APPENDIX 9

IEPA General NPDES Permit No. ILR40

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397
BRUCE RAUNER, GOVERNOR LISA BONNETT, DIRECTOR

217/782-0610

February 10, 2016

Re: General NPDES Permit ILR40 for Discharge from Small Municipal Separate Storm Sewer Systems (MS4)

Dear Permittee:

Enclosed with this letter is the reissued General NPDES Permit ILR40 for the discharge of storm water from small MS4s. Significant changes have been made in the final permit based on comments received by the Agency. Please review the final permit and make any necessary modifications to your storm water management program. The Agency has also provided a list of permit modifications and a summary of responses to comments received by the Agency.

Please note that the Agency will be reviewing the Notice of Intent (NOI) for all NOIs that have been received. If you have not submitted an NOI, you must submit a NOI within 90 days of the effective date of the permit. A separate permit coverage letter will be sent by the Agency to persons who have submitted a complete NOI after review of the NOI.

Should you have any questions or comments regarding this letter, please contact Melissa Parrott or Cathy Demeroukas of my staff at (217) 782-0610 or at the above address.

Sincerely,

Alan Keller

Alan Keller, P.E.
Manager, Permit Section
Division of Water Pollution Control

SAK:16020801bah/MS4 NOI Letter

4302 N. Main St., Rockford, IL 61103 (815) 987-7760
595 S. State, Elgin, IL 60123 (847) 608-3131
2125 S. First St., Champaign, IL 61820 (217) 278-5800
2009 Mall St., Collinsville, IL 62234 (618) 346-5120

9511 Harrison St., Des Plaines, IL 60016 (847) 294-4000
412 SW Washington St., Suite D, Peoria, IL 61602 (309) 671-3022
2309 W. Main St., Suite 116, Marion, IL 62959 (618) 993-7200
100 W. Randolph, Suite 10-300, Chicago, IL 60601

General NPDES Permit No. ILR40

Illinois Environmental Protection Agency
Division of Water Pollution Control
1021 North Grand East
P.O. Box 19276
Springfield, Illinois 62794-9276

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

General NPDES Permit
For
Discharges from Small Municipal Separate Storm Sewer Systems

Expiration Date: February 28, 2021

Issue Date: February 10, 2016

Effective Date: March 1, 2016

In compliance with the provisions of the Illinois Environmental Protection Act, the Illinois Pollution Control Board Rules and Regulations (35 Ill. Adm. Code, Subtitle C, Chapter 1) and the Clean Water Act, the following discharges may be authorized by this permit in accordance with the conditions herein:

Discharges of only storm water from small municipal separate storm sewer systems (MS4s), as defined and limited herein. Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage.

Receiving waters: Discharges may be authorized to any surface water of the State.

To receive authorization to discharge under this general permit, a facility operator must submit a Notice of Intent (NOI) as described in Part II of this permit to the Illinois Environmental Protection Agency (Illinois EPA). Authorization, if granted, will be by letter and include a copy of this permit.

Alan Keller

Alan Keller, P.E.
Manager, Permit Section
Division of Water Pollution Control

NPDES/Hutton/stormwater/MS4/MSFinal2-9-16.daa

CONTENTS OF GENERAL PERMIT ILR40

PART I. COVERAGE UNDER GENERAL PERMIT ILR40

A. Permit Area

This permit covers all areas of the State of Illinois.

B. Eligibility

1. This permit authorizes discharges of storm water from MS4s as defined in 40 CFR 122.26 (b)(16) as designated for permit authorizations pursuant to 40 CFR 122.32.

2. This permit authorizes the following non-storm water discharges provided they have been determined not to be substantial contributors of pollutants to a particular small MS4 applying for coverage under this permit:

   - Water line and fire hydrant flushing,
   - Landscape irrigation water,
   - Rising ground waters,
   - Ground water infiltration,
   - Pumped ground water,
   - Discharges from potable water sources, (excluding wastewater discharges from water supply treatment plants)
   - Foundation drains,
   - Air conditioning condensate,
   - Irrigation water, (except for wastewater irrigation),
   - Springs,
   - Water from crawl space pumps,
   - Footing drains,
   - Storm sewer cleaning water,
   - Water from individual residential car washing,
   - Routine external building washdown which does not use detergents,
   - Flows from riparian habitats and wetlands,
   - Dechlorinated pH neutral swimming pool discharges,
   - Residual street wash water,
   - Discharges or flows from fire fighting activities
   - Dechlorinated water reservoir discharges, and
   - Pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed).

3. Any municipality covered by this general permit is also granted automatic coverage under Permit No. ILR10 for the discharge of storm water associated with construction site activities for municipal construction projects disturbing one acre or more. The permittee is granted automatic coverage 30 days after Agency receipt of a Notice of Intent to Discharge Storm Water from Construction Site Activities from the permittee. The Agency will provide public notification of the construction site activity and assign a unique permit number for each project during this period. The permittee shall comply with all the requirements of Permit ILR10 for all such construction projects.

C. Limitations on Coverage

The following discharges are not authorized by this permit:

1. Storm water discharges that are mixed with non-storm water or storm water associated with industrial activity unless such discharges are:

   a. In compliance with a separate NPDES permit; or

   b. Identified by and in compliance with Part I.B.2 of this permit.

2. Storm water discharges that the Agency determines are not appropriately covered by this general permit. This determination may include discharges identified in Part 1.B.2 or that introduce new or increased pollutant loading that may be a significant contributor of pollutants to the receiving waters.

3. Storm water discharges to any receiving water specified under 35 Ill. Adm. Code 302.105(d) (6).

4. The following non-storm water discharges are prohibited by this permit: concrete and wastewater from washout of concrete (unless managed by an appropriate control), drywall compound, wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials, fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance, soaps, solvents, or detergents, toxic or hazardous substances from a spill or other release, or any other pollutant that could cause or tend to cause water pollution.

5. Discharges from dewatering activities (including discharges from dewatering of trenches and excavations) are allowable if managed by appropriate controls as specified in a project's storm water pollution prevention plan, erosion and sediment control plan, or storm water management plan.

D. Obtaining Authorization

In order for storm water discharges from small MS4s to be authorized to discharge under this general permit, a discharger must:

1. Submit a Notice of Intent (NOI) in accordance with the requirements of Part II using an NOI form provided by the Agency (or a photocopy thereof).

2. Submit a new NOI in accordance with Part II within 30 days of a change in the operator or the addition of a new operator.

3. Unless notified by the Agency to the contrary, an MS4 owner submitting a complete NOI in accordance with the requirements of this permit will be authorized to discharge storm water from their small MS4s under the terms and conditions of this permit 30 days after the date that the NOI is received. Authorization will be by letter and include a copy of this permit. The Agency may deny coverage under this permit and require submittal of an application for an individual NPDES permit based on a review of the NOI or other information.

PART II. NOTICE OF INTENT (NOI) REQUIREMENTS

A. Deadlines for Notification

1. If an MS4 was automatically designated under 40 CFR 122.32(a)(1) to obtain permit coverage, then you were required to submit an NOI or apply for an individual permit by March 10, 2003.

2. If an MS4 has coverage under the previous general permit for storm water discharges from small MS4s, you must renew your permit coverage under this part. Unless previously submitted for this general permit, you must submit a new NOI within 90 days of the effective date of this reissued general permit for storm water discharges from small MS4s to renew your NPDES permit coverage. The permittee shall comply with any new provisions of this general permit within 180 days of the effective date of this permit and include modifications pursuant to the NPDES permit in its Annual Report.

3. If an MS4 is designated in writing by Illinois EPA under 40 CFR 122.32(a)(2) during the term of this general permit, then you are required to submit an NOI within 180 days of such notice.

4. MS4s are not prohibited from submitting an NOI after established deadlines for NOI submittals. If a late NOI is submitted, your authorization is only for discharges that occur after permit coverage is granted. Illinois EPA reserves the right to take appropriate enforcement actions against MS4s that have not submitted a timely NOI.

B. Contents of Notice of Intent

Dischargers seeking coverage under this permit shall submit the Illinois MS4 NOI form. The NOI shall be signed in accordance with Standard Condition 11 of this permit and shall include all of the following information:

1. The street address, county, and the latitude and longitude of the municipal office for which the notification is submitted;

2. The name, address, and telephone number of the operator(s) filing the NOI for permit coverage and the name, address, telephone number, and email address of the person(s) responsible for implementation and compliance with the MS4 Permit; and

3. The name and segment identification of the receiving water(s), whether any segments(s) is or are listed as impaired on the most recently approved list pursuant to Section 303(d) of the Clean Water Act or any currently applicable Total Maximum Daily Load (TMDL) or alternate water quality study, and the pollutants for which the segment(s) is or are impaired. The most recent 303(d) list may be found at http://www.epa.state.il.us/water/water-quality/index.html. Information regarding TMDLs may be found at http://www.epa.state.il.us/water/tmdl/.

4. The following shall be provided as an attachment to the NOI:

   a. A description of the best management practices (BMPs) to be implemented and the measurable goals for each of the storm water minimum control measures in paragraph IV. B. of this permit designed to reduce the discharge of pollutants to the maximum extent practicable;

   b. The month and year in which you implemented any BMPs of the six minimum control measures, and the month and year in which you will start and fully implement any new minimum control measures or indicate the frequency of the action;

   c. For existing permittees, provide adequate information or justification on any BMPs from previous NOIs that could not be implemented; and

   d. Identification of a local qualifying program, or any partners of the program if any.

5. For existing permittees, certification that states the permittee has implemented necessary BMPs of the six minimum control measures.

C. All required information for the NOI shall be submitted electronically and in writing to the following addresses:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Permit Section
Post Office Box 19276
Springfield, Illinois 62794-9276

epa.ms4noipermit@illinois.gov

D. Shared Responsibilities

Permittees may partner with other MS4s to develop and implement their storm water management program. Each MS4 must fill out the NOI form. MS4s may also jointly submit their individual NOI in coordination with one or more MS4s. The description of their storm water management program must clearly describe which permittees are responsible for implementing each of the control measures. Each permittee is responsible for implementation of best management practices for the Storm Water Management Program within its jurisdiction.

PART III. SPECIAL CONDITIONS

A. The Permittee's discharges, alone or in combination with other sources, shall not cause or contribute to a violation of any applicable water quality standard outlined in 35 Ill. Adm. Code 302.

B. If there is evidence indicating that the storm water discharges authorized by this permit cause, or have the reasonable potential to cause or contribute to a violation of water quality standards, you may be required to obtain an individual permit or an alternative general permit or the permit may be modified to include different limitations and/or requirements.

C. If a TMDL allocation or watershed management plan is approved for any water body into which you discharge, you must review your storm water management program to determine whether the TMDL or watershed management plan includes requirements for control of storm water discharges. If you are not meeting the TMDL allocations, you must modify your storm water management program to implement the TMDL or watershed management plan within eighteen months of notification by the Agency of the TMDL or watershed management plan approval. Where a TMDL or watershed management plan is approved, the permittee must:

1. Determine whether the approved TMDL is for a pollutant likely to be found in storm water discharges from your MS4.

2. Determine whether the TMDL includes a pollutant waste load allocation (WLA) or other performance requirements specifically for storm water discharge from your MS4.

3. Determine whether the TMDL addresses a flow regime likely to occur during periods of storm water discharge.

4. After the determinations above have been made and if it is found that your MS4 must implement specific WLA provisions of the TMDL, assess whether the WLAs are being met through implementation of existing storm water control measures or if additional control measures are necessary.

5. Document all control measures currently being implemented or planned to be implemented to comply with TMDL waste load allocation(s). Also include a schedule of implementation for all planned controls. Document the calculations or other evidence that shows that the WLA will be met.

6. Describe and implement a monitoring program to determine whether the storm water controls are adequate to meet the WLA.

7. If the evaluation shows that additional or modified controls are necessary, describe the type and schedule for the control additions/revisions.

8. Continue requirements 4 through 7 above until monitoring from two continuous NPDES permit cycles demonstrate that the WLAs or water quality standards are being met.

9. If an additional individual permit or alternative general permit includes implementation of work pursuant to an approved TMDL or alternate water quality management plan, the provisions of the individual or alternative general permit shall supersede the conditions of Part III.C. TMDL information may be found at http://www.epa.state.il.us/water/tmdl/.

D. If the permittee performs any deicing activities that can cause or contribute to a violation of an applicable State chloride water quality standard, the permittee must participate in any watershed group(s) organized to implement control measures which will reduce the chloride concentration in any receiving stream in the watershed.

E. Authorization: Owners or operators must submit either an NOI in accordance with the requirements of this permit or an application for an individual NPDES Permit to be authorized to discharge under this General Permit. Authorization, if granted will be by letter and include a copy of this Permit. Upon review of an NOI, the Illinois EPA may deny coverage under this permit and require submittal of an application for an individual NPDES permit.

1. Automatic Continuation of Expired General Permit: Except as provided in III.E.2 below, when this General Permit expires the conditions of this permit shall be administratively continued until the earliest of the following:

   a. 150 days after the new General Permit is reissued;

   b. The Permittee submits a Notice of Termination (NOT) and that notice is approved by Illinois EPA;

   c. The Permittee is authorized for coverage under an individual permit or the renewed or reissued General Permit;

   d. The Permittee's application for an individual permit for a discharge or NOI for coverage under the renewed or reissued General Permit is denied by the Illinois EPA; or

   e. Illinois EPA issues a formal permit decision not to renew or reissue this General Permit. This General Permit shall be automatically administratively continued after such formal permit decision.

2. Duty to Reapply:

   a. If the permittee wishes to continue an activity regulated by this General Permit, the permittee must apply for permit coverage before the expiration of the administratively continued period specified in III.E.1 above.

   b. If the permittee reapplies in accordance with the provisions of III.E.2.a above, the conditions of this General Permit shall continue in full force and effect under the provisions of 5 ILCS 100/10-65 until the Illinois EPA makes a final determination on the application or NOI.

   c. Standard Condition 2 of Attachment H is not applicable to this General Permit.

F. The Agency may require any person authorized to discharge by this permit to apply for and obtain either an individual NPDES permit or an alternative NPDES general permit. Any interested person may petition the Agency to take action under this paragraph. The Agency may require any owner or operator authorized to discharge under this permit to apply for an individual or alternative general NPDES permit only if the owner or operator has been notified in writing that a permit application is required. This notice shall include a brief statement of the reasons for this decision, an application form, a statement setting a deadline for the owner or operator to file the application, and a statement that on the effective date of the individual NPDES permit or the alternative general permit as it applies to the individual permittee, coverage under this general permit shall automatically terminate. The Agency may grant additional time to submit the application upon request of the applicant. If an owner or operator fails to submit in a timely manner an individual or alternative general NPDES permit application required by the Agency under this paragraph, then the applicability of this permit to the individual or alternative general NPDES permittee is automatically terminated by the date specified for application submittal.

G. Any owner or operator authorized by this permit may request to be excluded from the coverage of this permit by applying for an individual permit. The owner or operator shall submit an individual application with reasons supporting the request, in accordance with the requirements of 40 CFR 122.28, to the Agency. The request will be granted by issuing an individual permit or an alternative general permit if the reasons cited by the owner are adequate to support the request.

H. When an individual NPDES permit is issued to an owner or operator otherwise subject to this permit, or the owner or operator is approved for coverage under an alternative NPDES general permit, the applicability of this permit to the individual NPDES permittee is automatically terminated on the issue date of the individual permit or the date of approval for coverage under the alternative general permit, whichever the case may be.

PART IV. STORM WATER MANAGEMENT PROGRAMS

A. Requirements

The permittee must develop, implement, and enforce a storm water management program designed to reduce the discharge of pollutants from their MS4 to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the Illinois Pollution Control Board Rules and Regulations (35 Ill. Adm. Code, Subtitle C, Chapter 1) and the Clean Water Act. The permittee's storm water management program must include the minimum control measures described in section B of this Part. For new permittees, the permittee must develop and implement specific program requirements by the date specified in the Agency's coverage letter. The U.S. Environmental Protection Agency's National Menu of Storm Water Best Management Practices (http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm) and the most recent version of the Illinois Urban Manual should be consulted regarding the selection of appropriate BMPs.

B. Minimum Control Measures

The 6 minimum control measures to be included in the permittee's storm water management program are:

1. Public Education and Outreach on Storm Water Impacts

New permittees shall develop and implement elements of their storm water management program addressing the provisions listed below. Existing permittees renewing coverage under this permit shall maintain their current programs addressing this Minimum Control Measure, updating and enhancing their storm water management programs as necessary to comply with the terms of this section.

a. Distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff. The educational materials shall include information on the potential impacts and effects on storm water discharge due to climate change. Information on climate change can be found at http://epa.gov/climatechange/. The permittee shall incorporate the following into its education materials, at a minimum:

i. Information on effective pollution prevention measures to minimize the discharge of pollutants from private property and activities into the storm sewer system, on the following topics:

A. Storage and disposal of fuels, oils and similar materials used in the operation of or leaking from, vehicles and other equipment;
B. Use of soaps, solvents or detergents used in the outdoor washing of vehicles, furniture and other property,
C. Paint and related décor;
D. Lawn and garden care; and
E. Winter de-icing material storage and use.

ii. Information about green infrastructure strategies such as green roofs, rain gardens, rain barrels, bioswales, permeable piping, dry wells, and permeable pavement that mimic natural processes and direct storm water to areas where it can be infiltrated, evaporated or reused.

iii. Information on the benefits and costs of such strategies and provide guidance to the public on how to implement them.

b. Define appropriate BMPs for this minimum control measure and measurable goals for each BMP. These measurable goals must ensure the reduction of all of the pollutants of concern in the permittee's storm water discharges to the maximum extent practicable; and

c. Provide an annual evaluation of public education and outreach BMPs and measurable goals. Report on this evaluation in the Annual Report pursuant to Part V.C.1.

2. Public Involvement/Participation

New permittees shall develop and implement elements of their storm water management program addressing the provisions listed below. Existing permittees renewing coverage under this permit shall maintain their current programs addressing this Minimum Control Measure, updating and enhancing their storm water management programs as necessary to comply with the terms of this section.

a. At a minimum, comply with State and local public notice requirements when implementing a public involvement/ participation program;

b. Define appropriate BMPs for this minimum control measure and measurable goals for each BMP, which must ensure the reduction of all of the pollutants of concern in the permittee's storm water discharges to the maximum extent practicable;

c. Provide a minimum of one public meeting annually for the public to provide input as to the adequacy of the permittee's MS4 program. This requirement may be met in conjunction with or as part of a regular council or board meeting;

d. The permittee shall identify environmental justice areas within its jurisdiction and include appropriate public involvement/participation. Information on environmental justice concerns may be found at http://www.epa.gov/environmentaljustice/. This requirement may be met in conjunction with or as part of a regular council or board meeting; and

e. Provide an annual evaluation of public involvement/participation BMPs and measurable goals. Report on this evaluation in the Annual Report pursuant to Part V.C.1.

3. Illicit Discharge Detection and Elimination

New permittees shall develop and implement elements of their storm water management program addressing the provisions listed below. Existing permittees renewing coverage under this permit shall maintain their current programs addressing this Minimum Control Measure, updating and enhancing their storm water management programs as necessary to comply with the terms of this section.

a. Develop, implement, and enforce a program to detect and eliminate illicit connections or discharges into the permittee's small MS4;

b. Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters that receive discharges from those outfalls. Existing permittees renewing coverage under this permit shall update their storm sewer system map to include any modifications to the sewer system;

c. To the extent allowable under state or local law, prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into the permittee's storm sewer system and implement appropriate enforcement procedures and actions, including enforceable requirements for the prompt reporting to the MS4 of all releases, spills and other unpermitted discharges to the separate storm sewer system, and a program to respond to such reports in a timely manner;

d. Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to the system;

e. Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste and the requirements and mechanisms for reporting such discharges;

f. Address the categories of non-storm water discharges listed in Section I.B.2 only if you identify them as significant contributor of pollutants to your small MS4 (discharges or flows from firefighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are identified as significant sources of pollutants to waters of the United States);

g. Define appropriate BMPs for this minimum control measure and measurable goals for each BMP. These measurable goals must ensure the reduction of all of the pollutants of concern in your storm water discharges to the maximum extent practicable;

h. Conduct periodic inspections of the storm sewer outfalls in dry weather conditions for detection of non-storm water discharges and illegal dumping. The permittee may establish a prioritization plan for inspection of outfalls, placing priority on outfalls with the greatest potential for non-storm water discharges. Major/high priority outfalls shall be inspected at least annually; and

i. Provide an annual evaluation of illicit discharge detection and elimination BMPs and measurable goals. Report on this evaluation in the Annual Report pursuant to Part V.C.1.

4. Construction Site Storm Water Runoff Control

New permittees shall develop and implement elements of their storm water management program addressing the provisions listed below. Existing permittees renewing coverage under this permit shall maintain their current programs addressing this Minimum Control Measure, updating and enhancing their storm water management programs as necessary to comply with the terms of this section.

a. Develop, implement, and enforce a program to reduce pollutants in any storm water runoff to the permittee's small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Control of storm water discharges from construction activity disturbing less than one acre must be included in your program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more or has been designated by the permitting authority.

At a minimum, the permittee must develop and implement the following:

i. An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under state or local law;

ii. Erosion and Sediment Controls - The permittee shall ensure that construction activities regulated by the storm water program require the construction site owner/operator to design, install, and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants. At a minimum, such controls must be designed, installed, and maintained to:

A. Control storm water volume and velocity within the site to minimize soil erosion;
B. Control storm water discharges, including both peak flow rates and total storm water volume, to minimize erosion at outlets and to minimize downstream channel and stream bank erosion;
C. Minimize the amount of soil exposed during construction activity;
D. Minimize the disturbance of steep slopes;
E. Minimize sediment discharges from the site. The design, installation and maintenance of erosion and sediment controls must address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting storm water runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site;
F. Provide and maintain natural buffers around surface waters, direct storm water to vegetated areas to increase sediment removal, and maximize storm water infiltration, unless infeasible; and
G. Minimize soil compaction and preserve topsoil, unless infeasible.

iii. Requirements for construction site operators to control or prohibit non-storm water discharges that would include concrete and wastewater from washout of concrete (unless managed by an appropriate control), drywall compound, wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials, fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance, soaps, solvents, or detergents, toxic or hazardous substances from a spill or other release, or any other pollutant that could cause or tend to cause water pollution;

iv. Require all regulated construction sites to have a storm water pollution prevention plan that meets the requirements of Part IV of NPDES permit No. ILR10, including management practices, controls, and other provisions at least as protective as the requirements contained in the Illinois Urban Manual, 2014, or as amended including green infrastructure techniques where appropriate and practicable;

v. Procedures for site plan reviews which incorporate consideration of potential water quality impacts and site plan review of individual pre-construction site plans by the permittee to ensure consistency with local sediment and erosion control requirements;

vi. Procedures for receipt and consideration of information submitted by the public; and

vii. Site inspections and enforcement of ordinance provisions.

b. Define appropriate BMPs for this minimum control measure and measurable goals for each BMP. These measurable goals must ensure the reduction of all of the pollutants of concern in your storm water discharges to the maximum extent practicable.

c. Provide an annual evaluation of construction site storm water control BMPs and measureable goals in the Annual Report pursuant to Part V.C.1.

5. Post-Construction Storm Water Management in New Development and Redevelopment

New permittees shall develop and implement elements of their storm water management program addressing the provisions listed below. Existing permittees renewing coverage under this permit shall maintain their current programs addressing this Minimum Control Measure, updating and enhancing their storm water management programs, as necessary, to comply with the terms of this section.

a. Develop, implement, and enforce a program to address and minimize the volume and pollutant load of storm water runoff from projects for new development and redevelopment that disturb greater than or equal to one acre, projects less than one acre that are part of a larger common plan of development or sale or that have been designated to protect water quality, that discharge into the permittee's small MS4 within the MS4's jurisdictional control. The permittee's program must ensure that appropriate controls are in place that would protect water quality and reduce the discharge of pollutants to the maximum extent practicable. In addition, each permittee shall adopt strategies that incorporate the infiltration, reuse, and evapotranspiration of storm water into the project to the maximum extent practicable. The permittee shall also develop and implement procedures for receipt and consideration of information submitted by the public.

b. Develop and implement strategies which include a combination of structural and/or non-structural BMPs appropriate for all projects within the permittee's jurisdiction for all new development and redevelopment that disturb greater than or equal to1 acre (at a minimum) that will reduce the discharge of pollutants and the volume and velocity of storm water flow to the maximum extent practicable. These strategies shall include effective water quality and watershed protection elements and shall be amenable to modification due to climate change. Information on climate change can be found at http://www.epa.gov/climatechange/. When selecting BMPs to comply with requirements contained in this Part, the permittee shall adopt one or more of the following general strategies, listed in order of preference below. The proposal of a strategy shall include a rationale for not selecting an approach from among those with a higher preference.

   i. Preservation of the natural features of development sites, including natural storage and infiltration characteristics;

   ii. Preservation of existing natural streams, channels, and drainage ways;

   iii. Minimization of new impervious surfaces;

   iv. Conveyance of storm water in open vegetated channels;

   v. Construction of structures that provide both quantity and quality control, with structures serving multiple sites being preferable to those serving individual sites; and

   vi. Construction of structures that provide only quantity control, with structures serving multiple sites being preferable to those serving individual sites.

c. If a permittee requires new or additional approval of any development, redevelopment, linear project construction, replacement or repair on existing developed sites, or other land disturbing activity covered under this Part, the permittee shall require the person responsible for that activity to develop a long term operation and maintenance plan including the adoption of one or more of the strategies identified in Part IV.B.5.b. of this permit.

d. Develop and implement a program to minimize the volume of storm water runoff and pollutants from public highways, streets, roads, parking lots, and sidewalks (public surfaces) through the use of BMPs that alone or in combination result in physical, chemical, or biological pollutant load reduction, increased infiltration, evapotranspiration, and reuse of storm water. The program shall include, but not be limited to the following elements:

   i. Annual Training for all MS4 employees who manage or are directly involved in (or who retain others who manage or are directly involved in) the routine maintenance, repair, or replacement of public surfaces in current green infrastructure or low impact design techniques applicable to such projects; and

   ii. Annual Training for all contractors retained to manage or carry out routine maintenance, repair, or replacement of public surfaces in current green infrastructure or low impact design techniques applicable to such projects. Contractors may provide training to their employees for projects which include green infrastructure or low impact design techniques.

e. Develop and implement a program to minimize the volume of storm water runoff and pollutants from existing privately owned developed property that contributes storm water to the MS4 within the MS4 jurisdictional control. Such program must be documented and may contain the following elements:

   i. Source Identification – Establish an inventory of storm water and pollutants discharged to the MS4;

   ii. Implementation of appropriate BMPs to accomplish the following:

      A. Education on green infrastructure BMPs;
      B. Evaluation of existing flood control techniques to determine the feasibility of pollution control retrofits;
      C. Evaluation of existing flood control techniques to determine potential impacts and effects due to climate change;
      D. Implementation of additional controls for special events expected to generate significant pollution (fairs, parades, performances);
      E. Implementation of appropriate maintenance programs, (including maintenance agreements, for structural pollution control devices or systems);
      F. Management of pesticides and fertilizers; and
      G. Street cleaning in targeted areas.

f. Infiltration practices should not be implemented in any of the following circumstances:

i. Areas/sites where vehicle fueling and/or maintenance occur;

ii. Areas/sites with shallow bedrock which allow movement of pollutants into the groundwater;

iii. Areas/sites near Karst features;

iv. Areas/sites where contaminants in soil or groundwater could be mobilized by infiltration of storm water;

v. Areas/sites within a delineated source water protection area for a public drinking water supply where the potential for an introduction of pollutants into the groundwater exists. Information on groundwater protection may be found at:

http://www.epa.state.il.us/water/groundwater/index.html

vi. Areas/sites within 400 feet of a community water supply well if there is not a wellhead protection delineation area or within 200 feet of a private water supply well. Information on wellhead protection may be found at :

http://www.epa.state.il.us/water/groundwater/index.html

g. Develop and implement an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects, public surfaces, and existing developed property as set forth above to the extent allowable under state or local law.

h. Require all regulated construction sites to have post-construction management plans that meet or exceed the requirements of Part IV.D.2.h of NPDES permit No. ILR10 including management practices, controls, and other provisions at least as protective as the requirements contained in the most recent version of the Illinois Urban Manual, 2014.

i. Ensure adequate long-term operation and maintenance of BMPs.

j. Define appropriate BMPs for this minimum control measure and measurable goals for each BMP. These measurable goals must ensure the reduction of all of the pollutants of concern in your storm water discharges to the maximum extent practicable.

k. Within 3 years of the effective date of the permit, the permittee must develop and implement a process to assess the water quality impacts in the design of all new and existing flood management projects that are associated with the permittee or that discharge to the MS4. This process must include consideration of controls that can be used to minimize the impacts to site water quality and hydrology while still meeting the project objectives. This will also include assessment of any potential impacts and effects on flood management projects due to climate change.

l. Provide an annual evaluation of post-construction storm water management BMPs and measureable goals in the Annual Report pursuant to Part V.C.1 .

6. Pollution Prevention/Good Housekeeping for Municipal Operations

New permittees shall develop and implement elements of their storm water management program addressing the provisions listed below. Existing permittees renewing coverage under this permit shall maintain their current programs addressing this Minimum Control Measure, updating and enhancing their storm water management programs as necessary to comply with the terms of this section.

a. Develop and implement an operation and maintenance program that includes an annual training component for municipal staff and contractors and is designed to prevent and reduce the discharge of pollutants to the maximum extent practicable.

b. Pollution Prevention- The permittee shall design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants from municipal properties, infrastructure, and operations. At a minimum, such measures must be designed, installed, implemented and maintained to:

i. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;

ii. Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, chemical storage tanks, deicing material storage facilities and temporary stockpiles, detergents, sanitary waste, and other materials present on the site to precipitation and to storm water;

iii. Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures; and

iv. Provide regular inspection of municipal storm water management BMPs. Based on inspection findings, the permittee shall determine if repair, replacement, or maintenance measures are necessary in order to ensure the structural integrity, proper function, and treatment effectiveness of structural storm water BMPs. Necessary maintenance shall be completed as soon as conditions allow to prevent or reduce the discharge of pollutants to storm water.

c. Deicing material must be stored in a permanent or temporary storage structure or seasonal tarping must be utilized. If no permanent structures are owned or operated by the Permittee, new permanent deicing material storage structures shall be constructed within two years of the effective date of this permit. Storage structures or stockpiles shall be located and managed to minimize storm water pollutant runoff from the stockpiles or loading/unloading areas of the stockpiles. Stockpiles and loading/unloading areas should be located as far as practicable from any area storm sewer drains. Fertilizer, pesticides, or other chemicals shall be stored indoors to prevent any discharge of such chemicals within the storm water runoff.

d. Using training materials that are available from USEPA, the State of Illinois, or other organizations, the permittee's program must include annual employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, operation of storage yards, snow disposal, deicing material storage handling and use on roadways, new construction and land disturbances, and storm water system maintenance procedures for proper disposal of street cleaning debris and catch basin material. In addition, training should include how flood management projects impact water quality, non-point source pollution control, green infrastructure controls, and aquatic habitat.

e. Define appropriate BMPs for this minimum control measure and measurable goals for each BMP. These measurable goals must ensure the reduction of all of the pollutants of concern in your storm water discharges to the maximum extent practicable.

f. Provide an annual evaluation of pollution prevention/good housekeeping for municipal operations and measureable goals in the Annual Report pursuant to Part V.C.1.

