storage of the stormwater would be on a more permanent basis. In fact, water often remains in a retention basin indefinitely, with the exception of the volume lost to evaporation and the volume absorbed into the soils. This differs greatly from a detention basin, which typically drains after the peak of the storm flow has passed, sometimes while it is still raining.

48. "Runoff Coefficient" the fraction of total rainfall that will appear at the conveyance as runoff.

49. "Sediment" material that settles to the bottom of a liquid.

50. "Sediment Basin" a basin that is designed to maintain a 10 year-24 hour storm event for a minimum of 24-hours in order to allow sediment to settle out of the water.

51. "Small Construction Site" construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than one acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one and less than five acres. Small construction activity does not include routine maintenance.

52. "Stormwater" stormwater runoff from rainfall, snow melt runoff, and surface runoff and drainage.

53. "Stormwater Associated with Construction Activity" the discharge from any conveyance which is used for collecting and conveying stormwater and which is directly related to construction activity.

54. "Stormwater Pollution Prevention Plan (SWPPP or SWP3)" a plan that includes site map(s), an identification of construction/contractor, activities that could cause pollutants in the stormwater, and a description of measures or practices to control these pollutants (BMPs).

55. "Temporary Sediment Controls" controls that are installed to control sediment runoff from the site. These could be silt fencing, rock check dams, etc.

56. "Total Maximum Daily Load" or "TMDL" the sum of the individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for non-point sources and natural background. If the receiving water has only one point source discharger, the TMDL is the sum of that point source WLA plus the LAs for any non-point sources of pollution and natural background sources, tributaries, or adjacent segments. TMDLs can be expressed in terms of mass per time, toxicity, or other appropriate measure.

57. "Uncontaminated" cannot exceed the water quality standards as set forth in APCEC Regulation 2.

58. "Urbanized Area" the areas of urban population density delineated by the Bureau of the Census for statistical purposes and generally consisting of the land area comprising one or more central place(s) and the adjacent densely settled surrounding area that together have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile as determined by the latest Decennial Census by the Bureau of Census.

59. "Waters of the State" Waters of the State means all streams, lakes, marshes, ponds, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, which are contained within, flow through, or border upon this state or any portion of the state.

SECTION B: COVERAGE UNDER THIS PERMIT

Introduction

This Construction General Permit (CGP) authorizes stormwater discharges from large and small construction activities that result in a total land disturbance of equal to or greater than one acre. This GP also authorizes discharges from construction activities that result in a total land disturbance of less than five acres where the construction activity is included in a larger common plan, where those discharges enter surface Waters of the State or a Municipal Separate Storm Sewer System (MS4) leading to surface Waters of the State subject to the conditions set forth in this permit. This permit also authorizes stormwater discharges from any other construction activity designated by ADEQ where ADEQ makes that designation based on the potential for contribution to an excursion of a water quality standard or for significant contribution of pollutants to Waters of the State. This permit replaces the permit issued in 2011. The goal of this permit is to minimize the discharge of stormwater pollutants from construction activity. The Operator should make sure to read and understand the conditions of the permit. A copy of the General Stormwater Construction Permit is available on the ADEQ web site at https://www.adeq.state.ar.us/water/permits/npdes/stormwater/ . You may also obtain a hard copy by contacting the ADEQ's General Permits Section at (501) 682-0623.

1. Permitted Area. If a large or small construction activity is located within the State of Arkansas, the operator may be eligible to obtain coverage under this permit.

2. Eligibility. Permit eligibility is limited to discharges from "large" and "small" construction activity, or as otherwise designated by ADEQ. This general permit contains eligibility restrictions, as well as permit conditions and requirements. Operators may have to take certain actions to be eligible for coverage under this permit. In such cases, operators shall continue to satisfy those eligibility provisions to maintain permit authorization. If operators do not meet the requirements that are a pre-condition to eligibility, then resulting discharges constitute unpermitted discharges. By contrast, if operators are eligible for coverage under this permit and do not comply with the requirements of the general permit, they may be in violation of the general permit for otherwise eligible discharges.

A. This general permit authorizes discharges from construction activities as defined in 40 CFR 122.26(a), 40 CFR 122.26(b)(14)(x), 40 CFR 122.26(b)(15)(i) and 40 CFR Part 450.

B. This permit also authorizes stormwater discharges from support activities (e.g., concrete or asphalt batch plants, equipment staging yards, materials storage areas, excavated material disposal areas, borrow areas) provided:

1) The support activity is directly related to a specific construction site that is required to have NPDES permit coverage for discharges of stormwater associated with the construction activity;
2) The support activity is not a commercial operation serving multiple unrelated construction projects by different operators, and does not operate beyond the completion of the construction activity at the last construction project it supports;
3) Pollutant discharges from support activity areas are minimized in compliance with conditions of this permit; and
4) Discharges from the support activity areas shall be identified in a Stormwater Pollution Prevention Plan (SWPPP) stating appropriate controls and measures for the area.

C. Other activities may be considered for this permit at the discretion of the Director as defined in 40 CFR 122.26(b)(15)(ii).

3. Responsibilities of the Operator. Permittees with operational control are responsible for compliance with all applicable

terms and conditions of this permit as it relates to their activities on the construction site, including protection of endangered species and implementation of BMPs and other controls required by the SWPPP. Receipt of this general permit does not relieve any operator of the responsibility to comply with any other applicable federal, state or local statute, ordinance or regulation.

4. Where to Submit. The operator shall submit a complete and signed Notice of Intent (NOI), Stormwater Pollution Prevention Plan (SWPPP), and application fee to the Department at the following address:

Arkansas Department of Environmental Quality
Discharge Permits Section
5301 Northshore Drive
North Little Rock, AR 72118-5317

Or by electronic mail (Complete documents (NOI and SWPPP) must be submitted in PDF format) to:

Water-permit-application@adeq.state.ar.us ;

Or through the ADEQ ePortal site which can be found at the following link:

https://eportal.adeq.state.ar.us/

NOTE: Notice of Coverage (NOC) will **NOT** be issued until payment has been received by ADEQ.

5. Requirements for Qualifying Local Program (QLP). The Department reviews and approves the QLPs to ensure that they meet or supersede both state and federal requirements outlined in this permit and 40 CFR 122.44(s). ADEQ will review the QLP at least every 5 years for recertification. If the Department approves a QLP, then the QLP requirements shall at the minimum meet the Department's requirements. This would include all templates and forms. This permit may be modified to add new QLPs or modify existing QLPs at the Department's discretion. All public notice and other applicable costs incurred by the modification of the permit for the addition or modification of a QLP will be paid by the QLP.

If a small construction site is within the jurisdiction of a QLP, the operator of the small construction site is authorized to discharge stormwater associated with construction activity under QLP permit requirements only.

At the time of issuance of this permit, only the City of Hot Springs is meeting the ADEQ minimum requirements.

6. Requirements for Coverage.

A. *Small Construction Sites.* An operator of a small construction site will be considered to have automatic coverage under this general permit and may discharge without submitting to the Department a Notice of Intent (NOI), Stormwater Pollution Prevention Plan (SWPPP) or fee if the following conditions are met:

1) A completed Notice of Coverage (NOC) must be posted at the site prior to commencing construction;
2) A Stormwater Pollution Prevention Plan must be prepared in accordance with good engineering practice as described in Reg.6.203(B), and a copy must be maintained at the construction site;
3) All permit conditions set forth in this general permit must be followed; and
4) The operator is responsible for ensuring that the site is in compliance with any changes or updates of this general permit, by either contacting ADEQ or reviewing the ADEQ website:

https://www.adeq.state.ar.us/water/permits/npdes/stormwater/

B. *Large Construction Sites.* An operator of a large construction site discharging under this general permit shall submit the following items at least 10 business days prior to the commencement of construction:

1) An NOI in accordance with the requirements of Part I.B.7 of this permit.
2) A complete SWPPP in accordance with the requirements of Part II.A of this permit.
3) An initial permit fee shall accompany the NOI under the provisions of APCEC Regulation No. 9. Subsequent annual fees will be billed by the Department until the operator has requested a termination of coverage by submitting a Notice of Termination (NOT). Failure to remit the required initial permit fee shall be grounds for the Director to deny coverage under this general permit. Failure to remit the required annual fees shall be grounds for the Director to revoke coverage under this permit.

C. Modification of Permit Coverage to Include Additional Acreage. Any request to increase the total acreage of a construction site shall be accompanied by a $200 permit modification fee and an updated SWPPP. Any request to only increase the disturbed acreage without changing the total acreage shall be accompanied by an updated SWPPP. A $200 permit modification fee is not required with an increase in disturbed acreage. The Additional Acreage Request Form can be found at the following link:

https://www.adeq.state.ar.us/water/permits/npdes/stormwater/

7. Notice of Intent (NOI) Requirements.

A. *NOI Form*. Large construction site operators who intend to seek coverage for a stormwater discharge under this general permit shall submit a complete and accurate ADEQ NOI form to the Department (through hard copy, electronic mail at Water-permit-application@adeq.state.ar.us , or the ADEQ ePortal system at https://eportal.adeq.state.ar.us/) at least 10 business days prior to the date coverage under this permit is desired. The NOI form **must** be the current version obtained from the stormwater webpage indicated above in Part I.B.

If the NOI is deemed incomplete, the Department will notify the applicant with regard to the deficiencies by a letter, email, or phone within ten (10) business days of the receipt of the NOI. If the operator does not receive a notification of deficiencies from ADEQ's receipt of the NOI, the NOI is deemed complete. If the applicant does not provide the Department with the requested deficiencies within the deadline set by the Department, then the Department will return the NOI, fee and SWPPP back to the applicant.

B. *Contents of the NOI.* The NOI form contains, at a minimum, the following information:

1) Operator (Permittee) information (name, address, telephone and fax numbers, E-mail address)
2) Whether the operator is a federal, state, private, public, corporation, or other entity
3) Application Type: New or renewal
4) Invoice mailing information (name, address, and telephone and fax numbers)
5) Project Construction site information (name, county, address, contact person, directions to the site, latitude and longitude for the entrance of the site or the endpoints for linear project (in degrees, minutes, and seconds), estimated construction start date and completion date through site final stabilization, estimate of the total project acreage and the acreage to be disturbed by the operator submitting the NOI, type of the project (subdivision, school, etc), whether the project is part of a larger common plan of development.)

6) Discharge information (name of the receiving stream, ultimate receiving stream, name of municipal storm sewer system)
7) List of current permits
8) The Certification statement and signature of a qualified signatory person in accordance with 40 CFR 122.22, as adopted by reference in APCEC Regulation No. 6
9) The certification of the facility corporation
10) Other information (location of the SWPPP)
11) And the SIC Code.

C. *Notice of Coverage (NOC).* Unless notified by the Director to the contrary, dischargers who submit a complete NOI and SWPPP in accordance with the requirements of this permit are authorized to discharge stormwater from construction sites under the terms and conditions of this permit 10 business days after the date the NOI is deemed complete (which may not be the original submission date if revisions or additions were necessary) by ADEQ. If the NOC has not been received by the permittee 10 business days after the date the NOI is deemed complete by ADEQ, the NOI should be posted until the NOC is received. Upon review of the NOI and other available information, the Director may deny coverage under this permit and require submittal of an application for an individual NPDES permit.

8. Posting Notice of Coverage (NOC).

A. *Automatic Coverage Sites.* The NOC for small sites, as defined in Part I.A.51, can be obtained from the Water Division's Stormwater webpage at:

https://www.adeq.state.ar.us/water/permits/npdes/stormwater/ .

The NOC must be posted at the site prior to commencing construction. In addition, a copy of the SWPPP must be available at the construction site in accordance with Part II.A.2.B and D prior to commencing construction.

B. *Large Sites: NOC Posting for Large Construction Sites.* The posting for large construction sites shall be obtained from the Department only after the permittee has submitted the required NOI, permit fee and complete SWPPP to the Department for the coverage.

C. *Linear Projects.* If the construction project is a linear construction project (e.g., pipeline, highway, etc.), the notice shall be placed in a publicly accessible location near where construction is actively underway and moved as necessary.

Please note, this permit does not provide the public with any right to trespass on a construction site for any reason, including inspection of a site; nor does this permit require that the permittee allow members of the public access to a construction site.

9. Applicable Federal, State or Local Requirements. The operator shall ensure that the stormwater controls implemented at the site are consistent with all applicable federal, state, or local requirements. Additionally, an operator who is operating under approved local erosion and sediment plans, grading plans, local stormwater permits, or stormwater management plans shall submit signed copies of the Notice of Intent (NOI) to the local agency (or authority) upon the local agency's request.

10. Allowable Non-Stormwater Discharges.

A. The following non-stormwater discharges as part of the construction permit activity may be authorized by this permit through appropriate controls. Non-stormwater discharges shall be addressed in the stormwater pollution prevention plan and measures to minimize or eliminate non-stormwater discharge should be taken if reasonably possible.
1) Fire fighting activities;
2) Fire hydrant flushings;

3) Water used to wash vehicles (where detergents or other chemicals are not used) or to control dust in accordance with Part II.A.4.H.2;
4) Potable water sources including uncontaminated waterline flushings;
5) Landscape Irrigation;
6) Routine external building wash down which does not use detergents or other chemicals;
7) Pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled materials have been removed) and where detergents or other chemicals are not used;
8) Uncontaminated air conditioning compressor condensate (See Part I.B.13.C of this permit);
9) Uncontaminated springs, excavation dewatering and groundwater (See Part I.B.13.C of this permit);
10) Foundation or footing drains where flows are not contaminated with process materials such as solvents (See Part I.B.13.C of this permit).

11. Limitations on Coverage (Exclusions). The following stormwater discharges associated with construction activity are not covered by this permit:

A. *Post Construction Discharge*. Stormwater discharges associated with construction activities that originate from the site after construction activities have been completed, the site has undergone final stabilization, and the permit has been terminated.

B. *Discharges Mixed with Non-Stormwater*. Stormwater discharges that are mixed with sources of non-stormwater other than those identified in Part I.B.10.

C. *Discharges Covered by another Permit*. Stormwater discharges associated with construction activity that are covered under an individual or an alternative general permit may be authorized by this permit after an existing permit expires, provided the expired permit did not establish numeric effluent limitations for such discharges.

D. *Discharges into Receiving Waters with an Approved TMDL*. Discharges from a site into receiving waters for which there is an established total maximum daily load (TMDL) allocation (https://www.adeq.state.ar.us/water/planning/integrated/tmdl/) are not eligible for coverage under this permit unless the permittee develops and certifies a stormwater pollution prevention plan (SWPPP) that is consistent with the assumptions and requirements in the approved TMDL. To be eligible for coverage under this general permit, operators shall incorporate into their SWPPP any conditions applicable to their discharges necessary for consistency with the assumptions and requirements of the TMDL within any timeframes established in the TMDL. If a specific numeric allocation has been established that would apply to the project's discharges, the operator shall incorporate that allocation into its SWPPP and implement necessary steps to meet that allocation. If a numeric limit has been assigned to the facility, quarterly monitoring shall be submitted to the Department demonstrating compliance with the assigned Waste Load Allocation established in the TMDL. Please note that the Department will be reviewing this information. If it is determined that the project will discharge into a receiving stream with a TMDL, then the Department may require additional BMPs.

