

# STORMWATER POLLUTION PREVENTION PLAN INDEX

- Plan Index provided below
- 11"x17" Plat denoting lot numbers, boundaries and streets is provided separately.
- Project Type: 54 lot single family subdivision.
- Neighborhood: Denison on Sheet C100
- Local Description of Project: See attached Secondary Plat and NOI Letter.
- Location of all lots and proposed site improvements: See sheets C101 to C103.
- 14 Digit Hydrologic Unit Code: 03012201090020
- State or Federal water quality permits: None
- Specific points where stormwater discharge will leave the site: The majority of the site will discharge into the Kirkendall Creek. Some stormwater will discharge from the site into Vestal Ditch and a small amount will discharge into the storm sewer network in Lochow Section 7. See Site Development Plan Sheets C101-C103 for more detail.
- Location of all wetlands, lakes & water courses and an adjacent to site: Kirkendall Creek borders western boundary of the site and Vestal Ditch is located to the east. See Site Development Plan Sheets C101-C103 for more detail.
- Receiving Waters: Kirkendall Creek and Vestal Ditch
- Identification of potential discharges to groundwater: None
- 100 Year Floodplains, Floodways and Flood Fringes: See Site Development Plan Sheets C101-C103 for location(s), if any.
- Pre-Construction and Post Construction Peak Discharge:
  - 10year Pre-Construction Peak Discharge (Total): 44.5 CFS
  - 10year Post Construction Peak Discharge (Total): 42.9 CFS
- Adjacent Land Use (See Stormwater Pollution Prevention Plan - Pre-Construction Plan Sheets C104-C106 for more information):
  - North: East Haven of Noble West Section 1B - Single Family Residential
  - South: Lochow of Noble West Section 7 - Single Family Residential
  - East: Vestal Ditch / Future East Haven Section 3B - Single Family Residential
  - West: Kirkendall Creek
- Locations and approximate boundaries of all disturbed areas: See Sheets C104-C106 for locations. Identification of existing vegetation cover: See Stormwater Pollution Prevention Plan - Pre-Construction Plan Sheets C104-C106
- Soils Map including descriptions and limitations: See sheet C803 for soils map, description and limitations.
- Locations, size and dimensions of proposed stormwater systems: See Site Development Plan Sheets C101-C103 for proposed storm sewer system.
- Locations, size and dimensions of any proposed off-site construction activities associated with this project: See Site Development Plan Sheet C101-C103.
- Locations of Soil Stockpiles: Stockpile areas shall be located as far away from ponds, existing storm sewer inlets and existing swales as possible. Stockpiles shall not be located closer than 15 feet from any property line. Stockpiles shall be immediately seeded and secured with silt fence. Existing site topography: See Site Development Plan Sheets C101-C103 for existing site topography. Proposed final topography: See Site Development Plan Sheets C101-C103 for proposed site grading and drainage patterns.
- Description of potential pollutants sources associated with the construction activities: Silt and sediment from exposed soils, leaves, mulch, vehicular sources such as leaking fuel or oil, brake fluid, brake dust, trash, debris, biological agents found in trash, fertilizers, herbicides, pesticides, acid rain, lime dust and concrete washout.
- Sequencing of stormwater quality implementation relative to land disturbance activities: This plan has been created in an effort to eliminate sediment from leaving the East Haven at Noble West Sections 3A and 4 during construction protecting the adjoining properties and the Kirkendall Creek and Vestal Ditch. The majority of the two existing wetlands in Section 3A sheet drain into shallow concentrated flow prior to entering Kirkendall Creek and Vestal Ditch.

- ### PRECONSTRUCTION ACTIVITIES
- Call the Indiana Underground Plant Protection system, Inc. ("toxy Mole") at 1-800-382-5544 to check the location of any existing utilities. They should be notified two working days before construction takes place.
  - An orange construction fence shall be constructed along the perimeter of the tree preservation areas prior to any earth moving.
  - A silt fence shall be installed at the edge of the project site where there is potential for any stormwater runoff. Potential areas are identified based on existing topography in the areas along the perimeter of site. More specifically, a silt fence shall be installed along the southern and eastern boundary of the site as shown on plans.
  - Inlet protection shall be placed at the curb inlet southeast of the site, on Midland Lane.
  - Evaluate, mark and protect important trees and associated root zones. Evaluate existing vegetation suitable for use as filter strips along the North, South, East and West boundaries.
  - Maintain a 10' minimum grass filter strip per plan location.
  - A construction entrance shall be placed per the plan location.
  - Establish construction staging area for equipment and vehicles as far from detention ponds and swales as possible.
  - Establish onsite location for owner/operator/contractor placement of approved plans and Rule 5 NOI and Rule 5 inspection documentation.