C. Qualifying State, County, or Local Program

If an existing qualifying local program requires a permittee to implement one or more of the minimum control measures of Part IV. B. above, the permittee may follow that qualifying program's requirements rather than the requirements of Part IV.B. above. A qualifying local program is a local, county, or state municipal storm water management program that imposes, at a minimum, the relevant requirements of Part IV. B. Any qualifying local programs that permittees intend to follow shall be specified in their storm water management program.

D. Sharing Responsibility

1. Implementation of one or more of the minimum control measures may be shared with another entity, or the entity may fully take over the control measure. A permittee may rely on another entity only if:

a. The other entity implements the control measure;

b. The particular control measure, or component of that measure is at least as stringent as the corresponding permit requirement;

c. The other entity agrees to implement any minimum control measure on the permittee's behalf. A written agreement of this obligation is recommended. This obligation must be maintained as part of the description of the permittee's Storm Water Management Program. If the other entity agrees to report on the minimum control measure, the permittee must supply the other entity with the reporting requirements contained in Part V.C of this permit. If the other entity fails to implement the minimum control measure on the permittee's behalf, then the permittee remains liable for any discharges due to that failure to implement the minimum control measure.

E. Reviewing and Updating Storm Water Management Programs

1. Storm Water Management Program Review- The permittee must perform an annual review of its Storm Water Management Program in conjunction with preparation of the annual report required under Part V.C. The permittee must include in its annual report a plan for complying with any changes or new provisions in this permit, or in any State or federal regulations. The permittee must also include in its annual report a plan for complying with all applicable TMDL Report(s) or watershed management plan(s). Information on TMDLs may be found at:

http://www.epa.state.il.us/water/tmdl/.

2. Storm Water Management Program Update - The permittee may modify its Storm Water Management Program during the life of the permit in accordance with the following procedures:

a. Modifications adding (but not subtracting or replacing) components, controls, or requirements to the Storm Water Management Program may be made at any time upon written notification to the Agency;

b. Modifications replacing an ineffective or infeasible BMP specifically identified in the Storm Water Management Program with an alternate BMP may be requested at any time. Unless denied by the Agency, modifications proposed in accordance with the criteria below shall be deemed approved and may be implemented 60 days from submittal of the request. If the request is denied, the Agency will send the permittee a written response giving a reason for the decision. The permittee's modification requests must include the following:

i. An analysis of why the BMP is ineffective or infeasible (including cost prohibitive);

ii. Expectations on the effectiveness of the replacement BMP; and

iii. An analysis of why the replacement BMP is expected to achieve the goals of the BMP to be replaced.

c. Modification of any ordinances relative to the storm water management program, provided the updated ordinance is at least as stringent as the provisions stipulated in this permit; and

d. Modification requests or notifications must be made in writing and signed in accordance with Standard Condition II of Attachment H.

3. Storm Water Management Program Updates Required by the Agency. Modifications requested by the Agency must be made in writing, set forth the time schedule for permittees to develop the modifications, and offer permittees the opportunity to propose alternative program modifications to meet the objective of the requested modification. All modifications required by the Permitting Authority will be made in accordance with 40 CFR 124.5, 40 CFR 122.62, or as appropriate 40 CFR 122.63. The Agency may require modifications to the Storm Water Management Program as needed to:

a. Address impacts on receiving water quality caused, or contributed to, by discharges from the MS4;

b. Include more stringent requirements necessary to comply with new federal or State statutory or regulatory requirements; or

c. Include such other conditions deemed necessary by the Agency to comply with the goals and requirements of the Clean Water Act.

PART V. MONITORING, RECORDKEEPING, AND REPORTING

A. Monitoring

The permittee must develop and implement a monitoring and assessment program to evaluate the effectiveness of the BMPs being implemented to reduce pollutant loadings and water quality impacts within 180 days of the effective date of this permit. The program should be tailored to the size and characteristics of the MS4 and the watershed. The permittee shall provide a justification of its monitoring and assessment program in the Annual Report. By not later than 180 days after the effective date of this permit, the permittee shall initiate an evaluation of its storm water program. The plan for monitoring/evaluation shall be described in the Annual Report. Evaluation and/or monitoring results shall be provided in the Annual Report. The monitoring and assessment program may include evaluation of BMPs and/or direct water quality monitoring as follows:

1. An evaluation of BMPs based on estimated effectiveness from published research accompanied by an inventory of the number and location of BMPs implemented as part of the permittee's program and an estimate of pollutant reduction resulting from the BMPs, or

2. Monitoring the effectiveness of storm water control measures and progress towards the MS4's goals using one or more of the following:

a. MS4 permittees serving a population of less than 25,000 may conduct visual observations of the storm water discharge documenting color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, or other obvious indicators of storm water pollution; or

b. MS4 permittees may evaluate storm water quality and impacts using one or more of the following methods;

i. Instream monitoring in the highest level hydrological unit code segment in the MS4 area. Monitoring shall include, at a minimum, quarterly monitoring of receiving waters upstream and downstream of the MS4 discharges in the designated stream(s).

ii. Measuring pollutant concentrations over time.

iii. Sediment monitoring.

iv. Short-term extensive network monitoring. Short-term sampling at the outlets of numerous drainage areas to identify water quality issues and potential storm water impacts, and may help in ranking areas for implementation priority. Data collected simultaneously across the MS4 to help characterize the geographical distribution of pollutant sources.

v. Site-specific monitoring. High-value resources such as swimming beaches, shellfish beds, or high-priority habitats could warrant specific monitoring to assess the status of use support. Similarly, known high-priority pollutant sources or impaired water bodies with contaminated aquatic sediments, an eroding stream channel threatening property, or a stream reach with a degraded fish population could be monitored to assess impacts of storm water discharges and/or to identify improvements that result from the implementation of BMPs.

vi. Assessing physical/habitat characteristics such as stream bank erosion caused by storm water discharges.

vii. Outfall/Discharge monitoring.

viii. Sewershed-focused monitoring. Monitor for pollutants in storm water produced in different areas of the MS4. For example, identify which pollutants are present in storm water from industrial areas, commercial areas, and residential areas.

ix. BMP performance monitoring. Monitoring of individual BMP performance to provide a direct measure of the pollutant reduction efficiency of these key components of a MS4 program.

x. Collaborative watershed-scale monitoring. The permittee may choose to work collaboratively with other permittees and/or a watershed group to design and implement a watershed or sub-watershed-scale monitoring program that assesses the water quality of the water bodies and the sources of pollutants. Such programs must include elements which assess the impacts of the permittee's storm water discharges and/or the effectiveness of the BMPs being implemented.

c. If ambient water quality monitoring under 2b above is performed, the monitoring of storm water discharges and ambient monitoring intended to gauge storm water impacts shall be performed within 48 hours of a precipitation event greater than or equal to one quarter inch in a 24-hour period. At a minimum, analysis of storm water discharges or ambient water quality shall include the following parameters: total suspended solids, total nitrogen, total phosphorous, fecal coliform, chlorides, and oil and grease. In addition, monitoring shall be performed for any other pollutants associated with storm water runoff for which the receiving water is considered impaired pursuant to the most recently approved list under Section 303(d) of the Clean Water Act.

B. Recordkeeping

The permittee must keep records required by this permit for 5 years after the expiration of this permit. Records to be kept under this Part include the permittee's NOI, storm water management plan, annual reports, and monitoring data. All records shall be kept onsite or locally available and shall be made accessible to the Agency for review at the time of an on-site inspection. Except as otherwise provided in this permit, permittees must submit records to the Agency only when specifically requested to do so. Permittees must post their NOI, storm water management program plan, and annual reports on the permittee's website. The permittee must make its records available to the public at reasonable times during regular business hours. The permittee may require a member of the public to provide advance notice, in accordance with the applicable Freedom of Information Act requirements. Storm sewer maps may be withheld for security reasons.

C. Reporting

The permittee must submit Annual Reports to the Agency by the first day of June for each year that this permit is in effect. If the permittee maintains a website, a copy of the Annual Report shall be posted on the website by the first day of June of each year. Each Report shall cover the period from March of the previous year through March of the current year. Annual Reports shall be maintained on the permittees' website for a period of 5 years. The Report must include:

1. An assessment of the appropriateness and effectiveness of the permittee's identified BMPs and progress towards achieving the statutory goal of reducing the discharge of pollutants to the maximum extent practicable (MEP), and the permittee's identified measurable goals for each of the minimum control measures;

2. The status of compliance with permit conditions, including a description of each incidence of non-compliance with the permit, and the permittee's plan for achieving compliance with a timeline of actions taken or to be taken;

3. Results of information collected and analyzed, including monitoring data, if any, during the reporting period;

4. A summary of the storm water activities the permittee plans to undertake during the next reporting cycle, including an implementation schedule;

5. A change in any identified BMPs or measurable goals that apply to the program elements;

6. Notice that the permittee is relying on another government entity to satisfy some of the permit obligations (if applicable);

7. Provide an updated summary of any BMP or adaptive management strategy constructed or implemented pursuant to any approved TMDL or alternate water quality management study. Use the results of your monitoring program to assess whether the WLA or other performance requirements for storm water discharges from your MS4 are being met; and

8. If a qualifying local program or programs with shared responsibilities is implementing all minimum control measures on behalf of one or more entities, then the local qualifying program or programs with shared responsibilities may submit a report on behalf of itself and any entities for which it is implementing all of the minimum control measures.

The Annual Reports shall be submitted to the following office and email addresses:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section
Municipal Annual Inspection Report
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

epa.ms4annualinsp@illinois.gov

PART VI. DEFINITIONS AND ACRONYMS

All definitions contained in Section 502 of the Clean Water Act, 40 CFR 122, and 35 Ill. Adm. Code 309 shall apply to this permit and are incorporated herein by reference. For convenience, simplified explanations of some regulatory/statutory definitions have been provided. In the event of a conflict, the definition found in the statute or regulation takes precedence.

Best Management Practices (BMPs) means structural or nonstructural controls, schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. BMPs also include treatment requirements, operating procedures, and practices to control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

BMP is an acronym for "Best Management Practices."

CFR is an acronym for "Code of Federal Regulations."

Control Measure as used in this permit refers to any Best Management Practice or other method used to prevent or reduce storm water runoff or the discharge of pollutants to waters of the State.

CWA or The Act means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483 and Pub. L. 97-117, 33 U.S.C. 1251 ET. seq.

Discharge when used without a qualifier, refers to discharge of a pollutant as defined at 40 CFR 122.2.

Environmental Justice (EJ) means the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies

Environmental Justice Area means a community with a low-income and/or minority population greater than twice the statewide average. In addition, a community may be considered a potential EJ community if the low-income and/or minority population is less than twice the state-wide average but greater than the statewide average and it has identified itself as an EJ community. If the low-income and/or minority population percentage is equal to or less than the statewide average, the community should not be considered a potential EJ community.

Flood management project means any project which is intended to control, reduce or minimize high stream flows and associated damage. This may also include projects designed to mimic or improve natural conditions in the waterway.

Green Infrastructure means wet weather management approaches and technologies that utilize, enhance or mimic the natural hydrologic cycle processes of infiltration, evapotranspiration and reuse. Green infrastructure approaches currently in use include green roofs, trees and tree boxes, rain gardens, vegetated swales, pocket wetlands, infiltration planters, porous and permeable pavements, porous piping systems, dry wells, vegetated median strips, reforestation/revegetation, rain barrels, cisterns, and protection and enhancement of riparian buffers and floodplains.

Illicit Connection means any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

Illicit Discharge is defined at 40 CFR 122.26(b)(2) and refers to any discharge to a municipal separate storm sewer that is not composed entirely of storm water, except discharges authorized under an NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from fire fighting activities.

MEP is an acronym for "Maximum Extent Practicable," the technology-based discharge standard for Municipal Separate Storm Sewer Systems to reduce pollutants in storm water discharges that was established by CWA Section 402(p). A discussion of MEP as it applies to small MS4s is found at 40 CFR 122.34.

MS4 is an acronym for "Municipal Separate Storm Sewer System" and is used to refer to a Large, Medium, or Small Municipal Separate Storm Sewer System (e.g. "the Dallas MS4"). The term is used to refer to either the system operated by a single entity or a group of systems within an area that are operated by multiple entities (e.g., the Houston MS4 includes MS4s operated by the city of Houston, the Texas Department of Transportation, the Harris County Flood Control District, Harris County, and others).

Municipal Separate Storm Sewer is defined at 40 CFR 122.26(b)(8) and means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to waters of the United States; (ii) Designed or used for collecting or conveying storm water; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

NOI is an acronym for "Notice of Intent" to be covered by this permit and is the mechanism used to "register" for coverage under a general permit.

NPDES is an acronym for "National Pollutant Discharge Elimination System."

Outfall is defined at 40 CFR 122.26(b) (9) and means a point source as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

Owner or Operator is defined at 40 CFR 122.2 and means the owner or operator of any "facility or activity" subject to regulation under the NPDES program.

Permitting Authority means the Illinois EPA.

Point Source is defined at 40 CFR 122.2 and means any discernable, 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 storm water runoff.

Pollutants of Concern means pollutants identified in a TMDL waste load allocation (WLA) or on the Section 303(d) list for the receiving water, and any of the pollutants for which water monitoring is required in Part V.A. of this permit.

Qualifying Local Program is defined at 40 CFR 122.34(c) and means a local, state, or Tribal municipal storm water management program that imposes, at a minimum, the relevant requirements of paragraph (b) of Section 122.34.

Small Municipal Separate Storm Sewer System is defined at 40 CFR 122.26(b)(16) and refers to all separate storm sewers that are owned or operated by the United States, a State [sic], city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State [sic] law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to waters of the United States, but is not defined as "large" or "medium" municipal separate storm sewer system. This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

Storm Water is defined at 40 CFR 122.26(b) (13) and means storm water runoff, snowmelt runoff, and surface runoff and drainage.

Storm Water Management Program (SWMP) refers to a comprehensive program to manage the quality of storm water discharged from the municipal separate storm sewer system.

SWMP is an acronym for "Storm Water Management Program."

TMDL is an acronym for "Total Maximum Daily Load."

Waters (also referred to as waters of the state or receiving water) is defined at Section 301.440 of Title 35: Subtitle C: Chapter I of the Illinois Pollution Control Board Regulations and means all accumulations of water, surface and underground, natural, and artificial, public and private, or parts thereof, which are wholly or partially within, flow through, or border upon the State of Illinois, except that sewers and treatment works are not included except as specially mentioned; provided, that nothing herein contained shall authorize the use of natural or otherwise protected waters as sewers or treatment works except that in-stream aeration under Agency permit is allowable.

"You" and "Your" as used in this permit is intended to refer to the permittee, the operator, or the discharger as the context indicates and that party's responsibilities (e.g., the city, the country, the flood control district, the U.S. Air Force, etc.).

Attachment H

Standard Conditions

Definitions

Act means the Illinois Environmental Protection Act, 415 ILCS 5 as Amended.

Agency means the Illinois Environmental Protection Agency.

Board means the Illinois Pollution Control Board.

Clean Water Act (formerly referred to as the Federal Water Pollution Control Act) means Pub. L 92-500, as amended. 33 U.S.C. 1251 et seq.

NPDES (National Pollutant Discharge Elimination System) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318 and 405 of the Clean Water Act.

USEPA means the United States Environmental Protection Agency.

Daily Discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Maximum Daily Discharge Limitation (daily maximum) means the highest allowable daily discharge.

Average Monthly Discharge Limitation (30 day average) means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Discharge Limitation (7 day average) means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Aliquot means a sample of specified volume used to make up a total composite sample.

Grab Sample means an individual sample of at least 100 milliliters collected at a randomly-selected time over a period not exceeding 15 minutes.

24-Hour Composite Sample means a combination of at least 8 sample aliquots of at least 100 millilters, collected at periodic intervals during the operating hours of a facility over a 24-hour period.

8-Hour Composite Sample means a combination of at least 3 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over an 8-hour period.

Flow Proportional Composite Sample means a combination of sample aliquots of at least 100 milliliters collected at periodic intervals such that either the time interval between each aliquot or the volume of each aliquot is proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot.

(1) **Duty to comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or for denial of a permit renewal application. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirements.

(2) **Duty to reapply.** If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. If the permittee submits a proper application as required by the Agency no later than 180 days prior to the expiration date, this permit shall continue in full force and effect until the final Agency decision on the application has been made.

(3) **Need to halt or reduce activity not a defense.** It shall not be a defense for a permittee 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.

(4) **Duty to mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

(5) **Proper operation and maintenance.** The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up, or auxiliary facilities, or similar systems only when necessary to achieve compliance with the conditions of the permit.

(6) **Permit actions.** This permit may be modified, revoked and reissued, or terminated for cause by the Agency pursuant to 40 CFR 122.62 and 40 CFR 122.63. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

(7) **Property rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.

(8) **Duty to provide information.** The permittee shall furnish to the Agency within a reasonable time, any information which the Agency may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The permittee shall also furnish to the Agency upon request, copies of records required to be kept by this permit.

(9) **Inspection and entry.** The permittee shall allow an authorized representative of the Agency or USEPA (including an authorized contractor acting as a representative of the Agency or USEPA), upon the presentation of credentials and other documents as may be required by law, to:

(a) Enter upon the permittee's premises where a regulated

facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

(d) Sample or monitor at reasonable times, for the purpose of assuring permit compliance, or as otherwise authorized by the Act, any substances or parameters at any location.

(10) **Monitoring and records.**

(a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(b) The permittee shall retain records of all monitoring information, including all calibration and maintenance records, and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of this permit, measurement, report or application. Records related to the permittee's sewage sludge use and disposal activities shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503). This period may be extended by request of the Agency or USEPA at any time.

(c) Records of monitoring information shall include:

(1) The date, exact place, and time of sampling or measurements;

(2) The individual(s) who performed the sampling or measurements;

(3) The date(s) analyses were performed;

(4) The individual(s) who performed the analyses;

(5) The analytical techniques or methods used; and

(6) The results of such analyses.

(d) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit. Where no test procedure under 40 CFR Part 136 has been approved, the permittee must submit to the Agency a test method for approval. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to ensure accuracy of measurements.

(11) **Signatory requirement.** All applications, reports or information submitted to the Agency shall be signed and certified.

(a) **Application.** All permit applications shall be signed as follows:

(1) For a corporation: by a principal executive officer of at least the level of vice president or a person or position having overall responsibility for environmental matters for the corporation;

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

(3) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.

(b) **Reports.** All reports required by permits, or other information requested by the Agency shall be signed by a person described in paragraph (a) 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 in paragraph (a); and

(2) The authorization specifies either an individual or a position responsible for the overall operation of the facility, from which the discharge originates, such as a plant manager, superintendent or person of equivalent responsibility; and

(3) The written authorization is submitted to the Agency.

(c) **Changes of Authorization.** If an authorization under (b) is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of (b) must be submitted to the Agency prior to or together with any reports, information, or applications to be signed by an authorized representative.

(d) **Certification.** Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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.

(12) **Reporting requirements.**

(a) **Planned changes.** The permittee shall give notice to the Agency as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required when:

(1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source pursuant to 40 CFR 122.29 (b); or

(2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements pursuant to 40 CFR 122.42 (a)(1).

(3) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

(b) **Anticipated noncompliance.** The permittee shall give advance notice to the Agency of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(c) **Transfers.** This permit is not transferable to any person except after notice to the Agency.

(d) **Compliance schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(e) **Monitoring reports.** Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(1) Monitoring results must be reported on a Discharge Monitoring Report (DMR).

(2) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR 136 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

(3) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Agency in the permit.

(f) **Twenty-four hour reporting.** The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24-hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and time; and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The following shall be included as information which must be reported within 24-hours:

(1) Any unanticipated bypass which exceeds any effluent limitation in the permit.

(2) Any upset which exceeds any effluent limitation in the permit.

(3) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Agency in the permit or any pollutant which may endanger health or the environment.

The Agency may waive the written report on a case-by-case basis if the oral report has been received within 24-hours.

(g) **Other noncompliance.** The permittee shall report all instances of noncompliance not reported under paragraphs (12) (d), (e), or (f), at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (12) (f).

(h) **Other information.** Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to the Agency, it shall promptly submit such facts or information.

(13) **Bypass.**

(a) Definitions.

(1) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

(2) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(b) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (13)(c) and (13)(d).

(c) Notice.

(1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

(2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph (12)(f) (24-hour notice).

(d) Prohibition of bypass.

(1) Bypass is prohibited, and the Agency may take enforcement action against a permittee for bypass, unless:

(i) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(iii) The permittee submitted notices as required under paragraph (13)(c).

(2) The Agency may approve an anticipated bypass, after considering its adverse effects, if the Agency determines that it will meet the three conditions listed above in paragraph (13)(d)(1).

(14) **Upset.**

(a) Definition. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(b) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (14)(c) are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(c) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the permittee can identify the cause(s) of the upset;

(2) The permitted facility was at the time being properly operated; and

(3) The permittee submitted notice of the upset as required in paragraph (12)(f)(2) (24-hour notice).

(4) The permittee complied with any remedial measures required under paragraph (4).

(d) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

(15) **Transfer of permits.** Permits may be transferred by modification or automatic transfer as described below:

(a) Transfers by modification. Except as provided in paragraph (b), a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued pursuant to 40 CFR 122.62 (b) (2), or a minor modification made pursuant to 40 CFR 122.63 (d), to identify the new permittee and incorporate such other requirements as may be necessary under the Clean Water Act.

(b) Automatic transfers. As an alternative to transfers under paragraph (a), any NPDES permit may be automatically transferred to a new permittee if:

(1) The current permittee notifies the Agency at least 30 days in advance of the proposed transfer date;

(2) The notice includes a written agreement between the existing and new permittees containing a specified date for transfer of permit responsibility, coverage and liability between the existing and new permittees; and

(3) The Agency does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement.

(16) All manufacturing, commercial, mining, and silvicultural dischargers must notify the Agency as soon as they know or have reason to believe:

(a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant identified under Section 307 of the Clean Water Act which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:

(1) One hundred micrograms per liter (100 ug/l);

(2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6 dinitrophenol; and one milligram per liter (1 mg/l) for antimony.

(3) Five (5) times the maximum concentration value reported for that pollutant in the NPDES permit application; or

(4) The level established by the Agency in this permit.

(b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the NPDES permit application.

(17) All Publicly Owned Treatment Works (POTWs) must provide adequate notice to the Agency of the following:

(a) Any new introduction of pollutants into that POTW from an indirect discharge which would be subject to Sections 301 or 306 of the Clean Water Act if it were directly discharging those pollutants; and

(b) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

(c) For purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

(18) If the permit is issued to a publicly owned or publicly regulated treatment works, the permittee shall require any industrial user of such treatment works to comply with federal requirements concerning:

(a) User charges pursuant to Section 204 (b) of the Clean Water Act, and applicable regulations appearing in 40 CFR 35;

(b) Toxic pollutant effluent standards and pretreatment standards pursuant to Section 307 of the Clean Water Act; and

(c) Inspection, monitoring and entry pursuant to Section 308 of the Clean Water Act.

(19) If an applicable standard or limitation is promulgated under Section 301(b)(2)(C) and (D), 304(b)(2), or 307(a)(2) and that effluent standard or limitation is more stringent than any effluent limitation in the permit, or controls a pollutant not limited in the permit, the permit shall be promptly modified or revoked, and reissued to conform to that effluent standard or limitation.

(20) Any authorization to construct issued to the permittee pursuant to 35 Ill. Adm. Code 309.154 is hereby incorporated by reference as a condition of this permit.

(21) The permittee shall not make any false statement, representation or certification in any application, record, report, plan or other document submitted to the Agency or the USEPA, or required to be maintained under this permit.

(22) The Clean Water Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act is subject to a civil penalty not to exceed $25,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318 or 405 of the Clean Water Act is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than one year, or both.
Additional penalties for violating these sections of the Clean Water Act are identified in 40 CFR 122.41 (a)(2) and (3).

(23) The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

(24) The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

(25) Collected screening, slurries, sludges, and other solids shall be disposed of in such a manner as to prevent entry of those wastes (or runoff from the wastes) into waters of the State. The proper authorization for such disposal shall be obtained from the Agency and is incorporated as part hereof by reference.

(26) In case of conflict between these standard conditions and any other condition(s) included in this permit, the other condition(s) shall govern.

(27) The permittee shall comply with, in addition to the requirements of the permit, all applicable provisions of 35 Ill. Adm. Code, Subtitle C, Subtitle D, Subtitle E, and all applicable orders of the Board or any court with jurisdiction.

(28) The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit is held invalid, the remaining provisions of this permit shall continue in full force and effect.

(Rev. 7-9-2010 bah)

APPENDIX 10

Critical Trends in Illinois Ecosystems –
Chapter Five: Fox and Des Plaines Rivers Watershed (2001)

CHAPTER FIVE

Fox and Des Plaines Rivers Watershed

Located in the northeastern part of the state, the Fox and Des Plaines is the most urbanized ISIS watershed. More than one-third of the area consists of urbanized and developed land, accounting for one-half of such land cover in the state. The watershed has the most non-forested wetland acres in the state as well as the highest percentage of wetland in a watershed. It also has the least amount of cropland acreage and the smallest percentage of cropland in a watershed. (See page 104 for a color map of the watershed's land cover.)

Five Resource Rich Areas are in the Fox and Des Plaines watershed — Thorn Creek, Des Plaines River, DuPage River, Chain O'Lakes-Fox River, Illinois Beach and Prairie Parklands.

- Thorn Creek is a relatively small area — 32 square miles in a heavily urbanized area. Natural resources are confined along streams and in forest preserves. The Thorn Creek Nature Preserve has narrow ridges and deep ravines, shallow depressions, broad uplands and the stream valley.
- The Des Plaines River RRA is a small — 68 square miles — highly urbanized site which forms a narrow corridor along the river from just west of Chicago to Joliet. Relatively high percentages of upland woods and non-forested wetlands occur at this site. Important natural features include prairie, savanna, river bluffs, cliffs, wetland, floodplain and upland forest.
- The DuPage River RRA, comprised of the watershed of the East Branch of the Du Page River, is located in the highly urbanized western suburbs of Chicago. With its small size (81 square miles) it has a high percentage of upland forest (19%) and non-forested wetlands (3%).
- The Chain O'Lakes-Fox River RRA (447 square miles) encompasses the area of most recent glaciation in Illinois. Significant natural features include glacial landforms, natural lakes, and

The watershed has the most non-forested wetland acres in the state as well as the highest percentage of wetland in a watershed.

Table 18. *Watershed Land Cover*

Land Cover	Acres	Percent of Watershed		Statewide Percentage*	
Upland forest	290,149	11.3%	(4)	7.0%	(7)
Grassland	326,288	12.7%	(8)	5.1%	(10)
Non-forested wetlands	78,237	3.1%	(1)	22.0%	(1)
Bottomland forest	26,448	1.0%	(9)	3.0%	(10)
Water	36,275	1.4%	(5)	7.3%	(7)
Urban/built-up	931,664	36.3%	(1)	49.8%	(1)
Cropland	877,925	34.2%	(10)	4.1%	(10)
Total acreage	2,566,987	100.0%		7.1%	(9)

** The watershed's percentage of the land cover type statewide, e.g., 7% of the state's upland forests are located in this watershed. Note: the watershed's rank (1st-10th) is shown in parentheses.*

Most fish richness measures were also close to statewide averages and habitat quality was slightly higher than the statewide average.

many types of wetland — bogs, fens, seeps, and shallow and deep marshes. Some rare species and community types are limited in their distribution to this area of the state. Urban expansion from the Chicago metropolitan region continues to put severe pressure on the natural resources here.

- Even though its boundaries include urbanized areas of the Chicago metropolitan region, the Illinois Beach RRA (77 square miles) is one of the most ecologically rich and unique areas in Illinois. Its location on the shores of Lake Michigan provides a diversity of habitats that support a wide variety of plants and animals. Significant and unusual topographic features include beaches, ridges and swales, and dunes. The area is an important migratory route for birds.
- The dominant feature of the Prairie Parklands RRA is the recently created Midewin National Tallgrass Prairie, the nation's first federally designated tallgrass prairie, at the former Joliet Arsenal. Significant natural resources include prairies, wetlands and streams. The largest concentration of upland sandpipers in the state is in the Prairie Parklands area. The RRA takes in 239 square miles — 41% in this watershed and 59% in the Kankakee/Vermilion/Mackinaw watershed.

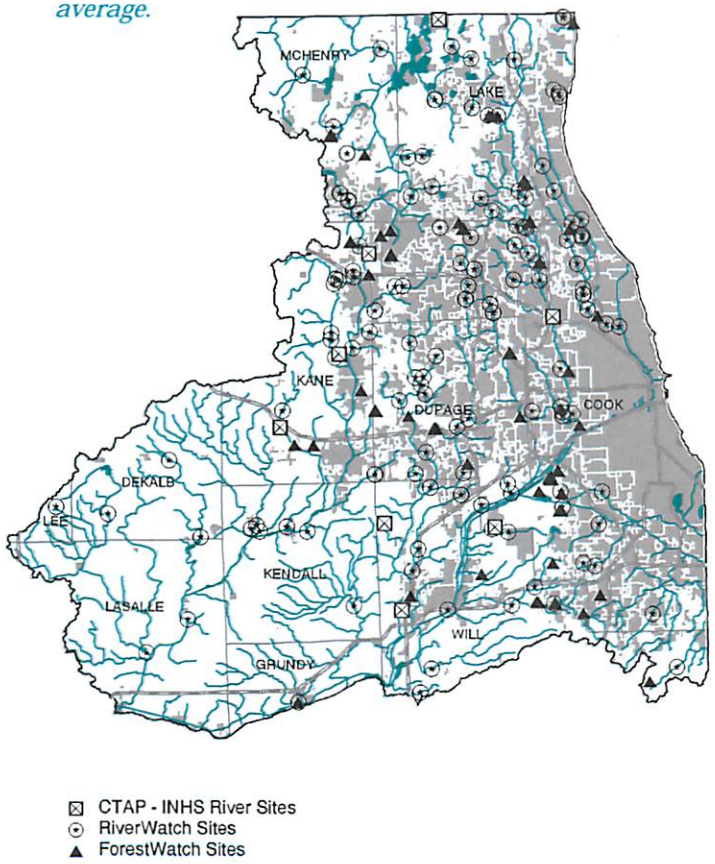


***Figure 35.** Monitoring sites*

ECOSYSTEM MONITORING

HBI values at the eight sites sampled by CTAP biologists indicate moderate organic enrichment, while EPT richness was slightly below the statewide average. Most fish richness measures were also close to statewide averages and habitat quality was slightly higher than the statewide average. One high quality stream was Ferson Creek below Kane County's Leroy Oaks Forest Preserve; it had high habitat quality, good EPT and HBI scores, and high fish richness. The lowest quality site was Willow Creek at Rosemont. It supported no EPT species, relatively low fish richness, and had a very low habitat quality score.

RiverWatch volunteers collected 313 samples at 139 sites on 91 streams. Most RiverWatch biological indicator data also suggest the watershed is below-average in ecological quality. It ranked seventh and eighth among the ten watersheds in MBI and EPT taxa, suggesting that organic pollution has disturbed sensitive taxa. It ranked fifth in taxa richness — with 9.1 taxa per site, slightly above the state average of 8.9 — but seventh in taxa dominance. Sowbugs and hydropsychid caddisfly are the most common taxa.