E. *Discharges into Impaired Receiving Waters (303(d) List)*. If stormwater discharges from a site enter a receiving water listed as impaired under Section 303(d) of the Clean Water Act (https://www.adeq.state.ar.us/water/planning/integrated/), the permittee shall incorporate into the SWPPP any additional BMPs needed to sufficiently protect water quality. Please note that the Department will be reviewing this information. If it is determined that the project will discharge to an impaired water body, then the Department may require additional BMPs.

F. Discharges into an Extraordinary Resource Water (ERW), Natural and Scenic Waterway (NSW), or Ecologically Sensitive Waterbody (ESW). Discharges from a construction site located within the watershed of any water body or

waterway designated as an Outstanding Resource Water as defined in the APC&EC Regulation No. 2.203, including ERWs, NSWs, or ESWs are not eligible for coverage under this permit unless the permittee develops and certifies a SWPPP that includes additional BMPs needed to prevent to the maximum extent possible exposure to stormwater of pollutants that could potentially impact water quality. For the purposes of this permit, the watershed of an Outstanding Resource Water will be identified by the United States Geological Survey's twelve (12) digit Hydrological Unit Code (HUC). Please note that the Department will be reviewing this information. If the site will discharge to an ERW, NSW, or ESW, then the Department may determine that additional requirements are necessary.

12. **Short Term Activity Authorization (STAA).** Any work being conducted in Waters of the State will require a Short Term Activity Authorization (STAA) from ADEQ in accordance with Regulation 2.305. An STAA is necessary for any in-stream activity that has the potential to exceed the water quality standards, including, but not limited to: gravel removal, bridge or crossing repair/maintenance, bank stabilization, debris removal, culvert replacement, flood control projects, and stream relocation. Any work being conducted in Waters of the United States may require a Section 404 permit from the U.S. Army Corps of Engineers. This permit does not authorize any activity under an STAA or Section 404 permit. The necessary forms to apply for coverage under an STAA can be found at the following link:

    https://www.adeq.state.ar.us/water/planning/instream/

    The SWPPP shall be updated to include a copy of the Short Term Activity Authorization letter upon receipt. Re-submittal of the SWPPP is not required unless specifically requested by the Department.

13. **Effluent Limitation Guidelines (ELG).** All permittees shall comply with the following effluent limits:

    A. *Erosion and Sediment Controls*. Design, install, and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants. At a minimum, such controls shall be designed, installed and maintained to:

        1) Control stormwater volume and velocity to minimize soil erosion in order to minimize pollutant discharges;
        2) Control stormwater discharges, including both peak flowrates and total stormwater volume, to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points;
        3) Minimize the amount of soil exposed during construction activity;
        4) Minimize the disturbance of steep slopes;
        5) Minimize sediment discharges from the site. The design, installation and maintenance of erosion and sediment controls shall address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site;
        6) Provide and maintain natural buffers around Waters of the State, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce pollutant discharges, unless infeasible;
        7) Minimize soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted; and
        8) Unless infeasible, preserve topsoil. Preserving topsoil is not required where the intended function of a specific area of the site dictates that the topsoil be disturbed or removed.

    B. *Soil Stabilization*. Stabilization of disturbed areas must, at a minimum, be initiated immediately (unless weather conditions do not allow immediate initiation) whenever any clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. In arid, semiarid, and drought-stricken areas where initiating vegetative stabilization measures immediately is infeasible, alternative stabilization measures must be employed as specified by the permitting authority. Stabilization must be completed within a period of time determined by the

permitting authority. In limited circumstances, stabilization may not be required if the intended function of a specific area of the site necessitates that it remain disturbed.

C. *Dewatering.* Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, are prohibited unless managed by appropriate controls. There shall be no turbid discharges to Waters of the State resulting from dewatering activities. If trench or ground waters contain sediment, it shall pass through a sediment settling pond or other equally effective sediment control device, prior to being discharged from the construction site. Alternatively, sediment may be removed by settling in place or by dewatering into a sump pit, filter bag, or comparable practice. Ground water dewatering which does not contain sediment or other pollutants is not required to be treated prior to discharge. However, care shall be taken when discharging ground water to ensure that it does not become pollutant-laden by traversing over disturbed soils or other pollutant sources.

D. *Pollution Prevention Measures.* Design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures shall be designed, installed, implemented and maintained to:

1) Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters shall be treated in a sediment basin or BMP control that provides equivalent or better treatment prior to discharge;
2) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a discharge of pollutants, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use); and
3) Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.

E. *Prohibited discharges.* The following discharges are prohibited:

1) Wastewater from washout of concrete, unless managed by an appropriate control;
2) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
3) Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and
4) Soaps or solvents used in vehicle and equipment washing.

F. *Surface Outlets.* When discharging from basins and impoundments, utilize outlet structures that withdraw water from the surface, unless infeasible.

14. Natural Buffer Zones. A natural buffer zone as stated below shall be maintained at all times. Exceptions from this requirement for areas such as water crossings, limited water access, and restoration of the buffer are allowed if the permittee fully documents in the SWPPP the circumstances and reasons for the buffer zone encroachment. Additionally, this requirement is not intended to interfere with any other ordinance, rule or regulation, statute or other provision of law.

A. For construction projects where clearing and grading activities will occur, the SWPPP shall provide at least twenty-five (25) feet of natural buffer zone, as measured horizontally from the top of the bank to the disturbed area, from any Waters of the State.

B. The Department may also require up to fifty (50) feet of natural buffer zone, as measured from the top of the bank to the disturbed area, from established TMDL water bodies, streams listed on the 303(d) list, an Extraordinary Resource

Water (ERW), Ecologically Sensitive Waterbody (ESW), Natural and Scenic Waterway (NSW), or any other uses at the discretion of the Director.

C. Linear projects will be evaluated individually by the Department to determine natural buffer zone setbacks.

15. Waivers from Permit Coverage. The Director may waive the otherwise applicable requirements of this general permit for stormwater discharges from construction activities under the terms and conditions described in this section.

A. *Waiver Applicability and Coverage*. Based upon 40 CFR 122.26.b.15.i.A, operators of small construction activities may apply for and receive a waiver from the requirements to obtain this permit.

B. *No Stormwater Leaving the Site*. If all of the stormwater from the construction activity is captured on-site under any size storm event and allowed to evaporate, soak into the ground on-site, or is used for irrigation, a permit is not needed.

C. *TMDL Waivers*. This waiver is available for sites with automatic coverage if the ADEQ has established or approved a TMDL that addresses the pollutant(s) of concern and has determined that controls on stormwater discharges from small construction activity are not needed to protect water quality. The pollutant(s) of concern include sediment (such as total suspended solids, turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the construction activity. Information on TMDLs that have been established or approved by ADEQ is available from ADEQ online at

https://www.adeq.state.ar.us/water/planning/integrated/tmdl/.

16. Notice of Termination (NOT). When all construction activities that disturbed soil are complete, the site has reached final stabilization (100% stabilization with 80% density, or as defined in Part I.A.26.B for sites where background native vegetation will cover less than 100% of the ground), all stormwater discharges from construction activities authorized by this permit are eliminated and all temporary sediment controls are removed and properly disposed, the operator of the facility may submit a complete Notice of Termination (NOT) to the Director. Along with the NOT, pictures that represent the entire site should be submitted for review. Final stabilization is not required if the land is returned to its pre-construction agriculture use. Operators of small construction sites are not required to submit NOTs for their construction sites. However, final stabilization is required on all sites. If a Notice of Termination is not submitted when the project is completed, the operator will be responsible for annual fees.

17. Responsibilities of the Operator of a Larger Common Plan of Development for a Subdivision.

A. The operator is ultimately responsible for the runoff from the perimeter of the entire development. Regardless of the reason for the runoff, the operator is responsible for ensuring sufficient overall controls of the development.

B. The operator shall not terminate the permit coverage until the following conditions have been met:

1) After all construction including landscaping and lot development has been completed; and
2) All lots are sold and developed.

The following exceptions to this requirement can apply:

a. less than 100% sold and developed at the discretion of the Director, or
b. Separation of the larger common plan if twenty-four (24) months have passed with no construction activity, or
c. All lots are developed and there are no temporary common controls for subdivision outfalls, i.e. sediment

basins, large sediment traps, check dams, etc.

3) If lots are sold and then re-sold to a third party, permit coverage should be obtained by each of the operators while they have ownership of the lots. The second owner is responsible for obtaining the same certification from the third owner, i.e. the certification shall pass from owner to owner.

C. The operator shall not terminate permit coverage until the operators of all of the individual lots within the larger common plan are notified of their permitting requirements under this general permit. In this case, the signed certification statements from each operator of individual lots shall be maintained in the stormwater pollution prevention plan for the large common plan. A copy of the signed certifications shall be submitted to ADEQ with the NOT. The certification shall be as follows:

"I, _____, operator of an individual lot #_____, block #_____ of _____ subdivision, certify under penalty of law that I was notified by the operator of the larger common plan of the stormwater permitting requirements for my construction site(s). I understand prior to commencement of any construction activity I have to prepare and comply with a SWPPP and post the Construction Site Notice. I understand that prior to the sale of this lot to another party; I must notify the new owner of ADEQ requirements and obtain this certification from the new owner."

Signature _____

D. The following examples are provided as clarification:

1) If a small portion of the original common plan of development remains undeveloped and there has been a period of time (i.e., more than 24 months) where there are no ongoing construction activities (i.e., all areas are either undisturbed or have been finally stabilized), operators may re-evaluate the original project based on the acreage remaining from the original "common plan." If less than five but more than one acre remains to build out the original "common plan", coverage under the large permit may not be required. However, operators will need to comply with the terms and conditions for Small Construction Sites in the Construction General Permit. If less than one acre remains of the original common plan, the individual project may be treated as a part of a less than one acre development and no permit would be required.
2) If operators have a long-range master plan of development where some portions of the master plan are conceptual rather than a specific plan of future development and the future construction activities would, if they occur at all, happen over an extended period of time (i.e., more than 24 months), operators may consider the "conceptual" phases of development to be separate "common plans" provided the periods of construction for the physically interconnected phases will not overlap.
3) Where discrete construction projects within a larger common plan of development or sale are located ¼ mile or more apart and the area between the projects is not being disturbed, each individual project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same "common plan" is not concurrently being disturbed. For example, an interconnecting access road or pipeline were under construction at the same time, they would generally be considered as a part of a single "common plan" for permitting purposes.
4) If the operator sells all the lots in the subdivision to one or more multi-lot homebuilder(s), provisions shall be made to obtain stormwater permit coverage by one of the following options:
   a. The permit may be transferred from the first "operator" to the new/second "operator".
   b. A new, separate permit may be obtained by the second "operator".
   NOTE: If a new permit is to be obtained, then it shall be obtained before the first/original permit is terminated.
5) If the operator retains ownership of any lots in the subdivision, the operator shall maintain permit coverage for those lots under the original permit. The operator shall modify the Stormwater Pollution Prevention Plan (SWPPP)

by stating which lots are owned and marking the lots on the site map. If there are one (1) or two (2) lots remaining and the total acreage is less than five (5) acres, the original permit could be terminated and those lots could be covered as a small site.

18. Change in Operator. For stormwater discharges from large construction sites where the operator changes, including instances where an operator is added after the initial NOI has been submitted, the new operator shall ensure that a permit transfer form is received by the Department at least two (2) weeks prior to the operator beginning work at the site.

19. Late Notifications. A discharger is not precluded from submitting an NOI in accordance with the requirements of this part after the dates provided in Part I.B.7 of this permit. In such instances, the Director may bring an enforcement action for failure to submit an NOI in a timely manner or for any unauthorized discharges of stormwater associated with construction activity that have occurred on or after the dates specified in this permit.

20. Failure to Notify. The operator of a construction site who fails to notify the Director of their intent to be covered under this permit, and who potentially discharges pollutants (sediment, debris, etc.) to Waters of the State without an NPDES permit, is in violation of the Arkansas Water and Air Pollution Control Act.

21. Maintenance. Determination of the acreage of disturbance does not typically include disturbance for routine maintenance activities on existing roads where the line and grade of the road is not being altered, nor does it include the paving of existing roads. Maintenance activities (returning to original conditions) are not regulated under this permit unless one or more acres of underlying or surrounding soil are cleared, graded, or excavated as part of the operation.

22. Releases in Excess of Reportable Quantities.

A. The discharge of hazardous substances or oil in the stormwater discharge(s) from a facility shall be prevented or minimized in accordance with the applicable stormwater pollution prevention plan for the facility. This permit does not relieve the operator of the reporting requirements of 40 CFR Parts 110, 117 and 302. Where a release containing a hazardous substance or oil in an amount equal to or in excess of a reporting quantity established under either 40 CFR 110, 40 CFR 117, or 40 CFR 302, occurs during a 24-hour period, the following action shall be taken:

1) Any person in charge of the facility is required to notify the National Response Center (NRC) (800-424-8802) in accordance with the requirements of 40 CFR 110, 40 CFR 117, or 40 CFR 302 as soon as he/she has knowledge of the discharge;
2) The operator shall submit within five (5) calendar days of knowledge of the release a written description of the release (including the type and estimate of the amount of material released), the date that such release occurred, and the circumstances leading to the release, and steps to be taken in accordance with Part II.B.13 of this permit to the ADEQ.
3) The Stormwater Pollution Prevention Plan (SWPPP) described in Part II.A of this permit shall be modified within fourteen (14) calendar days of knowledge of the release to:

   a. Provide a description of the release and the circumstances leading to the release; and
   b. The date of the release;

4) Additionally, the SWPPP shall be reviewed to identify measures to prevent the reoccurrence of such releases and to respond to such releases, and the plan shall be modified where appropriate.

B. *Spills*. This permit does not authorize the discharge of hazardous substances or oil resulting from an on-site spill.

23. Attainment of Water Quality Standards.

The operator shall select, install, implement and maintain control measures at the construction site that minimize the discharge of pollutants for which a stream is impaired at the discretion of the Director as necessary to protect water quality. In general, except in situations explained in below, the stormwater controls developed, implemented, and updated to be considered stringent enough to ensure that discharges do not cause or contribute to an excursion above any applicable water quality standard.

At any time after authorization, the ADEQ may determine that the stormwater discharges may cause, have reasonable potential to cause, or contribute to an excursion above any applicable water quality standard. If such a determination is made, ADEQ will require the permittee to:

A. Develop a supplemental BMP action plan describing SWPPP modifications to address adequately the identified water quality concerns and submit valid and verifiable data and information that are representative of ambient conditions and indicate that the receiving water is attaining water quality standards; or

B. Cease discharges of pollutants from construction activity and submit an individual permit application.

All written responses required under this part shall include a signed certification consistent with Part II.B.9.

24. Requiring an Individual Permit

The Director may require any person eligible for coverage under the general permit to apply for and obtain an individual permit. In addition, any interested person(s) may submit an application for an individual permit. The Director may consider the issuance of individual permits according to the criteria in 40 CFR 122.28(b)(3).