- ### ESTABLISH SILT BASINS
- A temporary silt basin shall be installed in Section 3A and in Section 4.
  - Install the primary outlet ("P" ROP) system for the proposed pond located in Section 3A near the western boundary. Install the primary outlet ("P" ROP) system for the proposed pond located in Section 4 near the eastern boundary. Per the Stormwater Pollution Prevention & Specifications Plan Details, extend with a perforated riser for the temporary sediment basin(s).
  - After completion of the outlet pipe and perforated riser, commence construction of the temporary diversion swales and temporary sediment basin(s).

- ### CONSTRUCTION ACTIVITIES
- Once erosion and sediment control measures are in place, begin land clearing followed immediately by rough grading. Do not leave large areas unprotected for more than 15 days. Rule 5 requires that all disturbed areas that potentially will be idle for 15 days or more will be stabilized (seeded, mulched, etc.) immediately.
  - After completion of mass grading, final grade and seed pond banks, landscape berms, common areas and swales immediately after grading is completed.
  - Upon completion of mass grading, install sanitary and storm sewers. As storm sewers are constructed, install inlet protection measures. Install riprap upon completion of end section installation.
  - Upon completion of sewer installation and inlet protection, proceed with street construction.
  - Limiting of streets should be done prior to the installation of storm sewers to prevent the transmission of lime dust to ponds or receiving waters.
  - Once pavement and curbs are in place, install curb inlet sediment barriers.
  - Once inlet protection is in place, final grade all areas. Upon completion of all grading, verify depth of pond per plan requirement, design as needed.

- ### Stable construction entrance location(s) and specifications. See Stormwater Pollution Prevention Plan Sheets C104-C109 for location(s) and Sheet C803 for construction entrance details and specifications.
- ### Sediment control measures for sheet flow areas: See Stormwater Pollution Prevention Plan Sheets C104-C109 for locations of sediment control measures and Sheet C803 for construction details and specifications.

- ### Sediment control measures for concentrated flow areas: See Stormwater Pollution Prevention Plan Sheets C104-C109 for locations of sediment control measures and Sheet C803 for construction details and specifications.

- ### Storm sewer inlet protection measures, locations and specifications: See Stormwater Pollution Prevention Plan Sheets C104-C109 for locations of inlet protection measures and Sheet C803 for construction details and specifications.

- ### Stormwater outlet protection specifications: See Stormwater Pollution Prevention Plan Sheets C104-C109 for locations of stormwater outlet control measures and Sheet C803 construction details and specifications.

- ### Onsite stabilization structure locations and specifications: See Stormwater Pollution Prevention Plan Sheets C104-C109 for locations of grade stabilization control measures and Sheet C803 for construction details and specifications.

- ### Location, dimensions, specifications and construction details of all stormwater quality measures: See Stormwater Pollution Prevention Plan Sheets C104-C109 for locations of various stormwater quality measures and Sheet C803 for construction details and specifications.

- ### Temporary surface stabilization methods appropriate for each season: See Stormwater Pollution Prevention Plan Sheets C104-C109 for locations of temporary surface stabilization measures and Sheet C803 for construction details and specifications.

- ### Permanent surface stabilization specifications: See Stormwater Pollution Prevention Plan Sheets C104-C109 for locations of permanent surface stabilization measures and Sheet C803 for construction details and specifications.

- ### Material handling and spill prevention plan:
- Purposes:

- The intention of this Spill Prevention, Control and Countermeasures ("SPCC") is to establish the procedures and equipment required to prevent the discharge of oil and hazardous substances in quantities that violate applicable water quality standards, cause a steep up or discoloration of the surface of navigable waters or adjoining shorelines, or cause sludge or emulsion to be deposited beneath the surface of the water or adjoining shorelines. The Plan also establishes the activities required to mitigate such discharges (i.e., countermeasures) should they occur.