***Table 19.** Watershed Indicator Scorecard*

Indicator	Watershed Value	Statewide Value	Watershed Ranking
Macroinvertebrates			
HBI	5.1	5.2	5
MBI	6.0	5.7	7
EPT richness	6.6	7.1	6
EPT taxa (RW)	2.2	2.6	8
Taxa richness	9.1	8.9	5
Taxa dominance	80.4%	80.4%	7
Fish			
Native fish	14.3	13.6	4
Darter richness	1.8	1.9	5
Exotic species	0.3	0.2	6
Habitat			
Habitat score	94.9	88.6	4

***Table 20.** MBI Values*

Statistic	1995	1996	1997	1998	1999	Overall
Mean	6.65	5.91	6.11	5.95	5.81	6.02
Standard deviation	1.78	0.92	0.98	1.02	0.97	1.02
Minimum	4.23	4.84	4.52	3.63	3.47	3.47
Maximum	9.44	9.97	9.50	11.00	8.80	11.00
Number of sites*	10	40	63	110	83	306

* *Only samples with at least 25 organisms were included in the analysis.*

ForestWatch volunteers monitored 14 sites in the Fox and Des Plaines Rivers watershed in the fall of 1998. Ten were upland forests (4 oak-hickory, 4 maple-ash-basswood, 2 bur oak) and four were bottomland forests (2 ash-elm-maple, 1 ash-cottonwood, 1 scrub). Tree species richness ranged from four to 16 species per site, averaging 10.2 per site, slightly below the statewide average of 11.8 species per site. The site with only four species was dominated by hawthorn trees and was characterized as scrub. Thirty-eight tree taxa were recorded in the watershed (75 taxa statewide).

The great abundance of buckthorn recorded here is alarming. This non-native invasive woody plant is particularly abundant in northeastern Illinois and seems to be a problem throughout the watershed. It grows in both shrub and tree form, spreads rapidly and crowds out native vegetation, reducing the diversity of the forest and the ability of native plants and animals to survive.

In general, the trees that were most abundant also had the highest basal areas and importance values (Table 21). Buckthorn is an exception. Since it is an understory tree it does not grow very large and is only ninth in basal area and seventh in importance value. In contrast, white oak trees grow very large. Despite being seventh in abundance, they have the greatest basal area and are third in importance.

Two upland sites showed some signs of maple takeover. The site graphed in Figure 36 shows that sugar maples dominate the smallest size class, indicating poor regeneration by oaks and hickories and the possible future dominance of maples. This likely reflects changes in the fire regime in the area.

***Table 21.** Tree Species with the Highest Importance Values*

Importance Value	Species	% of total trees counted (n=1,943)	% of total basal area ($22.1 m^2$/ha)
30.6	Ash	14%	16%
22.9	Basswood	11%	11%
20.7	White oak	6%	19%
15.5	Hawthorn	9%	3%
15.4	Bur oak	3%	11%
13.7	Slippery elm	7%	5%
13.5	Buckthorn	14%	3%
9.0	Black cherry	6%	3%
7.2	Sugar maple	3%	4%
6.7	Red oak group	3%	4%

There were no signs of gypsy moths or dogwood anthracnose at any site. Anthracnose has not been a problem in northern Illinois but gypsy moths have been entering northeastern Illinois, primarily from Wisconsin, and pose a major threat to forest health.

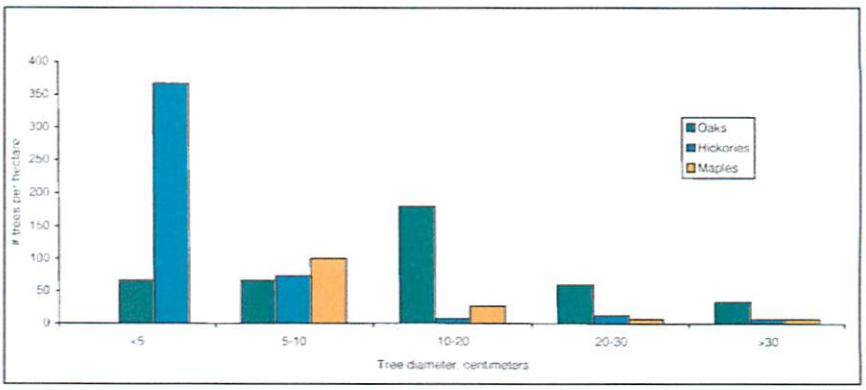


***Figure 36.** Maple take-over in an oak-hickory forest*

Abundance of invasive shrubs (primarily non-native) was rather high, comprising 74% of the 1,340 total shrub stems recorded. Honeysuckle shrubs, buckthorn, and European highbush cranberry reached high densities here compared to the statewide average (Fig. 37). Ninety-eight percent of the buckthorn, 60% of the honeysuckle shrubs, 22% of the multiflora rose, and 100% of the cranberry recorded across the state were recorded in this watershed. Buckthorns were found on nine of 14 sites. Two sites were particularly dominated by buckthorn and contributed most of the

buckthorn stems for the watershed and for the state. These numbers are not surprising since this is one of the most populated areas in the state and a major port-of-entry, both of which increase the odds that non-native plants will be introduced.

Spring monitoring also recorded numerous non-natives among the ground cover — ground ivy and garlic mustard were common, with one or both widespread at 10 of the 12 sites monitored. At three of these sites, disturbance-sensitive species were also recorded — blue cohosh and bleeding hearts at one site, and white trillium at two sites. Future monitoring should determine if the disturbance-sensitive species are being replaced by the non-native invasive species.

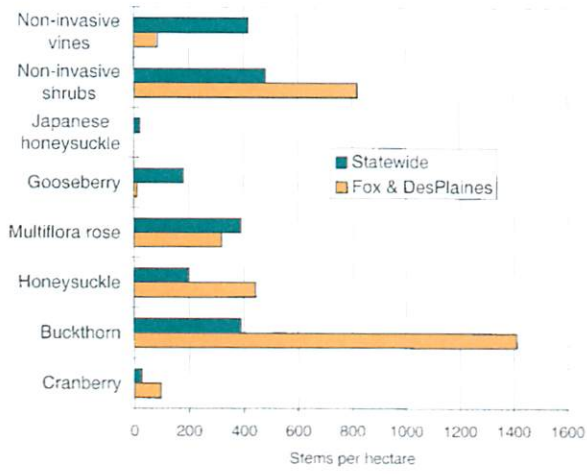


Figure 37. *Number of invasive and non-invasive shrub and vine stems*

Spring monitoring also recorded numerous non-natives among the ground cover.

REGIONAL ASSESSMENTS

Two regional assessments have been completed for this watershed — the Fox River Basin and the Upper Des Plaines River Basin.

Fox River Basin

The Fox River, the third largest tributary of the Illinois River, enters Illinois in the northwest corner of Lake County and flows 115 miles south, emptying into the Illinois River at Ottawa. Its basin is about 130 miles long and rarely exceeds 25 miles in width. The basin encompasses 1,720 square miles and includes portions of eleven counties: McHenry, Lake, DeKalb, Kane, Cook, DuPage, LaSalle, Lee, Kendall, Will, and Grundy. The portion of each county within the basin varies from less than 1% (Grundy County) to 74% (Kane County).

Within these counties is a diverse land cover; 19 of the 20 major state land cover categories are represented (only swamps are not found here). At one extreme are DeKalb, Kendall, and LaSalle counties which have 89-94% of their land in agricultural uses and 4-6% in urban uses. At the other extreme is Lake County, where agriculture takes up less than 25% of the land and urban development encompasses 42%. Despite its urban character, Lake County has more wetland acreage than all but three counties in Illinois.

Compared to the rest of the state, the Fox River area has less forest and agricultural land and more wetland. Seventy-two percent of the state's graminoid bog communities and all of the low shrub bogs and forested bogs occur here, as well as four of the state's five fen community types. Geological landforms such as kames, eskers and moraines have also contributed to the area's natural communities — 65% of Illinois' dry gravel prairies and 86% of the gravel hill prairies are found here. Other significant features:

- the 5,506 acres of high quality sites represents 0.5% of the land in the basin and 21% of the total undegraded natural communities in Illinois.
- the watershed has 63 miles of Biologically Significant Streams and 2,204 acres of Biologically Significant Lakes.

- 285,844 acres have been designated a state Resource Rich Area,
- all of the state's undegraded natural lakes are found along the Fox River.

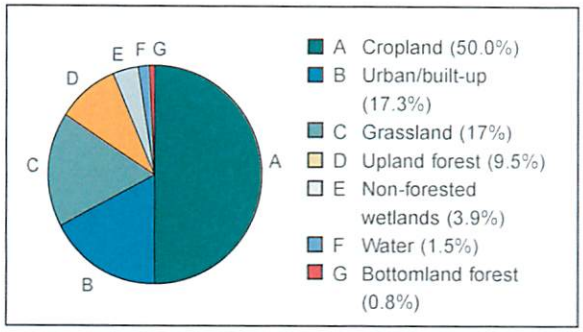


***Figure 38.** Fox River basin land cover*

Plant and animal life

Due to the area's unique ecological diversity, many of the state's plants and animals are found in the basin; some are found nowhere else. From carnivorous pitcher plants and sundews to the diminutive white and yellow lady's slipper orchids, the area has a rich flora, with 102 species listed as state endangered or threatened, and two as federally threatened.

The diverse wetland habitats harbor a rich bird community — herons, waterfowl and geese provide common sightings. This is one of the major areas in Illinois for rare wetland species such as the pied-billed grebe, great egret, king rail, common moorhen, least bittern, yellow-headed blackbird, sandhill crane, and red shouldered hawk.

Basin acreage - 1,092,871 acres
State land* - 8,331 acres
County land - 17,270
Total natural areas - 16,125 acres
High-quality natural areas - 5,506 acres
Nature preserves - 4,425 acres

** Does not include natural areas or nature preserves that may be state owned.*

While most mammal species are fairly common, the pigmy shrew, one of the smallest and rarest shrews in Illinois, has been collected only in the Fox River area.

Local economy and outdoor recreation

The six main counties through which the Fox River and its tributaries flow — Lake, McHenry, Kane, Kendall, DeKalb, and LaSalle — form one of the most dynamic areas in the state. It is home to 11% of the state's population and is highly urban — only 15% of the residents live in rural areas. Between 1969 and 1994, the Fox River economy grew twice as fast as the rest of the state, supporting 12% of the state's employment and 13% of its personal income. Four of the six counties rank among the top ten in the state in per capita income.

The state operates five major sites in the area: Chain O' Lakes, Shabbona Lake, Silver Springs, and Moraine Hills state parks and Volo Bog Natural Area. Hunting, fishing, boating and nature activities are all popular pursuits here.

Threats

Prior to European settlement (1820), prairie occupied 31% of the Fox River area and forest 68%. Up until World War II settlements were still rural in character; woodlands, fields, and farms still occupied large areas. The post World War II period, with its flight to the suburbs, changed the composition of the area. With population explosion came habitat loss, degradation, and fragmentation, along with the accompanying invasive and exotic flora and fauna. Trends in the terrestrial community classes of forest, savanna and prairie indicate habitat loss equals or exceeds statewide rates, although the rate of loss for wetlands and natural lakes and ponds is substantially less than statewide.

The watershed can be divided into three distinct segments. The upper Fox, with its many lakes and wetlands, is the most pristine and rich in natural ecosystems, yet is experiencing the greatest population pressure from growth in the northwest Chicago suburbs. The middle Fox is very much an urban river, flowing through six Kane County cities with populations of 15,000-100,000. The challenges in the area include flood control, pollution prevention, and recreation oriented toward the river. Finally, the lower Fox flows through a primarily

Due to the area's unique ecological diversity, many of the state's plants and animals are found in the basin; some are found nowhere else.

agricultural landscape and is threatened by soil erosion and chemical runoff from farms.

Urbanization - Urban expansion from the Chicago metropolitan region is putting severe pressure on the natural ecosystems of the region. During the last 20 years, nearly 1,100 miles of new roads have been built in the area, population has grown 30%, and employment and vehicle miles traveled have grown 75%. Urbanized acreage has expanded by 25% in just the last 10 years.

Although many of the area's natural communities are degraded, they retain relatively high levels of ecological integrity.

Water pollution - Wastewater treatment standards have greatly improved the quality of the river since the early 1960s, reducing phosphorous concentrations and fecal coliform counts. However, excessive algal blooms are still a concern. If wastewater treatment is not changed in the upcoming decades, it is likely that the growing amount of effluents may halt or reverse the declining trends in phosphorous and fecal coliform bacteria.

Habitat loss and fragmentation - Natural habitats in the area are typically found in small patches separated from each other by agricultural or developed land and this will continue as development pressure mounts. Stream habitat fragmentation has caused the extirpation or declines in fish species.

Flooding - The loss of natural habitats has reduced the water storage and retention abilities in the basin. Urban settings increase runoff and quickly move water into the river through ditches and tributaries. Similarly, intense cultivation lessens the capacity of water to infiltrate the soil and increases the rate of flow into tributaries and, ultimately, the river. Flooding is now a major problem in the area.

Opportunities

Although many of the area's natural communities are degraded, they retain relatively high levels of ecological integrity and have potential for improvement. For example, forests could be restored in areas where they could potentially have at least a 500-acre core; this would improve habitat for breeding birds. In smaller upland forests, native plant communities could be restored, with shrubby areas and oak trees provided for migrant birds. Managing forests to maintain large snags with exfoliating bark or cavities would provide roosting habitat for forest-dwelling bats and den sites for other mammals, including the southern flying squirrel.

Wetland conservation should also be a high priority because of the relatively large population of threatened and endangered species. Grassland restoration around existing wetlands would provide habitat for declining grassland birds, help buffer wetlands from surrounding development, and provide nesting habitat for many wetland species.

Prairie restoration, coupled with the preservation of native prairie and other grassland habitats, would provide additional habitat for badger and red fox. Restoring native vegetation in the riparian zone along creeks and rivers will not only help wildlife but will also reduce siltation, desiccation, and higher than normal temperatures in the stream. Vegetation will shade the stream, stabilize the banks and filter sediment and chemicals from runoff before they reach the stream.

Upper Des Plaines River Basin

The upper Des Plaines River Basin includes the river basin from the Wisconsin border to the Chicago Sanitary and Ship Canal in Cook County. It drains approximately 346 square miles and includes central Lake, north central Cook and a small portion of DuPage counties. No other natural Illinois river runs through such an urbanized watershed, and yet no other urban river still has so much nature left in and around it.

Scientists estimate that prior to settlement the landscape was 60% forest and savanna and 40% prairie. Wetlands made up a little more than one-quarter of the basin, mostly wet prairie, prairie pothole marsh, sedge meadow, peatland and floodplain forest. Today, urban land takes up more than 40% of Lake County and 75% of Cook County, yet pockets and pieces of natural lands still exist.

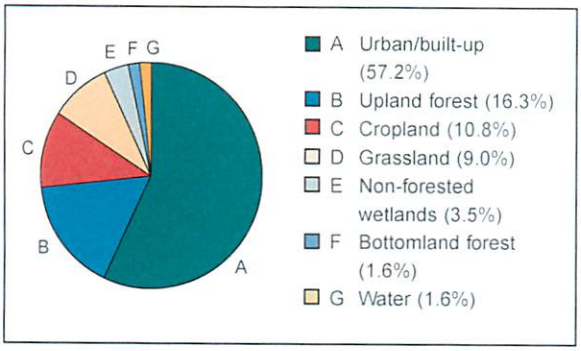


***Figure 39.** Upper Des Plaines River basin land cover*

Eighteen percent of the upper Des Plaines basin is woodland. Marshes, wet meadows, and ponds cover 3.5% of the surface with 167 pothole lakes still surviving. The basin contains 63% of the statewide total of northern flatwoods (open woodlands that occur on claypan soil), 10% of the state's calcareous floating mat community (floating mat of sedge peat over a lake or pond), and 7.3% of the state's sedge meadow community. Other significant features:

- the combination of different moisture, terrain, and soil types produce 16 distinct habitat types in the basin; several — bogs, fens, marl flats — are more typical of Canada than Chicago's collar counties;
- high quality natural areas make up 0.2% of the basin; and
- nine nature preserves offer wet prairies, fens, sedge meadows, marsh, oak savanna, and oak woods.

Plant and animal life

The Upper Des Plaines area has distinctive flora, with some plants such as northern cranesbill and hairy white violet more typical of Canada. Only 662 species of plants have been recorded in the area. Of these, 24 species are listed as state threatened or endangered; the prairie white fringed orchid is also listed as federally threatened.

With its large amount of urban land, the area does not figure importantly as wildlife habitat, although at least 270 of the 300 bird species that occur in Illinois can be found here, as well as 43 species of mammal. Twenty-three species of reptiles and 16 species of amphibians are found here, with the state endangered eastern massasauga occurring in pockets of habitat provided by the many forest preserves and conservation areas. Butterflies and skippers are well known with 109 species documented. Scattered pockets of lupine in the upper Des Plaines area provide food for the federally endangered Karner blue butterfly.

Local economy and outdoor recreation

The Des Plaines River runs through the heart of Illinois' most urbanized region. Cook and Lake counties encompass merely 2.5% of Illinois' land area, but account for 31% of its urban land and 50% of its population. In the last 120 years, the population of the area grew fourteen-fold. Nearly 99% of residents live in urban areas, and urban land takes up more than 40% of Lake County and nearly three-quarters of Cook County, compared to only 6% for the rest of Illinois.

The Upper Des Plaines area has distinctive flora, with some plants such as northern cranesbill and hairy white violet more typical of Canada.

The area employs nearly 3.5 million people with a total income of $150 billion — over half of the jobs and income in Illinois. Most agriculture, which plays only a small part in the economy and land cover, is in specialty crops, commodities that have a high cash value in a region of high land values.

Basin acreage - 221,637
Total natural areas - 2,259 acres
High quality natural areas - 440 acres
Nature preserves - 1,476 acres

The region does not include any state outdoor recreation sites, but it does contain county forest preserves and interpretive centers. The urban character of the area deters hunting; firearm deer hunting is not allowed.

Threats

Pollution - While surface water pollution has been reduced, water quality is still compromised by hard-to-regulate nonpoint sources such as soils washed into streams from fields and building sites, and de-icing salts from roads. The Illinois Environmental Protection Agency has assessed about a quarter of the upper Des Plaines basin and rates water quality as fair. Mussel diversity, an indicator of water

quality, is also low. Although 18 native species have been reported from the region, only three common species have been found alive since 1963.

Emissions of federally regulated pollutants have also been reduced, although locally produced air pollution (i.e. engine exhaust) is still a problem. Cook and Lake counties are crisscrossed with 10% of the state's roads and they carry 40% of the vehicle-miles traveled in the state.

Modification - Humans have long pre-empted nature as engineers of the watershed — fields have been tiled and wetlands drained. Impounding structures have been installed on natural lakes to stabilize their levels and the lakes now function like artificial impoundments. Low-head dams alter both water level and the movement of sediments, nutrients, and plants and animals in the river channel. Average flows in the Des Plaines are 80% higher today than in the 1940s and 1950s.

The basin has become an outdoor laboratory for experiments in the restoration and reconstruction of habitats.

Exotic species - An arkful of non-native animals and plants have been introduced into the basin, often with unintended ecological effects. The rusty crayfish (used as bait) has been dumped into the water and its survivors outcompete the native clearwater crayfish. Ten percent of the vascular plant species now found in the basin are not native to it. Several species of exotic turtles as well as two caimans have been reported in the Des Plaines River — probably discarded pets.

Fragmentation - Construction of roads, fields, and houses divides forests, wetlands, or prairies into small habitat "islands." Forested wetlands in the basin consists of 390 separate tracts, the mean size of which is 7.5 acres. Research suggests that many forest birds need the protection of at least 500 acres of woods to breed successfully. The two largest contiguous forested tracts on the Des Plaines River (near Gurnee and near Libertyville) measure 239 and 106 acres respectively. The largest emergent wetland in the basin covers 355 acres — massive by Illinois standards — but the average is 3.7 acres.

Fire - The extent of savanna in the presettlement basin is thought to be explained in part by the occasional fires that swept the area, recycling nutrients, clearing the ground for new growth, and killing all but the fire-resistant oak species. Without fire to stem plant invaders, savanna becomes dense woods. In deep woods, young maples untouched by fire survive to shade the forest floor. Plants that thrive in the sun — including oak seedlings — languish. As a result, the old oaks in the woods of the upper Des Plaines basin are not reproducing themselves. Mid- and late-summer wildflowers also struggle to bloom after the leafed-out trees block the sun. These effects can be reversed for some flowering plants, such as the state endangered northern cranesbill that occurs in one dryish forest in the basin. Its numbers increase after ground fires are deliberately set to burn off competing plants.

Opportunities

The basin has become an outdoor laboratory for experiments in the restoration and reconstruction of habitats. For example, the Des Plaines River Wetlands Demonstration Project consists of 450 marshy acres along the river in northern Lake County that have been reconfigured and replanted. The site quickly attracted waterfowl and tests have shown that water quality improved as it progressed through the wetland. Also in Lake County, a damaged savanna is regenerating at Reed-Turner Woodland Nature Preserve. Cutting brush and burning periodically are restoring savanna-like growing conditions in other areas, and plans are underway to link public stream margins, forest preserves, and roadsides with appropriately managed private and commercial sites to create corridors of protected land.

APPENDIX 11

Sample Inspection Forms: ILR40 and ILR10

NPDES Site Audit Report for ILR40

General Information			
Project Name			Approximate Acreage
Operator			
Project Location			
Date of Site Visit		NPDES Permit No. ILR10 (If Applicable)	
Observer's Name(s) & Title(s)			
Construction phase(s) at time of visit	☐ Pre-Construction ☐ Vertical Construction ☐ Post Construction	☐ Land Development ☐ Roadway Construction ☐ Other:	

Type of Site Visit:

☐ Initial Visit ☐ Follow-up ☐ Other: _____

Weather Information

Weather conditions during the site visit:

SWPPP/Soil Erosion and Sediment Control (SESC) Plan

1.	Is an NPDES Permit required for construction site activities? (e.g., Does the construction activity disturb ≥ 1 acre?)	☐ Yes ☐ No ☐ N/A
2.	Is the SWPPP on site (or accessible with location posted)?	☐ Yes ☐ No ☐ N/A
3.	Is the SWPPP/SESC Plan updated/amended as required by the NPDES Permit and/or local requirements?	☐ Yes ☐ No ☐ N/A
4.	Are Operator and Contractor Certification Forms signed and maintained with SWPPP?	☐ Yes ☐ No ☐ N/A
5.	Have inspection reports been completed and signed every 7 calendar days and after ≥0.5 inch precipitation events?	☐ Yes ☐ No ☐ N/A

SWPPP/SESC Plan Comments: _____

Site Observations – Describe Location and Recommend Corrective Measures Below

No.	BMP/Activity	Implemented & Maintained
1	Are discharge points and receiving waters free of sediment deposits and other pollutants (from the construction site)?	☐ Yes ☐ Action Item ☐ N/A
2	Have BMPs specified in the SWPPP been installed and maintained?	☐ Yes ☐ Action Item ☐ N/A
3	Have stabilized construction entrances been installed and are adjacent roads clear of sediment track out?	☐ Yes ☐ Action Item ☐ N/A
4	Are outlets protected/stabilized?	☐ Yes ☐ Action Item ☐ N/A
5	Have stormwater management systems been constructed, stabilized, and verified to be functioning appropriately?	☐ Yes ☐ Action Item ☐ N/A
6	Are Special Management Areas (e.g., creeks, wetlands, buffers, etc.) adequately protected?	☐ Yes ☐ Action Item ☐ N/A
7	Are storm drain inlets adequately protected?	☐ Yes ☐ Action Item ☐ N/A
8	Have all idle, disturbed areas been stabilized within 14 days of cessation of construction activities in that area (or more restrictive time period per local ordinance requirement)?	☐ Yes ☐ Action Item ☐ N/A
9	Are erodible stockpiles (e.g., topsoil) properly located and adequately protected?	☐ Yes ☐ Action Item ☐ N/A
10	Are washout facilities (e.g., concrete washouts, etc.) available and maintained?	☐ Yes ☐ Action Item ☐ N/A
11	Is waste, including building materials and construction debris, collected and placed in approved receptacles?	☐ Yes ☐ Action Item ☐ N/A
12	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	☐ Yes ☐ Action Item ☐ N/A
13	Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other potential pollutants?	☐ Yes ☐ Action Item ☐ N/A
14	Are portable toilets, material storage areas, and materials that are potential stormwater contaminants managed appropriately?	☐ Yes ☐ Action Item ☐ N/A
15	Other, based on site conditions:	☐ Yes ☐ Action Item ☐ N/A

No.	Location and Recommended Corrective Measure

General Notes and Comments: _____

NPDES Site Audit Report for ILR10

General Information			
Project Name		**Approximate Acreage**	
Operator			
Project Location			
Date of Site Visit		**NPDES Permit No. ILR10**	
Observer's Name(s) & Title(s)			
Construction phase(s) at time of visit	☐ Pre-Construction ☐ Vertical Construction ☐ Post Construction	☐ Land Development ☐ Roadway Construction ☐ Other: _____	

Type of Site Visit:

☐ Initial Visit ☐ Follow-up ☐ Other: _____

Weather Information

Weather conditions during the site visit:

SWPPP/Soil Erosion and Sediment Control (SESC) Plan

1.	Has the SWPPP been updated/amended as required by the NPDES Permit and/or local requirements?	☐ Yes ☐ No ☐ N/A
2.	Is the Operator Certification Form signed and maintained with SWPPP?	☐ Yes ☐ No ☐ N/A
3.	Are Contractor Certification Forms signed and maintained with SWPPP?	☐ Yes ☐ No ☐ N/A
4.	Have inspection reports been completed and signed every 7 calendar days and after ≥0.5 inch precipitation events?	☐ Yes ☐ No ☐ N/A

SWPPP/SESC Plan Comments: _____

Site Observations – Describe Location and Recommend Corrective Measures Below

No.	BMP/Activity	Implemented & Maintained
1	Are discharge points and receiving waters free of sediment deposits and other pollutants (from the construction site)?	☐ Yes ☐ Action Item ☐ N/A
2	Have BMPs specified in the SWPPP been installed and maintained?	☐ Yes ☐ Action Item ☐ N/A
3	Are stabilized entrances installed and are adjacent roads clear of sediment?	☐ Yes ☐ Action Item ☐ N/A
4	Are outlets protected/stabilized?	☐ Yes ☐ Action Item ☐ N/A
5	Have stormwater management systems been constructed, stabilized, and verified to be functioning appropriately?	☐ Yes ☐ Action Item ☐ N/A
6	Are Special Management Areas (e.g., creeks, wetlands, buffers, etc.) adequately protected?	☐ Yes ☐ Action Item ☐ N/A
7	Are storm drain inlets adequately protected?	☐ Yes ☐ Action Item ☐ N/A
8	Have all idle, disturbed areas been stabilized within 14 days of cessation of construction activities in that area (or more restrictive time period per local ordinance requirement)?	☐ Yes ☐ Action Item ☐ N/A
9	Are erodible stockpiles (e.g., topsoil) properly located and adequately protected?	☐ Yes ☐ Action Item ☐ N/A
10	Are washout facilities (e.g., concrete washouts, etc.) available and maintained?	☐ Yes ☐ Action Item ☐ N/A
11	Is waste, including building materials and construction debris, collected and placed in approved receptacles?	☐ Yes ☐ Action Item ☐ N/A
12	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	☐ Yes ☐ Action Item ☐ N/A
13	Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other potential pollutants?	☐ Yes ☐ Action Item ☐ N/A
14	Are portable toilets, material storage areas, and materials that are potential stormwater contaminants managed appropriately?	☐ Yes ☐ Action Item ☐ N/A
15	Other, based on site conditions:	☐ Yes ☐ Action Item ☐ N/A

No.	Location and Recommended Corrective Measure

General Notes and Comments: _____

CHRISTOPHER B. BURKE ENGINEERING, LTD.
CBBEL NPDES REPORT

Date of Site Visit: _____
Date of Last Site Visit: _____
NPDES Permit No.: _____
Client: _____
Site Name: _____
CBBEL Project Number: _____
CBBEL Staff Member & Title: _____

Estimated Date of Last Significant Rain Event: _____

Response to Previous Report(s):

Erosion and Sedimentation
Minor ☐ Moderate ☐ Severe ☐ N/A ☐
Observations/Recommended Action:

Condition of Site Discharge Point(s)
Good ☐ Fair ☐ Poor ☐ N/A ☐
Observations/Recommended Action:

Condition of Roadways and Locations where vehicles enter or exit the site
Good ☐ Fair ☐ Poor ☐ N/A ☐
Observations/Recommended Action:

Silt Fence
Good ☐ Fair ☐ Poor ☐ N/A ☐
Observations/Recommended Action:

Inlet/Outlet Protection
Good ☐ Fair ☐ Poor ☐ N/A ☐
Observations/Recommended Action:

Ditch Checks/Check Dams
Good ☐ Fair ☐ Poor ☐ N/A ☐
Observations/Recommended Action:

Concrete Washouts
Good ☐ Fair ☐ Poor ☐ N/A ☐
Observations/Recommended Action:

Housekeeping/Material Storage
Good ☐ Fair ☐ Poor ☐ N/A ☐
Observations/Recommended Action:

General Comments:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information 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."

Printed Name & Title: _____

Signature: _____ Date: _____

PLEASE CALL IF YOU NEED ADDITIONAL INFORMATION – PHONE: (847) 823-0500 FAX (847) 823-0520

APPENDIX 12

Sample Contractor Certification Forms

CONTRACTOR CERTIFICATION

I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit (ILR10) that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

Project: ***Insert Project Name***

Permit #: ***Insert NPDES Permit Number***

_____ _____

Contractor's Signature Date

_____ _____

Printed Name & Title Telephone Number

_____

Name of Contracting Firm

_____

Street Address

_____

City, State, Zip Code

Trade/Responsibilities: _____

_____

_____

_____

SWPPP CERTIFICATION

Insert Name of Project

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information 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 Operator Date

_____

Printed Name of Operator

APPENDIX 13

IEPA Forms – NOI, ION, and NOT

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
NOTICE OF INTENT (NOI)
GENERAL PERMIT TO DISCHARGE STORM WATER CONSTRUCTION SITE ACTIVITIES

OWNER INFORMATION

NAME:	LAST	FIRST	MIDDLE	(OR COMPANY NAME)			OWNER TYPE: (select one)	
MAILING ADDRESS:								
CITY:					STATE:		ZIP:	
CONTACT PERSON:					TELEPHONE NUMBER:	AREA CODE	NUMBER	

CONTRACTOR INFORMATION

NAME:	LAST	FIRST	MIDDLE	(OR COMPANY NAME)	TELEPHONE NUMBER:	AREA CODE	NUMBER	
MAILING ADDRESS:		CITY:			STATE:		ZIP:	

CONSTRUCTION SITE INFORMATION

SELECT ONE:	☐ New Site ☐ CHANGE OF INFORMATION TO PERMIT NO. ILR10_____												
FACILITY NAME:					OTHER NPDES PERMIT NOS.:								
FACILITY LOCATION:					TELEPHONE NUMBER:	AREA CODE	NUMBER						
CITY:		ST:	IL	ZIP:		LATITUDE:				LONGITUDE:			
COUNTY:			SECTION:			TOWNSHIP:		RANGE:					
APPROX. CONST. START DATE:	/ /	APPROX. CONSTRUCTION END DATE:	/ /	TOTAL SIZE OF CONSTRUCTION SITE IN ACRES:									
STORM WATER POLLUTION PREVENTION PLAN COMPLETED ☐ YES ☐ NO (If no, separate notification required to Agency prior to construction.)													