Coverage of the facility under this general permit is automatically terminated when: (1) the operator fails to submit the required individual NPDES permit application within the defined time frame; or (2) the individual NPDES permit is issued by ADEQ and effective.

Any operator covered under this general permit may request to be excluded from the coverage of this permit by applying for an APC&EC Regulation 6 individual permit. The operator shall submit an application for an individual permit with the reasons supporting the application to ADEQ. If a final, individual NPDES permit is issued to an operator otherwise subject to this general permit, the applicability of this general permit to the facility is automatically terminated on the effective date of the individual NPDES permit. Otherwise, the applicability of this general permit to the facility remains in full force and effect.

PART II
STANDARD CONDITIONS

Information in **Part II** is organized as follows:

Section A: Stormwater Pollution Prevention Plans (SWPPP):

1. Deadlines for Plan Preparation and Compliance
2. Signature, SWPPP, Inspection Reports, and Notice of Coverage (NOC)
3. Keeping SWPPP Current
4. Contents of the Stormwater Pollution Prevention Plan
5. Plan Certification

Section B: Standard Permit Conditions:

1. Retention of Records
2. Duty to Comply
3. Penalties for Violations of Permit Conditions
4. Continuance of the General Permit
5. Need to Halt or Reduce Activity Not a Defense
6. Duty to Mitigate
7. Duty to Provide Information
8. Other Information
9. Signatory Requirements
10. Certification
11. Penalties for Falsification of Reports
12. Penalties for Tampering
13. Oil and Hazardous Substance Liability
14. Property Rights
15. Severability
16. Transfers
17. Proper Operation and Maintenance
18. Inspection and Entry
19. Permit Actions
20. Re-Opener Clause
21. Local Requirements
22. Applicable Federal, State Requirements

SECTION A: STORMWATER POLLUTION PREVENTION PLANS (SWPPP)

The operator shall prepare a Stormwater Pollution Prevention Plan (the plan/SWPPP) before permit coverage. At least one SWPPP shall be developed for each construction project or site covered by this permit. The SWPPP shall follow the order outlined in Part II.A.4 & 5 below. This basic ADEQ format is available through the Department's website https://www.adeq.state.ar.us/water/permits/npdes/stormwater/ . Other formats may be used at the discretion of the Director **if** the format has been approved by the Department prior to use. The operator shall implement the SWPPP as written from initial commencement of construction activity until final stabilization is complete, with changes being made as deemed necessary by the permittee, local, state or federal officials. The plan shall be prepared in accordance with good engineering practices, by qualified personnel and shall:

- Identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges from the construction;
- Identify, describe and ensure the implementation of Best Management Practices (BMPs), with emphasis on initial site stabilization, which are to be used to reduce pollutants in stormwater discharges from the construction site;
- Be site specific to what is taking place on a particular construction site;
- Ensure compliance with the terms and conditions of this permit; and
- Identify the responsible party for on-site SWPPP implementation.

1. Deadlines for Plan Preparation and Compliance.

A. *Automatic Coverage Sites.*

The plan shall be completed prior to the commencement of construction activities and updated as appropriate. Submittal of the NOI, permit fee and SWPPP is not required. All conditions set forth in Part II.A must be followed, and the NOC must be posted at the site prior to commencing construction. In addition, a copy of the SWPPP must be available at the construction site in accordance with Part II.2.B and D prior to commencing construction.

B. *Large Construction Sites.*

The plan shall be completed and submitted for review, along with an NOI and initial permit fee 14 business days prior to the commencement of construction activities. Submittals of updates to the plan during the construction process are required only if requested by the Director.

C. *Existing Permittees.*

Existing permittees that were permitted prior to the issuance of this renewal permit are required to update their plan as appropriate to come into compliance with the requirements contained in Part II.A.4 by the effective date of this permit.

2. Signature, Stormwater Pollution Prevention Plan (SWPPP), Inspection Reports and Notice of Coverage (NOC).

A. The SWPPP and inspection reports shall be signed by the operator (or cognizant official) in accordance with Part II.B.9 and be retained at the construction site during normal business hours (8:00 A.M. – 5:00 P.M.).

B. The operator shall make SWPPP and inspection reports available, upon request, to the Director, the EPA, or a State or local agency reviewing sediment and erosion plans, grading plans, or stormwater management plans, or, in the case of a stormwater discharge associated with construction activity which discharges through a municipal separate storm sewer system with an NPDES permit, to the municipal operator of the system.

C. The Director, or authorized representative, may notify the operator at any time that the plan does not meet one or more of the minimum requirements of this Part. Within seven (7) business days of such notification from the Director (or as otherwise provided by the Director) or authorized representative, the operator shall make the required changes to the

plan and submit to the Director a written certification that the requested changes have been made. The Department may request re-submittal of the SWPPP to confirm that all deficiencies have been adequately addressed. The Department may also take appropriate enforcement action for the period of time the operator was operating under SWPPP that did not meet the minimum requirements of this permit.

D. The operator shall post the NOC near the main entrance of the construction site and visible to the public. The NOC will indicate the location of the SWPPP. If the SWPPP location is changed from the initial location, the NOC shall be updated to reflect the correct location of the SWPPP.

3. Keeping SWPPP Current. The operator shall amend the SWPPP within seven (7) business days or whenever there is a change in design, construction, operation, or maintenance at the construction site which has or could have a significant effect on the potential for the discharge of pollutants to the Waters of the State that has not been previously addressed in the SWPPP. The SWPPP should also be modified if a determination has been made through inspections, monitoring (if required), ***or*** investigation by the operator, local, state, or federal officials that the discharges are causing or contributing to water quality violation or the plan proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified in stormwater discharges from the construction site.

4. Contents of the Stormwater Pollution Prevention Plan (SWPPP). The SWPPP shall include the following items:

A. *Site Description*. SWPPP shall provide a description of the following:

1) A description of the nature of the construction activity and its intended use after the Notice of Intent (NOI) is filed (i.e., residential subdivision, shopping mall, etc.);
2) A description of the intended sequence of major activities which disturb soils for major portions of the site (e.g. grubbing, excavation, grading, infrastructure installation, etc.);
3) Estimates of the total area of the site (including off-site borrow and fill areas) and the total area of the site that is expected to be disturbed by excavation, grading or other activities; and
4) An estimate of the runoff coefficient of the site for pre- and post-construction activities and existing data describing the soil or the quality of any discharge from the site.

B. *Responsible Parties*. The SWPPP shall identify (as soon as this information is known) all parties (i.e., General Contractors, Landscapers, Project Designers, and Inspectors) responsible for particular services they provide to the operator to comply with the requirements of the SWPPP for the project site, and areas over which each party has control. If these parties change over the life of the permit, or new parties are added, the SWPPP should be updated to reflect these changes.

C. *Receiving Waters*. The SWPPP shall include a clear description of the nearest receiving water(s), or if the discharge is to a municipal separate storm sewer, the name of the operator of the municipal system, and the ultimate receiving water(s).

D. *Documentation of Permit Eligibility Related to the 303(d) list and Total Maximum Daily Loads (TMDL)*. The SWPPP should include information on whether or not the stormwater discharges from the site enter a water body that is on the most recent 303(d) list or with an approved TMDL. If the stormwater discharge does enter a water body that is on the most recent 303(d) list or with an approved TMDL, then the SWPPP should address the following items:

1) Identification of the pollutants that the 303(d) list or TMDL addresses, specifically whether the 303(d) list or TMDL addresses sediment or a parameter that addresses sediment (such as total suspended solids, turbidity, or siltation);
2) Identification of whether the operator's discharge is identified, either specifically or generally, on the 303(d) list or any associated assumptions and allocations identified in the TMDL for the discharge; and
3) Measures taken by the operator to ensure that its discharge of pollutants from the site is consistent with the assumptions and allocations of the TMDL.

If the Department determines during the review process that the proposed project will be discharging to a receiving water that is on the most recent 303(d) list or with an approved TMDL, then the Department will notify the applicant to include additional Best Management Practices in the SWPPP.

E. *Attainment of Water Quality Standards After Authorization*.

1) The permittee shall select, install, implement, and maintain BMPs at the construction site that minimize pollutants in the discharge as necessary to meet applicable water quality standards. In general, except in situations explained below, the SWPPP shall be developed, implemented, and updated to be considered as stringent as necessary to ensure that the discharges do not cause or contribute to an excursion above any applicable water quality standard.

2) At any time after authorization, the Department may determine that the stormwater discharges may cause, have reasonable potential to cause, or contribute to an excursion above any applicable water quality standard. If such a determination is made, the Department will require the permittee to:

   a. Develop a supplemental BMP action plan describing SWPPP modifications to adequately address the identified water quality concerns and submit valid and verifiable data and information that are representative of ambient conditions and indicate that the receiving water is attaining water quality standards; or

   b. Cease discharges of pollutants from construction activity and submit an individual permit application.

3) All written responses required under this part shall include a signed certification (Part II.B.9)

F. *Site Map*. The SWPPP shall contain a legible site map (or multiple maps, if necessary) complete to scale, showing the entire site, that identifies, at a minimum, the following:

1) Pre-construction topographic view;
2) Direction of stormwater flow (i.e., use arrows to show which direction stormwater will flow) and approximate slopes anticipated after grading activities;
3) Delineate on the site map areas of soil disturbance and areas that will not be disturbed under the coverage of this permit;
4) Location of major structural and nonstructural controls identified in the plan;
5) Location of main construction entrance and exit;
6) Location where stabilization practices are expected to occur;
7) Locations of off-site materials, waste, borrow area, or equipment storage area;
8) Location of areas used for concrete wash-out;
9) Location of all Waters of the State with associated natural buffer boundary lines. Identify floodplain and floodway boundaries, if available;
10) Locations where stormwater is discharged to Waters of the State or a municipal separate storm sewer system if applicable,
11) Locations where stormwater is discharged off-site (should be continuously updated);
12) Areas where final stabilization has been accomplished and no further construction phase permit requirements apply;
13) A legend that clearly specifies any erosion and sediment control measure symbols/labels used in the site map and/or detail sheet; and
14) Locations of any storm drain inlets on the site and in the immediate vicinity of the site.

G. *Stormwater Controls*. Each plan shall include a description of appropriate controls and measures that will be implemented at the construction site. The plan will clearly describe for each activity identified in the project description control measures associated with the activity and the schedule during the construction process that the measures will be implemented. Perimeter controls for the site shall be installed after the clearing and grubbing necessary for installation of the measure, but before the clearing and grubbing for the remaining portions of the site. Perimeter controls shall be actively maintained until final stabilization of those portions of the site upward of the

perimeter control. Temporary controls shall be removed after final stabilization and properly disposed. The description and implementation of controls shall address the following minimum components:

1) Initial Site Stabilization, Erosion, and Sediment Controls and Best Management Practices. Design, install, implement and maintain effective erosion and sediment controls to minimize the discharge of pollutants. At a minimum the following controls and Best Management Practices (BMPs) shall be designed, installed, implemented and maintained. Therefore, the SWPPP shall address, at a minimum, the following:

   a. For larger common plans, only streets, drainage, utility areas, areas needed for initial construction of streets (e.g., borrow pits, parking areas, etc.) and areas needed for stormwater structures may be disturbed initially. Upon stabilization of the initial areas, additional areas may be disturbed.
   b. The construction-phase erosion (such as site stabilization) and sediment controls (such as check dams) should be designed to retain sediment on-site to the extent practicable.
   c. All control measures shall be properly selected, installed, and maintained in accordance with the manufacturer's specifications, good engineering, and construction practices. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the permittee shall replace or modify the control for site situations.
   d. If sediment escapes the construction site, off-site accumulations of sediment shall be removed at a frequency sufficient to minimize off-site impacts (e.g., fugitive sediment in a street could be washed into storm sewers by the next rain or pose a safety hazard to users of public streets). This permit does not give the authority to trespass onto other property; therefore this condition should be carried out along with the permission of neighboring land owners to remove sediment.
   e. Sediment shall be removed from sediment traps (if used, please specify what type) or sedimentation ponds when design capacity has been reduced by 50%.
   f. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls picked up daily).
   g. Off-site material storage areas (also including overburden and stockpiles of dirt, borrow areas, etc.) used solely by the permitted project are considered a part of the project and shall be addressed in the SWPPP.

2) Stabilization practices. The SWPPP shall include, at a minimum, the following information:

   a. Description and Schedule: A description of initial, interim, and permanent stabilization practices, including site-specific scheduling of the implementation of the practices. Site plans should ensure that existing vegetation is preserved where attainable and that disturbed areas are stabilized. Stabilization practices may include: mulching, temporary seeding, permanent seeding, geotextiles, sod stabilization, natural buffer strips, protection of trees, and preservation of mature vegetation and other appropriate measures.

   b. Description of natural buffer areas: The Department requires that a natural buffer zone be established between the top of stream bank and the disturbed area. The SWPPP shall contain a description of how the site will maintain natural buffer zones. For construction projects where clearing and grading activities will occur, SWPPP shall provide at least twenty-five (25) feet of natural buffer zone from any named or unnamed streams, creeks, rivers, lakes or other water bodies. The plan shall also provide at least fifty (50) feet of natural buffer zone from established TMDL water bodies, streams listed on the 303(d) list, an Extraordinary Resource Water (ERW), Ecologically Sensitive Waterbody (ESW), Natural and Scenic Waterway (NSW), or other uses at the discretion of the Director. If the site will be disturbed within the recommended buffer zone, then the buffer zone area shall be stabilized as soon as possible. Exceptions from this requirement for areas such as water crossings, limited water access, and restoration of the buffer are allowed if the permittee fully documents in the SWPPP the circumstances and reasons for the buffer zone encroachment. Additionally, this requirement is not intended to interfere with any other ordinance, rule or regulation, statute or other provision of law. Please note that above-grade clearing that does not disturb the soil in the buffer zone area does not have to comply with buffer zone requirements.

   c. Records of Stabilization: A record of the dates when grading activities occur, when construction activities

temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated shall be included in the plan.

d. Deadlines for Stabilization After Construction Activity Temporarily Ceases: Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily ceased, but in no case more than fourteen (14) days after the construction activity in that portion of the site has temporarily ceased, except:

(1) Where the initiation of stabilization measures by the fourteenth (14^{th}) day after construction activity temporarily ceases is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.

(2) In arid, semiarid, and drought-stricken areas where initiating vegetative stabilization measures immediately is infeasible, alternative stabilization measures shall be employed as specified by the permitting authority.

e. Deadline for Stabilization After Construction Activity Permanently Ceases: Stabilization measures shall be initiated immediately in portions of the site where construction activities have permanently ceased, except:

(1) Where the initiation of stabilization measures immediately after construction activity permanently ceases is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.

(2) In arid, semiarid, and drought-stricken areas where initiating vegetative stabilization measures immediately is infeasible, alternative stabilization measures shall be employed as specified by the permitting authority.

3) Structural Practices. A description of structural practices to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable. Structural practices should be placed on upland soils to the degree attainable. The installation of these devices may be subject to Section 404 of the Clean Water Act. Such practices may include but are not limited to:

- silt fences (installed and maintained)
- earthen dikes to prevent run-on
- drainage swales to prevent run-on
- check dams
- subsurface drains
- pipe slope drains
- storm drain inlet protection
- rock outlet protection
- sediment traps
- reinforced soil retaining systems
- gabions
- temporary or permanent sediment basins.