- ### Discharges:
- Pollutants: means pollutants of any kind or in any form, including but not limited to sediment, paint, cleaning agents, concrete washout, pesticides, nutrients, trash, hydraulic fluids, fuel, oil, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged silt.

- ### Discharge:
- includes but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping.

- ### Navigable Waters:
- means all waters of the United States that are connected with a navigable stream, lake, or sea. [Note: This definition is usually interpreted to mean any waterway (even normally dry water in a storm sewer) that eventually drains into a navigable stream.]

- ### Plan Review and Amendments:
- This Plan shall be reviewed and/or amended, if necessary, whenever there is a change in the design of the site, construction operation, or maintenance which materially affects the site's potential for the discharge of regulated material.

- ### Prevention of Potential Spills:
- Nearest Navigable Water: Kirkendall Creek and Vestal Ditch
  - Drainage System: The majority of the storm drainage leaves the office site by open ditches and closed storm systems to the west to Kirkendall Creek. It then follows the ditch southeast. Some of the storm drainage leaves the office site by open ditches and closed storm systems to the east to Vestal Ditch. It then follows Vestal Ditch southwest.
  - Possible Spill Sources (during and post construction): Vehicular sources such as leaking fuel or oil, brake fluid, grease, antifreeze, construction trash and debris, biological agents found in trash and debris, fertilizers, household items including but not limited to cleaning agents, chemicals, paint, herbicides and pesticides.
  - Groundwater Contamination: The facility maintains NO above ground or under ground storage tanks at this site. Therefore, it is felt that there is little or no possibility of post construction groundwater contamination. The facility does have city sanitary sewer and city water.

- ### Alert Procedures for Spills:
- Any personnel observing a spill will immediately investigate the following procedure:
    - Dialing "911" from any telephone.
    - Notify the appropriate emergency personnel.
  - The Emergency Coordinator will take the following actions:
    - Barricade the area allowing no vehicles to enter or leave the spill zone.
    - Notify the Indiana Department of Environmental Management, Office of Emergency Response by calling the appropriate telephone number:
      - Office 317-233-7745
      - Toll Free 800-233-7745
    - Also the National Response Center at 800-424-8802 and provide the following information:
      - Time of observation of the spill
      - Location of the spill
      - Identity of material spilled
      - Probable source of the spill
      - Probable time of the spill
      - Volume of the spill and duration
      - Present and anticipated movement of the spill
      - Weather conditions
      - Personnel at the scene
      - Action initiated by personnel
    - Notify the City of Noblesville Fire Department Phone: 9-1-1
    - Notify the City of Noblesville Police Department Phone: 9-1-1
    - Notify waste recovery contractor, maintenance personnel or other contracted personnel as necessary for cleanup.
    - Coordinate and monitor cleanup until the situation has been stabilized and all spills have been eliminated.
    - Cooperate with the DEC-CER on procedures and reports involved with the event.

- ### Cleanup Parameters:
- The Developer / Homeowners Association shall be continually kept informed, maintain lists of qualified contractors and available Vac-trucks, tank pumps and other equipment readily accessible for clean-up operations. In addition, a continually updated list of available absorbent materials and clean-up supplies should be kept on site.
  - All maintenance personnel will be made aware of techniques for prevention of spills. They will be informed of the requirements and procedures outlined in this plan. They will be kept abreast of current developments or new information on the prevention of spills and / or necessary operations to this plan.
  - When spills occur which could endanger human life and this becomes primary concern, the discharge of the life saving protection function will be carried out by the local police and fire departments.
  - Absorbent materials, which are used in cleaning up spilled materials, will be disposed of in a manner subject to the approval of the Indiana Department of Environmental Management.
  - Flushing of spilled material with water will not be permitted unless so authorized by the Indiana Department of Environmental Management.

- ### Monitoring and maintenance guidelines for pollution prevention measures:
- #### Storm Water Maintenance Requirements
- Inspect storm water drains after each storm event and promptly remove any sediment deposits to insure adequate storage volume for the next rain, taking care not to undermine the entrenched bales.
  - Inspect periodically for deterioration or damage from construction activities and repair immediately.
  - After the contributing drainage area has been stabilized, remove all straw bales and sediment deposits, bring the disturbed area to grade and stabilize it.