TYPE OF CONSTRUCTION

(select one)	TYPE BRIEF DESCRIPTION OF PROJECT:

HISTORIC PRESERVATION AND ENDANGERED SPECIES COMPLIANCE

HAS THIS PROJECT SATISFIED APPLICABLE REQUIREMENTS FOR COMPLIANCE WITH ILLINOIS LAW ON:

HISTORIC PRESERVATION	☐ YES	☐ NO
ENDANGERED SPECIES	☐ YES	☐ NO

RECEIVING WATER INFORMATION

DOES YOUR STORM WATER DISCHARGE DIRECTLY TO: ☐ WATERS OF THE STATE OR ☐ STORM SEWER	OWNER OF STORM SEWER SYSTEM:
NAME OF CLOSEST RECEIVING WATER:	

I certify under penalty of law that this document and all attachments were prepared under my direction and 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 this 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. In addition, I certify that the provisions of the permit, including the development and implementation of a storm water pollution prevention plan and a monitoring program plan, will be complied with.

OWNER SIGNATURE:_____ DATE: _____

FOR OFFICE USE ONLY

MAIL COMPLETED FORM TO: (DO NOT SUBMIT ADDITIONAL DOCUMENTATION UNLESS REQUESTED)	ILLINOIS ENVIRONMENTAL PROTECTION AGENCY DIVISION OF WATER POLLUTION CONTROL ATTN: PERMIT SECTION POST OFFICE BOX 19276 SPRINGFIELD, ILLINOIS 62794-9276 www.epa.state.il.us	LOG: PERMIT NO. ILR10 DATE:

Information required by this form must be provided to comply with 415 ILCS 5/39 (1996). Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

IL 532 2104
WPC 623 Rev. 6/03

INSTRUCTIONS FOR COMPLETION OF CONSTRUCTION ACTIVITY NOTICE OF INTENT (NOI) FORM

Please adhere to the following instructions:

Submit original, photocopy or facsimile copies. Facsimile and/or photo copies should be followed-up with an original signature copy as soon as possible. Please write "copy" under the "For Office Use Only" box in the lower right hand corner.

- Submit completed forms to:

  Illinois Environmental Protection Agency
  Division of Water Pollution Control
  Permit Section
  Post Office Box 19276
  Springfield, Illinois 62794-9276
  or call (217)782-0610
  www.epa.state.il.us

- Reports must be typed or printed legibly and signed.

- Any facility that is not presently covered by the ILR10 Construction Activity Storm Water Discharge General Permit is considered a new facility.

- If this is a change in your facility information, renewal, etc., please fill in your permit number on the appropriate line.

- NOTE: FACILITY LOCATION IS NOT NECESSARILY THE FACILITY MAILING ADDRESS, BUT SHOULD DESCRIBE WHERE THE FACILITY IS LOCATED.

- Use the formats given in the following examples for correct form completion.

	Example	Format
SECTION	12	1 or 2 numerical digits
TOWNSHIP	12N	1 or 2 numerical digits followed by "N" or "S"
RANGE	12W	1 or 2 numerical digits followed by "E" or "W"

- For the Name of Closest Receiving Waters, do not use terms such as ditch or channel. For unnamed tributaries, use terms which include at least a named main tributary such as "Unnamed Tributary to Sugar Creek to Sangamon River."

- Submit a fee of $500 prior to the Notice of Intent being considered complete for coverage by the ILR10 General Permits. Please make checks payable to: Illinois EPA

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
CONSTRUCTION SITE STORM WATER DISCHARGE
INCIDENCE OF NON-COMPLIANCE (ION)

PERMITTEE NAME:	LAST							FIRST			MIDDLE INITIAL			AREA CODE + PHONE NUMBER:					
STREET:								CITY:						ST:			ZIP:		
CONSTRUCTION SITE NAME:																			
COUNTY:									SECTION:			TOWNSHIP:					RANGE:		
NPDES PERMIT NUMBER:	I	L	R	1	0				LATITUDE:	DEG.	MIN.	SEC.	LONGITUDE:		DEG.		MIN.		SEC.

CAUSE OF NON-COMPLIANCE:

ACTIONS TAKEN TO PREVENT ANY FURTHER NON-COMPLIANCE:

ENVIRONMENTAL IMPACT RESULTING FROM THE NON-COMPLIANCE:

ACTIONS TAKEN TO REDUCE THE ENVIRONMENTAL IMPACT RESULTING FROM THE NON-COMPLIANCE:

SIGNATURE: ______________________________ TITLE: DATE:

FOR OFFICE USE ONLY

LOG:
PERMIT NO. ILR10___ ___ ___ ___
DATE:

MAIL COMPLETED FORM TO:

(DO NOT SUBMIT ADDITIONAL DOCUMENTATION UNLESS REQUESTED)

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF WATER POLLUTION CONTROL
COMPLIANCE ASSURANCE SECTION #19
POST OFFICE BOX 19276
SPRINGFIELD, ILLINOIS 62794-9276

Information required by this form must be provided to comply with 415 ILCS 5/39(1996). Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

IL 532 2105
WPC 624 Rev. 6/98)

GUIDELINES FOR COMPLETION OF INCIDENCE OF NON-COMPLIANCE (ION) FORM

Complete and submit this form for any violation of the Storm Water Pollution Prevention Plan observed during any inspection conducted, including those not required by the Plan. Please adhere to the following guidelines.

- **Submit original, photocopy or facsimile copies. Facsimile and/or photo copies should be followed-up with an original signature copy as soon as possible. Please write "copy" under the "For Office Use Only" box in the lower right hand corner.**

- **Submit completed forms to:**

  Illinois Environmental Protection Agency
  Division of Water Pollution Control
  Permit Section
  Post Office Box 19276
  Springfield, Illinois 62794-9276

- **Reports must be typed or printed legibly and signed.**

- **Use the formats given in the following examples for correct form completion.**

Example		Format
SECTION	12	1 or 2 numerical digits
TOWNSHIP	12N	1 or 2 numerical digits followed by "N" or "S"
RANGE	12W	1 or 2 numerical digits followed by "E" or "W"

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
NOTICE OF TERMINATION (NOT)
OF COVERAGE UNDER THE GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION SITE ACTIVITIES

Please use the tab or arrow keys

OWNER INFORMATION

NAME:	LAST	FIRST	MIDDLE			OWNER TYPE: PRIVATE (select option)	
MAILING ADDRESS:							
CITY:		STATE:		ZIP:			
CONTACT PERSON:				TELEPHONE NUMBER:	AREA CODE	NUMBER	

CONTRACTOR INFORMATION

NAME:	LAST	FIRST	MIDDLE		TELEPHONE NUMBER:	AREA CODE	NUMBER		
MAILING ADDRESS:		CITY:		STATE:		ZIP:			

CONSTRUCTION SITE INFORMATION

FACILITY NAME:		OTHER NPDES PERMIT NOS.:	I	L	R	1	0							
FACILITY LOCATION:														
CITY:		STATE:	IL	ZIP:		LATITUDE:				LONGITUDE:				
COUNTY:		SECTION:		TOWNSHIP:		RANGE:								

DATE PROJECT HAS BEEN COMPLETED AND STABILIZED:

I certify under penalty of law that disturbed soils at the identified facility have been finally stabilized or that all storm water discharges associated with industrial activity from the identified facility that are authorized by an NPDES general permit have otherwise been eliminated. I understand that by submitting this notice of termination, that I am no longer authorized to discharge storm water associated with industrial activity by the general permit, and that discharging pollutants in storm water associated with industrial activity to Waters of the State is unlawful under the Environmental Protection Act and the Clean Water Act where the discharge is not authorized by an NPDES permit.

OWNER SIGNATURE:_____ **DATE:** _____

MAIL COMPLETED FORM TO:

(DO NOT SUBMIT ADDITIONAL DOCUMENTATION UNLESS REQUESTED)

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF WATER POLLUTION CONTROL
ATTN: PERMIT SECTION
POST OFFICE BOX 19276
SPRINGFIELD, ILLINOIS 62794-9276

FOR OFFICE USE ONLY

LOG:
PERMIT NO. ILR10 __ __ __ __
DATE:

Information required by this form must be provided to comply with 415 ILCS 5/39 (1998). Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

IL 532 2102
WPC 621 Rev. 1/04

GUIDELINES FOR COMPLETION OF NOTICE OF TERMINATION (NOT) FORM

Please adhere to the following guidelines:

Submit original, photocopy or facsimile copies. Facsimile and/or photo copies should be followed-up with an original signature copy as soon as possible. Please write "copy" under the "For Office Use Only" box in the lower right hand corner.

- **Submit completed forms to:**

  Illinois Environmental Protection Agency
  Division of Water Pollution Control
  Permit Section
  Post Office Box 19276
  Springfield, Illinois 62794-9276
  217/782-0610

- **Reports must be typed or printed legibly and signed.**

- **N0TE: FACILITY LOCATION IS NOT NECESSARILY THE FACILITY MAILING ADDRESS, BUT SHOULD DESCRIBE WHERE THE FACILITY IS LOCATED.**

- **Use the formats given in the following examples for correct form completion.**

	Example	Format
SECTION	12	1 or 2 numerical digits
TOWNSHIP	12N	1 or 2 numerical digits followed by "N" or "S"
RANGE	12W	1 or 2 numerical digits followed by "E" or "W"

- **Final stabilization has occurred when:**

  (a) all soil disturbing activities at the site have been completed
  (b) a uniform perennial vegetative cover with a density of 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures,
  (c) or equivalent permanent stabilization measures have been employed.

APPENDIX 14

Outfall Screening Checklist, Forms, Instructions, and Reports

Section 1: Background Data

Subwatershed:	Outfall ID:	
Date:	Time **(Military)**:	
Temperature:	**Inspector(s)**:	
Previous 48 Hours Precipitation:	Photo's Taken (Y/N)	If yes, Photo Numbers:
Land Use in Drainage Area (Check all that apply):	☐ Open Space	
☐ Industrial	☐ Institutional	
☐ Residential	Other: _____	
☐ Commercial	Known Industries: _____	

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE		DIMENSIONS (IN.)	SUBMERGED
Storm Sewer (Closed Pipe)	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Clay / dramtile ☐ Other: _____	☐ Circular ☐ Elliptical ☐ Box ☐ Other: ____	☐ Single ☐ Double ☐ Triple ☐ Other: ____	Diameter/Dimensions: _____ —	In Water: ☐ No ☐ Partially ☐ Fully With Sediment: ☐ No ☐ Partially ☐ Fully
Open drainage (swale/ditch)	☐ Concrete ☐ Earthen ☐ rip-rap ☐ Other:	☐ Trapezoid ☐ Parabolic ☐ Other.		Depth: Top Width: Bottom Width:	

Section 3: Physical Indicators

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other	
Pipe algea/growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	
Do physical indictors suggest an illicit discharge is present (Y/N):			

Flow Present?	☐ Yes ☐ No	**If No, Skip to Section 7 and Close Illicit Discharge Investigation**
Flow Description	☐ Trickle ☐ Moderate ☐ Substantial	

Section 4: Physical Indicators (Flowing Outfalls Only)

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Sulfide ☐ Petroleum/gas ☐ Laundry ☐ Other:	☐ 1–Faint	☐ 2 - Easily detected	☐ 3 – Noticeable from a distance
Color (color chart)	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange/Red ☐ Multi-Color ☐ Other:	☐ 1–Faint colors in sample bottle	☐ 2 – Clearly visible in sample bottle	☐ 3 – Clearly visible in outfall flow
Turbidity	☐	See severity	☐ 1–Slight cloudiness	☐ 2 – Cloudy	☐ 3 – Opaque
Floatables -Does Not Include Trash!!	☐	☐ Sewage ☐ Suds and Foam ☐ Petroleum (oil sheen) ☐ Grease ☐ Other:	☐ 1–Few/slight; origin not obvious	☐ 2 – Some; indications of origin	☐ 3 - Some; origin clear
Do physical indictors (flowing) suggest an illicit discharge is present (Y/N):					

Section 5: On-Site Sampling / Testing (Flowing Outfalls Only)

PARAMETER	RESULT	ACCEPTABLE RANGE	WITHIN RANGE (Y/N)	EQUIPMENT
Temperature		NA	NA	Thermometer
pH		6 – 9		5-in-1 Test Strip
Ammonia		<3 mg/L April - Oct < 8 mg/L Nov - March		Test Strip
Free Chlorine		NA	NA	5-in-1 Test Strip
Total Chlorine		< 0.05 mg/L		5-in-1 Test Strip
Phenols		< 0.1mg/L		Test Kit
Detergents as Surfactants		> 0.25 mg/L residential > 5 mg/L non-residential		Test Kit
Copper		<0.025 mg/L		Test Strip
Alkalinity		NA	NA	5-in-1 Test Strip
Hardness		NA	NA	5-in-1 Test Strip
Sample Location				

(Note NA values used for future tracing procedures)

Section 6: Data Collection for Lab Testing (see flow chart)

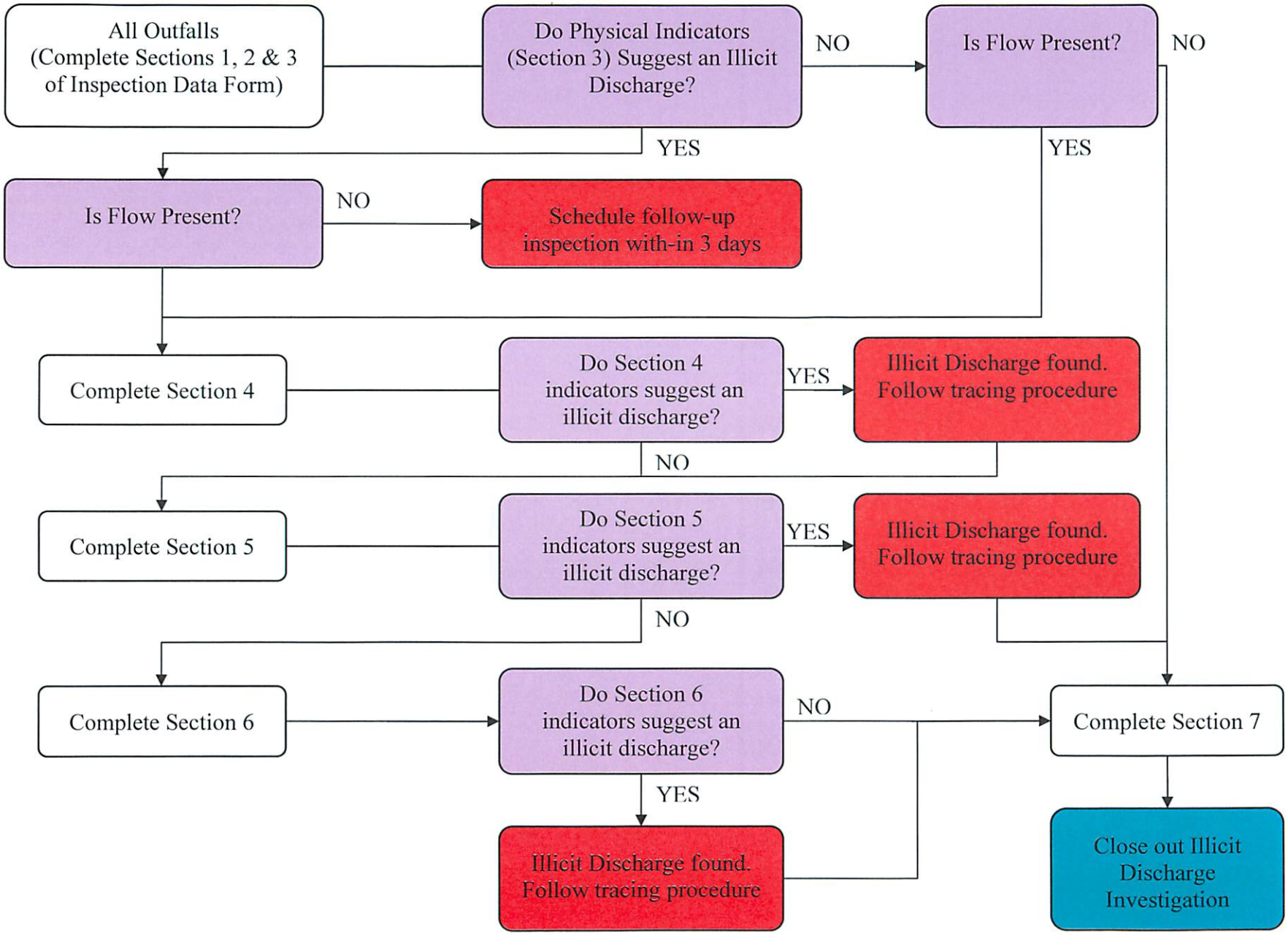
1. **Sample** for the lab?	☐ Yes	☐ No
2. **If yes,** collected from:	☐ Flow	☐ Pool

PARAMETER	RESULT (from lab)	ACCEPTABLE RANGE	WITHIN RANGE (Y/N)
Fecal Coliform		400 per 100 mL	
Flouride		0 6 mg/l	
Potassium		Ammonium/Potassium ratio or > 20mg/l	

*note label sample with outfall number

Section 7: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Figure 4: Outfall Inspection Procedure Flow Chart



Instructions for completing the *Stormwater Outfall Inspection Data Form*

Strike out incorrect entries with a single line; correct values or descriptions are written above or near the struck-out entries. Do not use a new data entry form to correct an incorrect entry. At the completion of each outfall inspection, the field crews are responsible for ensuring that a ***Stormwater Outfall Inspection Data Form*** has been completely and correctly filled out and that all data and remarks are legible. **It is important to check that values for all chemical parameters have been entered.**

Section 1: Background Data

Subwatershed: The receiving water from the stormwater outfall inventory to be entered here.

Outfall ID: Enter the outfall identification number from the stormwater outfall inventory.

Date: To avoid confusion, dates are be written in the following manner: DAY MONTH YEAR. For example, 10 MARCH 2007.

Time: Military time (24-hour clock) to be used (for example, 8:30 a.m. would be written as 0830; likewise, 1:30 p.m. would be written as 1330).

Temperature: A concise description of the weather conditions at the time of the screening is to be recorded (for example, Clear, 75o F).

Inspector: The name(s) of the field personnel.

Previous 48 Hours Precipitation: The total amount of precipitation during the 48 hours preceding the inspection is to be noted (for example, none-72 Hours or 0"=4 days). If the total precipitation is not known, it is appropriate to enter a qualitative assessment if the precipitation was minor. For example, *Drizzle-36 Hours* if appropriate. If the precipitation amount was significant, actual precipitation totals is obtained from a local rain gage, if available.

Photo's Taken (Yes/No): Photographs are to be taken with a camera that superimposes a date and time on the film. The date and time should correspond to the date and time recorded on the data form.

Photo Numbers: If photographs are taken, the number(s) is recorded.

Land Use: Check all that apply, noting which land use is predominate. If the industrial box is checked, any known industries are listed to facilitate potential tracing efforts.

Section 2: Outfall Description

Type of Outfall: Storm Sewer (Closed Pipe) or Open Drainage (Swale/Ditch):
First check if the outfall is either from a Closed Pipe or Open Drainage. Then complete the following row to describe outfall characteristics.

Section 3: Physical Indicators

Indicators: Complete rows describing outfall characteristics (Outfall Damage, Deposits/Stains, Abnormal Vegetation, Poor pool quality, Pipe algea/growth). This section is filled out regardless of current flow conditions. No flow during the time of the inspection, does not rule out the potential of illicit discharges. Corroding or stained pipes, dead or absence of vegetation, are potential indicators of illicit discharges from direct or indirect (i.e. dumping) sources.

Likelyhood: After inspecting the physical conditions of the outfall, the likelihood of an illicit discharge is assessed.

Flow Present (Yes/No): A *Yes* or *No* is entered here to indicate the presence or absence of dry-weather flow. If the outfall is submerged or inaccessible, "See Notes" is entered and an explanation provided in the "Notes" section.

Flow Description: A description of the quantity of the dry-weather flow is provided. Refer to Figure 6 of the SMPP.

Flow Chart Procedure:

- If *No* is entered in the "Flow Present" block and no non-flowing physical indicators appear present the inspection can be closed, skip to Section 7 of the form.
- If *No* is entered in the "Flow Present" block but indicators appear present, place the outfall on the follow-up inspection log, then the current inspection can be closed, skip to Section 7 of the form.
- If *Yes* is entered in the "Flow Present" block (regardless of the presence of non-flowing physical indicators), complete remainder of Section and proceed to Section 4.

Section 4: Physical Indicators (Flowing Outfalls Only)

Complete rows describing outfall characteristics (Odor, Color, Turbidity, Floatables). This section is filled out for flowing outfalls only.

Odor: The presence of an odor is to be assessed by fanning the hand toward the nose over a wide-mouth container of the sample, keeping the sample about 6 to 8 inches from the face. Be careful not to be distracted by odors in the air. Provide a description of the odor, if present. Refer to Table 2 of the SMPP.

Color: The presence of color in the discharge is to be assessed by filling a clean glass sample container with a portion of the grab sample and comparing the sample with a color chart, if color is present. If a color chart is used, the number corresponding to the color matching the sample is to be entered in this blank. Color is not assessed by looking into the discharge. Refer to Table 3 of the SMPP.

Turbidity "clarity": Turbidity is a measure of the clarity of water. Turbidity may be caused by many factors, including suspended matter such as clay, silt, or finely divided organic and inorganic matter. Turbidity is a measure of the optical properties that cause light to be scattered and not transmitted through a sample. The presence of turbidity is to be assessed by comparing the sample to clean glass sample container with colorless distilled water. Refer to Table 4 of the SMPP.

Floatables: The presence of floating scum, foam, oil sheen, or other materials on the surface of the discharge are to be noted. Describe of any floatables present that are attributable to discharges from the outfall. Do not include trash originating from areas adjacent to the outfall in this observation. Refer to Figure 5 and Table 4 of the SMPP.

Likelyhood: After inspecting the physical conditions of the outfall discharge, the likelihood of an illicit discharge is assessed. If flowing physical indicators are present the tracing procedure are immediately implemented by one of the field crew. The second member of the field crew continues with the inspection by performing the on-site testing in Section 5.

Flow Chart Procedure:

- If flowing physical indicators are present the tracing procedure is immediately implemented by one of the field crew. The second member of the field crew continues with the inspection by performing the on-site testing in Section 5.
- If flowing physical indicators do not suggest an illicit discharge continue with the inspection by performing the on-site testing in Section 5.

Section 5: On-Site Sampling/Testing (Flowing Outfalls Only)

Parameters: Test strip or kit chemical analyses are conducted for the following parameters in accordance with the Flow Chart, refer to Figure 7 of the SMPP.

- Color, color chart,
- Chlorine, test strip,
- Copper, test strip,
- Ammonia, test strip,
- Phenols, test kit, and
- Detergents, test kit.

Testing is done by either a test strip or test kit as applicable (refer to the equipment column). The results are compared with the "acceptable range" and the "within range" column is filled out with a Yes or No. Note that the Temperature, Alkalinity and Hardness are determined although these results do not need to be compared with an "acceptable range". These values are used to assist in determining the source of the illicit discharge during the tracing procedure.

Sampling Location: A description of the actual sampling location is to be recorded (for example, at end of outfall pipe). If the outfall is submerged or is inaccessible for sampling, an upstream sampling location may be required. A description of any upstream sampling locations is recorded here. Grab samples are collected from the middle, both vertically and horizontally, of the dry-weather flow discharge in a critically cleaned glass container. Samples can be collected by manually dipping a sample container into the flow.

Sampling Procedures: Detailed, **step-by-step** instructions for using the test strips and kits are available through the **Public Works Department**. Please also refer to Chapter 3.3.B.7.b. for test kit safety information. Use the following procedures for all test kit analyses:

1. Take a grab sample and swirl to ensure that the sample is well mixed.
2. Rinse the sample cup (25ml) twice with distilled water. Next, rinse the sample cup twice with water from the grab sample.
3. Fill the sample cup to the 25 ml mark, or as required by the instructions for the test kits. Hold the sample cup at eye level to ensure that measurements are accurate.
4. Conduct the test kit analyses following the manufacturer's instructions.
5. Dispose of the sample as follows:
   - If no chemical or reagents have been added to the sample, the water can be poured on the ground.
   - If any chemical or reagent is added to the sample, pour the water into a container marked "Liquid Waste" for proper disposal to a sanitary sewer system at the end of the day.
6. Rinse the sample cup three times with tap water and dry with a paper towel.

Flow Chart Procedure:

- If any parameter is outside of the "acceptable range" then an illicit discharge has likely been found. The tracing procedure is immediately implemented by one of the field crew. Testing can be stopped, and the second member of the field crew continues with the inspection by completing Section 7.
- If none of the parameters are outside of the acceptable range, proceed to Section 6.

Section 6: Data Collection for Lab Testing

Determine if the Village's Waste Water Treatment Plant (WWTP) has adequate staff capacity to analyze the samples.

- If the WWTP has adequate staff capacity, collect grab samples and provide them to the WWTP. Note the location of the sample. Label the sample with the outfall ID number. Proceed to Section 7 while in the field and complete the remainder of Section 6 after the lab results are available.
- If the WWTP does not currently have adequate capacity, determine if Sections 3 or 4 of the inspection form suggest an illicit discharge.
  - If Sections 3 or 4 suggest an illicit discharge contact and outside lab to perform the testing. Proceed to Section 7 while in the field and complete the remainder of Section 6 after the lab results are available.
  - If Sections 3 or 4 do not suggest an illicit discharge, note the outfall ID number. Place the outfall on the follow-up inspection log and proceed to Section 7 of the form. Re-inspect and sample the discharge when the WWTP has adequate capacity.

Sample Location: The location of the sample is noted. Additionally, the sample is labeled with the outfall ID number. Use the insert MS4 type's sampling procedures and refer to Chapter 3.3.B.7.b. for test kit safety information. . The following additional items are noted.

1. When you collect any samples you must fill out an ***Outfall Sampling Report*** **(Appendix 5.4).** The report must document time you arrive on location, take the sample and get to the plant to drop off the sample.
2. A 500-ml glass bottle sample is used to collect the sample. If you are collecting a sample that has grease 2-250ml samples taken with a glass container are required.
3. If you use the sampling container that is on a rope, it must be washed with soap and water after every use.

Parameters: Grab samples and lab testing is performed. After lab results are available enter the results here.

- If any parameter is outside of the "acceptable range" then an illicit discharge has likely been found. The tracing procedure should be immediately implemented.

- If none of the parameters are outside of the acceptable then the investigation can be closed.

Section 7 Any Non-Illicit Discharge Concerns

Any problems or unusual features are to be entered here. If the outfall appears to be potentially impacted by inappropriate discharges, this can be recorded here. This section is to be completed even if no flow is observed.

Outfall Sampling Report

Structure ID #	Date:
Outfall ID #	Time of Sample:
Sampled By:	AM PM

Glass Bottle Size:	250 ml	500 ml	32 ml

Tests requested:	Flouride	Potassium	Fecal Coliform

Relinquished By:	Date:
Comments:	Time:
Received By:	Date:
Comments:	Time:
Relinquished By:	Date:
Comments:	Time:
Received By:	Date:
Comments:	Time:

APPENDIX 15

Sample Inspection Checklists

Roadway Culvert / Bridge Checklist

Inspected by:	**Date:**
	Weather Conditions:

Number	Location	Size	Flood Height *(low/medium/high)*	Condition *(Good/Fair/Poor)*	Comments
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Detention/Retention Pond Checklist

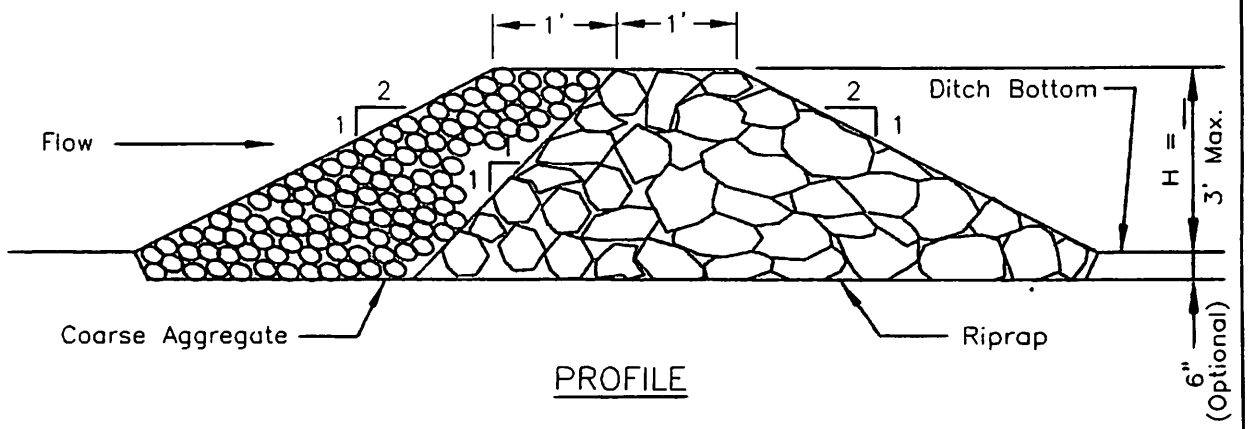
Inspected by:	**Date:**
	Weather Conditions:

Number	Name/Location	Flood Height *(low/medium/high)*	Condition *(Good / Fair / Poor)*	Comments
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

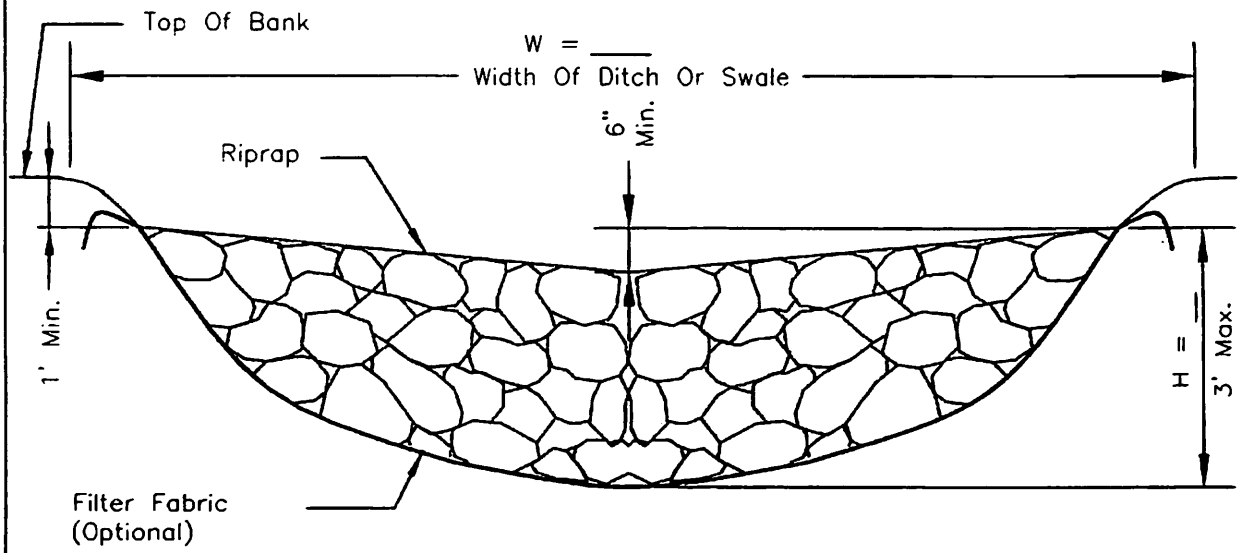
APPENDIX 16

Typical Soil Erosion and Sediment Control Details

ROCK CHECK DAM - RIPRAP



PROFILE



CROSS SECTION
CENTERLINE LOOKING DOWNSTREAM

NOTES;

1. Filter fabric shall meet the requirements of material specification 592 GEOTEXTILE, Table 1 or 2, Class I, II, or IV and shall be placed over the cleared area prior to the placing of rock.
2. Coarse aggregate shall meet one of the following IDOT gradations, CA-1, CA-2, CA-3, or CA-4.
3. Riprap shall meet IDOT gradation RR-3 or RR-4 and meet Quality Designation A.
4. Coarse aggregate and riprap shall be placed according to construction specification 25 ROCKFILL using placement Method 1 and Class III compaction.
5. For added stability, the base of the dam may be keyed 6 inches into the soil.
6. See plans for spacing of dams and H dimensions.
7. Maximum drainage area to each dam is 10 acres.
8. ROCK CHECK DAM-COARSE AGGREGATE IL-605CA may be used for drainage areas under 2 acres.