A combination of erosion and sediment control measures is encouraged to achieve maximum pollutant removal. Adequate spillway cross-sectional area and re-enforcement shall be provided for check dams, sediment traps, and sediment basins.

a. Sediment Basins:

(1) For common drainage locations that serve an area with ten (10) or more acres (including run-on from other areas) draining to a common point, a temporary or permanent sediment basin that provides storage based on either the smaller of 3600 cubic feet per acre, or a size based on the runoff volume of a 10 year, 24 hour storm, shall be provided where attainable (so as not to adversely impact water quality) until final stabilization of the site. In determining whether installing a sediment basin is attainable, the operator may

consider factors such as site soils, slope, available area on site, etc. Proper hydraulic design of the outlet is critical to achieving the desired performance of the basin. The outlet should be designed to drain the basin within twenty-four (24) to seventy-two (72) hours. (A rule of thumb is one square foot per acre for a spillway design.) The 24-hour limit is specified to provide adequate settling time; the seventy-two (72) hour limit is specified to mitigate vector control concerns. If a pipe outlet design is chosen for the outfall, then an emergency spillway is required. If "non-attainability" is claimed, then an explanation of non-attainability shall be included in the SWPPP**.** Where a sediment basin is not attainable, smaller sediment basins or sediment traps shall be used. Where a sediment basin is un-attainable, natural buffer strips or other suitable controls which are effective are required for all side slopes and down slope boundaries of the construction area. The plans for removal of the sediment basin should also be included with the description of the basin in the SWPPP.

(2) For drainage locations serving an area less than ten (10) acres, sediment traps, silt fences, or equivalent sediment controls are required for all side slope and down slope boundaries of the construction area unless a sediment basin providing storage based on either the smaller of 3600 cubic feet per acre, or a size based on the run off volume of a 10 year, 24 hour storm is provided. (A rule of thumb is one square foot per acre for a spillway.) However, in order to protect the Waters of the State, the Director, at their discretion, may require a sediment basin for any drainage areas draining to a common point.

b. Velocity Dissipation Devices:

Velocity dissipation devices shall be placed at discharge locations, within concentrated flow areas serving two or more acres, and along the length of any outfall channel to provide a non-erosive flow velocity from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (i.e., no significant changes in the hydrological regime of the receiving water). Please note that the use of hay-bales is not recommended in areas of concentrated flow.

H. *Other Controls*.

1) No solid materials, including building materials, shall be discharged to Waters of the State or offsite.
2) Off-site vehicle tracking of sediments and the generation of dust shall be minimized through the use of a stabilized construction entrance and exit or vehicle tire washing.
3) For lots that are less than one (1) acre in size an alternative method may be used in addition to a stabilized construction entrance. An example of an alternative method could be daily street sweeping. This could allow for the shortening of the construction entrance.
4) The plan shall ensure and demonstrate compliance with applicable State or local waste disposal, temporary and permanent sanitary sewer or septic system regulations.
5) No liquid concrete waste shall be discharged to Waters of the State. Appropriate controls to prevent the discharge of concrete washout waters shall be implemented if concrete washout will occur on-site.
6) No contaminants from fuel storage areas, hazardous waste storage and truck wash areas shall be discharged to waters of the State or offsite. Methods for protecting these areas shall be identified and implemented. These areas should not be located near a water body, if there is a water body on or near the project.

I. *Non-stormwater discharges*. Sources of non-stormwater listed in Part I.B.10 of this permit that are combined with stormwater discharges associated with construction activity shall be identified in the plan. This list should be site specific non-stormwater discharges.

J. *Post-Construction Stormwater Management*. The operator is required to provide a description of measures that will be installed during the construction process to control pollutants in stormwater discharges that will occur after construction operations have been completed. Structural measures should be placed on upland soils to the degree attainable. The installation of these devices may be subject to Section 404 (Corps of Engineers) of the Clean Water Act. This permit only addresses the installation of stormwater management measures, and not the ultimate operation and maintenance of such structures after the construction activities have been completed and the site has undergone final stabilization.

However, post-construction stormwater BMPs that discharge pollutants from a point source once construction is completed may need authorization under a separate ADEQ NPDES permit. Such practices may include but are not limited to:

- infiltration of runoff onsite
- flow attenuation by use of open vegetated swales and natural depressions
- stormwater retention structures
- stormwater detention structures (including wet ponds)
- sequential systems, which combine several practices

A goal of at least 80 % removal of total suspended solids from these flows which exceed predevelopment levels should be used in designing and installing stormwater management controls (where practicable). Where this goal is not met, the operator shall provide justification for rejecting each practice listed above based on site conditions.

K. *Applicable State or Local Programs*. The SWPPP shall be updated as necessary to reflect any revisions to applicable federal, state, or local requirements that affect the stormwater controls implemented at the site.

L. *Inspections*. Inspections should conducted by qualified personnel (provided by the operator). Inspections shall include all areas of the site disturbed by construction activity and areas used for storage of materials that are exposed to precipitation. Inspectors shall look for evidence of, or the potential for, pollutants entering the stormwater conveyance system. Erosion and sedimentation control measures shall be observed to ensure proper operation. Discharge locations shall be inspected to determine whether erosion control measures are effective in preventing significant impacts to Waters of the State or offsite, where accessible. Where discharge locations are inaccessible, nearby downstream locations shall be inspected to the extent that such inspections are practicable. Locations where vehicles enter or exit the site shall be inspected for evidence of off-site sediment tracking. Inspections may not be required if the lot(s) within a larger common plan is/are sufficiently stabilized. In addition, inspections may not be required on a completed section of a linear project if that section has been sufficiently stabilized. Stabilized areas of the project should be indicated in the SWPPP and site map and show what date they were stabilized. The operator shall ensure that no sediment will leave the lot(s) that are stabilized. These lots shall be identified within the SWPPP and show what date they were stabilized. If the operator is unable to ensure this, then inspections shall continue.

1) Inspection Frequency. Inspections shall be conducted in accordance with one of the following schedules listed below. The schedule **must be specified** in the Stormwater Pollution Prevention Plan (SWPPP).

   a. At least once every 7 calendar days, or
   b. At least once every 14 calendar days and within 24 hours of the end of a storm event of 0.25 inches or greater (a rain gauge must be maintained on-site).

2) Inspection Form. The ADEQ inspection form should be used for all inspections. The inspection form should include any erosion/sediment controls that are being used on the site. The form is available on the Department's website www.adeq.state.ar.us. If a different form is used, it shall at a minimum contain the following information:

   a. Inspector Name and Title
   b. Date of Inspection
   c. Amount of Rainfall and Days Since Last Rain Event (only applicable to Part II.A.4.L.1.b)
   d. Approximate beginning and duration of the storm event
   e. Description of any discharges during inspection
   f. Locations of discharges of sediment/other pollutants
   g. Locations of BMPs in need of maintenance or where maintenance was performed
   h. If the BMPs are in working order and if maintenance is required (including when scheduled and completed)
   i. Locations that are in need of additional controls
   j. Location and Dates When Major Construction Activities Begin, Occur or Cease
   k. Signature of qualified signatory official, in accordance with Part II.B.9

Additional information may be added to the inspection report at the permittee's discretion.

3) Inspection Records. The report shall be retained as part of the SWPPP for at least three (3) years from the date the site is finally stabilized. The report shall be signed and have a certification statement in accordance with the requirements of this permit.

4) Winter Conditions. Inspections will not be required at construction sites where snow cover exists over the entire site for an extended period, and melting conditions do not exist. If there is any runoff from the site at any time during snow cover, melting conditions would be considered to be existent at the site and this inspection waiver would not apply. Regular inspections, as required by this permit, are required at all other times as specified in this permit. If winter conditions prevent compliance with the permit, documentation of the beginning and ending date of winter conditions should be included in the SWPPP.

5) Adverse Weather Conditions. Adverse conditions are those that are dangerous or create inaccessibility for personnel, such as local flooding, high winds, or electrical storms, or situations that otherwise make inspections impractical, such as extended frozen conditions. When adverse weather conditions prevent the inspection of the site, an inspection should be completed as soon as is safe and feasible. If adverse weather conditions prevent compliance with the permit, documentation of the beginning and ending date of adverse weather conditions should be included in the SWPPP.

M. *Maintenance*. A description of procedures to maintain vegetation, erosion and sediment control measures and other protective measures in good, effective operating condition shall be outlined in the plan. Any repairs that are needed based on an inspection shall be completed, when practicable, before the next storm event, but not to exceed a period of three (3) business days of discovery, or as otherwise directed by state or local officials. However, if conditions do not permit large equipment to be used, a longer time frame is allowed if the condition is thoroughly documented on the inspection form. Maintenance for manufactured controls shall be done at a minimum of the manufacturer's specifications. Maintenance for non-manufactured controls, i.e. check dams and sediment traps, shall be done upon 50% capacity.

N. *Employee Training*. The permittee/operator is responsible for training personnel who are responsible for implementing activities identified in the SWPPP on the components and goals of the SWPPP and the requirements of the general permit. This includes contractors and subcontractors. Training should be given by a knowledgeable and qualified trainer. The SWPPP shall identify periodic dates for such training and records of training shall be maintained with the SWPPP. Training records that are maintained electronically (i.e. database, etc.) do not need to be maintained with the SWPPP, but shall be accessible upon request. Formal training classes given by Universities or other third-party organizations are not required but recommended for qualified trainers; the permittee is responsible for the content of the training being adequate for personnel to implement the requirements of the permit.

5. Plan Certification. The SWPPP Certification shall be signed by either the operator or the cognizant official identified on the Notice of Intent. All documents required by the permit and other information requested by the Director shall be signed by operator or by a duly authorized representative of the operator (Please see Part II.B.10 below for certification).

SECTION B: STANDARD PERMIT CONDITIONS

1. Retention of Records.

A. The operator shall retain records of all Stormwater Pollution Prevention Plans, all inspection reports required by this permit, and records of all data used to complete the Notice of Intent (NOI) to be covered by this permit for a period of at least three years from the date the Notice of Termination letter is signed by the Department. This period may be extended by request of the Director at any time.

B. The operator shall retain a signed copy of the Stormwater Pollution Prevention Plan (SWPPP) and inspection reports required by this permit at the construction site from the date of project initiation to the date of final stabilization.

2. Duty to Comply. The operator shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Water Act and the Arkansas Water and Air Pollution Control Act and is grounds for: enforcement action; permit termination, revocation and re-issuance, or modification; or denial of a permit renewal application.

3. Penalties for Violations of Permit Conditions. The Arkansas Water and Air Pollution Control Act (Ark. Code Ann. 8-4-101 et seq.) provides that any person who violates any provisions of a permit issued under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year, or a criminal penalty of not more than twenty five thousand dollars ($25,000) or by both such fine and imprisonment for each day of such violation. Any person who violates any provision of a permit issued under the Act may also be subject to civil penalty in such amount as the court shall find appropriate, not to exceed ten thousand dollars ($10,000) for each day of such violation. The fact that any such violation may constitute a misdemeanor shall not be a bar to the maintenance of such civil action.

4. Continuance of the General Permit. Permittees wishing to continue coverage under this general permit shall submit a Renewal NOI (see Part I.B.4 for where to submit documentation) up to 180 days prior to the expiration date, but no later than 30 days prior to the expiration date. No additional fee is required to be submitted along with the Renewal NOI.

An expired general permit continues in force and effect until a new general permit is issued. If this permit is not re-issued or replaced prior to the expiration date, it will be administratively continued in accordance with Ark. Code Ann. § 8-4-203(m) and remain in force and effect. If a permittee was granted permit coverage prior to the expiration date, the permittee will automatically remain covered by the continued permit until the earliest of:

A. The effective date of the re-issuance or replacement of this permit and a timely submittal of a renewal NOI by the operator; or

B. The operator's submittal of a Notice of Termination (NOT); or

C. Issuance of an individual permit for the project's discharges (see Part I.B.24); or

D. A formal permit decision by the ADEQ to not re-issue this general permit, at which time operators must seek coverage under an alternative permit (see Part I.B.24).

Small site operators are responsible for ensuring that the site is in compliance with any changes or updates of this general permit by reviewing the ADEQ website at:

https://www.adeq.state.ar.us/water/permits/npdes/stormwater/

5. **Need to Halt or Reduce Activity Not a Defense.** It shall not be a defense for an operator in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

6. **Duty to Mitigate.** The operator shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has reasonable likelihood of adversely affecting human health or the environment.

7. **Duty to Provide Information.** The operator shall furnish to the Director, an authorized representative of the Director, the EPA, a State or local agency reviewing sediment and erosion plans, grading plans, or stormwater management plans, or in the case of a stormwater discharge associated with industrial activity which discharges through a Municipal Separate Storm Sewer System (MS4) with an NPDES permit, to the municipal operator of the system, within a reasonable time, any information which is requested to determine compliance with this permit.

8. **Other Information.** When the operator becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the Notice of Intent or in any other report to the Director, he or she shall promptly submit such facts or information.

9. **Signatory Requirements.** All Notices of Intent (NOIs), reports, or information submitted to the Director shall be signed and certified by the operator.

   A. All Notices of Intent shall be signed as follows:

      1) For a corporation: by a responsible corporate officer. For purposes of this section, a responsible corporate officer means:

         a. A president, 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

         b. 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 ensure 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.

      2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively;

      3) For a municipality, State, Federal or other public agency: By either a principal executive or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

         a. The chief executive officer of the agency; or

         b. A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

   B. All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

      1) The authorization is made in writing by a person described above and submitted to the Director;

      2) The authorization specifies either an individual or a person 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, or position of equivalent responsibility, or position of equivalent 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

3) Changes to authorization. If an authorization under this Part is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the above requirements shall be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

10. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments such as Inspection Form were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, 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."

Note: For this permit only, "this document" refers to the Stormwater Pollution Prevention Plan, "attachments" refers to the site map and inspection forms, and "system" is referencing the project site.

11. Penalties for Falsification of Reports. The Arkansas Water and Air Pollution Control Act provides that any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan or other document filed or required to be maintained under this permit shall be subject to civil penalties specified in Part II.B.3 of this permit and/or criminal penalties under the authority of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. 8-4-101 et seq.).

12. Penalties for Tampering. The Arkansas Water and Air Pollution Control act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year or a fine of not more than twenty five thousand dollars ($25,000) or by both such fine and imprisonment.

13. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the operator from any responsibilities, liabilities, or penalties to which the operator is or may be subject under Section 311 of the Clean Water Act or Section 106 of CERCLA.

14. Property Rights. The issuance of this permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property, any invasion of personal rights, or any infringement of Federal, State, or local laws or regulations.

15. Severability. The provisions of this permit are severable. If any provisions of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provisions to other circumstances and the remainder of this permit shall not be affected thereby.

16. Transfers. This permit is not transferable to any person except after notice to the Director. A transfer form shall be submitted to the ADEQ as required by this permit.