- #### Silt Fence Maintenance Requirements
- Inspect the silt fence periodically and after each storm event.
  - If fence fabric tears, starts to decompose or in any way becomes ineffective, replace the affected portion immediately.
  - Remove deposited sediment when it reaches half the height of the fence at it's lowest point or is causing the fabric to bulge.
  - Take care to avoid undermining the fence during cleanup.
  - After the contributing drainage area has been stabilized, remove the fence and sediment deposits, bring the disturbed area to grade and stabilize it.

- #### Temporary Sediment Trap Maintenance Requirements
- Inspect temporary sediment traps after each storm event and immediately repair any erosion and piping holes.
  - Remove sediment when it has accumulated to one-half the design depth.
  - Replace siltway grass seeding when clipped.
  - Inspect vegetation and re-seed if necessary.
  - Check the siltway depth periodically to insure a minimum of 1.5 ft depth from the lowest point of the settled embankment to highest point of the siltway crest and fill any low areas to maintain desired elevation.
  - Promptly replace any displaced rip-rap, being careful that no stones in the siltway are above design grade.

- #### Sanitary Drain Inlet Barrier Maintenance Requirements
- Inspect frequently for damage by vehicular traffic and repair if necessary.
  - Inspect after each storm event.
  - Remove sediment, without flushing, when it reaches half the height of the barrier.
  - Deposit removed sediment where it will not enter storm sewer drains.

- #### Block and Drain Curb Inlet Protection Maintenance Requirements
- After each storm event, remove the sediment and replace the gravel, replace the geotextile fabric if used.
  - Periodically remove sediment and broken-up soil from the street, without flushing, to reduce the sediment load on the curb inlet protection.
  - Inspect periodically for damage and repair. Keep grades free of debris.
  - After the contributing drainage area has been stabilized, remove the gravel, wire mesh, geotextile fabric and sediment deposits and dispose of them properly.

- #### Erosion Control Blanket (Surface Applied) Maintenance Requirements
- During vegetative establishment, inspect after each storm event for any erosion below the blanket.
  - If any erosion occurs, pull back that portion of the blanket covering it, re-seed the area and relay and staple the blanket.
  - After vegetative establishment check the treated area periodically.

- #### Temporary Small Construction Entrance Maintenance Requirements
- Inspect entrance post and sediment disposal area weekly and after storm events or heavy use.
  - Reimage as needed for drainage and runoff control.
  - Topdress with clean stone as needed.
  - Immediately remove mud and sediment tracked or washed onto streets by brushing or sweeping. Flushing should only be used if the water is conveyed into a sediment trap or basin.
  - Repair any broken road pavement immediately.

- ### Erosion & sediment control specifications for individual building lots: See Sheet C803 for Construction details and specifications for erosion & sediment control on individual building lots.

- ### Description of pollutants and their sources associated with the proposed land use: Silt and sediment from exposed soils, leaves, mulch, vehicular sources such as leaking fuel or oil, brake fluid, brake dust, concrete washout, fertilizers, herbicides, pesticides, nutrients, trash, salts and sewage, construction trash and debris, fertilizers, household items including but not limited to cleaning agents, chemicals, paint, miscellaneous home improvement materials, toys, clothing and animal waste, elevated storm runoff temperatures, acid rain, pesticides and pathogens.

- ### Sequence describing stormwater quality measure implementation:
- Inspect and maintain all erosion control measures as detailed in the Stormwater Pollution Prevention Measures Maintenance Requirements beginning immediately after installation and continuing until vegetation has been sufficiently established and all construction activity is complete.
  - Remove all individual inlet protection and straw bales, silt fences, etc. only after seeding and sufficient vegetative growth has been established in each area to a point where sediment/pollutants will not enter the lake(s) or storm sewer system.
  - It is recommended that any proposed wetland area and plantings (if any) be constructed/placed after final grading and sufficient vegetative growth has been established to a point where sediment/pollutants will not enter the proposed wetlands.
  - Inspect and maintenance of all common areas and infrastructure improvements is the responsibility of the owner/developer or his designee until improvements are accepted for maintenance by homeowners association or local agencies.
  - Inspect and maintenance of individual lots is the responsibility of the home builder or his designee until the homeowner buys and thereby accepts responsibility for the individual lot.

- ### Description of proposed post construction stormwater quality measures: Site and facility design for stormwater quality protection on this site employs a multi-level strategy consisting of:
- Reducing or eliminating post-project runoff.
  - Controlling sources of pollutants.
  - And if needed, treating contaminated stormwater runoff before discharging it into the storm sewer system or receiving waters.