REFERENCE				NRCS Natural Resources Conservation Service	STANDARD DWG. NO. IL-605R
Project					SHEET 1 OF 1
Designed		Date			DATE 1-29-99
Checked		Date			
Approved		Date			

INLET FILTER SYSTEM w/Hydrocarbon Removal

PART 1 GENERAL

1.01 WORK REQUIRED

An inlet filter system, as shown in the details, shall be installed and maintained in open grate frames as directed by the engineer.

1.02 SUBMITTALS

The contractor shall make submittals of the manufacturer's literature, shop drawings, installation and maintenance instructions, and other items in accordance with the provisions of the Standard Specifications.

PART 2 PRODUCTS

2.01 INLET FILTER SYSTEM HR

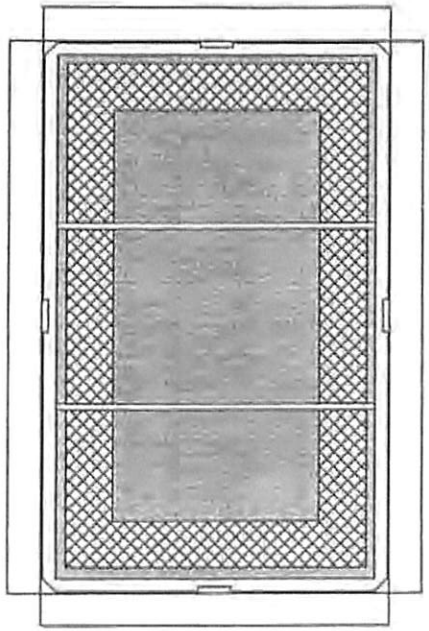
Inlet filter system HR shall consist of a replaceable reinforced filter bag with hydrocarbon removal capabilities suspended from a retainer ring, or frame. Inlet Filter Systems shall be the Catch-All **HR**, with Overflow, as furnished by Marathon Materials, Inc., or pre-approved equal.

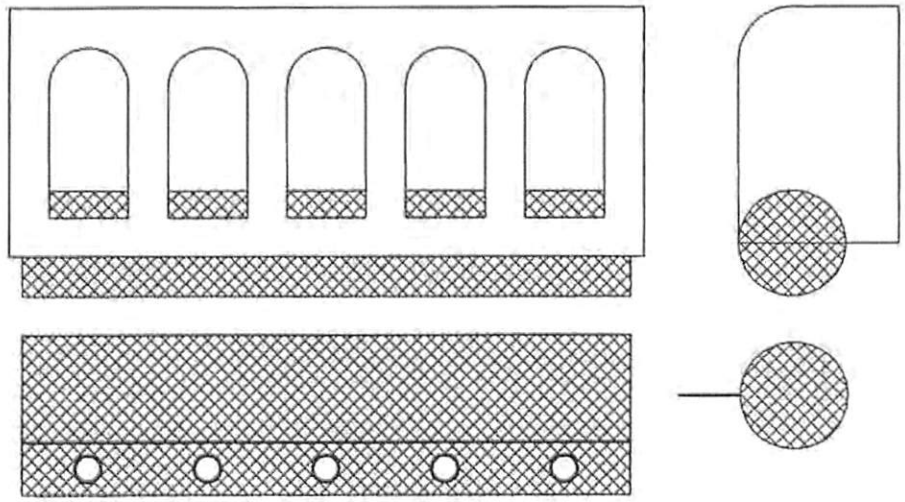
The filter bag shall be constructed of a non-woven polypropylene filter geotextile fabric with a minimum weight of 4 oz./yd.^{2}, a minimum flow rate of 145 gal./min./ft.^{2}, and designed for a minimum silt and debris capacity of 2 cu. ft. The filter bag shall be reinforced with a polyester mesh fabric with a minimum weight of 4 oz./yd.^{2} and shall be fitted with a hydrocarbon removal pillow. The hydrocarbon removal pillow shall be hemmed around the entire perimeter of the sediment bag and extend a minimum of four inches towards center. The pillow shall have the capacity to adsorb a minimum seven times its own weight of hydrocarbon-based pollutants. *Curb boxes shall be fitted with a separate pillow, meeting the same requirements, that extends the full width of the box.* The filter bag shall be suspended from a galvanized steel ring, or frame, conforming to ASTM-A36, utilizing a stainless steel band and locking clamp. The frame shall be designed with an overflow feature to prevent any ponding during heavy rainfall.

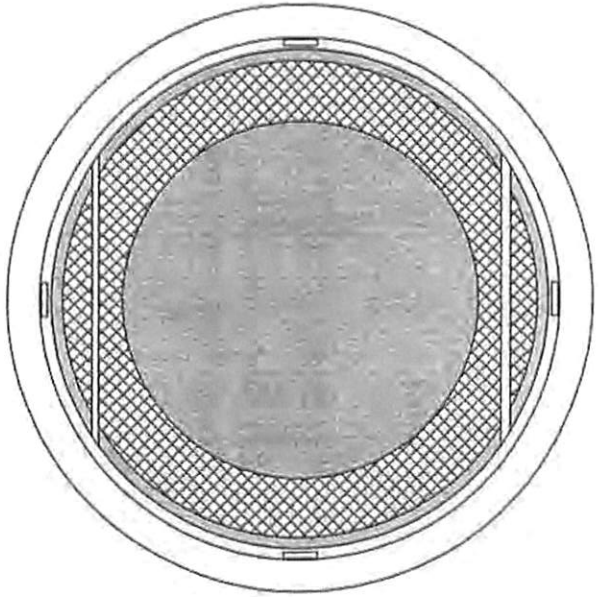
PART 3 MEASUREMENT AND PAYMENT

3.01 INLET FILTER SYSTEM

All costs for furnishing and installing the inlet filter system HR shall be included in the unit bid price. Periodic cleaning and new bags shall be paid for separately.

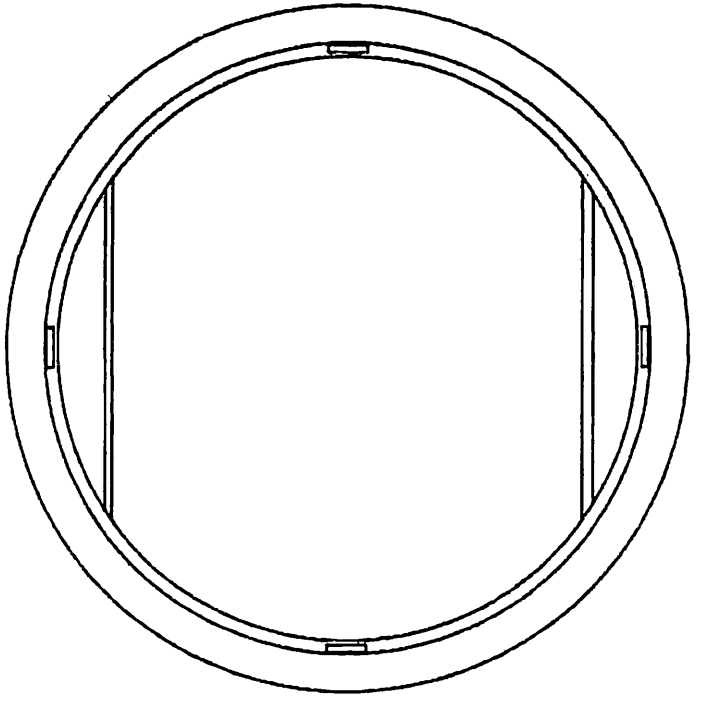


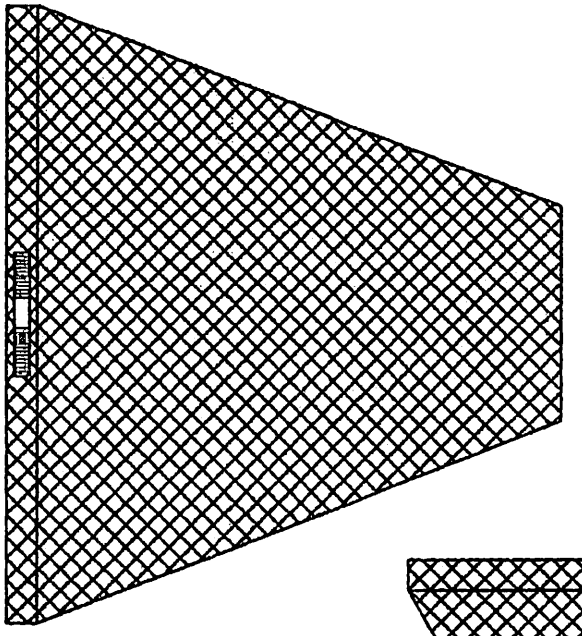


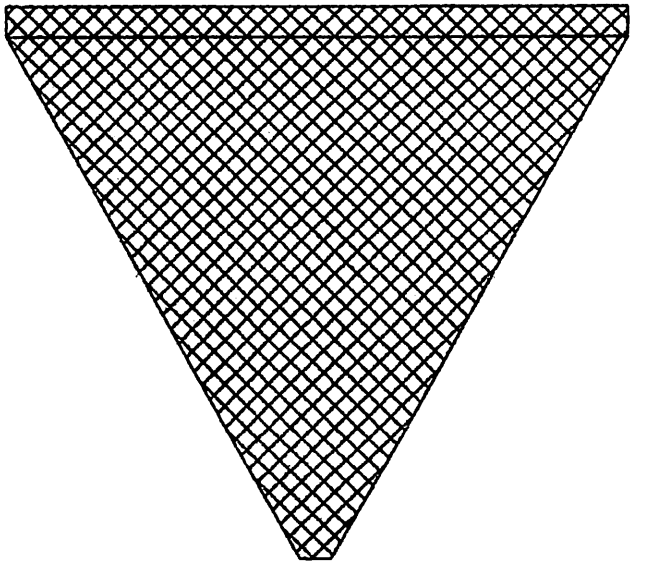


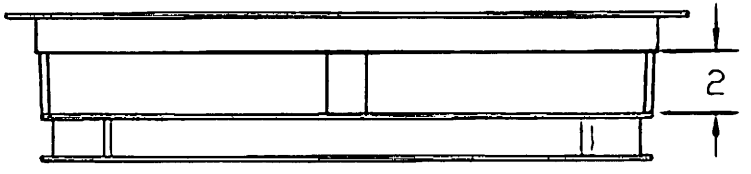
This detail depicts the typical placement of the HR (hydrocarbon removal) pillow. An HR pillow is hemmed to the entire perimeter of the sediment bag +/- 4" from the top of the bag and extends +/- 4" towards center. Curb boxes are protected with a separate pillow that is secured to either the curb box vanes or the top flange of the Catch-All frame.

DATE	REVISIONS	Catch-All HR Adsorbent Pillow
5.12.04	Original	
		Marathon Materials, Inc.







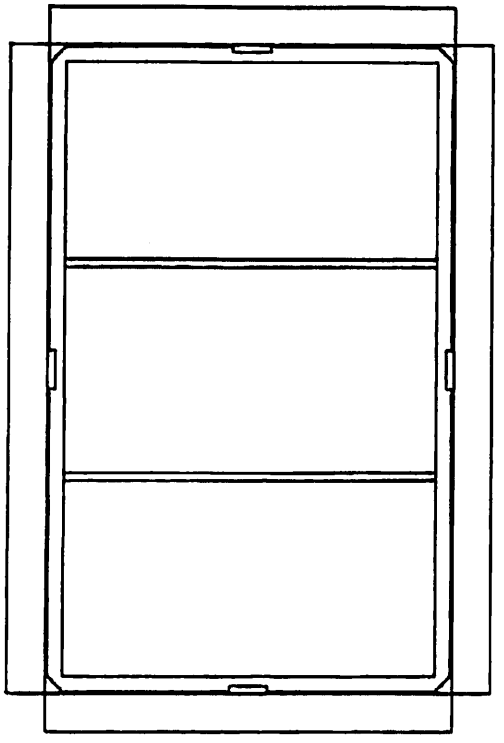


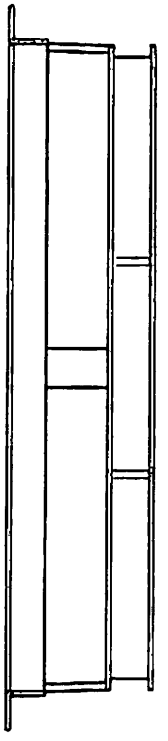
GENERAL NOTES:
FRAME: Top flange fabricated from 1¼"x1¼"x⅛" angle. Base rim fabricated from 1½"x½"x⅛" channel. Handles and suspension brackets fabricated from 1¼"x¼" flat stock. All steel conforming to ASTM-A36.
SEDIMENT BAG: Bag fabricated from 4 oz./sq.yd. non-woven polypropylene geotextile reinforced with polyester mesh. Bag secured to base rim with a stainless steel band and lock.

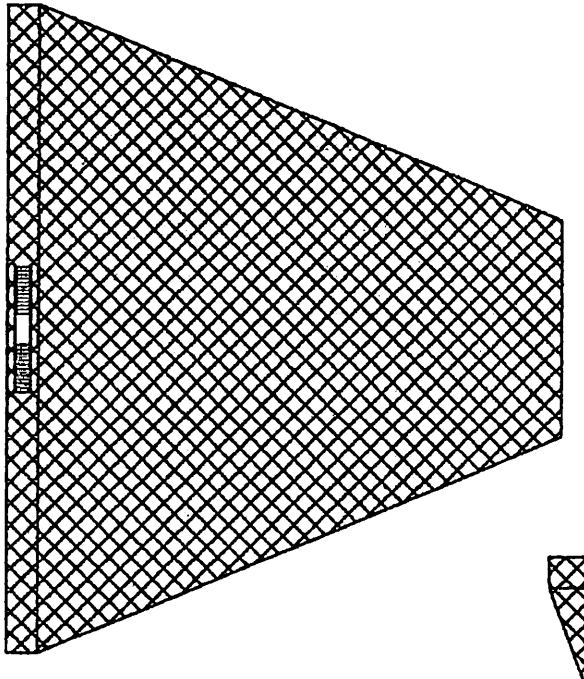
DATE	REVISIONS
01-11-02	Original

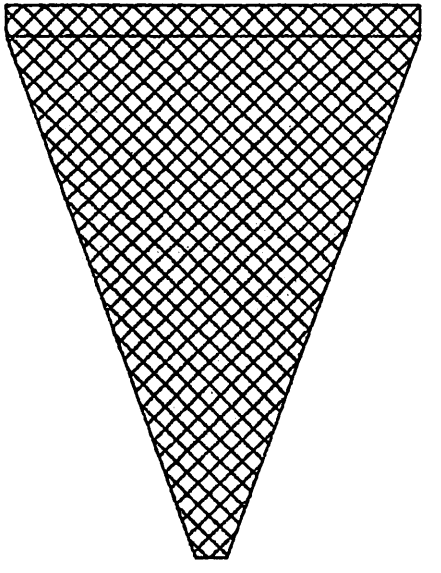
Typical Round
Catch-All

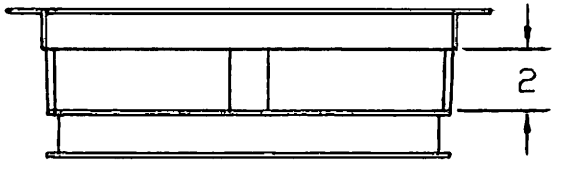
Marathon Materials, Inc.









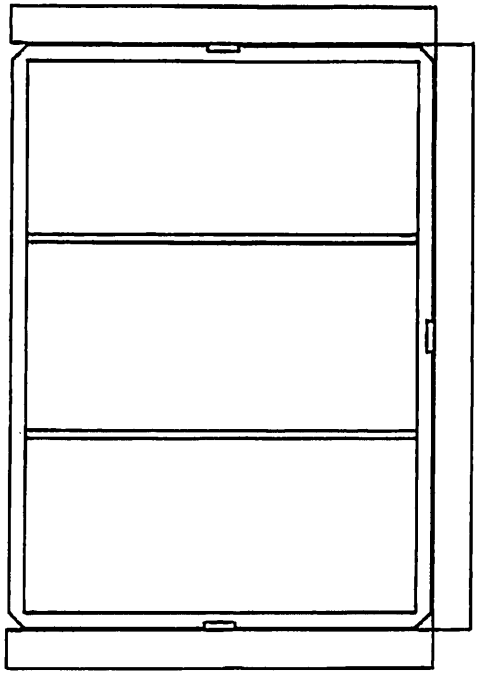


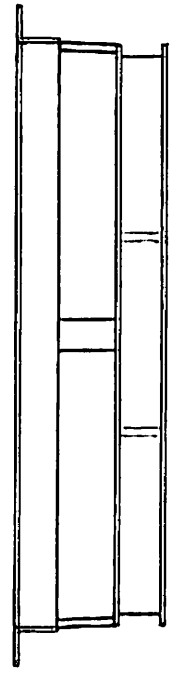
GENERAL NOTES:
FRAME: Top flange fabricated from 1¼"x1¼"x⅛" angle. Base rim fabricated from 1½"x½"x⅛" channel. Handles and suspension brackets fabricated from 1¼"x¼" flat stock. All steel conforming to ASTM-A36.
SEDIMENT BAG: Bag fabricated from 4 oz./sq.yd. non-woven polypropylene geotextile reinforced with polyester mesh. Bag secured to base rim with a stainless steel band and lock.

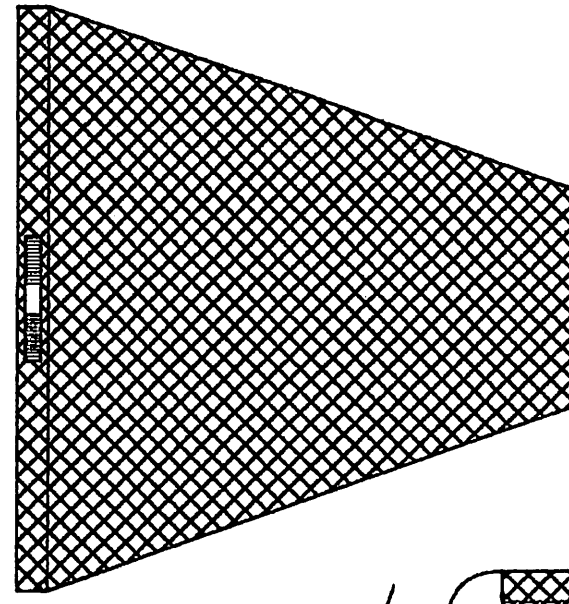
DATE	REVISIONS
01-22-02	Original

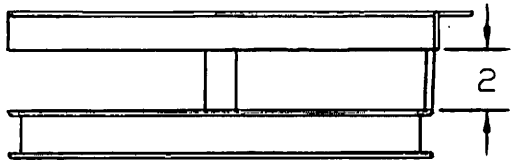
Typical Rectangular Catch-All

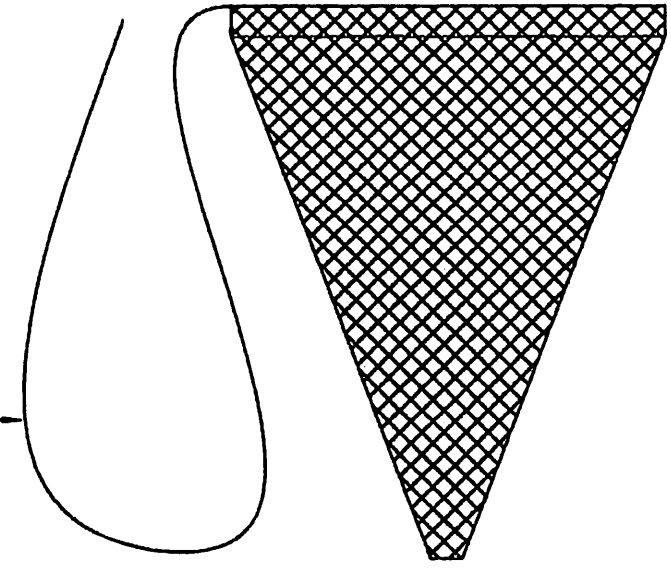
Marathon Materials, Inc.









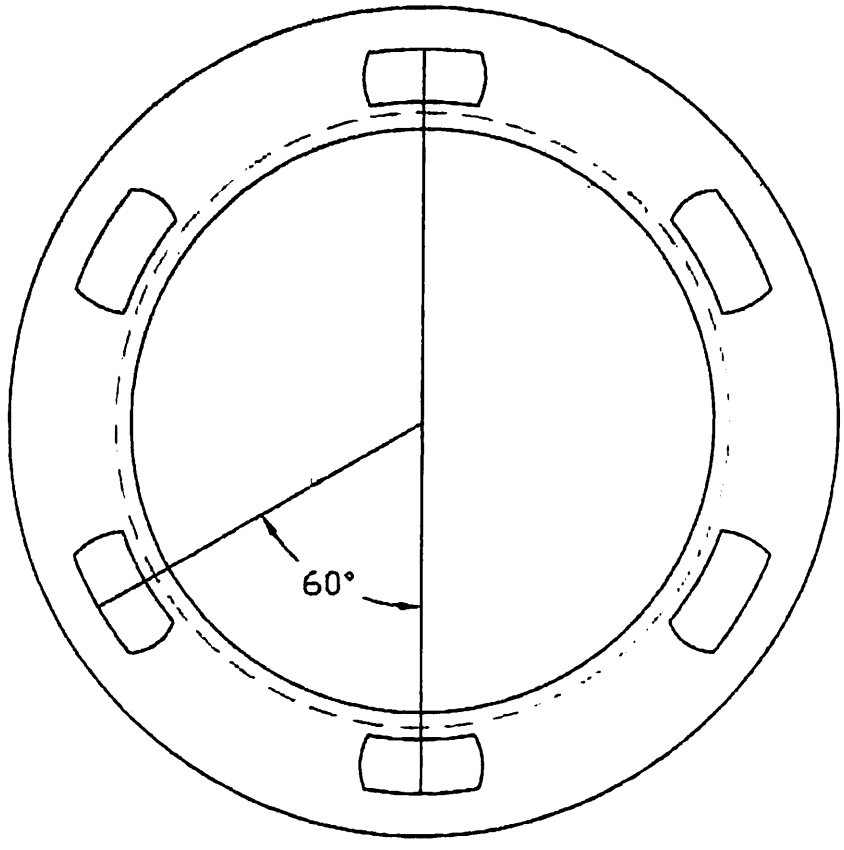


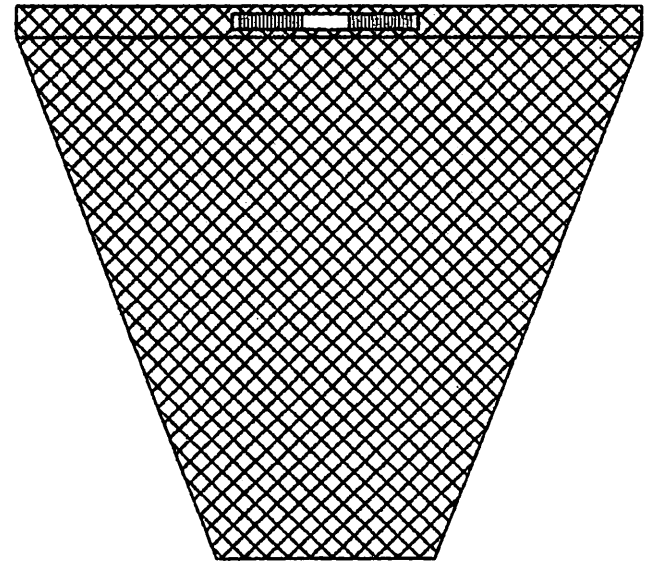
GENERAL NOTES:
FRAME: Top flange fabricated from 1¼"x1¼"x⅛" angle. Base rim fabricated from 1½"x½"x⅛" channel. Handles and suspension brackets fabricated from 1¼"x¼" flat stock. All steel conforming to ASTM-A36.
SEDIMENT BAG: Bag fabricated from 4 oz./sq.yd. non-woven polypropylene geotextile reinforced with polyester mesh. Bag secured to base rim with a stainless steel band and lock.

DATE	REVISIONS
01-11-02	Original
05-07-04	Remove Back Rail

Typical Curb Box Catch-All

Marathon Materials, Inc.





GENERAL NOTES:
FRAME: Top flange fabricated from 1¼"x1¼"x⅛" angle. Base rim fabricated from 1½"x½"x⅛" channel. Handles and suspension brackets fabricated from 1¼"x¼" flat stock. All steel conforming to ASTM-A36.
SEDIMENT BAG: Bag fabricated from 4 oz./sq.yd. non-woven polypropylene geotextile reinforced with polyester mesh. Bag secured to base rim with a stainless steel band and lock.

DATE	REVISIONS
01-22-02	Original

Typical Beehive Catch-All

Marathon Materials, Inc.

Catch-All Inlet Protector

INLET FILTER SYSTEM MATERIALS

I. Non-Woven Polypropylene Filter Geotextile

Property	Test Method	Units	Minimum Average Roll Value (English)
Grab Tensile Strength	ASTM-D-4632	lbs	100
Grab Tensile Elongation	ASTM-D-4632	%	50
Mullen Burst	ASTM-D-3786	psi	225
Puncture	ASTM-D-4833	lbs	65
Trapezoidal Tear	ASTM-D-4533	lbs	45
UV Resistance	ASTM-D-4355	% @ hrs	70 @ 500
Hydraulic			
Apparent Opening Size	ASTM-D-1420	US Sieve	70
Permittvity	ASTM-D-4491	Sec. – 1	2.0
Flow Rate	ASTM-D-4491	Gal/min/ft²	145

II. Reinforcing Polyester Outer Mesh Fabric

Property	Test Method	Value
Content	ASTM-D-629	Polyester
Weight (oz/yd²)	ASTM-D-3776	4.55 ± 15%
Whales (holes) inch	ASTM-D-3887	7.5 ± 2
Chorses (holes) inch	ASTM-D-3887	15.5 ± 2
Instronball Burst (psi)	ASTM-D-3887	120 min
Thickness	ASTM-D-1777	.040 ± .005

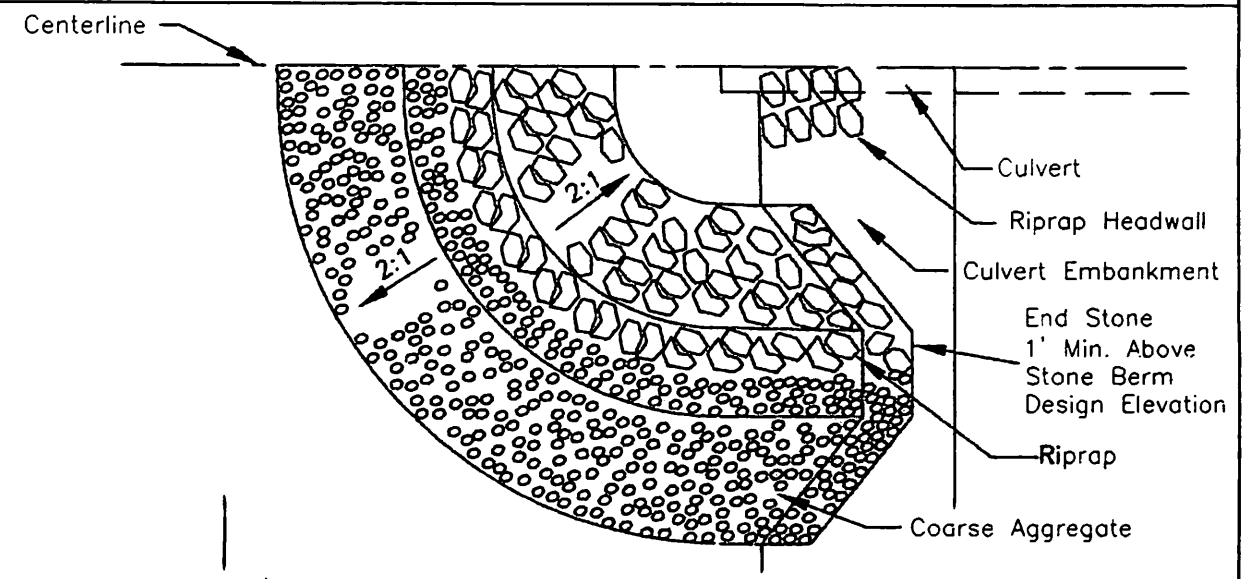
III. HR (*Hydrocarbon Removal*) Pillow Capacities

HR Pillow - 2.6 oz. Adsorbent/lf.