17. Proper Operation and Maintenance. The operator shall at all times:

A. Properly operate and maintain all systems of treatment and control (and related appurtenances) which are installed or used by the operator to achieve compliance with the conditions of this permit. This provision requires the operation of

backup or auxiliary facilities or similar systems which are installed by an operator only when the operation is necessary to achieve compliance with the conditions of the permit.

B. Provide an adequate operating staff which is duly qualified to carry out operation, inspection, maintenance, and testing functions required to ensure compliance with the conditions of this permit.

18. Inspection and Entry. The operator shall allow the Director, the EPA, or an authorized representative, or, in the case of a construction site which discharges to a municipal separate storm sewer, an authorized representative of the municipal operator of the separate sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

A. Enter upon the operator's premises where a regulated facility or activity is located or conducted, or where records shall be kept under the conditions of this permit;
B. Have access to and copy, at reasonable times, any records that shall be kept under the conditions of this permit;
C. Inspect at reasonable times any facilities or equipment, including monitoring and control equipment and practices or operations regulated or required by the permit;
D. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location on the permitted property.

19. Permit Actions. This permit may be modified, revoked and reissued, or terminated for any cause including, but not limited to, the following;

A. Violation of any terms or conditions of this permit;
B. Obtaining this permit by misrepresentation or failure to fully disclose all relevant facts;
C. A change in any conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge;
D. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or
E. Failure of the operator to comply with the provisions of ADEQ Regulation No. 9 (Fee Regulation). Failure to promptly remit all required fees shall be grounds for the Director to initiate action to terminate this permit under the provisions of 40 CFR 122.64 and 124.5(d), as adopted by reference in ADEQ Regulation No. 6, and the provisions of ADEQ Regulation No. 8.

20. Re-Opener Clause.

A. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with industrial activity covered by this permit, the operator of such discharge may be required to obtain an individual permit or an alternative general permit in accordance with Part I.B.23 of this permit, or the permit may be modified to include different limitations and/or requirements.

B. Permit modification or revocation will be conducted in accordance with the provisions of 40 CFR 122.62, 122.63, 122.64 and 124.5, as adopted by reference in ADEQ Regulation No. 6.

21. Local Requirements. All dischargers shall comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding any discharges of stormwater to storm drain systems or other water sources under their jurisdiction, including applicable requirements in municipal stormwater management programs developed to comply with the ADEQ permits. Dischargers shall comply with local stormwater management requirements, policies, or guidelines including erosion and sediment control.

22. Applicable Federal, State Requirements. Permittees are responsible for compliance with all applicable terms and conditions of this permit. Receipt of this permit does not relieve any operator of the responsibility to comply with any other applicable federal, state or local statute, ordinance policy, or regulation.

FACT SHEET
AND SUPPLEMENTARY INFORMATION
FOR GENERAL PERMIT ARR150000
STORMWATER RUNOFF ASSOCIATED WITH CONSTRUCTION SITES
IN ARKANSAS

Information in this part is organized as follows:

1. Background and Changes

The ADEQ is reissuing a general permit for Stormwater Discharges Associated with Construction Activity which became effective on November 1, 2011 and will expire on October 31, 2016.

This is a renewal of the General Construction Stormwater permit. Upon renewal, the Department decided to add additional permit requirements and clarify the overall permit. The proposed major changes are as follows:

A. Definitions for ERW, ESW, NSW, Waters of the State, Drainageway, Duly Authorized Representative, and Natural Buffer have been added to Part I.A.
B. Part I.B.6.C has been added to include the requirement for the permittee to submit a $200 permit modification fee and updated SWPPP with any request to increase the total acreage of a construction site. An updated SWPPP should be submitted with any request to increase the disturbed acreage of a construction site (no permit modification fee is required unless there is a change in the total acreage of the site).
C. Part I.B.11.D. has been changed to include that a quarterly report shall be submitted to the Department if a numeric limit has been assigned to the facility based on an approved TMDL.
D. Part I.B.11.F. has been added to exclude construction sites from coverage under this general permit if the site discharges directly into an Extraordinary Resource Water (ERW), Natural and Scenic Waterways (NSW), or Ecologically Sensitive Waterbodies (ESW), unless proper BMPs are in place to prevent possible exposure to stormwater of pollutants that could potentially impact water quality.
E. Part I.B.12. has been added to clarify that this general permit does not authorize any activity under a Short Term Activity Authorization (STAA) or Section 404 permit.
F. Part II.A.1.C. has been changed to require the permittee to update the SWPPP to meet any new requirements of this renewal permit by the effective date of the permit. The permit will be issued at least six months before the effective date of the permit, which the Department believes to be sufficient time to update the SWPPP.
G. Part II.B.4 has been changed to clarify the deadline for submittal of the Renewal NOI after issuance of the renewed permit. The Renewal NOI should be submitted to the Department up to 180 days prior to the expiration date, but no later than 30 days prior to the expiration date. This is because the renewed permit will be issued at

least six months prior to the effective date of the permit, which allows the permittee sufficient time to submit the required Renewal NOI to the Department. The Renewal NOI is due to the Department no later than 30 days prior to the expiration date in order to allow sufficient time for processing due to the large number of construction sites covered under this general permit.

H. Parts I.B.13.A.1, 2, 6, and 7, Part I.B.13.B, and Part I.B.13.D.2 have been updated to reflect the 2014 updates to the Effluent Limitations, Guidelines and Standards: Construction and Development Point Source Category found in 40 CFR 450.21.

I. Part I.A.26.D has been changed to reference Waters of the State, instead of Waters of the United States.

J. Part II.A.4.F.9 has been changed to require that the site map show all Waters of the State and the associated natural buffer boundary lines, and to identify floodplain and floodway boundaries, if available.

K. Parts II.A.4.F.13 and II.A.4.F.14 have been added to require that the site map include a legend to clearly specify any symbols used in the site map, and the location of any storm drain inlets.

L. Part II.A.4.G.2.d has been changed to specify the deadlines for stabilization only after construction activity temporarily ceases.

M. Part II.A.4.G.2.e has been added to specify the deadlines for stabilization after construction permanently ceases.

N. Parts II.A.4.H.1 and II.A.4.H.6 have been updated to specify that contaminants should also not be discharged offsite.

O. Part II.A.4.L has been updated to clarify that inspections should include determining if the erosion control measures are effective in preventing significant offsite impacts, in addition to significant impacts to Waters of the State.

P. Part II.A.4.L.1.b has been changed to require an inspection at least once every 14 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater, if the 7 calendar day inspection frequency is not chosen.

2. Regulatory Background

The federal stormwater regulations contained in 40 CFR 122.26 require NPDES permit coverage for small (disturbing one acre or more and less than five acres) and large (disturbing 5 acres or more) construction sites.

3. Permit Coverage

Facilities covered by this general permit include those facilities which engage in construction activities greater than one (1) acre in size or less than one (1) acre that is part of a larger common plan in accordance with 40 CFR Part 122.28(a)(2)(i). The Department has excluded certain activity in accordance with 40 CFR Part 122.28(a)(2)(ii) and 40 CFR 450.

A. *Notice of Intent (NOI)*

1) Large Construction Sites (greater than or equal to 5 acres)

Written notification from new dischargers shall be submitted to the Department at least ten business days prior to the proposed discharge. Unless the applicant is notified otherwise (by phone, email, or letter) by the Director within ten business days of the notification being deemed complete, authority to discharge under this general permit will become effective. In addition, a Stormwater Pollution Prevention Plan (SWPPP) and permit fee must be submitted along with the NOI for large sites.

2) Sites with Automatic Coverage

Sites that are more than once acre but less than five acres are automatically covered under the provisions of this general permit. All conditions set forth in Part II.A should be followed and Notice of Coverage (NOC) must be posted at the construction site and a copy of the SWPPP must be kept at the site.

3) The Notice of Intent (NOI) must contain at the minimum the information required by 40 CFR Part

122.28(b)(2)(ii).

B. *Termination of a Qualifying Local Program*.

1) Termination Approval**.** A Qualifying Local Program may be terminated by either the Department or the municipality. Upon termination of Department approval of a Qualifying Local Program, any construction site must meet the requirements of this permit.

2) Expiration Approval. Department approval of a Qualifying Local Program will expire with this general permit. Any municipality desiring to continue Department approval of their program must reapply by 6 weeks after the effective date of the permit. The Division will determine if the program may continue as an approved Qualifying Local Program.

C. *Individual Permits*

The ADEQ may consider the issuance of individual permits according to the criteria in 40 CFR 122.28(b)(3).

4. Technology-Based versus Water Quality-Based Effluent Limitations and Conditions

Following regulations promulgated at 40 CFR Part 122.44(1)(2)(ii), the permit limits are based on either technology-based effluent limits pursuant to 40 CFR Part 122.44(a) or on State water quality standards and requirements pursuant to 40 CFR Part 122.44(d), whichever are more stringent as follows.

5. Best Conventional Pollutant Control Technology (BCT) and Best Available Technology Economically Achievable (BAT)

Two types of technology-based effluent limitations must be included in the permits proposed here. With regard to conventional pollutants, i.e., pH, CWA section 301 (b)(1)(E) requires effluent limitations based on "best conventional pollution control technology" (BCT). With regard to nonconventional and toxic pollutants, CWA section 301(b)(2)(A), (C), and (D) require effluent limitations based on "best available pollution control technology economically achievable" (BAT), a standard which generally represents the best performing existing technology in an industrial category or subcategory. BAT and BCT effluent limitations may never be less stringent than corresponding effluent limitations based on best practicable control technology (BPT), a standard applicable to similar discharges prior to March 31, 1989 under CWA 301(b)(1)(A).

Frequently, EPA adopts nationally applicable guidelines identifying the BPT, BCT, and BAT standards to which specific industrial categories and subcategories are subject. Until such guidelines are published, however, CWA section 402(a)(1) requires that EPA determine appropriate BCT and BAT effluent limitations in its NPDES permitting actions on the basis of its best professional judgment. This permit has included permit effluent limits (Part II.B.12) based on 40 CFR 450.

6. Water Quality Requirements

In accordance with 40 CFR 122.44(d), the general permit must include any requirements necessary to achieve State Water Quality Standards as established under Section 303 of the Clean Water Act.

7. BMP Requirements and Basis

Numeric discharge limits are not imposed by this general permit at this time. The permit language is included to ensure that those seeking coverage under this general permit will select, install, implement, and maintain BMPs at their construction site that will be adequate and sufficient to meet water quality standards for all pollutants of concern. The ADEQ has determined that BMPs, when properly selected, installed, implemented, and maintained do provide effluent quality that can meet WQS based on 40 CFR 122.44(k).

8. Other Conditions

A. *Eligibility and Authorization*

An operator engaged in construction activity greater than or equal to 1 acre in size in the State of Arkansas is eligible for coverage under this general permit.

B. *Expiration Date*

This general permit will expire five (5) years from the effective date of the permit.

9. Public Notice and Public Hearing.

The public notice describes the procedures for the formulation of final determinations and shall provide for a public comment period of 30 days. During this period, any interested persons may submit written comments on the permit and may request a public hearing to clarify issues involved in the permitting decision. A copy of the permit and public notice were sent via email to the Corps of Engineers, the Regional Director of the U.S. Fish and Wildlife Service, the Department of Arkansas Heritage, the EPA, and the Arkansas Department of Health.

The public comment period began on the date of publication, Thursday, March 24, 2016 and ended on April 25, 2016 at 4:30 p.m. (Central Time).

10. Renewal of Permit Coverage.

The renewal general permit will be issued at least six months prior to the expiration date, at which time facilities can submit the Renewal NOI to the Department. The Renewal NOI shall be submitted to the Department no later than 30 days prior to the expiration date to allow sufficient time for processing and review. This will also allow time for the Renewal Notice of Coverage to be provided to the permittee as close to the effective date of the renewal general permit as possible.

11. Sources.

The following sources were used to draft this permit:
A. 40 CFRs 122, 125. 450, as adopted by APCEC Regulation No. 6.
B. APCEC Regulation No. 2.
C. APCEC Regulation No. 6.
D. APCEC Regulation No. 8.
E. APCEC Regulation No. 9.
F. U.S. EPA Stormwater web page.
G. Ark. Code Ann. § 8-4-203(m)

11. Economic Impact

The Arkansas Construction Stormwater General Permit ARR150000 incorporates the Effluent limitation based on 40 CFR 450. The permit is also in compliance with state-level regulations (APCEC Regulation No. 2, 5, 6, 8, and 9) concerning the permitting process.

Most of the requirements in this general permit were in the previous permit. The changes listed in section 1 of this Fact Sheet will not have an economic impact, except the requirement for an additional fee for permit modifications to add total acreage to the permitted area. The permit modification fee can be avoided by providing the Department with the accurate total acreage on the originally submitted Notice of Intent. Therefore, this permit does not place any

additional undue burden on any private business entity, large or small. It does not restrict any opportunities that are available to any small businesses. The inspection and control requirements are set at a level to protect water quality while minimizing the resources required for compliance.

The permit fee of $200 is allowed by Arkansas Pollution Control and Ecology Commission Regulation No. 9.

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APPENDIX D

SWPPP TEMPLATE

This template for the Storm Water Pollution Prevention Plan Special Provision was developed by AHTD and was approved for use by ADEQ.

2016 EROSION AND SEDIMENT CONTROL DESIGN AND CONSTRUCTION MANUAL

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

JOB XXX

STORM WATER POLLUTION PREVENTION PLAN

National Pollution Discharge Elimination System
General Permit # ARR150000

Prepared for:

ARKANSAS STATE HIGHWAY & TRANSPORTATION DEPARTMENT

Date: _____

General Information:

A Storm Water Pollution Prevention Plan (SWPPP) has been developed by the AHTD for this construction project in accordance with good engineering practice. Various items constitute the SWPPP for the project and should be provided for persons requesting to view the SWPPP, including:

a) *The AHTD Standard Specifications for Highway Construction, 2014 Edition,* (Standard Specifications). The following sections are in reference to water quality or sediment and erosion control: Sections 107, 110, 620, 621, 622, 623, 624, 626, and other sections pertaining to stormwater controls.

b) The Construction Plans contain temporary and permanent erosion controls and permanent storm water management measures.

c) Contract documents provide the Contractor and AHTD with additional specifications. These may include Supplemental Specifications and Special Provisions. Parts of the SWPPP that may be in the Contract include this Special Provision, *Storm Water Pollution Prevention Plan*.

d) Project records including SWPPP inspection reports, the authorized Site Manager daily work report, and various pay quantity documentation, all of which detail the progression of work on the project, when erosion control measures were taken, when the Contractor was given instructions to install or maintain the erosion and sediment control (E&SC) items, and the timing and details of E&SC installation. The Contractor identification form and the Inspector identification form are included as part of the project records.

e) Construction site posting.

   i. For large construction sites (all sites five acres or above) – The first page of the *e-Portal* ADEQ Notice of Intent (NOI) submission, if ten business days have passed since the NOI was deemed complete, to be replaced by the completed Arkansas Department of Environmental Quality (ADEQ) Authorization Letter to Discharge Stormwater when it is sent by ADEQ.

   ii. For small construction sites under five acres (automatic coverage sites) - the completed ADEQ Notice of Coverage for small sites from the ADEQ website.