- ### Typical stormwater quality measures for reducing, eliminating or controlling pollutants (source controls) include:
- Detention/Retention devices
  - Reducing Runoff or Direct runoff from impervious areas
  - Vegetated strips and/or swales
  - Permanent erosion control seeding and plantings
  - Outlet protection & velocity dissipation devices
  - Earthen ditches, drainage swales and lined ditches
  - Road slope protection
  - Mulching

- It is the intent of this plan that the implementation of the above described stormwater quality measures be executed in accordance with the enclosed plans and details in order to meet the requirements of Rule 5 storm water quality standards.

- ### Location, dimensions, specifications and construction details of stormwater quality measures: See Stormwater Pollution Prevention Plan Sheets C104-C109 for locations of permanent stormwater quality measures and Sheet C803 for construction details and specifications.

- ### Description of maintenance guidelines for proposed water quality measures: See attached BMP Operations and Maintenance Manual.

- ### Suitable Applications
- This BMP is suitable for construction sites where the following wastes are generated or stored:

- Soil waste generated from trees and shrubs removed during land clearing, demolition of existing structures (rubble), and building construction

- Packaging materials including wood, paper, and plastic

- Scrap or surplus building materials including scrap metals, rubber, plastic, glass pieces and many other products

- Domestic wastes including food containers such as beverage cans, coffee cups, paper bags, plastic wrappers, and cigarettes

- Construction wastes including brick, mortar, lumber, steel and metal scraps, pipe and electrical cuttings, nonhazardous equipment parts, styrofoam and other materials sent transport and package construction materials

# ADDITIONAL STORMWATER POLLUTION PREVENTION MEASURES

## VEHICLE & EQUIPMENT MAINTENANCE

- ### Description and Purpose
- Prevent or reduce the contamination of stormwater resulting from vehicle and equipment maintenance by running a "dry and clean site". The best option would be to perform maintenance activities at an offsite facility. If this option is not available then work should be performed in designated areas only while providing cover for materials stored outside, checking for leaks and spills, and containing and cleaning up spills immediately.

- ### Suitable Applications
- These procedures are suitable on all construction projects where an onsite yard area is necessary for storage and maintenance of heavy equipment and vehicles.

- ### Limitations
- Onsite vehicle and equipment maintenance should only be used where it is impractical to send vehicles and equipment offsite for maintenance and repair. Sending vehicles/equipment offsite should be done in conjunction with a Stabilized Construction Entrance/Exit. Outdoor vehicle or equipment maintenance should be performed in a potentially significant source of stormwater pollution. Activities that can contaminate stormwater include engine repair and service, changing or replacement of fluids, and outdoor equipment storage and parking (engine fluid leaks).

- ### Implementation
- If maintenance must occur onsite, use designated areas, located away from drainage courses. Dedicated maintenance areas should be protected from stormwater runoff and should be located at least 50 ft from downstream drainage facilities and watercourses.

- Drip pans or absorbent pads should be used during vehicle and equipment maintenance work that involves fluids, unless the maintenance work is performed over an impermeable surface in a dedicated maintenance area.

- Place a stockpile of spill cleanup materials where it will be readily accessible.

- All fueling trucks and fueling areas are required to have spill kits and/or use other spill protection devices.

- Use absorbent materials on small spills. Remove the absorbent materials promptly and dispose of properly.

- Inspect onsite vehicles and equipment daily at startup for leaks, and repair immediately. Keep vehicles and equipment clean: do not allow excessive build-up of oil and grease.

- Segregate and recycle wastes, such as greases, used oil or oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic and transmission fluids. Provide secondary containment and covers for these materials if stored onsite.

- Train employees and subcontractors in proper maintenance and spill cleanup procedures. Drip pans or plastic sheeting should be placed under all vehicles and equipment placed on docks, barges, or other structures over water bodies when the vehicle or equipment is planned to be idle for more than 1 hour.

- Properly dispose of used oils, fluids, lubricants, and oil cleanup materials. Do not place used oil in a dumpster or pour into a storm drain or watercourse. Properly dispose of or recycle used batteries. Do not bury used tires.

- Repair leaks of fluids and oil immediately.
- Listed below is further information if you must perform vehicle or equipment maintenance onsite.