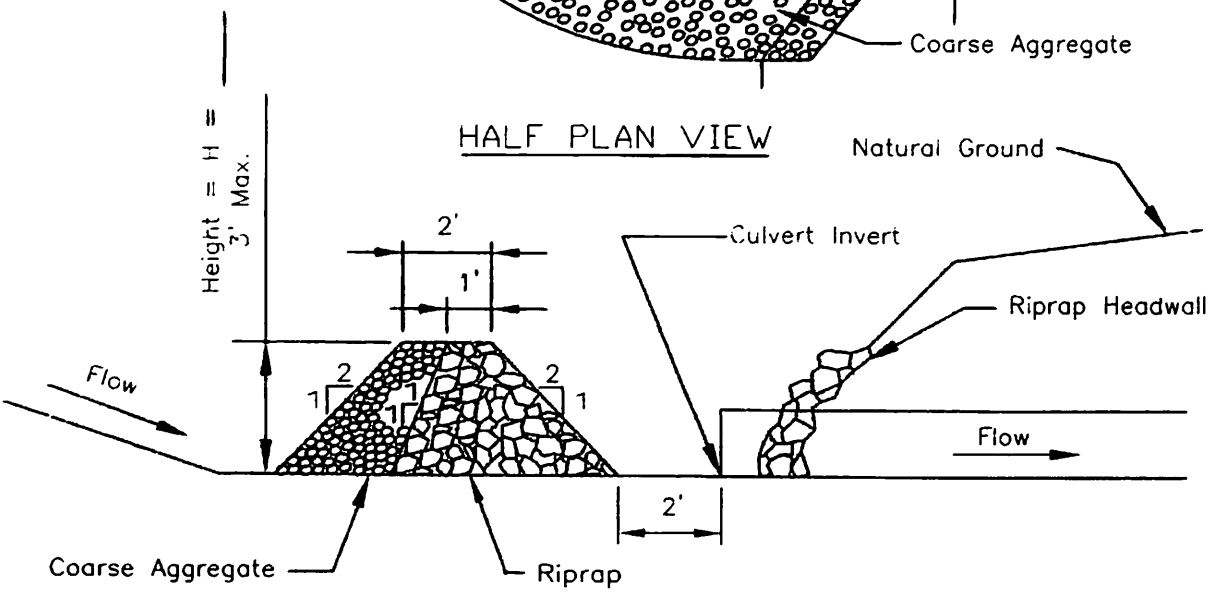
Type of Oil	Capacity by Weight – Oil / Adsorbent
Diesel	10:1
Fuel Oil	9:1
Machine Oil	8:1
30W Motor Oil	7:1

All capacities are rounded down

CULVERT INLET PROTECTION - STONE



HALF PLAN VIEW

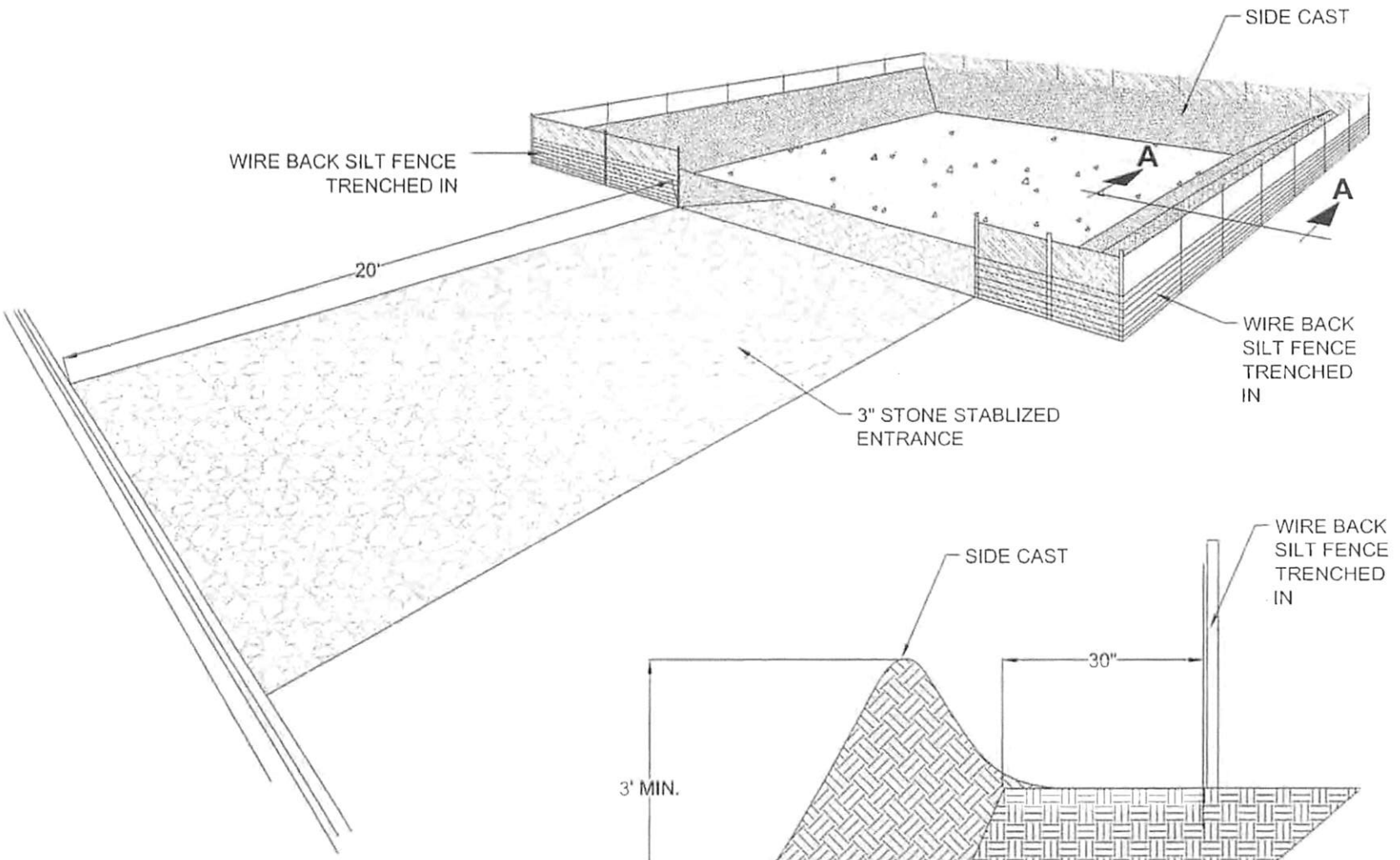


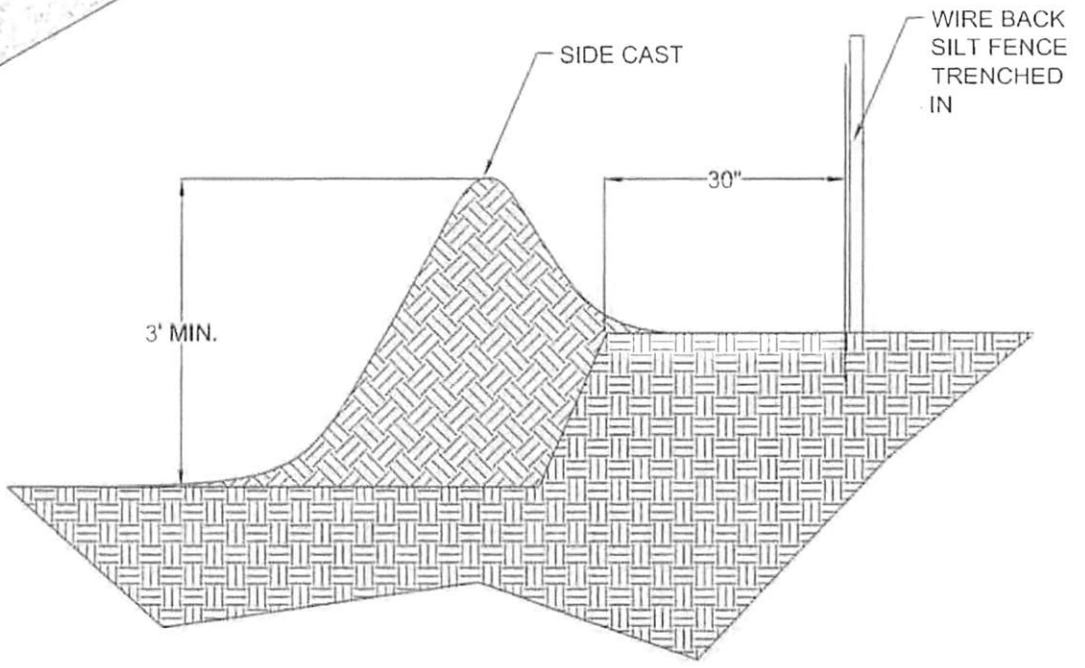
CENTERLINE CROSS SECTION

Notes:

1. Sediment shall be removed when the sediment has accumulated to one-half the height of the stone berm.
2. Coarse aggregate shall meet one of the following IDOT coarse aggregate gradations, CA-1, CA-2, CA-3 or CA-4.
3. Riprap shall meet IDOT gradation RR-3 or RR-4. Any permanent riprap, such as for the culvert headwall, shall meet IDOT Quality Designation A.
4. Coarse aggregate and riprap shall be placed according to construction specification 25 ROCKFILL using placement Method 1 and Class III compaction.
5. The maximum drainage area to the culvert being protected is 3 acres.
6. See plans for H dimension.
7. Tie the stone berm into the culvert embankment a minimum of 1 foot above the design elevation of the stone berm.

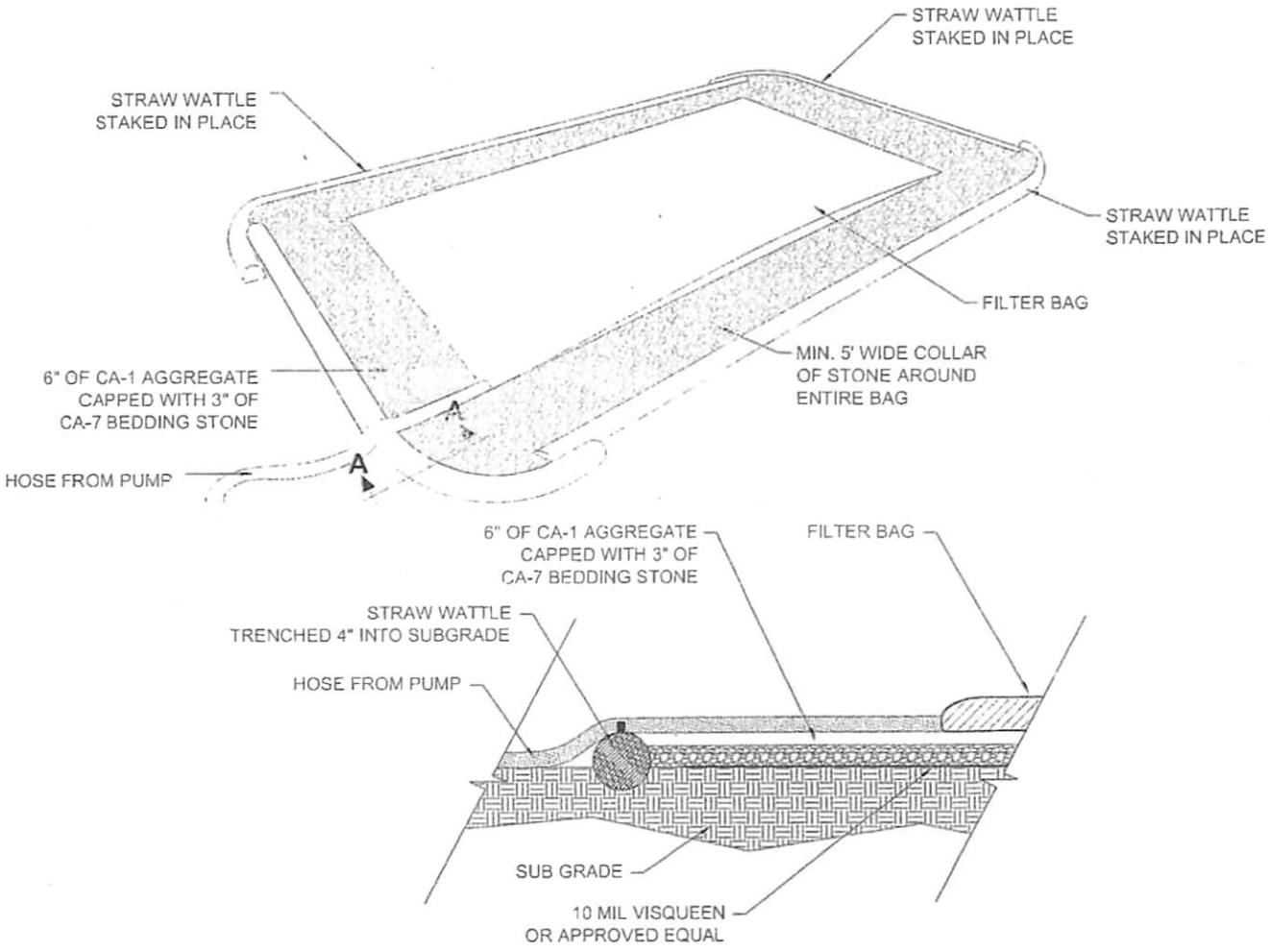
REFERENCE		NRCS	STANDARD DWG. NO.
Project		Natural Resources Conservation Service	IL-508ST
Designed	Date		SHEET 1 OF 1
Checked	Date		DATE 1-29-99
Approved	Date		





SECTION 'A'

CONCRETE WASH OUT BASIN

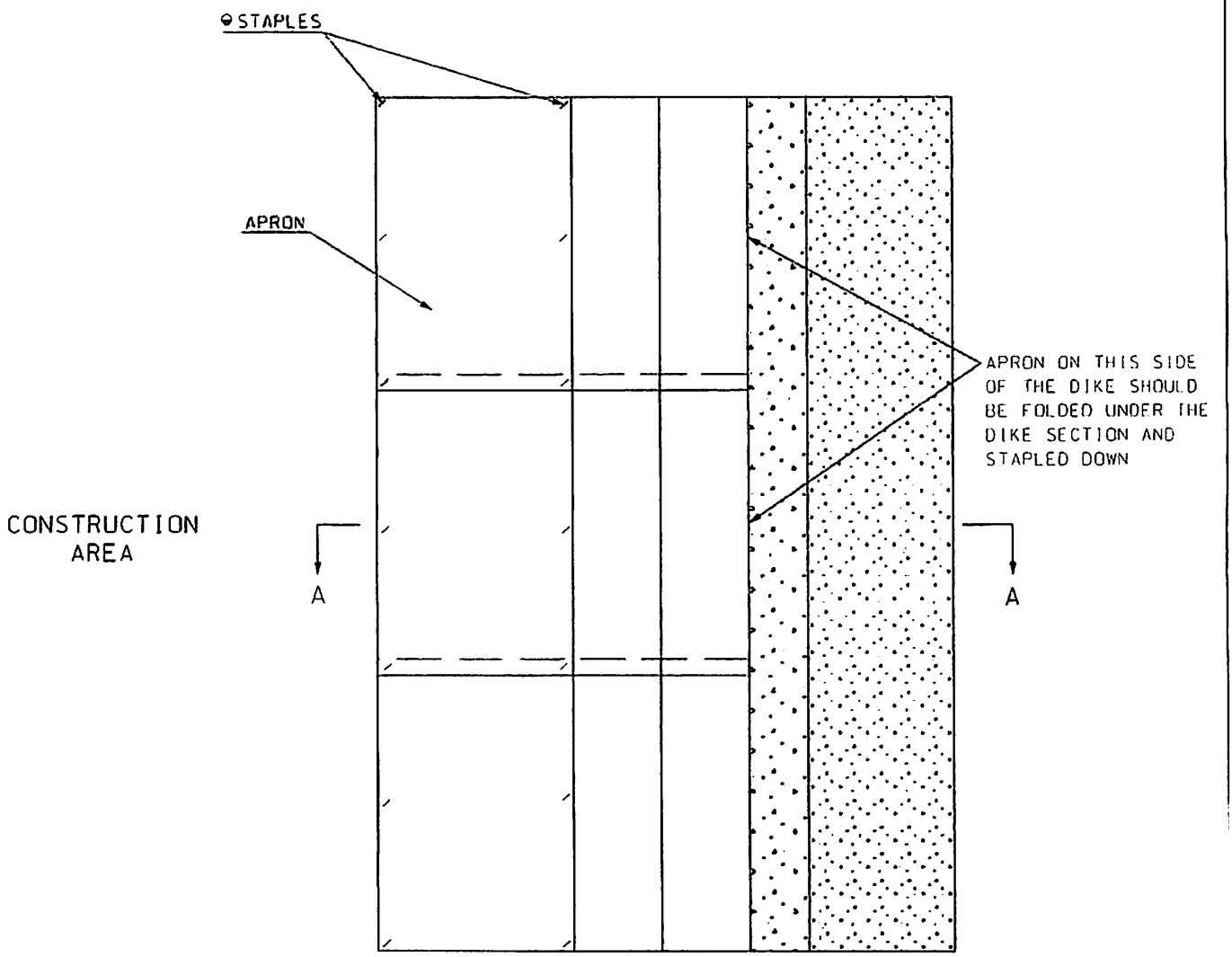


SECTION 'A'

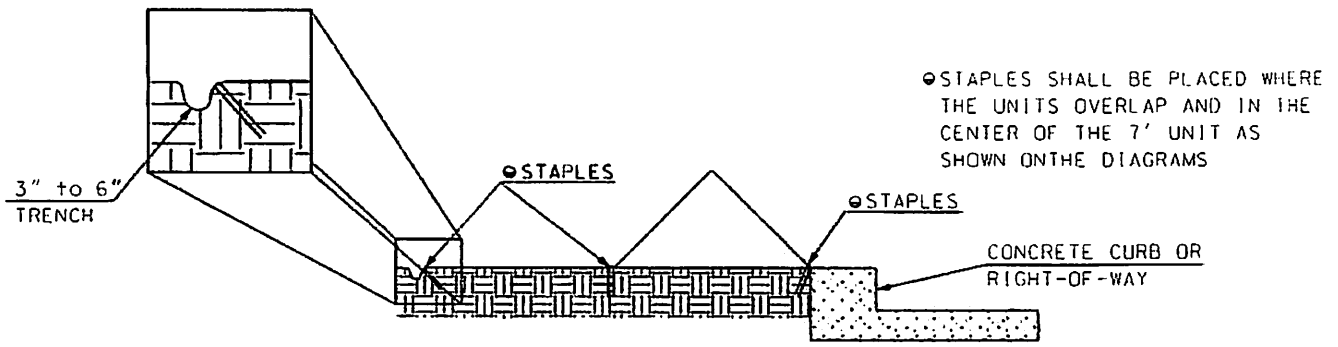
NOTES:
(1) ACTUAL SIZE AND LAYOUT DETERMINED IN THE FIELD
(2) PUMP INTAKE HEAD SHOULD BE FLOATED AT SURFACE OR PLACED IN A STABILIZED SUMP PIT

DEWATERING FILTER PAD

TRIANGULAR SILT DIKE INSTALLATION FOR CONTINUOUS BARRIER

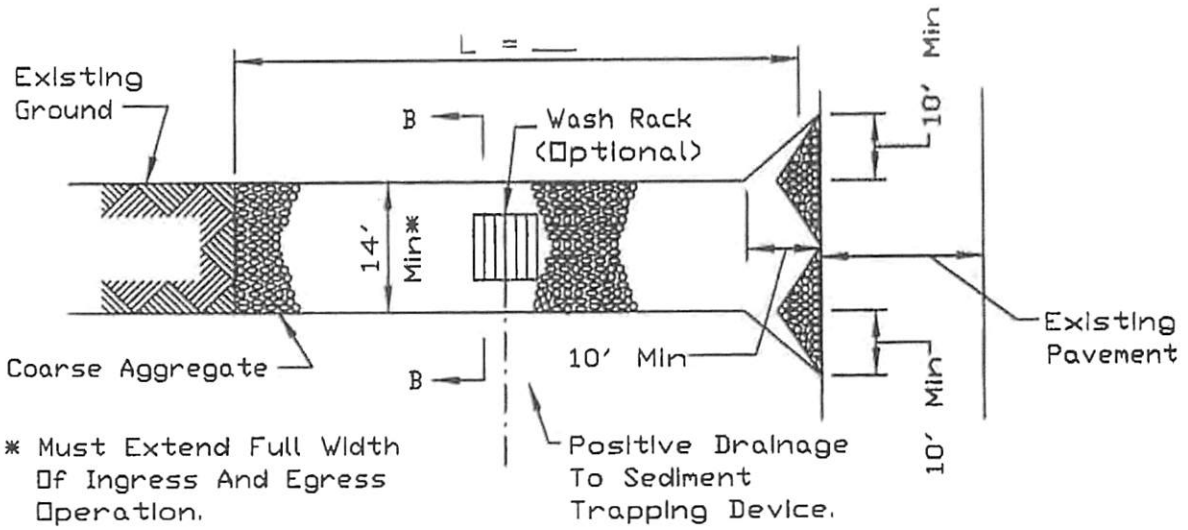


DIKE SECTION

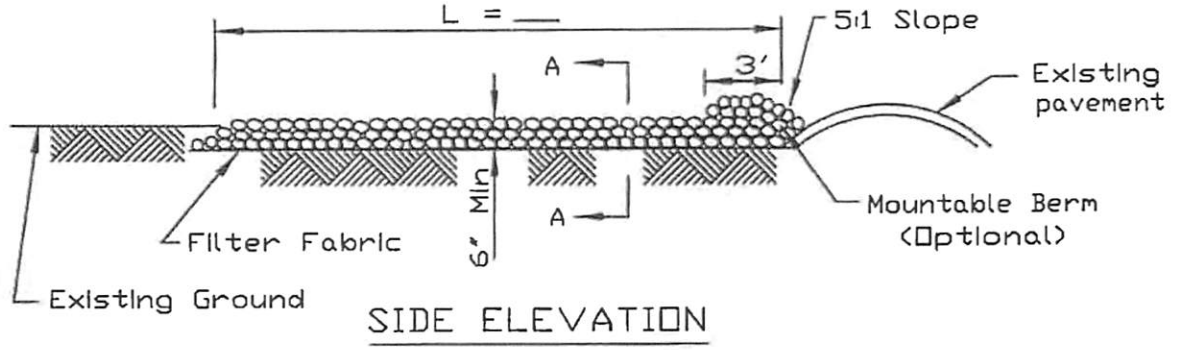


DETAIL A-A

STABILIZED CONSTRUCTION ENTRANCE PLAN



PLAN VIEW



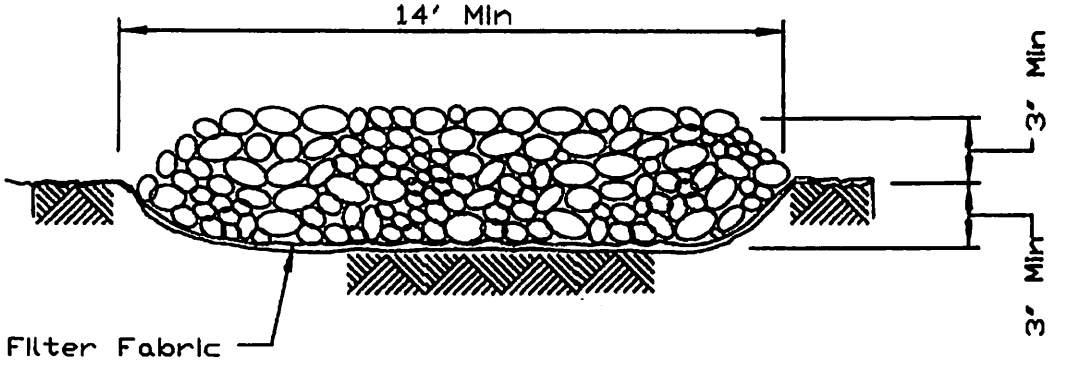
SIDE ELEVATION

NOTES:

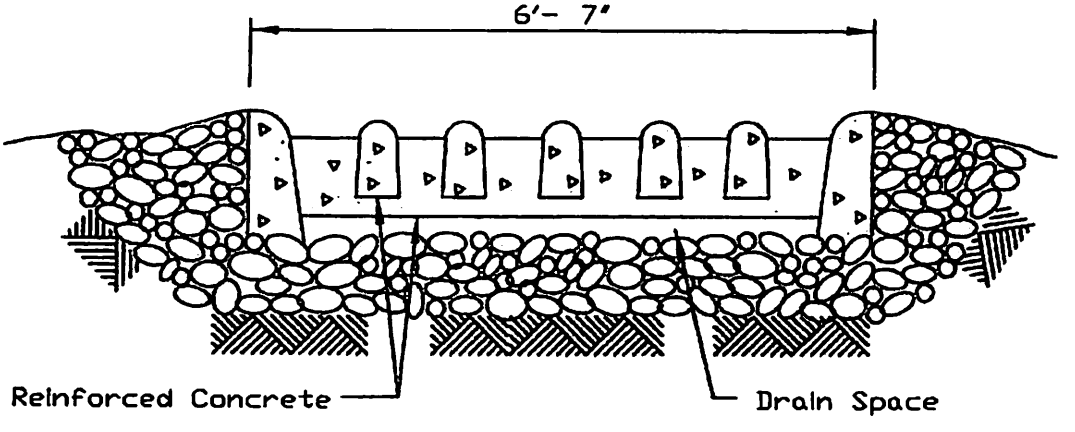
1. Filter fabric shall meet the requirements of material specification 592 GEOTEXTILE, Table I or 2, Class I, II or IV and shall be placed over the cleared area prior to the placing of rock.
2. Rock or reclaimed concrete shall meet one of the following IDOT coarse aggregate gradation, CA-1, CA-2, CA-3 or CA-4 and be placed according to construction specification 25 ROCKFILL using placement Method 1 and Class III compaction.
3. Any drainage facilities required because of washing shall be constructed according to manufacturers specifications.
4. If wash racks are used they shall be installed according to the manufacturer's specifications.

REFERENCE Project ___ Designed ___ Date ___ Checked ___ Date ___ Approved ___ Date ___	NRCS Natural Resources Conservation Service	STANDARD DWG. NO. IL-630 SHEET 1 OF 2 DATE 8-18-94

STABILIZED CONSTRUCTION ENTRANCE PLAN



SECTION A-A



SECTION B-B

REFERENCE					STANDARD DWG. NO.
Project				NRCS	IL-630
Designed		Date		Natural Resources Conservation Service	SHEET 2 OF 2
Checked		Date			DATE 8-18-94
Approved		Date			

Illinois Urban Manual

PRACTICE STANDARD

STABILIZED CONSTRUCTION ENTRANCE

CODE 630

DEFINITION

A stabilized pad of aggregate underlain with filter fabric located at any point where traffic will be entering or leaving a construction site to or from a public right-of-way, street, alley, sidewalk, or parking area.

PURPOSE

The purpose of this standard is to reduce or eliminate the tracking of sediment onto public right-of-ways or streets.

CONDITIONS WHERE PRACTICE APPLIES

A stabilized construction entrance shall be used at all points of construction ingress and egress.

CRITERIA

Stabilized construction entrance shall meet the following requirements:

Aggregate size - IDOT coarse aggregate gradations: CA-1, CA-2, CA-3, or CA-4.

Thickness - 6 inches or more.

Stone placement - The stone entrance for the entrance shall be placed according to construction specification 25 ROCKFILL. Placement will be by Method 1 and compaction will be class III.

Width - 14 feet minimum but not less than the full width of ingress or egress points.

Length - As required, but not less than 70 feet, except on a single residence lot where a 30 feet minimum shall apply.

Filter fabric shall be used under the aggregate to minimize the migration of stone into the underlying soil by heavy vehicle loads. The filter fabric shall meet the requirements of materials specification 592 GEOTEXTILE Table 1 or 2, class I, II, or IV.

All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.

Washing - If conditions on the site are such that the vehicles traveling over the gravel do not remove the majority of the mud, then the tires of the vehicles must be washed before entering a public road. Wash water must be carried away from the entrance to a sediment trapping facility such as practice standards IMPOUNDMENT STRUCTURE-ROUTED 842 or TEMPORARY SEDIMENT TRAP 960. All sediment shall be prevented from entering storm drains, ditches, watercourses, or surface waters including wetlands. A wash rack may be used to make washing more convenient and effective.

Location - the washing station should be located to provide for maximum utility by all construction vehicles.

Timing - the graveled access shall be installed as soon as practical after the start of site disturbance.

Removal - the entrance shall remain in place and be maintained until the disturbed area is stabilized by permanent best management practices.

CONSIDERATIONS

Improperly planned and maintained construction entrances can become a continual erosion problem.

The tracking of mud from active building sites onto paved roads by construction vehicles can be greatly reduced, and in some cases eliminated, by the use of a stabilized construction entrance. These entrances provide an area where mud can be removed from construction vehicle tires before they enter a public road.

If the action of the vehicle tires traveling over the stone is not sufficient to remove the majority of the mud, then the tires must be washed before the vehicle enters a public road. When washing is required it shall be done on an area stabilized with aggregate, or using a wash rack underlain with gravel. Provisions shall be made to intercept the wash water and trap the sediment before it is

carried off-site. Construction entrances should be used in conjunction with the stabilization of construction roads, and other exposed areas, to reduce the amount of mud picked up by construction vehicles.

PLANS AND SPECIFICATIONS

Plans and specifications for installing stabilized construction entrances shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. At a minimum include the following items:

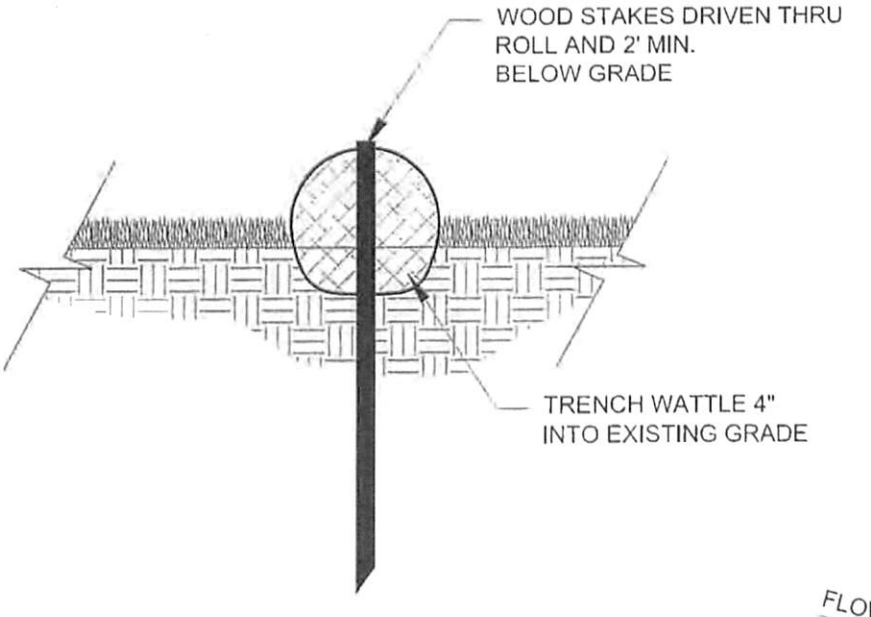
1. Location
2. Length
3. Width
4. Thickness
5. Type of materials

All plans shall include the installation, inspection, and maintenance schedules with the responsible party identified.