Project Name and Location:

Insert Project name and job number from Contract

Operator Name and Address:
Arkansas Highway and Transportation Department

Name of District Engineer _____

Address of District Headquarters

_____

_____

Name of Resident Engineer (Contact Person)_____

Contact Number _____

A. Site Description

1) Pre-construction Topographic view: Refer to the plan and profile sheets for topographic and waterbody information.

2) Project Description and Intended Use after Notice of Termination (NOT) is filed: *Insert description from Contract.*

3) Sequence of Activities:

The sequence of Major Soil Disturbing Activities is shown below. **Be aware that the sequence below is provided as a general course of action for the progression of construction activities. Actual sequence of construction will be determined by the Contractor's schedule and field conditions.**

a. _____
b. _____
c. _____
d. _____
e. _____

4) Total Acres Available: _____ Total Disturbed Area _____

(*Note: Any off-site borrow or waste areas are operated by the Contractor, who is responsible for obtaining any required NPDES permits for the sites. The "total acres available" and "total disturbed areas" shown here do not include areas covered under permits obtained by another operator. The Contractor is also responsible for meeting local regulations regarding these sites, including those of a Qualifying Local Program).

5) Existing Site Information:

a. Runoff Coefficient Based on attachment C:

Before construction starts, the site has a runoff coefficient of _____

After construction is completed, the site will have a runoff coefficient of _____

b. Soil Information _____

B. Responsible Parties-General Contractors, Inspectors, etc:

Refer to Contractor identification form in Section Q and the Inspector identification form in Section R. This information will be completed after the Pre-construction conference.

C. Receiving Waters: (Permit pg. 3 of Part II)

1) Location of Surface Water on Construction Site:

The following surface waters are located on the construction site. List them by name with Station Numbers.

a. _____

b. _____

c. _____

2) The following bodies of water receive runoff from the construction site:

Name of Operator of Municipal Storm Sewer and/or Receiving Stream:_____

Narrative Description of Nearest Water: _____

Name of Ultimate Receiving Water:_____

Waterbodies that would require the fifty (50) foot buffer zone are Extraordinary Resource Waters (ERW), Ecologically Sensitive Waterbodies (ESW), Natural and Scenic Waterways (NSW), waterbodies with approved TMDLs, waterbodies on the 303(d) list, and/or other uses at the discretion of the Director of ADEQ.

Above categorized waterbodies, if any on project list both waterbody and qualifier: _____

D. TMDL and 303(d) list can be found at:
(http://www.adeq.state.ar.us/water/branch_planning/default.htm)

1) 303 (d) Listed Waters - Select the following appropriate statement utilizing information received from the Environmental Division.

Statement 1:

_____ Storm water discharges from this site do not enter a water body on the list of waters impaired for turbidity or other pollutant which could be impacted by roadway construction on the 303(d) list.

Statement 2:

_____Storm water discharges from this construction site enter a water body on the list of impaired water bodies (303d list) for turbidity and/or other pollutant. The SWPPP has been developed with BMPs which are designed to minimize the discharge of these pollutants to the maximum extent practicable. Condition of sediment control BMPs will be monitored during regular inspections to ensure this goal is met.

2) TMDL Waters - Select the following appropriate statement utilizing information received from the Environmental Division.

Statement 1:

_____Stormwater discharges from this site do not enter a waterbody with an approved TMDL for turbidity or other pollutant which could be impacted by roadway construction.

Statement 2:

_____Stormwater discharges from this construction site enter a waterbody with an established TMDL allocation for turbidity and/or other pollutant. A TMDL has been written for the waterbody that is applicable to the construction project. The following information documents the construction projects compliance with the TMDL:

1.) List TMDL assumptions and allocations: _____

_____

2.) List measures taken to ensure that the discharge of pollutants from the site is consistent with the assumptions and allocations of the TMDL._____

_____

E. Attainment of Water Quality Standards after Authorization: (Permit pg 4 of Part II) BMPs have been selected and will be installed and maintained at the construction site that will minimize the discharge of pollutants as necessary to meet applicable water quality standards.

F. Site Map: See Attachment A for items to be included. All of these items should be marked on the job plans maintained for the SWPPP.

G. Stormwater Controls

1. Initial Site Stabilization, Erosion, & Sediment Controls: (Permit pg 5 of Part II)
Complete descriptions and specifications for control measures may be found in the AHTD's Standard Specifications for Highway Construction, Supplemental Specifications, Special Provisions, Construction Contract, and Construction Plans. **All controls are designed and installed with the primary goal of retaining sediment on site to the maximum extent practicable**.

Insert a description below of the construction activities that are a part of the initial site disturbance and stabilization, along with the appropriate controls measures and time of installation for that activity. This information should be provided by the Contractor at the Pre-construction meeting.

Be aware that the list is general. Actual timing of erosion control installations will be determined daily based upon the construction activity occurring and actual field conditions.

(Construction Activity/Control/Timing)

1)

2)

3)

4)

5)

2. Stabilization Practices: (Permit pg. 5 of Part II)

List of Stabilization Practices to be utilized and scheduling of implementation for that practice:

__X__ Dust control - wet down dusty areas as needed/ongoing

_____ Erosion control matting - _____

_____ Geotextiles - _____

__X__ Limiting disturbed area - will be limited by Engineer as discussed in Subsection 110.05(d) of Standard Specifications/ongoing

_____ Mulches - _____

_____ Mulch control netting - _____

__X__ Off-site tracking controls (Either stabilized exits and/or wheel washing)*

_____ Preserving existing vegetation - as shown on the job plans/ongoing

_____ Sod stabilization - _____

__X__ Temporary and permanent seeding – will be initiated within l4 days of temporarily ceasing construction activity on a portion of the site or immediately initiated where construction activities have permanently ceased.

_____ Natural buffer zone – (Will be established along waterbodies with at least 25 feet for any unnamed streams, creeks, rivers, lakes or other waterbodies and at least 50 feet for an established TMDL waterbody, streams listed on the 303d list, an ERW, ESW, NSW, and any others at the discretion of the Director of ADEQ.

If encroachment is necessary within these required buffer zones, briefly describe the reason why.)

_____

_____.

When encroachment occurs additional measures will be taken to protect the waterbody and the contractor will be required to stabilize the disturbed area within the buffer zone within 5 business days of completion of work.

__X__ Slope Tracking- _____

_____ Other - _____

*Stabilized exits will use either suitable sized rock as directed by the Engineer or manufactured devices designed to minimize the amount of soil being tracked off-site.

3. Structural Practices: (Permit pg 6 of Part II)

List of Structural Practices to be utilized and scheduling of implementation for that practice:

_____ Sediment basins* (to be utilized whenever 10 or more acres drain from common drainage locations on the site based upon 3600 cubic feet per acre or sized based on the runoff volume of a 10 year, 24 hours storm, unless not attainable. If not attainable, briefly describe reason(s) that a basin was not used) - _____

_____

_____ Curb & gutter - _____

_____ Ditch checks** - _____

_____ Diversion ditches - _____

_____ Drainage swales - _____

_____ Drop inlet silt fences - _____

_____ Erosion control matting - _____

_____ Gabions - _____

_____ Inlet & outlet protection - _____

_____ Silt fences - _____

_____ Slope drains - _____

_____ Storm sewer - _____

_____ Retaining walls - _____

_____ Ditch checks - _____

_____ Temporary silt dikes - _____

_____ Wattles/sediment logs - _____

_____Filter socks-_____

_____Other - _____

* Sediment will be removed from basins when design capacity is reduced by 50%. In addition, when a sediment basin is utilized per permit requirements the procedures for the removal of a sediment basin can be found in the Standard Specifications Subsection 621.03.
**Hay/Straw bales will not be used in areas of concentrated flow.

H. Other Controls: In addition to erosion control and storm water management, our plan will include measures to properly manage solid wastes, hazardous wastes, dust generation, and all other activities that will generate wastes during the construction phase. (Permit pg 7 of Part II)

1) Solid material control, debris and wastes:

All solid materials discharged to waters of the United States shall be in accordance with Section 110 of the Standard Specifications, the applicable Section 404 Special Provisions in the Job Contract, the plans, and as authorized by a USA Corps of Engineers Section 404 Permit. Litter and construction debris will be prevented from becoming a pollutant source for stormwater discharges. Any debris which inadvertently enters a water of the state will be removed daily.

2) Offsite vehicle tracking:

Each vehicle exit from the construction site must either be stabilized or use wheel washing to prevent the tracking of material onto the public roadway. (If sediment escapes the construction site through tracking, it will be removed by sweeping frequently enough to minimize off-site impacts to water bodies.)

3) Temporary sanitary facilities:

Facilities will be provided and properly maintained by the Contractor in accordance with Subsection 107.06 of the Standard Specifications.

4) Concrete waste area:

Designated concrete washout waste area(s) will be established and utilized to prevent liquid concrete waste from being discharged to a water of the state.

5) Fuel storage, hazardous materials and truck washing areas:

The following is a list of materials which could be potential sources of pollution in stormwater runoff: asphalt materials, concrete, cement, concrete wash water, paint, solvents, petroleum products, fertilizers, concrete curing compound, lime, linseed oil, asphalt additives, concrete additives, and sewage. Handling of the above materials or other potential pollutants shall be in accordance with Subsection 110.06, Pollutants, of the Standard Specifications.

I. Non-stormwater Discharges: (Permit pg 11-12 of Part I)

List of Anticipated Allowable Non-Stormwater Discharges*:

1) Water used to wash vehicles (where detergents or other chemicals are not used) or control dust in accordance with Part II.A.4.H.2
2) Landscape Irrigation
3) Pavement wash waters where spills or leaks of toxic or hazardous material have not occurred (unless all spilled material have been removed) and where detergents or other chemicals are not used.
4) Uncontaminated springs, excavation dewatering, and groundwater (Part I.B.13.C). If dewatering is necessary and turbidity exists the discharge will be managed with appropriate devices such as a sediment bag or basin prior to discharge.

*Other Allowable Non-Stormwater Discharges are listed in the Permit Part I.B.10, but there is no reasonable anticipation of these discharges at this time.

J. Post-Construction Stormwater Management: (Permit pg 7 of Part II)

Permanent Storm Water Management - List of devices to be utilized for storm water infiltration and management:

_____Channel linings	_____Concrete ditch paving
_____Culverts	_____Curb and gutter
_____Detention basins	_____Drop inlets
_____Dumped riprap	_____Floodgates
_____Gabions	_____Grassed swale
_____Inlet & outlet protection	_____Permanent seeding
_____Retention pond	_____Riprap
_____Solid sodding	_____Storm sewer
_____Topsoil replacement	_____Underdrains
_____Velocity dissipators	_____Wetland creation
_____Other-list_____	

Velocity dissipation devices:

_____Concrete spillways	_____Grouted riprap
_____Permanent seeding & mulch	_____Underdrains
_____Solid sodding	_____Concrete ditch paving
_____Dumped riprap	_____Detention basins
_____Velocity dissipators	_____Wetland infiltration
_____Other-list_____	

K. State or Local Programs: (Permit pg 8 of Part II)
The Arkansas State Highway Commission and the Arkansas State and Highway Transportation Department have the exclusive authority over the state highway system (See Ark. Code Ann. § 27-67-101, et al), therefore no local agencies would have authority or jurisdiction over the lands owned, controlled and maintained by the AHTD. The AHTD will make every effort to address any concerns of local entities concerning stormwater discharges from the state highway right of way.

This authority does not extend to the Contractor's off-site operations. The Contractor is responsible for complying with all State and Local Programs in accordance with Subsection 107.01 of the Standard Specifications.

L. Inspections: (Permit pg 8 of Part II)

Inspections will be conducted by a qualified inspector at the following frequency:

__X__Every 7 days or

_____Every 14 Days and within 24 hours after a ¼ inch or greater rainfall event.

A report of the inspection will summarize the scope of the inspection, the name of the inspector, the date of inspection and any damages observed and repairs made to any control measure. Completed inspection forms will be kept with the SWPPP.

The following are the minimum inspection, maintenance and reporting practices that will be used to maintain erosion and sediment controls at the construction site:

1. Inspection form (Attachment B).
2. All erosion and sediment control measure will be maintained in good working order. If repair is necessary, it will be completed **within three (3) business days of discovery.**
3. All controls will be inspected to ensure that they meet the manufacture's specifications.
4. Controls will be replaced or modified if periodic inspections reveal the device is not performing as intended.
5. Approximate times of beginning and duration of storm events.
6. Sediment basins and sediment traps will be cleaned out when they reach 50% of the original capacity.
7. A description of any discharges during inspections.
8. Inspections are not required if snow cover exists over the entire site for an extended period of time. If there is any runoff from the site at any time during snow cover, melting conditions would be considered to be existent at the site then inspections would need to be resumed.
9. All site entrances and exits will be checked to ensure no off-site tracking.
10. All components of the SWPPP and inspection reports will be maintained for a minimum of 3 years after permit termination.
11. In addition to inspection, records will be kept of the following:
    a. Dates when major grading activities occur,
    b. Dates when construction activities cease in an area, temporarily or permanently,
    c. Dates when an area is stabilized, temporarily or permanently.

M. Maintenance: All erosion and sediment control measures will be maintained in good working order. If a repair is necessary, it will be completed **within three (3) business days of discovery.** (Permit pg. 9 of Part II)

However, if conditions do not permit large equipment to be used, a longer time frame is allowed if the condition is thoroughly documented on the inspection form as stated in the Permit Part II.4.M.

N. Adverse Weather Conditions: Adverse conditions are those that are dangerous or create inaccessibility for personnel, such as local flooding, high winds, or electrical storms, or situations that otherwise make inspections impractical, such as extended frozen conditions. When adverse weather conditions prevent the inspection of the site, an inspection should be completed as soon as safe and feasible. If adverse weather conditions prevent compliance with the permit, documentation of the beginning and ending date of adverse weather condition should be included. **This information will be documented in the Site Manager Program job records.**

O. Endangered Species: Endangered species clearance is obtained during the National Environmental Policy Act (NEPA) process for all AHTD projects and is conducted in accordance with Section 7 of the Endangered Species Act. Further information about this process can be obtained by contacting the AHTD Environmental Division at (501)569-2522, or the U. S. Fish and Wildlife Service at (501) 513-4489.

P. Employee Training: AHTD employees have received formal training in NPDES Storm Water requirements and SWPPP implementation. Training records will be available electronically or will be maintained with the SWPPP after the project commences.

Q. Contractors: (Permit pg 3 of Part II)
All contractors should be identified in the plan. (a page should be included for each subcontractor).

THE CERTIFICATION BELOW SHALL BE COMPLETED AND INCLUDED IN EACH SUBCONTRACT. Copies of these certifications must be inserted at this location.

The Contractor/Subcontractor indicated below shall have responsibility for implementation of the pay items as listed below.

Item	Item

All Contractors operating on the site shall have the responsibility for compliance with Section 110 of the Standard Specifications for their operations, including, but not limited to: Good housekeeping practices, spill prevention, spill reporting and clean-up, and product specific practices such as limiting the discharge of concrete waste water to areas specified in the SWPPP.