- ### Inspection and Maintenance
- Inspect and verify that BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect weekly to verify continued BMP implementation.

- Inspect BMPs subject to non-stormwater discharge daily while non-stormwater discharges occur.

- Inspect construction waste area regularly.

- Arrange for regular waste collection.

- ### CONCRETE WASHOUT
- The following steps will help reduce stormwater pollution from concrete wastes:

- Discuss the concrete management techniques described in this BMP (such as handling of concrete waste and washout) with the ready-mix concrete supplier before any deliveries are made.

- Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.

- Store dry and wet materials under cover, away from drainage areas.

- Avoid mixing excess amounts of fresh concrete.

- Perform washout of concrete trucks offsite or in designated areas only.

- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.

- Do not allow excess concrete to be dumped onsite, except in designated areas.

- For onsite washout:
- Locate washout area at least 50 feet from storm drains, open ditches, or water bodies.
  - Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
  - Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed properly.
  - Avoid creating runoff by draining water to a bermed or level area when washing concrete to remove fine particles and expose the aggregate.
  - Do not wash sweepings from exposed aggregate concrete into the street or storm drain. Collect and return sweepings to aggregate base stockpile or dispose in the trash.

- ### DEWATERING AND PUMPING OPERATIONS
- #### Description and Purpose
- Dewatering operations are practices that manage the discharge of pollutants when non-stormwater and accumulated precipitation must be removed from a work location so that construction work may be accomplished.

- #### Suitable Applications
- These practices are implemented for discharges of nonstormwater from construction sites. Non-stormwaters include, but are not limited to, groundwater, water from cofferdams, water diversions, and waters used during construction activities that must be removed from a work area. Practices identified in this section are also appropriate for implementation when managing the removal of accumulated precipitation(stormwater) from depressed areas of a construction site.

- #### Limitations
- Site conditions will dictate design and use of dewatering operations. The controls discussed in this best management practice (BMP) address sediment removal. The size of particles present in the sediment and Permit or receiving water limitations on sediment are key considerations for selecting sediment treatment option(s). In some cases, the use of multiple devices may be appropriate.

- #### Implementation
- Dewatering discharges must not cause erosion at the discharge point. A variety of methods can be used to treat water during dewatering operations. Several devices are presented below and provide options to achieve sediment removal. The size of particles present in the sediment and Permit or receiving water limitations on sediment are key considerations for selecting sediment treatment option(s). In some cases, the use of multiple devices may be appropriate.

- #### Inspection and Maintenance
- Vehicles and equipment should be inspected each day of use for leaks. Leaks should be repaired immediately or problem vehicles or equipment should be removed from the project site.

- Keep ample supplies of spill cleanup materials onsite.

- Immediately clean up spills and properly dispose of contaminated soil and cleanup materials.

- Federal, state, and local requirements should be observed for any stationary above ground storage tanks.

- Packaging materials including wood, paper, and plastic

- Scrap or surplus building materials including scrap metals, rubber, plastic, glass pieces and many other products

- Domestic wastes including food containers such as beverage cans, coffee cups, paper bags, plastic wrappers, and cigarettes

- Construction wastes including brick, mortar, lumber, steel and metal scraps, pipe and electrical cuttings, nonhazardous equipment parts, styrofoam and other materials sent transport and package construction materials

## Implementation

The following steps will help keep a clean site and reduce stormwater pollution:

Select designated waste collection areas onsite.

Inform trash-hauling contractors that you will accept only watertight dumpsters for onsite use.

Inspect dumpsters for leaks and repair any dumpster that is not watertight.

Provide an adequate number of containers with lids or covers that can be placed over the container to keep rain out or to prevent loss of wastes when it is windy.

Plan for additional containers and more frequent pickup during the demolition phase of construction.

Collect site trash daily, especially during rainy and windy conditions.

Make sure that toxic liquid wastes (used oils, solvents, and paints) and chemicals (acids, pesticides, additives, curing compounds) are not disposed in dumpsters designed for construction debris.

Do not hose out dumpsters on the construction site. Leave dumpster cleaning to the trash hauling contractor.

Arrange for regular waste collection before containers overflow.

Clean up immediately if a container does spill.

Make sure that construction waste is collected, removed, and disposed of only at authorized disposal areas.

### Collection, Storage, and Disposal

Littering on the project site should be prohibited.