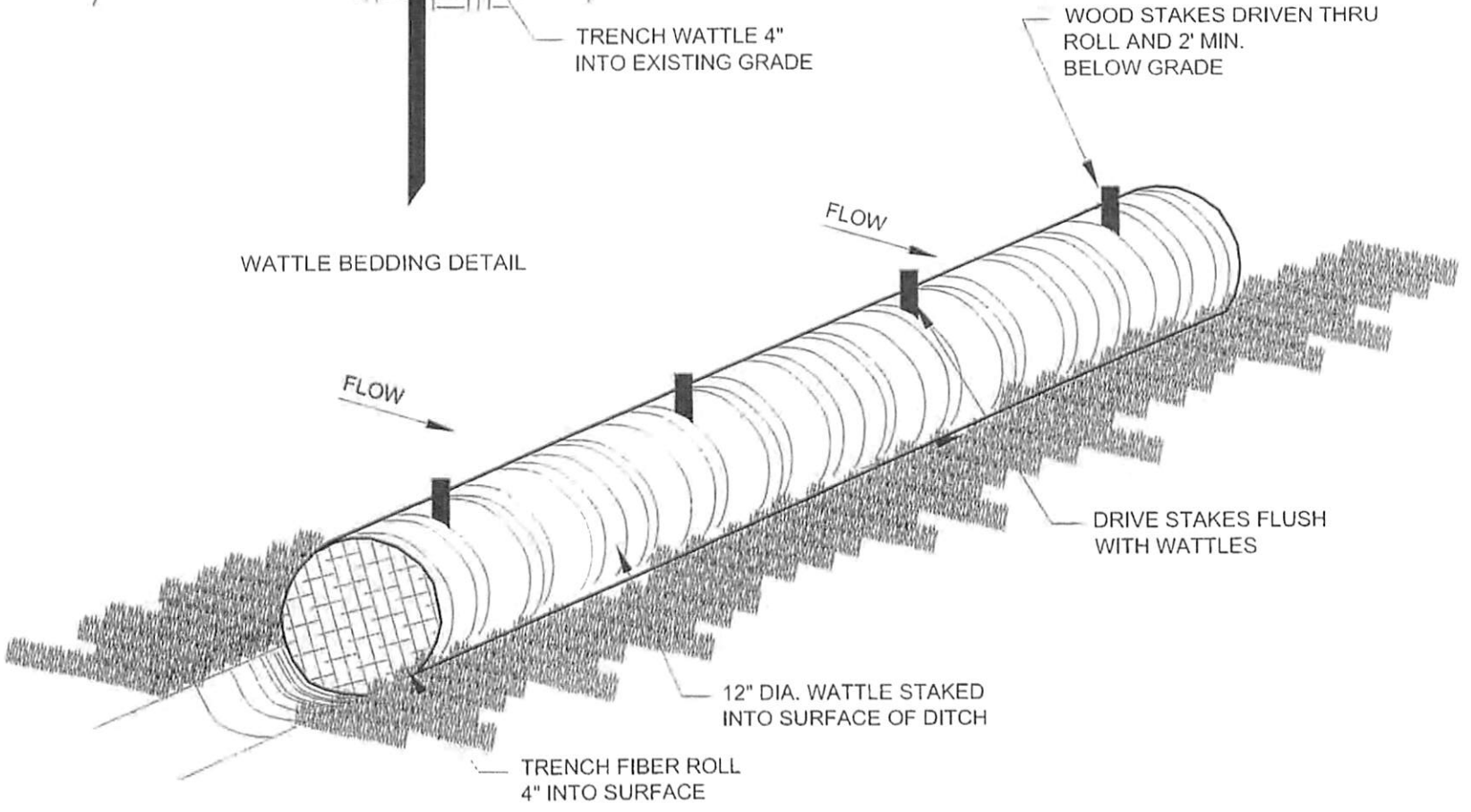
Standard drawing STABILIZED CONSTRUCTION ENTRANCE PLAN IL-630 may be used as the plan sheet.

OPERATION AND MAINTENANCE

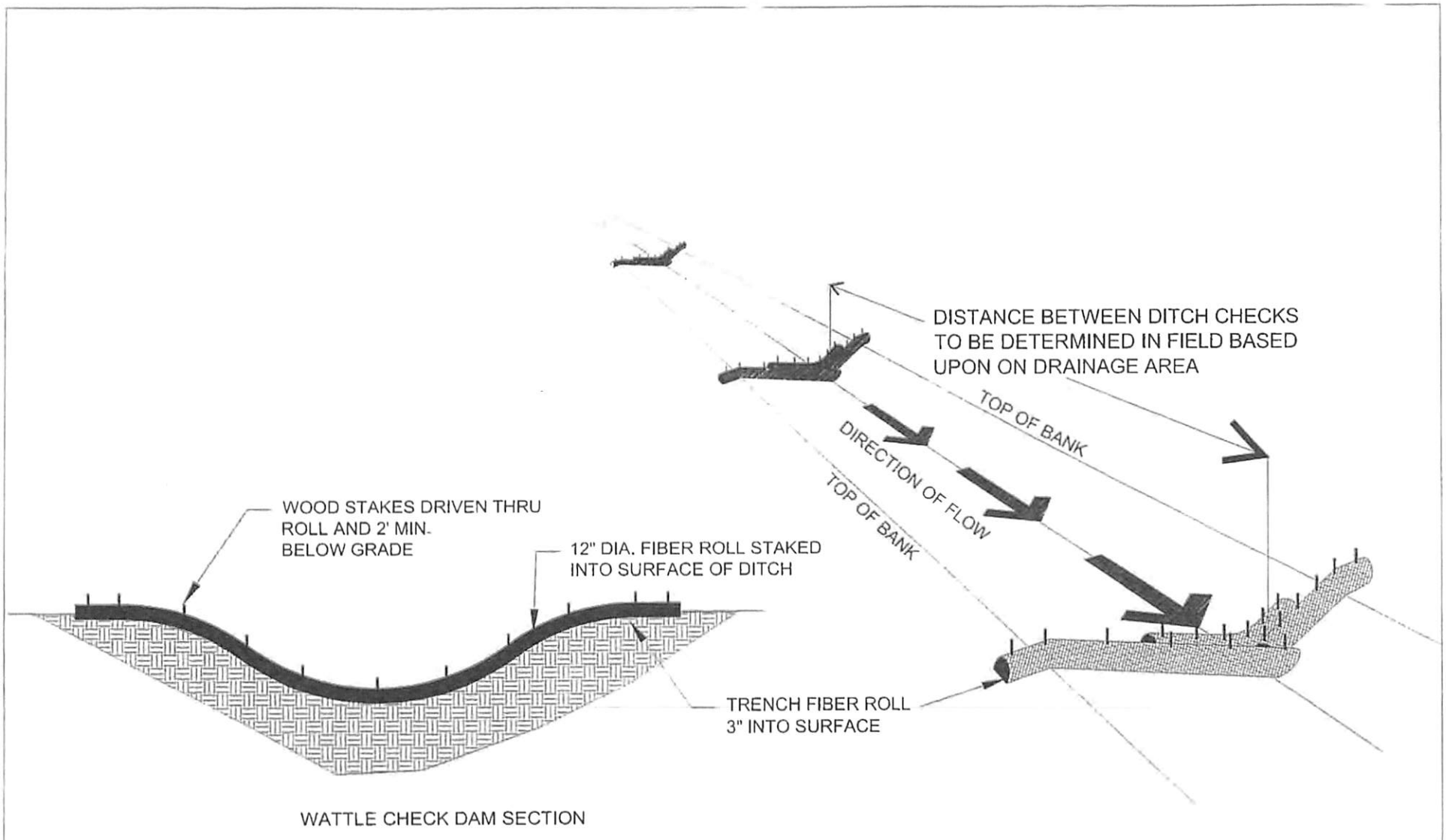
The entrance shall be maintained in a condition that will prevent tracking of sediment onto public right-of-ways or streets. This may require periodic top dressing with additional aggregate. All sediment spilled, dropped, or washed onto public right-of-ways must be removed immediately. Periodic inspection and needed maintenance shall be provided after each rain.



WATTLE BEDDING DETAIL

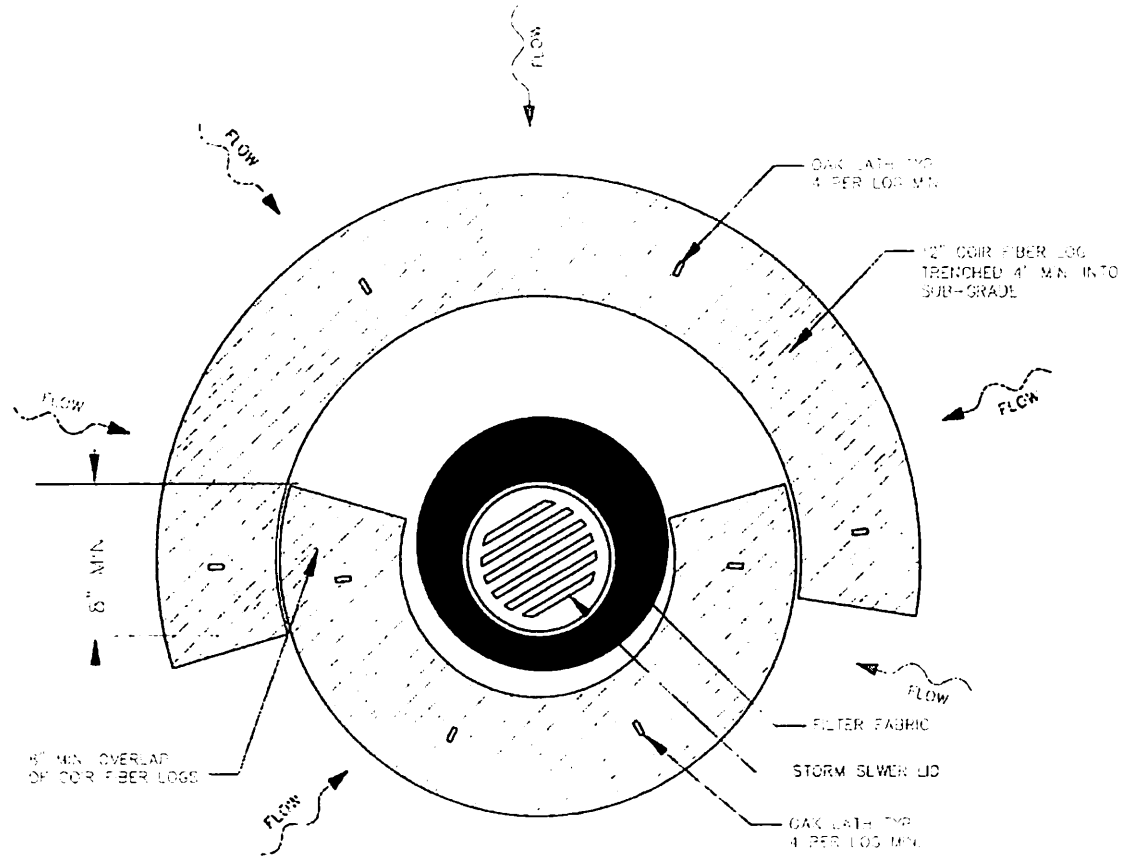


WATTLE BARRIER PLAN



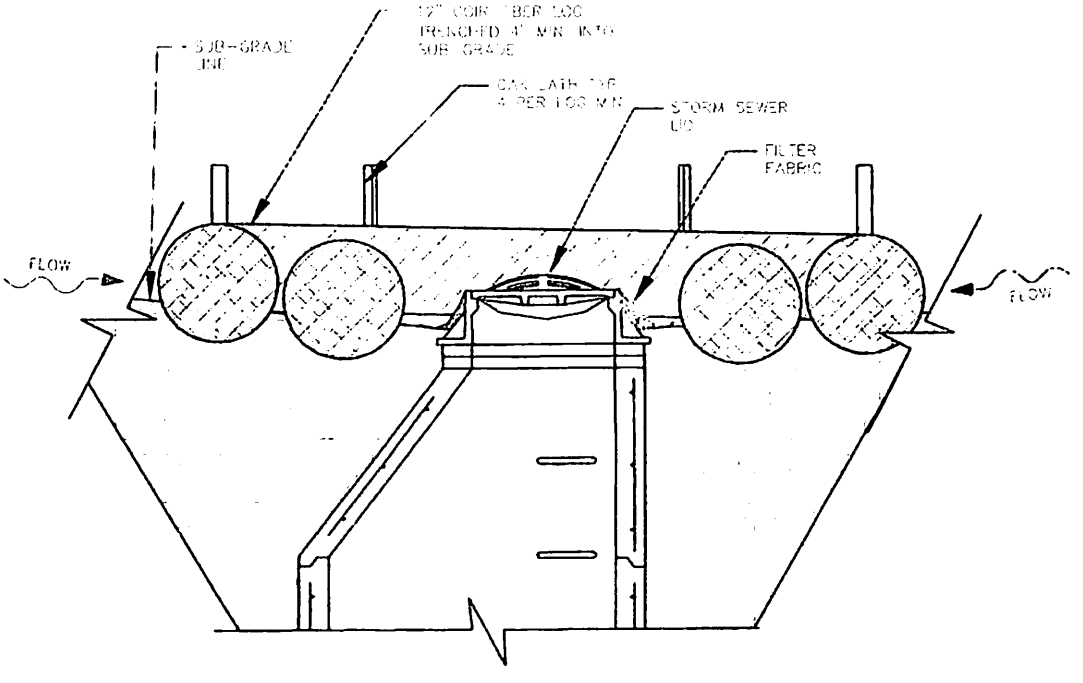
WATTLE CHECK DAM SECTION

WATTLE DITCH CHECK DETAILS



YARD GRATE INLET PROTECTION

PLAN VIEW



YARD GRATE INLET PROTECTION

SECTION

APPENDIX 17

Example Public Education and Outreach Materials

WHEN IT RAINS IT DRAINS

After the Storm

For more information contact:

or visit
www.epa.gov/npdes/stormwater
www.epa.gov/nps

EPA United States Environmental Protection Agency

EPA 833-B-03-002

January 2003

THE YEAR OF CLEAN WATER
Celebration & Recommitment

A Citizen's Guide to Understanding Stormwater

WHEN IT RAINS IT DRAINS

What is stormwater runoff?

Stormwater runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces like driveways, sidewalks, and streets prevent stormwater from naturally soaking into the ground.

Why is stormwater runoff a problem?

Stormwater can pick up debris, chemicals, dirt, and other pollutants and flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal water. Anything that enters a storm sewer system is discharged untreated into the waterbodies we use for swimming, fishing, and providing drinking water.

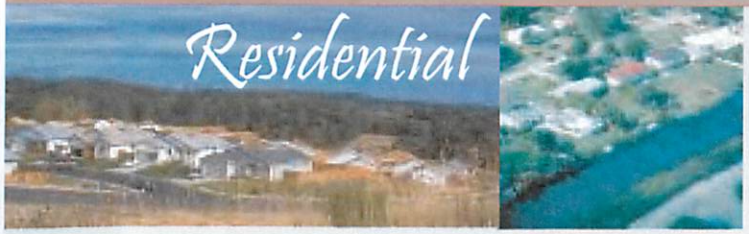
The effects of pollution

Polluted stormwater runoff can have many adverse effects on plants, fish, animals, and people.

- Sediment can cloud the water and make it difficult or impossible for aquatic plants to grow. Sediment also can destroy aquatic habitats.
- Excess nutrients can cause algae blooms. When algae die, they sink to the bottom and decompose in a process that removes oxygen from the water. Fish and other aquatic organisms can't exist in water with low dissolved oxygen levels.
- Bacteria and other pathogens can wash into swimming areas and create health hazards, often making beach closures necessary.

- Debris—plastic bags, six-pack rings, bottles, and cigarette butts—washed into waterbodies can choke, suffocate, or disable aquatic life like ducks, fish, turtles, and birds.
- Household hazardous wastes like insecticides, pesticides, paint, solvents, used motor oil, and other auto fluids can poison aquatic life. Land animals and people can become sick or die from eating diseased fish and shellfish or ingesting polluted water.
- Polluted stormwater often affects drinking water sources. This, in turn, can affect human health and increase drinking water treatment costs.

Stormwater Pollution Solutions



Residential

Recycle or properly dispose of household products that contain chemicals, such as insecticides, pesticides, paint, solvents, and used motor oil and other auto fluids. Don't pour them onto the ground or into storm drains.

Lawn care

Excess fertilizers and pesticides applied to lawns and gardens wash off and pollute streams. In addition, yard clippings and leaves can wash into storm drains and contribute nutrients and organic matter to streams.

- Don't overwater your lawn. Consider using a soaker hose instead of a sprinkler.
- Use pesticides and fertilizers sparingly. When use is necessary, use these chemicals in the recommended amounts. Use organic mulch or safer pest control methods whenever possible.
- Compost or mulch yard waste. Don't leave it in the street or sweep it into storm drains or streams.
- Cover piles of dirt or mulch being used in landscaping projects.

Auto care

Washing your car and degreasing auto parts at home can send detergents and other contaminants through the storm sewer system. Dumping automotive fluids into storm drains has the same result as dumping the materials directly into a waterbody.

- Use a commercial car wash that treats or recycles its wastewater, or wash your car on your yard so the water infiltrates into the ground.
- Repair leaks and dispose of used auto fluids and batteries at designated drop-off or recycling locations.

Septic systems

Leaking and poorly maintained septic systems release nutrients and pathogens (bacteria and viruses) that can be picked up by stormwater and discharged into nearby waterbodies. Pathogens can cause public health problems and environmental concerns.

- Inspect your system every 3 years and pump your tank as necessary (every 3 to 5 years).
- Don't dispose of household hazardous waste in sinks or toilets.

Pet waste

Pet waste can be a major source of bacteria and excess nutrients in local waters.

- When walking your pet, remember to pick up the waste and dispose of it properly. Flushing pet waste is the best disposal method. Leaving pet waste on the ground increases public health risks by allowing harmful bacteria and nutrients to wash into the storm drain and eventually into local waterbodies.

Education is essential to changing people's behavior. Signs and markers near storm drains warn residents that pollutants entering the drains will be carried untreated into a local waterbody.

Residential landscaping

Permeable Pavement—Traditional concrete and asphalt don't allow water to soak into the ground. Instead these surfaces rely on storm drains to divert unwanted water. Permeable pavement systems allow rain and snowmelt to soak through, decreasing stormwater runoff.

Rain Barrels—You can collect rainwater from rooftops in mosquito-proof containers. The water can be used later on lawn or garden areas.

Rain Gardens and Grassy Swales—Specially designed areas planted with native plants can provide natural places for rainwater to collect and soak into the ground. Rain from rooftop areas or paved areas can be diverted into these areas rather than into storm drains.

Vegetated Filter Strips—Filter strips are areas of native grass or plants created along roadways or streams. They trap the pollutants stormwater picks up as it flows across driveways and streets.

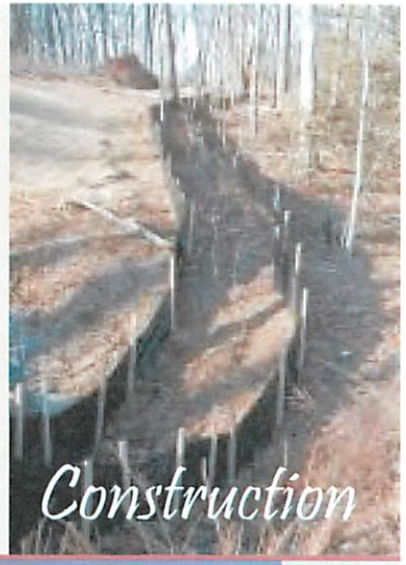
Commercial

Dirt, oil, and debris that collect in parking lots and paved areas can be washed into the storm sewer system and eventually enter local waterbodies.

- Sweep up litter and debris from sidewalks, driveways and parking lots, especially around storm drains.
- Cover grease storage and dumpsters and keep them clean to avoid leaks.
- Report any chemical spill to the local hazardous waste cleanup team. They'll know the best way to keep spills from harming the environment.

Erosion controls that aren't maintained can cause excessive amounts of sediment and debris to be carried into the stormwater system. Construction vehicles can leak fuel, oil, and other harmful fluids that can be picked up by stormwater and deposited into local waterbodies.

- Divert stormwater away from disturbed or exposed areas of the construction site.
- Install silt fences, vehicle mud removal areas, vegetative cover, and other sediment and erosion controls and properly maintain them, especially after rainstorms.
- Prevent soil erosion by minimizing disturbed areas during construction projects, and seed and mulch bare areas as soon as possible.

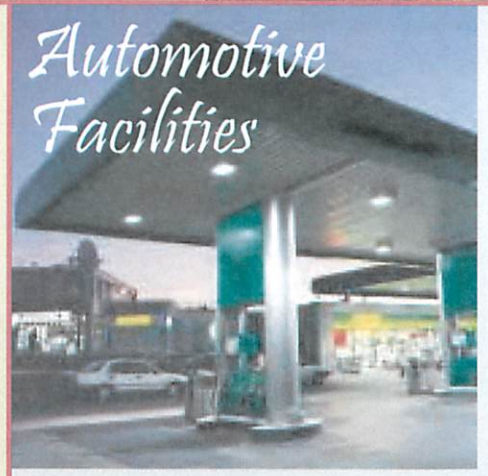


Construction

Agriculture

Lack of vegetation on streambanks can lead to erosion. Overgrazed pastures can also contribute excessive amounts of sediment to local waterbodies. Excess fertilizers and pesticides can poison aquatic animals and lead to destructive algae blooms. Livestock in streams can contaminate waterways with bacteria, making them unsafe for human contact.

- Keep livestock away from streambanks and provide them a water source away from waterbodies.
- Store and apply manure away from waterbodies and in accordance with a nutrient management plan.
- Vegetate riparian areas along waterways.
- Rotate animal grazing to prevent soil erosion in fields.
- Apply fertilizers and pesticides according to label instructions to save money and minimize pollution.



Automotive Facilities

Uncovered fueling stations allow spills to be washed into storm drains. Cars waiting to be repaired can leak fuel, oil, and other harmful fluids that can be picked up by stormwater.

- Clean up spills immediately and properly dispose of cleanup materials.
- Provide cover over fueling stations and design or retrofit facilities for spill containment.
- Properly maintain fleet vehicles to prevent oil, gas, and other discharges from being washed into local waterbodies.
- Install and maintain oil/water separators.

Forestry

Improperly managed logging operations can result in erosion and sedimentation.

- Conduct preharvest planning to prevent erosion and lower costs.
- Use logging methods and equipment that minimize soil disturbance.
- Plan and design skid trails, yard areas, and truck access roads to minimize stream crossings and avoid disturbing the forest floor.
- Construct stream crossings so that they minimize erosion and physical changes to streams.
- Expedite revegetation of cleared areas.

EPA
United States
Environmental Protection
Agency

EPA 841-F-03-003

Protecting Water Quality *from* URBAN RUNOFF

Clean Water Is Everybody's Business

In urban and suburban areas, much of the land surface is covered by buildings and pavement, which do not allow rain and snowmelt to soak into the ground. Instead, most developed areas rely on storm drains to carry large amounts of runoff from roofs and paved areas to nearby waterways. The stormwater runoff carries pollutants such as oil, dirt, chemicals, and lawn fertilizers directly to streams and rivers, where they seriously harm water quality. To protect surface water quality and groundwater resources, development should be designed and built to minimize increases in runoff.

The most recent National Water Quality Inventory reports that runoff from urbanized areas is the leading source of water quality impairments to surveyed estuaries and the third-largest source of impairments to surveyed lakes.

Did you know that because of impervious surfaces like pavement and rooftops, a typical city block generates more than 5 times more runoff than a woodland area of the same size?

How Urbanized Areas Affect Water Quality

Increased Runoff

The porous and varied terrain of natural landscapes like forests, wetlands, and grasslands traps rainwater and snowmelt and allows them to filter slowly into the ground. In contrast, impervious (nonporous) surfaces like roads, parking lots, and rooftops prevent rain and snowmelt from infiltrating, or soaking, into the ground. Most of the rainfall and snowmelt remains above the surface, where it runs off rapidly in unnaturally large amounts.

Storm sewer systems concentrate runoff into smooth, straight conduits. This runoff gathers speed and erosional power as it travels underground. When this runoff leaves the storm drains and empties into a stream, its excessive volume and power blast out streambanks, damaging streamside vegetation and wiping out aquatic habitat. These increased storm flows carry sediment loads from construction sites and other denuded surfaces and eroded streambanks. They often carry higher water temperatures from streets, roof tops, and parking lots, which are harmful to the health and reproduction of aquatic life.

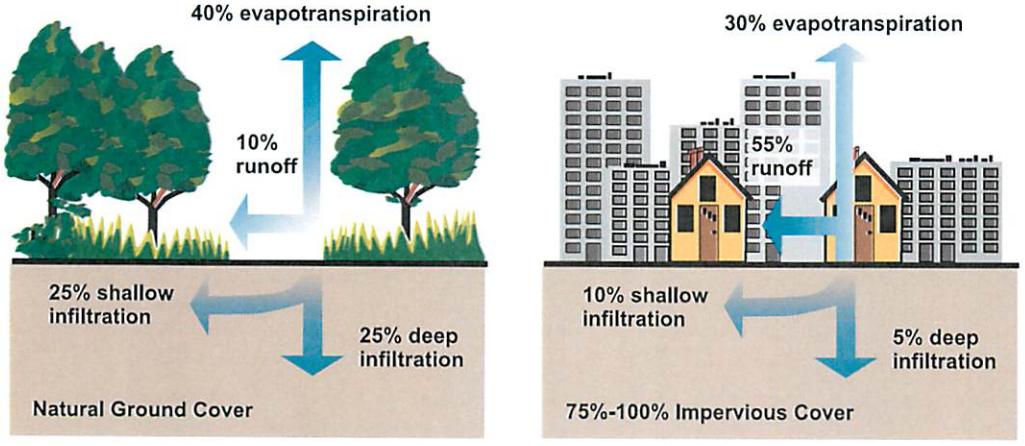
The loss of infiltration from urbanization may also cause profound groundwater changes. Although urbanization leads to great increases in flooding during and immediately after wet weather, in many instances it results in lower stream flows during dry weather. Many native fish and other aquatic life cannot survive when these conditions prevail.

Increased Pollutant Loads

Urbanization increases the variety and amount of pollutants carried into streams, rivers, and lakes. The pollutants include:

- Sediment
- Oil, grease, and toxic chemicals from motor vehicles
- Pesticides and nutrients from lawns and gardens
- Viruses, bacteria, and nutrients from pet waste and failing septic systems
- Road salts
- Heavy metals from roof shingles, motor vehicles, and other sources
- Thermal pollution from dark impervious surfaces such as streets and rooftops

These pollutants can harm fish and wildlife populations, kill native vegetation, foul drinking water supplies, and make recreational areas unsafe and unpleasant.



Relationship between impervious cover and surface runoff. Impervious cover in a watershed results in increased surface ruunoff. As little as 10 percent impervious cover in a watershed can result in stream degradation.

Managing Urban Runoff

What Homeowners Can Do

To decrease polluted runoff from paved surfaces, households can develop alternatives to areas traditionally covered by impervious surfaces. Porous pavement materials are available for driveways and sidewalks, and native vegetation and mulch can replace high maintenance grass lawns. Homeowners can use fertilizers sparingly and sweep driveways, sidewalks, and roads instead of using a hose. Instead of disposing of yard waste, they can use the materials to start a compost pile. And homeowners can learn to use Integrated Pest Management (IPM) to reduce dependence on harmful pesticides.

In addition, households can prevent polluted runoff by picking up after pets and using, storing, and disposing of chemicals properly. Drivers should check their cars for leaks and recycle their motor oil and antifreeze when these fluids are changed. Drivers can also avoid impacts from car wash runoff (e.g., detergents, grime, etc.) by using car wash facilities that do not generate runoff. Households served by septic systems should have them professionally inspected and pumped every 3 to 5 years. They should also practice water conservation measures to extend the life of their septic systems.

Controlling Impacts from New Development

Developers and city planners should attempt to control the volume of runoff from new development by using low impact development, structural controls, and pollution prevention strategies. Low impact development includes measures that conserve natural areas (particularly sensitive hydrologic areas like riparian buffers and infiltrable soils); reduce development impacts; and reduce site runoff rates by maximizing surface roughness, infiltration opportunities, and flow paths.

Controlling Impacts from Existing Development

Controlling runoff from existing urban areas is often more costly than controlling runoff from new developments. Economic efficiencies are often realized through approaches that target "hot spots" of runoff pollution or have multiple benefits, such as high-efficiency street sweeping (which addresses aesthetics, road safety, and water quality). Urban planners and others responsible for managing urban and suburban areas can first identify and implement pollution prevention strategies and examine source control opportunities. They should seek out priority pollutant reduction opportunities, then protect natural areas that help control runoff, and finally begin ecological restoration and retrofit activities to clean up degraded water bodies. Local governments are encouraged to take lead roles in public education efforts through public signage, storm drain marking, pollution prevention outreach campaigns, and partnerships with citizen groups and businesses. Citizens can help prioritize the clean-up strategies, volunteer to become involved in restoration efforts, and mark storm drains with approved "don't dump" messages.

Related Publications

Turn Your Home into a Stormwater Pollution Solution!
www.epa.gov/nps

This web site links to an EPA homeowner's guide to healthy habits for clean water that provides tips for better vehicle and garage care, lawn and garden techniques, home improvement, pet care, and more.

National Management Measures to Control Nonpoint Source Pollution from Urban Areas
www.epa.gov/owow/nps/urbanmm

This technical guidance and reference document is useful to local, state, and tribal managers in implementing management programs for polluted runoff. Contains information on the best available, economically achievable means of reducing pollution of surface waters and groundwater from urban areas.

Onsite Wastewater Treatment System Resources
www.epa.gov/owm/onsite

This web site contains the latest brochures and other resources from EPA for managing onsite wastewater treatment systems (OWTS) such as conventional septic systems and alternative decentralized systems. These resources provide basic information to help individual homeowners, as well as detailed, up-to-date technical guidance of interest to local and state health departments.

Low Impact Development Center
www.lowimpactdevelopment.org

This center provides information on protecting the environment and water resources through integrated site design techniques that are intended to replicate preexisting hydrologic site conditions.

Stormwater Manager's Resource Center (SMRC)
www.stormwatercenter.net

Created and maintained by the Center for Watershed Protection, this resource center is designed specifically for stormwater practitioners, local government officials, and others that need technical assistance on stormwater management issues.

Strategies: Community Responses to Runoff Pollution
www.nrdc.org/water/pollution/storm/stoinx.asp

The Natural Resources Defense Council developed this interactive web document to explore some of the most effective strategies that communities are using around the nation to control urban runoff pollution. The document is also available in print form and as an interactive CD-ROM.

For More Information

U.S. Environmental Protection Agency
Nonpoint Source Control Branch (4503T)
1200 Pennsylvania Avenue, NW
Washington, DC 20460
www.epa.gov/nps

February 2003

water flow, nearby homes may flood or experience surface ponding. *Runoff from areas as small as 1 acre can cause flooding.* Measures to remedy this kind of hazard usually require the cooperation of several homeowners.

Grade the yard so that surface water drains away from the house. A minimum grade of 1 foot in 100 feet is generally adequate. When filling in low areas, use the most permeable soil available. Save the topsoil and spread it over the newly filled and graded areas to help establish vegetation. To reduce soil compaction, limit construction traffic or use track equipment whenever possible on the lawn.

Installing roof gutters and downspouts to control roof water may prevent ponding in low yard areas. Downspouts can empty into outlet spreaders that discharge water in a thin layer over a grassy area.

Springs and Seeps...

On many sites, natural springs and seeps occur due to existing geology and landscape characteristics. Water may flow seasonally, throughout the year, or may flow into or around homes constructed over or near a spring or seep. For protection, install subsurface drains at least 4 inches in diameter surrounded by 6-12 inches of gravel or sand. Place gravel along the outside of the base of the foundation wall. Be sure to install an adequate gravity or pump outlet for the tile. An interceptor drain can divert seep or spring water before it reaches the structure.

Springs and seeps also affect lawns and onsite septic fields. You can install subsurface drains to collect groundwater and divert it. For guidance with septic field problems, contact your local health department. Typically, subsurface drains are made of plastic but older drain tile may be made of clay, concrete, or metal. Be sure to check local building codes for approved materials and other drainage regulations.

Slow Soil Permeability...

If the soil has a dense layer, especially a layer of clay or a severely compacted layer, water flow through the soil may be restricted and may cause ponding. If this layer is near the surface, use a soil aerator or deep-rooted native grass to increase infiltration and reduce surface ponding. Most lawn grasses have short root systems that only venture down a few inches. These shallow root systems dry out quickly and must be watered often. Native grass species with much deeper root systems thrive in dry weather and offer avenues for excess water to infiltrate deep into the soil rather than into your basement!