Contractor Printed Name: _____

Signature: _____ Title: _____

Company Name: _____ Date: _____

Company Address: _____

Telephone No.: _____ AHTD Job Number: _____

R. Inspectors: (Permit pg 3 of Part II)
Site inspectors should be identified in the plan.

AHTD inspectors performing the erosion and sediment control inspection must complete the information below.

Printed Name of AHTD Inspector	Signature	Contact Number	Date

S. Plan Certification: (Permit pg 9 of Part II) (To be completed by a duly authorized representative or the cognizant official.)

"I certify under penalty of law that this document and all attachments such as Inspection Form were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, 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."

Note: For this Permit only, "this document" refers to the Stormwater Pollution Prevention Plan, "attachments" refers to the site map and inspection forms, and "system" is referencing the project site.

Printed Name: _____

Printed Title: _____

Signature: _____

Date: _____

Please note that Attachments B and C do not have to be submitted with the SWPPP.

Attachment A

Site Map

Showing at a minimum the following items:

1. Pre-construction topographic view;
2. Direction of stormwater flow (i.e., use arrows to show which direction stormwater will flow) and approximate slopes anticipated after grading activities;
3. Delineate on the site map areas of soil disturbance and areas that will not be disturbed under the coverage of this permit;
4. Location of major structural and nonstructural controls identified in the plan;
5. Location of construction exits;
6. Location where stabilization practices are expected to occur;
7. Locations of off-site materials, waste, borrow area, or equipment storage area;
8. Location of areas used for concrete disposal and concrete truck wash-out;
9. Location of all Waters of the State with associated natural buffer boundary lines. Identify floodplain and floodway boundaries, if available;
10. Locations where stormwater is discharged to Waters of the State or a municipal separate storm sewer system if applicable,
11. Locations where stormwater is discharged off-site (should be continuously updated);
12. Areas where final stabilization has been accomplished and no further construction phase permit requirements apply;
13. A legend that clearly specifies any erosion and sediment control measure symbols/labels used in the site map and/or detail sheet; and
14. Locations of any storm drain inlets on the site and in the immediate vicinity of the site.

Attachment B

STORMWATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM

Completed inspection forms and instructions for completion may be found in Appendix F of AHTD's Sediment and Erosion Control Manual. Blank inspection forms are available on the Construction and Maintenance LANs.

Attachment C

Runoff Coefficient Worksheet

Computation Sheet for Determining Runoff Coefficients

Total Site Area =	Acres	[A]

Existing Site Conditions

Impervious Site Area [1] =	Acres	[B]
Impervious Site Area Runoff Coefficient [2, 4] =		[C]
Pervious Site Area [3] =	Acres	[D]
Pervious Site Area Runoff Coefficient [4] =		[E]

Pre-Construction Runoff Coefficient

$$\frac{[B \times C] + [D \times E]}{[A]} =$$

Proposed Site Conditions (after construction)

Impervious Site Area [1] =	Acres	[F]
Impervious Site Area Runoff Coefficient [2, 4] =		[G]
Pervious Site Area [3] =	Acres	[H]
Pervious Site Area Runoff Coefficient [4] =		[I]

Post-Construction Runoff Coefficient

$$\frac{[F \times G] + [H \times I]}{[A]} =$$

1. Includes paved areas, areas covered by buildings, and other impervious surfaces.
2. Use 0.95 unless lower or higher runoff coefficient can be verified.
3. Includes areas of vegetation, most unpaved or uncovered soil surfaces, and other pervious areas.
4. Refer to local Hydrology Manual for typical C values.

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APPENDIX E

STAAs AND TURBIDITY TESTING

This appendix contains general guidance for STAA compliance and instructions for performing, recording, and reporting turbidity testing for STAAs which contain this requirement.

Short Term Activity Authorization (STAA) General Information

1. The STAA effective date is the first day of in-stream activity and it expires 6 months from that date.

   - If there is **no** water in the stream at the time of entry it is not considered in-stream activity.
   - The STAA has a requirement to notify the ADEQ contact in the STAA 24 hours prior to beginning in-stream activity. This is a one-time notification at the beginning of in-stream work *for each stream covered by the STAA.* The date of this initial notification will become the effective date of the STAA and will begin the two-week turbidity testing cycle for STAAs requiring such testing. Notification is not necessary prior to every instance of in-stream activity.
   - STAAs will expire one year after the date on the STAA if no in-stream activities have occurred since the authorization was issued.

2. In-stream activity is most often defined as equipment working in a waterbody, but it can include any activity that increases the turbidity of the waterbody. This could include such things as dumping rock into the stream to build a work road even though the equipment doesn't actually enter the stream. It could also include the maintenance of work roads from the bank or work road. General guidance to follow for this is:

   - Considered to be in-stream if the activity takes places below the water surface.
   - Not considered in-stream if sediment-filled rock on the work road surface is being removed and replaced, as long as the water is not disturbed.

     - The contractor must immediately cease in-stream work when a precipitation event begins. ADEQ said they could make exceptions to this condition for activities that cannot be stopped once begun. As determined by Construction the following activities cannot be stopped during a precipitation event:

       - Concrete placement operations: complete the pour or stop at nearest construction joint.
       - Pile operations: drive current pile to completion and do not continue pile operations.
       - Emergency operations: in-stream work would continue until the situation has stabilized
         .
     - This condition has a requirement to maintain records of the date and duration of the precipitation events and all corrective actions taken to repair BMPs damaged by the precipitation. This should require no additional work since these actions are already required by the NPDES inspection form.

- The date and duration of each period of instream activity and the BMPs used to protect the stream at the time of the tests must be documented in some manner. These records must be kept for six months after the completion of the project or as otherwise required by the STAA.

AHTD Turbidity Sampling and Testing Guidelines for Short Term Activity Authorizations (STAAs)

1. **Background:** The Arkansas Department of Environmental Quality (ADEQ) has added additional conditions for all STAAs in the State involving work in streams they deem worthy of special protection. Among the conditions is a requirement to test for turbidity to insure the levels of this pollutant are not substantially increased by in-stream construction. To do this, the turbidity of the stream is measured at specified distances upstream and downstream from the in-stream activity. The STAA for the project will contain a turbidity limit for the down-stream measurement. This limit will normally be "no more than 20% higher than the upstream reading" but may be an actual turbidity number such as "10 Nephelometric Turbidity Units (NTUs)". Read your STAA carefully.

2. **What is Turbidity?:** As you probably know, turbidity is one way to measure water clarity. A field turbidity meter measures the reflection of light off particles in the water column. The unit of measurement from a field turbidity meter such as you will be using is called a Nephelometric Turbidity Unit or NTU. Higher values indicate muddier water while lower values indicate clearer water.

3. **When to sample:** Prior to sampling you should become thoroughly familiar with the STAA document and establish a plan for collection of turbidity samples. The turbidity testing requirement begins on the first day of in-stream activity for each stream covered by the STAA and continues until all in-stream work is completed. The first samples may be taken on any day during the first two weeks after in-stream activities begin.
   During each two week period thereafter turbidity sampling and testing are required---EXCEPT during two week or longer periods when no in-stream activity occurs. Because of this, the testing schedule will change throughout the term of the project depending on the contractor's in-stream activities. For example after the initial two week period ends, assume the contractor does no in-stream work for ten weeks. During this period, no testing is required. On the day when in-stream work resumes, another two week testing period begins. No later than the 14th day of this period, sampling and testing must be completed and the results sent to ADEQ.
   The STAA will probably require testing every two weeks but this doesn't mean you have to test exactly every 14 days. For example, sampling could be conducted on the same day as SWPPP inspections or could be conducted every other Tuesday with a later day in the week as a back-up date in case of rain. The samples should be representative of the stream conditions throughout the test period. To help achieve this requirement, avoid sampling while machinery is actively working in the stream and avoid sampling during or immediately after a significant rain event.

4. **Where to sample:** The STAA will specify sampling locations, e.g., "Fifty feet upstream and fifty feet downstream from the in-stream activity". These distances don't have to be exact measurements but pick a location as close to the STAA

distance as possible. Selecting sample locations will require some judgment but be consistent and don't trespass onto private property to take the samples. For bridge jobs, the sample points would normally be the upstream and downstream construction limits since in-stream activity will be occurring within these boundaries. For activities such as channel changes, the distance would be measured from the beginning and end of machine work in the stream. These are only two examples of situations which will arise. For unusual cases the NPDES Section can provide guidance.

5. **Sampling Techniques:** The samples used for testing are called "grab samples". As the name implies this is a single sample "grabbed" by filling up a container either by hand or with a container attached to a pole. Following are a few general guidelines for sampling:

   - Don't use the turbidity meter testing vial to collect samples. These vials are specially manufactured and are very expensive. Using them for this purpose increases the likelihood of scratching or otherwise damaging them.
   - Keep your hands away from the bottle opening. This will prevent you from contaminating the sample with dirt or other particulates.
   - Always hold the bottle with its opening facing upstream so the water enters directly into the bottle.
   - Do not set container lids face-down on the ground. This may introduce dirt into your sample causing a higher result.
   - Label sample containers prior to collection, e.g., "Job Number, upstream or downstream", etc. Cap the bottle or container immediately after collection. If testing will delayed for some reason, place the samples on ice or pack with "blue ice" in an ice chest, so they will be kept just above freezing. They may be stored in this manner for up to 48 hours before they are tested.

6. **Supplies Needed for Sampling:** Following is a list of items commonly used for sampling. Review the list before leaving to take a sample and decide beforehand which items you will take.

   - **Turbidity Meters.** You must calibrate your turbidity meter before using it in the field by carefully following the manufacturer's instructions.
   - **Collection bottles.** Use clean collection bottles with a screw-on lid to capture the discharge.
   - **Scoops.** In areas with low flow or shallow runoff, you may want to use a scoop to grab the sample. Scoops are available with cleaning supplies at groceries and at many hardware stores. Make sure you use a clean scoop for taking the sample and try not to *disturb sediment lying on the bottom with the scoop while taking the sample.* If you do, rinse the scoop thoroughly and take another sample away from the area of turbid water.
   - **Pole.** To reach difficult discharge points, you can use a sampling pole to collect your sample. The sample bottle can be secured to a pole with wire or hose clamps.

- **Clean Rinse Water.** Use clean rinse water such as distilled water to wash sampling bottles between each use. You can purchase distilled water at most grocery or convenience stores.
- **Ice Chest and Ice.** Make sure you have ice and a cooler to store samples if testing will not be done within a short time after collection.
- **Bucket and Rope.** For some projects, one or both sampling locations could be from a bridge. The best way to collect samples in these cases may be to use a bucket attached to a rope so it can be lowered into the water from the bridge. Evaluate your sampling location as soon as you get the STAA to see if these items will be needed.

7. **Collecting and Testing the Sample:** The turbidity meter provided will include the manufacturer's instructions for taking and testing samples but the following are some general guidelines.

   - Use a large mouth bottle, collect a sample and cap it.
   - Rock or gently invert the collection bottle to mix without adding air bubbles.
   - Examine the testing vial to insure that it is free of scratches and fingerprints. Be sure to hold the vial only at the very top to keep it clean since handling the vial can introduce material to the outside of the vial.
   - Fill the sample vial and wipe gently with a clean, soft cloth, which won't leave lint or scratch the surface of the vial. Scratches, lint, fingerprints, or dirt on the bottle will cause higher turbidity readings.
   - It's advisable to let the vial set for 2-3 minutes to allow for elimination of any trapped bubbles *since bubbles can cause a significantly higher turbidity reading*.
   - Set up the meter on a level surface out of direct sunlight and turn it on.
   - Follow the directions to line up the vial correctly for the meter you are using. Insert the vial in the meter. Close the lid and press "read". Be careful not to bump or move the turbidity meter while it is taking its reading.
   - Record the value.
   - Rinse the glass vial with distilled water.

8. **Recording results:** Use a field notebook or other means to record results of the upstream and downstream samples for each area where sampling is required by the STAA. For each measurement or sample taken, you will need the following information.

   - Date, place, and method of sampling or measurement
   - The individual who performed the sampling or measurement
   - The dates the analyses were performed
   - The individual who performed the analyses
   - The analytical techniques or methods used (Model of meter used)
   - The results of each analysis

   The information should be entered on the *STAA Turbidity Testing Record* form shown on page E-7 and the completed forms should be kept at the job site until the project is completed.

9. **Reporting results:** Mail or email a copy of the completed test results and other information to ADEQ at the following address:

    Ms. Lazendra Hairston
    Office of Water Quality
    Arkansas Department of Environmental Quality
    5301 Northshore Dr.
    North Little Rock, AR 72118-5317
    hairstonl@adeq.state.ar.us.

    The *STAA Turbidity Testing Record* form may be used for reporting or you may send an email with the following information as a minimum: job name and number; stream name(s); date of sampling; upstream and downstream turbidity readings. Since the STAA will normally include a requirement to document the dates and durations of in-stream activities and the specific BMPS used to minimize water quality impacts, this information could be included in the same mailing or email. The BMP list should include active BMPs being used to protect the stream such as silt fences, wattles, more frequent inspections, containing stockpiles of material, seeding and mulching, limiting contractor's in-stream activity to the bare minimum, etc.

10. **What to do if the turbidity limits are violated:** If the downstream reading violates the limits included in the STAA, the report to ADEQ should include an explanation of specific things you are doing to resolve the problem. A good first step would be to direct the contractor to stop any work in the waterbody until the cause of the violation is found. Once this is done, review the onsite Best Management Practices and change them or add additional ones as necessary to eliminate the problem. The following list provides some questions to ask yourself as you attempt to uncover the source of the problem:

    - Has machinery been working in the stream unnecessarily?
    - Are there unprotected disturbed areas or stock piles?
    - Are silt fences ripped, improperly installed, or otherwise in need of repair?
    - Is excessive sediment built up behind check dams?
    - Are slopes protected from erosion?
    - Are on-site ditches and waterways stabilized and protected from erosion?
    - Do you need to divert runoff around uncovered areas or slopes?
    - Do stormwater outlets need additional armoring with rock or other material?
    - Do stormwater sediment basins need to have sediment removed?

    After corrections are made, take additional samples to confirm that the turbidity is within limits.

STAA Turbidity Testing Record

AHTD Job Number _____

Sample Collection Date	Stream Name	Person Collecting Sample	Equipment Used for Test	Sample Type
			Hach Turbidity Meter	Grab
Location	**Results (NTUs)**	**Remarks**		
Upstream Sample		**Person testing sample if different from collector:** **Date of test if different from collection date:**		
Downstream Sample				

Sample Collection Date	Stream Name	Person Collecting Sample	Equipment Used for Test	Sample Type
			Hach Turbidity Meter	Grab
Location	**Results (NTUs)**	**Remarks**		
Upstream Sample		**Person testing sample if different from collector:** **Date of test if different from collection date:**		
Downstream Sample				

Instructions:

- Carefully read the STAA conditions and Turbidity Sampling Guidelines before sampling/testing.
- Don't collect samples within 24 hours after a rain event or on the same work day that equipment has been in the stream.
- Don't wait until the last day or two of the sampling period; it may rain or something else may happen to skew the results.
- If the water in the stream is muddy as it comes onto our ROW, take a photo and note in the remarks and the report to ADEQ.
- *If the downstream reading violates the limits in the STAA, you must find and eliminate the source of excess turbidity.*

APPENDIX F

STORMWATER INSPECTION REPORTS

This appendix contains information on the stormwater inspection reports used by the Department with detailed instructions for their completion.