To prevent clogging of the storm drainage system, litter and debris removal from drainage groves, trash racks, and ditch lines should be a priority.

Trash receptacles should be provided in the contractor's yard, field trailer area, and at locations where workers congregate for lunch and break periods.

Litter from work areas within the construction limits of the project site should be collected and loaded in watertight dumpsters at least weekly, regardless of whether the litter was generated by the contractor, the public, or others. Collected litter and debris should not be placed in or next to drain inlets, stormwater drainage systems, or watercourses.

Dumpsters of sufficient size and number should be provided to contain the solid waste generated by the project.

Full dumpsters should be removed from the project site and the contents should be disposed of by the trash hauling contractor.

Construction debris and waste should be removed from the site biweekly or more frequently as needed.

Construction material visible to the public should be stored or stacked in an orderly manner.

Stormwater runoff should be prevented from contacting stored solid waste through the use of berms, dikes, or other temporary diversion structures or through the use of measures to elevate waste from site surfaces.

Solid waste storage areas should be located at least 50 ft from drainage facilities and watercourses and should not be located in areas prone to flooding or ponding.

Do not bury used tires.

Repair leaks of fluids and oil immediately.

Listed below is further information if you must perform vehicle or equipment maintenance onsite.

### Inspection and Maintenance

Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect weekly to verify continued BMP implementation.

Inspect BMPs subject to non-stormwater discharge daily while non-stormwater discharges occur.

Inspect construction waste area regularly.

Arrange for regular waste collection.

## Sediment Basin

### Description

A sediment basin is a temporary basin with a controlled release structure that is formed by excavation or construction of an embankment to detain sediment-laden runoff and allow sediment to settle out before discharging. Sediment basins are generally larger than Sediment Traps.

### GENERAL APPLICATIONS

Effective for the removal of gravel, sand, silt, some metals that settle out with the sediment, and trash.

### Excavation and Construction

Excavation and construction of related facilities is required.

Temporary sediment basins must be fenced if safety is a concern.

### Outlet Protection

Outlet protection is required to prevent erosion at the outfall location.

### Maintenance

Maintenance is required for safety fencing, vegetation, embankment, inlet and outfall structures, as well as other features.

Replace the bag when it no longer filters sediment or passes water at a reasonable rate. The bag is disposed of offsite.

### Removal of Sediment

Removal of sediment is required when the storage volume is reduced by one-third.

### Sediment Trap

#### DESCRIPTION

A sediment trap is a temporary basin formed by excavation and/or construction of an earthen embankment across a waterway or low drainage area to detain sediment-laden runoff and allow sediment to settle out before discharging. Sediment traps are generally smaller than Sediment Basins.

#### GENERAL APPLICATIONS

Effective for the removal of large and medium sized particles (sand and gravel) and some metals that settle out with the sediment.

#### Excavation and Construction

Excavation and construction of related facilities is required.

Trap inlets should be located to maximize the travel distance to the trap outlet.

Use rock or vegetation to protect the trap outlets against erosion.

#### Maintenance

Maintenance is required for vegetation, embankment, inlet and outfall structures, as well as other features.

Removal of sediment is required when the storage volume is reduced by one-third.

## Gravelly Bag Filter

### Description

A gravelly bag filter, also referred to as a dewatering bag, is a square or rectangular bag made of non-woven geotextile fabric that collects sand, silt, and fines.

### GENERAL APPLICATIONS

Effective for the removal of sediments (gravel, sand, and silt). Some metals are removed with the sediment.

### Placement

Water is pumped into one side of the bag and seeps through the bottom and sides of the bag.

A secondary barrier, such as a rock filter bed or straw/hay bale barrier, is placed beneath and beyond the bag to capture sediments that escape the bag.

### Installation

Installation of the flow conditions, bag condition, bag capacity, and the secondary barrier is required.

Replace the bag when it no longer filters sediment or passes water at a reasonable rate. The bag is disposed of offsite.

### Removal of Sediment

Removal of sediment is required when the storage volume is reduced by one-third.

### Sediment Trap

#### DESCRIPTION

A sediment trap is a temporary basin formed by excavation and/or construction of an earthen embankment across a waterway or low drainage area to detain sediment-laden runoff and allow sediment to settle out before discharging. Sediment traps are generally smaller than Sediment Basins.