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1. STORM WATER INSPECTION REPORT GENERAL REQUIREMENTS FOR CONTRACTED JOBS

a. The CGP requires that inspections be performed by "a person knowledgeable in the principals and practices of erosion and sediment controls who possesses the ability to assess conditions at the construction site that could impact stormwater quality". To meet this requirement, the Department sponsors an Erosion and Sediment Control Training and Certification course through the University of Arkansas Center for Training Transportation Professionals (CTTP). All Department personnel must successfully complete this training before performing a SWPPP inspection. The certification received through the CTTP course is valid for five years at which time it must be renewed. Additionally, the Department's NPDES Section provides yearly erosion and sediment control refresher training to meet the permit requirement for annual training.

b. Inspections are to be completed a minimum of every seven days. As-built Erosion and Sediment Control Plans indicating items currently in place must also be updated within seven business days of any changes. If BMPs are found to need repairs or replacement, or if site conditions change between inspections, field personnel should require the Contractor to undertake maintenance and the SWPPP must be updated accordingly.

c. The Resident Engineer and field personnel should work closely with the Contractor and be familiar with their schedules. A supplemental SWPPP inspection should be performed when the Contractor is halting work in an area and the Contractor was instructed to perform the required seeding and other measures. Areas of non-work can be inspected separately. Field personnel should not wait until the next inspection interval to see that the Contractor is addressing deficiencies to erosion and sediment controls.

d. A copy of the inspection report must be given to the Contractor the day of the inspection to document the instructions. Since getting the information to the contractor quickly is a top priority, do whatever is necessary to accomplish this; if printing and manually delivering the report is the fastest, this should be done. For project documentation, the report should be uploaded to the Environmental document drawer in DocExpress for the project and an email sent to the contractor to make them aware of the report. The Contractor is required to complete the work within three (3) business days of being instructed to do so. The Contractor compliance with these instructions should be documented in the project diary.

e. Inspections are not required when snow cover exists over the entire site for an extended period and melting conditions do not exist. If other adverse conditions such as flooding, extended rain events, or other unusual conditions exist, inspections may be delayed until conditions are again favorable. The reason for

any delays should be documented in the SWPPP, including the beginning and ending dates of the events.

2. STORM WATER INSPECTION REPORT FORM PREPARATION FOR CONTRACTED JOBS

To comply with the NPDES General Construction Permit, the "Storm Water Pollution Prevention Plan Inspection Report" (inspection report) form has been developed for use by field personnel. The inspection report is to be completed a minimum of every seven days. The explanations below correspond to the bold numbers on the attached inspection form example.

Inspection Report - Page 1:

Item 1. On projects by Contract this is the Job Number. On projects by Department Forces this is normally a Special Project Number.

Item 2. Enter the date of this inspection.

Item 3. Enter the date of the last Inspection (previous report). Inspections are to be conducted a minimum of every seven days.

Item 4. Enter the Report Number. Reports are numbered consecutively and each inspection represents one Report. If an inspection requires the use of more than one form, all forms for the inspection, on that date, receive the same Report Number.

Item 5. Indicate by checking the appropriate box if the Notice of Coverage (NOC) needs to be posted or replaced. On Projects by Contract, the Contractor is responsible for maintaining the NOC. On projects by Department Forces, Department personnel are responsible for maintaining the NOC. Refer to Appendix G for detailed instructions.

Item 6. If the listed items are in satisfactory condition and there is no present need to construct additional ones, insert an "X" under "Satisfactory". If this item is not applicable to the project, insert "N/A" under "Satisfactory". If maintenance is required or additional items are needed, leave this area blank.

Item 7. For listed items requiring maintenance, replacement or new installations specify the reason in this area.

Item 8. If Item 6 was "N/A" or "Satisfactory" leave this area blank. If item 7 has an entry showing work required on this device, insert the location(s) here (Example: "Sta 10+15 Lt.").

Item 9. Enter the date when the work was completed. Any inspection deficiencies must be corrected within three business days of the inspection. If Item 8 has and entry, Item 9 should also be completed.

Inspection Report - Page 2:

Item 10. Use this section to define the areas where construction activities have permanently or temporarily ceased for stabilization purposes. An “area” can be defined many ways, depending on the job. For example, phased construction jobs could use the stations defining the separate phases.

Item 11. Use this section to enter the dates work began, resumed, or ceased in an area.

Item 12. If stabilization is required because construction activity in an areas is complete or has temporarily ceased and won’t resume for more than 14 days, enter the location here. If no work is required, enter "N/A".

Item 13. Check the type work required for each area noted in Item 12.

Item 14. Enter any additional information related to the inspection.

Item 15. The permit requires a description of all storm water discharges. Use this section to describe discharges by exception. If there is little or no visible sediment in any discharge or if there was no discharge, enter “N/A” in one of the columns to the right. If there appears to be significant sediment in any discharges, enter the location.

Item 16. Use this section to record locations where significant sediment or other pollutants are being or have been discharged. If this is happening, steps should be taken to add, repair, or replace BMPs at these locations. Enter “N/A” if no sediment was leaving the project.

Item 17. Use this section to record the approximate beginning time and the date of rain events. This need only be done **during normal work hours** and small amounts of precipitation (less than approximately ½”) need not be noted. There is no requirement to have a rain gage or to record the amount of rain which fell. If no rain events during the inspection period, enter “N/A”.

Item 18. Enter the approximate duration of any significant rain event which occurred during normal work hours. Situations like intermittent showers throughout the day require judgment calls.

Item 19. Inspectors will print their name, title, and the date in this section.

Item 20. On Projects by Contract, the Resident Engineer or the Assistant Resident Engineer will sign and date the certification statement. On Projects by Department Forces, the District Maintenance Engineer will sign and date the certification statement.

2016 EROSION AND SEDIMENT CONTROL DESIGN AND CONSTRUCTION MANUAL

JOB NUMBER: 1

DATE: 2 DATE OF LAST INSPECTION: 3 REPORT NO.: 4

NOTICE OF COVERAGE POSTED: 5 YES ___ NO ___ **INSPECTIONS REQUIRED EVERY 7 DAYS AND SWPPP TO BE UPDATED WITHIN 7 BUSINESS DAYS**

		MAINT.REQ.(LOCATION)	DATE WORK COMPLETED
I. SILT FENCES:	SATISFACTORY 6	(1) 8	(1) 9
IF MAINTENANCE REQUIRED SPECIFY REASON AND DATE COMPLETED, BY LOCATION #.			
ANY GAPS IN BOTTOM? ( )	TORN/SAGGING FABRIC ( )	(2)	(2)
SED. 1/3 FENCE HEIGHT 7 ( )	POST LEANING ( )		
ADDITIONAL CONTROLS NEEDED/OTHER ( )	( )	(3)	(3)
II. DIVERSION DIKES / DRAINAGE SWALES / SLOPE DRAINS:	SATISFACTORY	(1)	(1)
IF MAINTENANCE REQUIRED SPECIFY REASON AND DATE COMPLETED BY LOCATION #.			
OVERTOPPING WATER ( )	WASHOUTS ( )	(2)	(2)
AREA NEEDS STABILIZATION/VEGETATION ( )	EXCESSIVE EROSION ( )		
ADDITIONAL CONTROLS NEEDED/OTHER ( )	( )	(3)	(3)
III. BARRIER / CHECK DAMS:	SATISFACTORY	(1)	(1)
IF MAINTENANCE REQUIRED SPECIFY REASON AND DATE COMPLETED BY LOCATION #.			
DAMAGED ( )		(2)	(2)
SED. 1/2 HEIGHT OF BARRIER / DAM ( )			
ADDITIONAL CONTROLS NEEDED/OTHER ( )	( )	(3)	(3)
IV. SEDIMENT BASINS:	SATISFACTORY	(1)	(1)
IF MAINTENANCE REQUIRED SPECIFY REASON AND DATE COMPLETED BY LOCATION #.			
SIDE SLOPES &/OR OUTFALL IN NEED OF REPAIR ( )		(2)	(2)
50% FILLED WITH SEDIMENT ( )			
EMBANKMENT CONTAINMENT OVERTOPPED ( )		(3)	(3)
ADDITIONAL CONTROLS NEEDED/OTHER ( )	( )		
V. CONSTRUCTION EXITS	SATISFACTORY	(1)	(1)
SIGNIFICANT TRACKING ONTO ROADWAY? ( )		(2)	
CLEAN FILL NEEDED? ( )		(3)	(2)
DOES ALL TRAFFIC USE EXIT Y/N? ( )			
OTHER ( )			
VI. GOOD HOUSEKEEPING / DISPOSAL OF CONCRETE WASTES:	SATISFACTORY	(1)	(1)
IF MAINTENANCE REQUIRED SPECIFY REASON AND DATE COMPLETED, BY LOCATION #.		(2)	(2)
( ) ( )		(3)	(3)
VII. OTHER: (specify)		(1)	(1)
IF MAINTENANCE REQUIRED SPECIFY REASON AND DATE COMPLETED, BY LOCATION #.		(2)	(2)
( )			
( )		(3)	(3)

DATES OF MAJOR CONSTRUCTION ACTIVITY

Show locations and dates when ***major*** construction activities begin or cease in an area. Stabilization of areas where construction has permanently ceased shall begin immediately and be completed within 14 calendar days. In areas where construction activities have temporarily ceased stabilization shall being as soon as practicable but in no case more than 14 calendar days after cessation of construction activity. Disturbed areas within buffer zones shall have stabilization completed within 5 business days of work permanently ceasing.

FROM STATION	TO STATION	DATE WORK BEGAN/RESUMED		DATE WORK CEASED
10			**11**	

STABILIZATION

REQUIRED WORK TO BE PERFORMED

FROM STATION	TO STATION		TEMP. SEEDING	PERM. SEEDING	MULCH COVER	SOLID SODDING	EROSION MATTING	WATER	SEED REPAIR
		12	( )	( )	**13** ( )	( )	( )	( )	( )
			( )	( )	( )	( )	( )	( )	( )

REMARKS/OTHER WORK REQUIRED: **14**

STORMWATER DISCHARGE OBSERVATIONS

Discharges contained little or no visible turbidity with the exceptions of locations shown at right. If all were satisfactory or there was no discharge, enter "N/A". **15**	STATION	STATION	STATION	STATION			
Locations where sediment or other pollutants had been or were being discharged are shown at right (if none, enter "N/A"). **16**	STATION	STATION	STATION	STATION			
If significant rain event(s) (approximately 1/2" or greater) occurred **during normal work hours,** show approximate beginning (time/date) and duration of event(s). If none, enter "N/A".	Beginning time/date of event:	**17**					
	Duration of event (hours):	**18**					

AHTD INSPECTOR NAME: **19** TITLE _____ DATE: _____

I certify under penalty of law that this document and all attachments such as Inspection Form were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those prersons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, 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.

RES. ENGR. / DIST.MAINT. ENGR. SIGNATURE: **20** DATE: _____

NOTE: The Contractor, upon receipt of a copy of this Report, is hereby formally instructed to perform the above work within three (3) business days.

Distribution: Orig. - RE files, Copy - Field Office & Contractor*

* The Contractor is to receive a copy of this report immediately when work is required.

3. STORM WATER INSPECTION REPORT REQUIREMENTS FOR PROJECTS BY DEPARTMENT FORCES

a. The CGP requires that inspections be performed by "a person knowledgeable in the principals and practices of erosion and sediment controls who possesses the ability to assess conditions at the construction site that could impact stormwater quality". To meet this requirement, the Department sponsors an Erosion and Sediment Control Training and Certification course through the University of Arkansas Center for Training Transportation Professionals (CTTP). All Department personnel who are responsible for performing SWPPP inspections must successfully complete this training. The certification received through the CTTP course is good for 5 years at which time it must be renewed. Additionally, the Department's NPDES Section provides yearly erosion and sediment control refresher training to meet the permit requirement for annual training.

b. Storm water inspections for projects by department forces may be documented on the inspection form shown on pages F-7 and F-8 above. Since this form was designed for highway construction projects using station numbers, some allowances will have to be made for the format during form completion. At the discretion of the district staff, the standard ADEQ inspection form shown on page F-11 may be used to document these inspections. It is better adapted for small projects and completion should be relatively simple. If this form is used, reading through the instructions for the inspection reports for contracted projects may give a better understanding of general permit requirements.

c. The inspection report is to be completed a minimum of every seven days. As-built Erosion and Sediment Control Plans indicating items currently in place must also be updated within seven days of any changes. If BMPs require attention or if site conditions change between inspections, the field personnel should complete BMP maintenance, update the SWPPP, and note the corrections on inspection reports.

d. Field personnel should review the work schedules closely. A supplemental SWPPP inspection should be performed when the work is being halted in an area and the required seeding and other measures performed promptly. Corrective work should not be delayed until the end of the inspection interval. If a rain event or equipment operation damages any of the BMPs, work to repair or replace them should begin as soon as possible.

e. Field personnel responsible for undertaking the work should be made aware of the findings of the inspection and a copy of the inspection report must be included with other SWPPP items on the project. The work to repair or replace BMPs is required to be completed within three (3) business days of the inspection. Field personnel should document compliance with these inspections in the project diary.

f. Inspections are not required when snow cover exists over the entire site for an extended period and melting conditions do not exist. If other adverse conditions such as flooding, extended rain events, or other unusual conditions exist, inspections may be delayed until conditions are again favorable. The reason for any delays should be documented in the SWPPP, including the beginning and ending dates of the events.

g. **Trained** maintenance personnel (see 3.a. above), holding one of the Job Titles shown below may perform inspections. Before performing an inspection on the project, the inspector must complete the inspector form in the SWPPP Special Provision.

Assistant Maintenance Superintendent
Area Maintenance Supervisor
Maintenance Job Superintendent
Bridge Job Superintendent
District Maintenance Engineer

ARR150000 Inspection Form – Stormwater Pollution Prevention Plan

Inspector Name: _____ Date of Inspection: _____

Inspector Title: _____

Days Since Last Rain Event: _____ days Rainfall Since Last Rain Event: _____ inches

Description of any Discharges During Inspection: _____

Location of Discharges of Sediment/Other Pollutant (specify pollutant & location): _____

_____

Locations in Need of Additional BMPs: _____

Information on Location of Construction Activities

Location	Activity Begin Date	Activity Occuring Now (y/n)?	Activity Ceased Date	Stabilization Initiated Date	Stabilization Complete Date

Information on BMPs in Need of Maintenance

Location	In Working Order?	Maintenance Scheduled Date	Maintenance Completed Date	Maintenance to be Performed By

Changes required to the SWPPP: _____ Reasons for changes: _____

_____ _____

_____ _____

SWPPP changes completed (date): _____

"I certify under penalty of law that this document and all attachments such as Inspection Form were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, 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."

Signature of Responsible or Cognizant Official: _____ Date: _____

Title: _____

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