Remember to loosen the soil in the hole around the root ball when planting trees or shrubs to increase permeability which allows greater air and water movement in the soil. For larger wet areas, install subsurface drains about 4 inches in diameter at a depth of 2 to 5 feet. Use sand and gravel to backfill the drain trench to within a foot of the ground surface. Use topsoil to fill the surface layer. Restrict foot traffic during wet periods because even on well-drained soils, this can compact the soil and reduce permeability.

Where Do I Get Help?

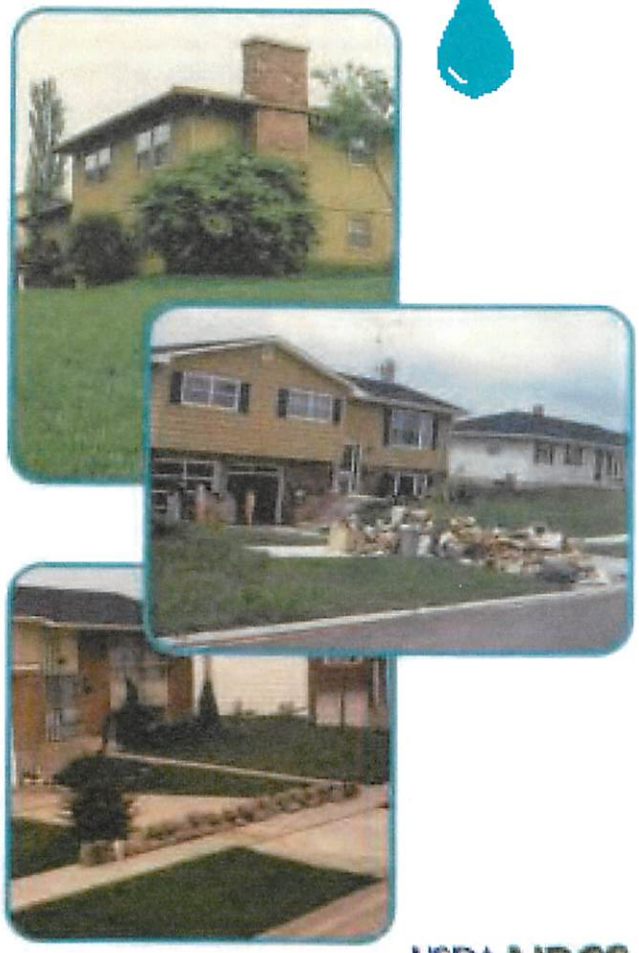
Contact your local Natural Resources Conservation Service (NRCS), county Soil and Water Conservation District or Extension office, or your local county or municipal authorities or permit office for additional information on planning or installing drainage measures around your home. Keep in mind that local and state rules and drainage laws are different in each community and must always be considered.

The NRCS has more than 60 years of experience studying and managing the movement of soil and water. NRCS county Soil Survey reports contain valuable information for identifying the issues listed in this brochure. You can find your property on aerial photographs in the report and determine which soils make up the land you call home. Data in the soil survey identifies water table depths, drainage and permeability rates, ponding and flooding potentials, and much more.

Visit the Illinois NRCS Homepage for more information on soils and soil surveys at **www.il.nrcs.usda.gov**

September 1999 • Champaign, IL

Drainage around your home



USDA NRCS
Natural Resources Conservation Service

Have a Drainage Problem?

Is your basement wet?
Does your yard flood or pond periodically?
Do trees, shrubs, and plants grow poorly?

Don't be surprised! About 20% of the land in the United States is affected by excess water. The good news is that there are signs for homeowners to look for, situations to avoid, and solutions that reduce drainage problems. Investigate the problem by first checking your downspouts. Downspout water should be directed away from your house. Second, grade the ground adjacent to the foundation walls so that they direct water away from the house.

If these solutions are in place, but you still have a wet basement or a sump pump that never stops running, you may have a more complex problem. If controlling surface water doesn't help, the problem may be below the surface--a high water table, spring or seeps, or abandoned subsurface agricultural tile that is draining water from other areas and directing it to your foundation. This dilemma can be dealt with by redirecting the water to new subsurface drains.

What Causes These Drainage Problems?

The soil we rely on as a foundation for our homes and property is a complex natural system. When left alone, the deep and rich prairie soils of Illinois can effectively handle normal and excessive amounts of water. But when the natural soil structure is disturbed and a high percentage of the soil surface that once absorbed water is covered with impervious surfaces and the surrounding landscape is severely altered, then the natural environment cannot cope on its own. In some newer subdivisions, all of the topsoil and part of the subsoil material is removed during construction. Only a thin layer of topsoil is returned to the site--just enough to support the shallow root system of your lawn.

These sites usually have severe problems with soil droughtiness and surface runoff. The topsoil is too thin to hold adequate amounts of water and the subsoil has been so densely compacted that it cannot allow excess water to infiltrate into it. By adding more topsoil, aerating, composting, using deep-rooted, drought-resistant grasses and plants, you can overcome these common limitations and restore the health and functionality of soil resources on your property. Generally, wetness and water problems are caused by flooding, springs and seeps, seasonal high water tables, surface ponding, or slow soil permeability.

Flooding...

If your home is in a floodplain of a nearby stream or creek, it is at risk for flooding if the stream overflows during heavy or prolonged rainfall or rapid snowmelt. Even if you've taken precautions to "flood-proof" your home, you can never totally eliminate the potential for flooding, but you can reduce flood damage.

Usually, community-wide measures are needed to reduce effects of flooding and provide some protection, but there are actions you can take to reduce problems. Making your home more resistant to flood damage may include measures that block openings such as windows and doors, regulate drain outlets, and waterproof walls. These measures can be expensive and require careful evaluation to prevent structural damage. If you plan to build a house outside a subdivision or near a perennial stream, be sure the site is not in the floodplain. Check with the local building department for floodplain maps and/or options for homeowners located in floodplains. Keep in mind that for many communities, floodplain maps may be outdated and may not adequately reflect actual conditions in the area. A building site *near* the floodplain boundary in a rapidly developing area 10 years ago, may be *in* the floodplain today.

Seasonal High Water Table...

A water table can be defined as the upper surface of groundwater or the level below which the soil is saturated with water. This level may fluctuate by several feet throughout the year, depending on soil conditions, landscape, or weather. When selecting a new homesite, consider the level of the seasonal high water table. In many areas of Illinois the seasonal high water table may be at or near the ground surface for long periods. Building in these areas should be avoided. If the water table is 6 feet deep or more, high water table problems will be minimal.

When building a new house in an area with a seasonal high water table that is less than 6 feet from the surface, a sump pump with a system of foundation drains should be used to lower the water table. Create a good outlet for discharge flow from the pump and consider where you direct this water---you don't want to create problems for a neighbor! If the home is already built, install gravel and drains around the base of outside walls. Lowering the water table under the basement floor should be done only after analysis by experts, since unequal settlement may crack the walls.

In lawn areas affected by a high water table, a small excavated pond, a wetland garden, or collection of water-loving plants may be a suitable remedy. Transform the nuisance wet area into an attractive landscaping feature. Provisions of the federal Clean Water Act or state and local laws may apply to persons who propose to alter any wetlands or to dredge, dig, or fill in floodplain areas. For clarification/information, contact the U.S. Army Corps of Engineers or IDNR's Office of Water Resources prior to any earthmoving activities.

Surface Ponding...

If a significant amount of surface water ponds on your lawn or driveway for long periods, install small diversions or swales to channel off the water. In developed residential areas, these practices are usually installed near property lines in back of or alongside houses.

For low flows of surface water, redirect water to landscaped yard areas with thirsty trees and shrubs. Be sure not to direct water onto someone else's property! If only small amounts of surface ponding occurs for short periods, drains may not be needed. Consider solving the problem by planting the area with water-loving native grasses or trees.

Even in upland areas, a continually wet basement or flooding can occur if the house is built in the path of a natural drainageway, in a pothole, or if the site is lower than the surrounding area. A drainageway or low area may look fine in dry seasons but can carry runoff water in wet seasons. In developed areas where the landscape has been greatly modified, runoff has increased and natural drainageways are often blocked or altered. If man-made drainageways or storm sewers are not built to carry this additional seasonal

APPENDIX 18

Construction Site Inspection Forms

CHRISTOPHER B. BURKE ENGINEERING, LTD.
CBBEL NPDES REPORT

Date of Site Visit: _____

Date of Last Site Visit: _____

NPDES Permit No.: _____

Client: _____

Site Name: _____

CBBEL Project Number: _____

CBBEL Staff Member & Title: _____

Estimated Date of Last Significant Rain Event: _____

Response to Previous Report(s):

Erosion and Sedimentation

Minor ☐ Moderate ☐ Severe ☐ N/A ☐

Observations/Recommended Action:

Condition of Site Discharge Point(s)

Good ☐ Fair ☐ Poor ☐ N/A ☐

Observations/Recommended Action:

Condition of Roadways and Locations where vehicles enter or exit the site

Good ☐ Fair ☐ Poor ☐ N/A ☐

Observations/Recommended Action:

Silt Fence

Good ☐ Fair ☐ Poor ☐ N/A ☐

Observations/Recommended Action:

Inlet/Outlet Protection

Good ☐ Fair ☐ Poor ☐ N/A ☐

Observations/Recommended Action:

Ditch Checks/Check Dams

Good ☐ Fair ☐ Poor ☐ N/A ☐

Observations/Recommended Action:

Concrete Washouts

Good ☐ Fair ☐ Poor ☐ N/A ☐

Observations/Recommended Action:

Housekeeping/Material Storage

Good ☐ Fair ☐ Poor ☐ N/A ☐

Observations/Recommended Action:

General Comments:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly **gathered and evaluated** the information 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.**"

Printed Name & Title: _____

Signature: _____ Date: _____

PLEASE CALL IF YOU NEED ADDITIONAL INFORMATION -- PHONE: (847) 823-0500 FAX (847) 823-0520

NPDES Site Audit Report for ILR10

General Information		
Project Name		Approximate Acreage
Operator		
Project Location		
Date of Site Visit	NPDES Permit No. ILR10	
Observer's Name(s) & Title(s)		
Construction phase(s) at time of visit	☐ Pre-Construction ☐ Land Development ☐ Vertical Construction ☐ Roadway Construction ☐ Post Construction ☐ Other: _____	

Type of Site Visit:

☐ Initial Visit ☐ Follow-up ☐ Other: _____

Weather Information

Weather conditions during the site visit:

SWPPP/Soil Erosion and Sediment Control (SESC) Plan

1. Has the SWPPP been updated/amended as required by the NPDES Permit and/or local requirements? ☐ Yes ☐ No ☐ N/A
2. Is the Operator Certification Form signed and maintained with SWPPP? ☐ Yes ☐ No ☐ N/A
3. Are Contractor Certification Forms signed and maintained with SWPPP? ☐ Yes ☐ No ☐ N/A
4. Have inspection reports been completed and signed every 7 calendar days and after ≥0.5 inch precipitation events? ☐ Yes ☐ No ☐ N/A

SWPPP/SESC Plan Comments: _____

Site Observations – Describe Location and Recommend Corrective Measures Below

No.	BMP/Activity	Implemented & Maintained
1	Are discharge points and receiving waters free of sediment deposits and other pollutants (from the construction site)?	☐ Yes ☐ Action Item ☐ N/A
2	Have BMPs specified in the SWPPP been installed and maintained?	☐ Yes ☐ Action Item ☐ N/A
3	Are stabilized entrances installed and are adjacent roads clear of sediment?	☐ Yes ☐ Action Item ☐ N/A
4	Are outlets protected/stabilized?	☐ Yes ☐ Action Item ☐ N/A
5	Have stormwater management systems been constructed, stabilized, and verified to be functioning appropriately?	☐ Yes ☐ Action Item ☐ N/A
6	Are Special Management Areas (e.g., creeks, wetlands, buffers, etc.) adequately protected?	☐ Yes ☐ Action Item ☐ N/A
7	Are storm drain inlets adequately protected?	☐ Yes ☐ Action Item ☐ N/A
8	Have all idle, disturbed areas been stabilized within 14 days of cessation of construction activities in that area (or more restrictive time period per local ordinance requirement)?	☐ Yes ☐ Action Item ☐ N/A
9	Are erodible stockpiles (e.g., topsoil) properly located and adequately protected?	☐ Yes ☐ Action Item ☐ N/A
10	Are washout facilities (e.g., concrete washouts, etc.) available and maintained?	☐ Yes ☐ Action Item ☐ N/A
11	Is waste, including building materials and construction debris, collected and placed in approved receptacles?	☐ Yes ☐ Action Item ☐ N/A
12	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	☐ Yes ☐ Action Item ☐ N/A
13	Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other potential pollutants?	☐ Yes ☐ Action Item ☐ N/A
14	Are portable toilets, material storage areas, and materials that are potential stormwater contaminants managed appropriately?	☐ Yes ☐ Action Item ☐ N/A
15	Other, based on site conditions:	☐ Yes ☐ Action Item ☐ N/A

No.	Location and Recommended Corrective Measure

General Notes and Comments: _____

NPDES Site Audit Report for ILR40

General Information			
Project Name			Approximate Acreage
Operator			
Project Location			
Date of Site Visit		NPDES Permit No. ILR10 (If Applicable)	
Observer's Name(s) & Title(s)			
Construction phase(s) at time of visit	☐ Pre-Construction ☐ Vertical Construction ☐ Post Construction	☐ Land Development ☐ Roadway Construction ☐ Other:	

Type of Site Visit:

☐ Initial Visit ☐ Follow-up ☐ Other: _____

Weather Information

Weather conditions during the site visit:

SWPPP/Soil Erosion and Sediment Control (SESC) Plan

1.	Is an NPDES Permit required for construction site activities? (e.g., Does the construction activity disturb ≥ 1 acre?)	☐ Yes ☐ No ☐ N/A
2.	Is the SWPPP on site (or accessible with location posted)?	☐ Yes ☐ No ☐ N/A
3.	Is the SWPPP/SESC Plan updated/amended as required by the NPDES Permit and/or local requirements?	☐ Yes ☐ No ☐ N/A
4.	Are Operator and Contractor Certification Forms signed and maintained with SWPPP?	☐ Yes ☐ No ☐ N/A
5.	Have inspection reports been completed and signed every 7 calendar days and after ≥0.5 inch precipitation events?	☐ Yes ☐ No ☐ N/A

SWPPP/SESC Plan Comments: _____

Site Observations – Describe Location and Recommend Corrective Measures Below

No.	BMP/Activity	Implemented & Maintained
1	Are discharge points and receiving waters free of sediment deposits and other pollutants (from the construction site)?	☐ Yes ☐ Action Item ☐ N/A
2	Have BMPs specified in the SWPPP been installed and maintained?	☐ Yes ☐ Action Item ☐ N/A
3	Have stabilized construction entrances been installed and are adjacent roads clear of sediment track out?	☐ Yes ☐ Action Item ☐ N/A
4	Are outlets protected/stabilized?	☐ Yes ☐ Action Item ☐ N/A
5	Have stormwater management systems been constructed, stabilized, and verified to be functioning appropriately?	☐ Yes ☐ Action Item ☐ N/A
6	Are Special Management Areas (e.g., creeks, wetlands, buffers, etc.) adequately protected?	☐ Yes ☐ Action Item ☐ N/A
7	Are storm drain inlets adequately protected?	☐ Yes ☐ Action Item ☐ N/A
8	Have all idle, disturbed areas been stabilized within 14 days of cessation of construction activities in that area (or more restrictive time period per local ordinance requirement)?	☐ Yes ☐ Action Item ☐ N/A
9	Are erodible stockpiles (e.g., topsoil) properly located and adequately protected?	☐ Yes ☐ Action Item ☐ N/A
10	Are washout facilities (e.g., concrete washouts, etc.) available and maintained?	☐ Yes ☐ Action Item ☐ N/A
11	Is waste, including building materials and construction debris, collected and placed in approved receptacles?	☐ Yes ☐ Action Item ☐ N/A
12	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	☐ Yes ☐ Action Item ☐ N/A
13	Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other potential pollutants?	☐ Yes ☐ Action Item ☐ N/A
14	Are portable toilets, material storage areas, and materials that are potential stormwater contaminants managed appropriately?	☐ Yes ☐ Action Item ☐ N/A
15	Other, based on site conditions:	☐ Yes ☐ Action Item ☐ N/A

No.	Location and Recommended Corrective Measure

General Notes and Comments: _____

APPENDIX 19

Outfall Inspection Data Forms and Reports

Section 1: Background Data

Subwatershed:	Outfall ID:	
Date:	Time (Military):	
Temperature:	Inspector(s):	
Previous 48 Hours Precipitation:	Photo's Taken (Y/N)	If yes, Photo Numbers:
Land Use in Drainage Area (Check all that apply):	☐ Open Space	
☐ Industrial	☐ Institutional	
☐ Residential	Other: _____	
☐ Commercial	Known Industries: _____	

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE		DIMENSIONS (IN.)	SUBMERGED
Storm Sewer (Closed Pipe)	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Clay / draintile ☐ Other: _____	☐ Circular ☐ Elliptical ☐ Box ☐ Other: ____	☐ Single ☐ Double ☐ Triple ☐ Other: ____	Diameter/Dimensions: _____ —	In Water: ☐ No ☐ Partially ☐ Fully With Sediment: ☐ No ☐ Partially ☐ Fully
Open drainage (swale/ditch)	☐ Concrete ☐ Earthen ☐ rip-rap ☐ Other:	☐ Trapezoid ☐ Parabolic ☐ Other		Depth: Top Width: Bottom Width:	

Section 3: Physical Indicators

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe algea/growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	
Do physical indictors suggest an illicit discharge is present (Y/N):			

Flow Present?	☐ Yes ☐ No	**If No, Skip to Section 7 and Close Illicit Discharge Investigation**
Flow Description	☐ Trickle ☐ Moderate ☐ Substantial	

Section 4: Physical Indicators (Flowing Outfalls Only)

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Sulfide ☐ Petroleum/gas ☐ Laundry ☐ Other:	☐ 1–Faint	☐ 2 - Easily detected	☐ 3 – Noticeable from a distance
Color (color chart)	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange/Red ☐ Multi-Color ☐ Other:	☐ 1-Faint colors in sample bottle	☐ 2 – Clearly visible in sample bottle	☐ 3 – Clearly visible in outfall flow
Turbidity	☐	See severity	☐ 1–Slight cloudiness	☐ 2 – Cloudy	☐ 3 – Opaque
Floatables -Does Not Include Trash!!	☐	☐ Sewage ☐ Suds and Foam ☐ Petroleum (oil sheen) ☐ Grease ☐ Other:	☐ 1–Few/slight; origin not obvious	☐ 2 – Some; indications of origin	☐ 3 - Some; origin clear
Do physical indictors (flowing) suggest an illicit discharge is present (Y/N):					

Section 5: On-Site Sampling / Testing (Flowing Outfalls Only)

PARAMETER	RESULT	ACCEPTABLE RANGE	WITHIN RANGE (Y/N)	EQUIPMENT
Temperature		NA	NA	Thermometer
pH		6 - 9		5-in-1 Test Strip
Ammonia		<3 mg/L April – Oct < 8 mg/L Nov - March		Test Strip
Free Chlorine		NA	NA	5-in-1 Test Strip
Total Chlorine		< 0.05 mg/L		5-in-1 Test Strip
Phenols		< 0.1mg/L		Test Kit
Detergents as Surfactants		> 0.25 mg/L residential > 5 mg/L non-residential		Test Kit
Copper		<0.025 mg/L		Test Strip
Alkalinity		NA	NA	5-in-1 Test Strip
Hardness		NA	NA	5-in-1 Test Strip
Sample Location				

(Note NA values used for future tracing procedures)

Section 6: Data Collection for Lab Testing (see flow chart)

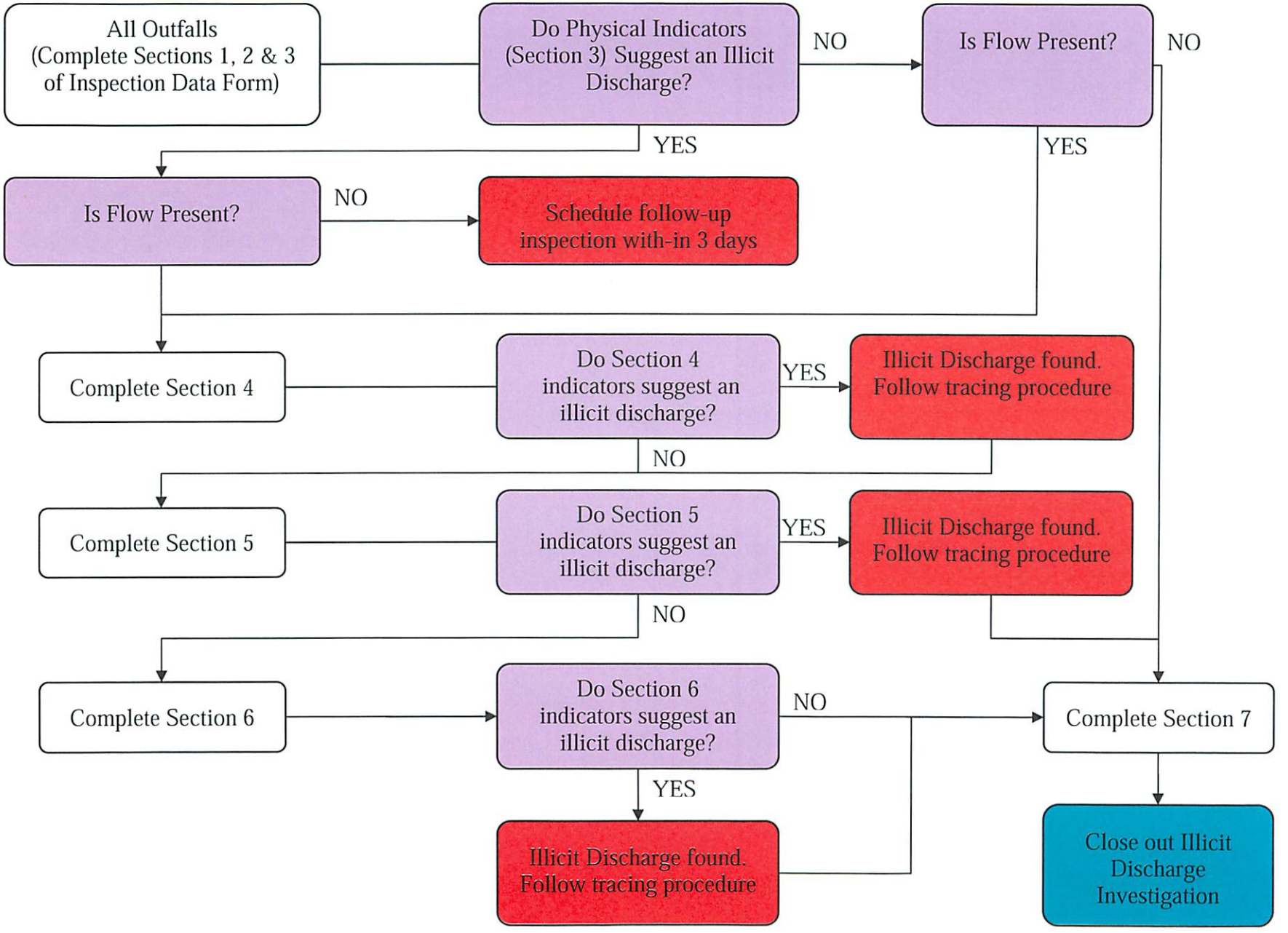
1. Sample for the lab?	☐ Yes	☐ No
2. If yes, collected from:	☐ Flow	☐ Pool

PARAMETER	RESULT (from lab)	ACCEPTABLE RANGE	WITHIN RANGE (Y/N)
Fecal Coliform		400 per 100 mL	
Flouride		0.6 mg/l	
Potassium		Ammonium/Potassium ratio or > 20mg/l	

*note label sample with outfall number

Section 7: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Figure 4: Outfall Inspection Procedure Flow Chart



Instructions for completing the *Stormwater Outfall Inspection Data Form*

Strike out incorrect entries with a single line; correct values or descriptions are written above or near the struck-out entries. Do not use a new data entry form to correct an incorrect entry. At the completion of each outfall inspection, the field crews are responsible for ensuring that a ***Stormwater Outfall Inspection Data Form*** has been completely and correctly filled out and that all data and remarks are legible. **It is important to check that values for all chemical parameters have been entered**.

Section 1: Background Data

Subwatershed: The receiving water from the stormwater outfall inventory to be entered here.

Outfall ID: Enter the outfall identification number from the stormwater outfall inventory.

Date: To avoid confusion, dates are be written in the following manner: DAY MONTH YEAR. For example, 10 MARCH 2007.

Time: Military time (24-hour clock) to be used (for example, 8:30 a.m. would be written as 0830; likewise, 1:30 p.m. would be written as 1330).

Temperature: A concise description of the weather conditions at the time of the screening is to be recorded (for example, Clear, 75o F).

Inspector: The name(s) of the field personnel.

Previous 48 Hours Precipitation: The total amount of precipitation during the 48 hours preceding the inspection is to be noted (for example, none-72 Hours or 0"=4 days). If the total precipitation is not known, it is appropriate to enter a qualitative assessment if the precipitation was minor. For example, *Drizzle-36 Hours* if appropriate. If the precipitation amount was significant, actual precipitation totals is obtained from a local rain gage, if available.

Photo's Taken (Yes/No): Photographs are to be taken with a camera that superimposes a date and time on the film. The date and time should correspond to the date and time recorded on the data form.

Photo Numbers: If photographs are taken, the number(s) is recorded.

Land Use: Check all that apply, noting which land use is predominate. If the industrial box is checked, any known industries are listed to facilitate potential tracing efforts.

Section 2: Outfall Description

Type of Outfall: Storm Sewer (Closed Pipe) or Open Drainage (Swale/Ditch):
First check if the outfall is either from a Closed Pipe or Open Drainage. Then complete the following row to describe outfall characteristics.

Section 3: Physical Indicators

Indicators: Complete rows describing outfall characteristics (Outfall Damage, Deposits/Stains, Abnormal Vegetation, Poor pool quality, Pipe algea/growth). This section is filled out regardless of current flow conditions. No flow during the time of the inspection, does not rule out the potential of illicit discharges. Corroding or stained pipes, dead or absence of vegetation, are potential indicators of illicit discharges from direct or indirect (i.e. dumping) sources.

Likelyhood: After inspecting the physical conditions of the outfall, the likelihood of an illicit discharge is assessed.

Flow Present (Yes/No): A *Yes* or *No* is entered here to indicate the presence or absence of dry-weather flow. If the outfall is submerged or inaccessible, "See Notes" is entered and an explanation provided in the "Notes" section.

Flow Description: A description of the quantity of the dry-weather flow is provided. Refer to Figure 6 of the SMPP.

Flow Chart Procedure:

- If *No* is entered in the "Flow Present" block and no non-flowing physical indicators appear present the inspection can be closed, skip to Section 7 of the form.
- If *No* is entered in the "Flow Present" block but indicators appear present, place the outfall on the follow-up inspection log, then the current inspection can be closed, skip to Section 7 of the form.
- If *Yes* is entered in the "Flow Present" block (regardless of the presence of non-flowing physical indicators), complete remainder of Section and proceed to Section 4.

Section 4: Physical Indicators (Flowing Outfalls Only)

Complete rows describing outfall characteristics (Odor, Color, Turbidity, Floatables). This section is filled out for flowing outfalls only.

Odor: The presence of an odor is to be assessed by fanning the hand toward the nose over a wide-mouth container of the sample, keeping the sample about 6 to 8 inches from the face. Be careful not to be distracted by odors in the air. Provide a description of the odor, if present. Refer to Table 2 of the SMPP.

Color: The presence of color in the discharge is to be assessed by filling a clean glass sample container with a portion of the grab sample and comparing the sample with a color chart, if color is present. If a color chart is used, the number corresponding to the color matching the sample is to be entered in this blank. Color is not assessed by looking into the discharge. Refer to Table 3 of the SMPP.

Turbidity "clarity": Turbidity is a measure of the clarity of water. Turbidity may be caused by many factors, including suspended matter such as clay, silt, or finely divided organic and inorganic matter. Turbidity is a measure of the optical properties that cause light to be scattered and not transmitted through a sample. The presence of turbidity is to be assessed by comparing the sample to clean glass sample container with colorless distilled water. Refer to Table 4 of the SMPP.

Floatables: The presence of floating scum, foam, oil sheen, or other materials on the surface of the discharge are to be noted. Describe of any floatables present that are attributable to discharges from the outfall. Do not include trash originating from areas adjacent to the outfall in this observation. Refer to Figure 5 and Table 4 of the SMPP.

Likelyhood: After inspecting the physical conditions of the outfall discharge, the likelihood of an illicit discharge is assessed. If flowing physical indicators are present the tracing procedure are immediately implemented by one of the field crew. The second member of the field crew continues with the inspection by performing the on-site testing in Section 5.

Flow Chart Procedure:

- If flowing physical indicators are present the tracing procedure is immediately implemented by one of the field crew. The second member of the field crew continues with the inspection by performing the on-site testing in Section 5.
- If flowing physical indicators do not suggest an illicit discharge continue with the inspection by performing the on-site testing in Section 5.

Section 5: On-Site Sampling/Testing (Flowing Outfalls Only)

Parameters: Test strip or kit chemical analyses are conducted for the following parameters in accordance with the Flow Chart, refer to Figure 7 of the SMPP.

- Color, color chart,
- Chlorine, test strip,
- Copper, test strip,
- Ammonia, test strip,
- Phenols, test kit, and
- Detergents, test kit.

Testing is done by either a test strip or test kit as applicable (refer to the equipment column). The results are compared with the "acceptable range" and the "within range" column is filled out with a Yes or No. Note that the Temperature, Alkalinity and Hardness are determined although these results do not need to be compared with an "acceptable range". These values are used to assist in determining the source of the illicit discharge during the tracing procedure.

Sampling Location: A description of the actual sampling location is to be recorded (for example, at end of outfall pipe). If the outfall is submerged or is inaccessible for sampling, an upstream sampling location may be required. A description of any upstream sampling locations is recorded here. Grab samples are collected from the middle, both vertically and horizontally, of the dry-weather flow discharge in a critically cleaned glass container. Samples can be collected by manually dipping a sample container into the flow.

Sampling Procedures: Detailed, **step-by-step** instructions for using the test strips and kits are available through the **Public Works Department**. Please also refer to Chapter 3.3.B.7.b. for test kit safety information. Use the following procedures for all test kit analyses:

1. Take a grab sample and swirl to ensure that the sample is well mixed.
2. Rinse the sample cup (25ml) twice with distilled water. Next, rinse the sample cup twice with water from the grab sample.
3. Fill the sample cup to the 25 ml mark, or as required by the instructions for the test kits. Hold the sample cup at eye level to ensure that measurements are accurate.
4. Conduct the test kit analyses following the manufacturer's instructions.
5. Dispose of the sample as follows:
   - If no chemical or reagents have been added to the sample, the water can be poured on the ground.
   - If any chemical or reagent is added to the sample, pour the water into a container marked "Liquid Waste" for proper disposal to a sanitary sewer system at the end of the day.
6. Rinse the sample cup three times with tap water and dry with a paper towel.

Flow Chart Procedure:

- If any parameter is outside of the "acceptable range" then an illicit discharge has likely been found. The tracing procedure is immediately implemented by one of the field crew. Testing can be stopped, and the second member of the field crew continues with the inspection by completing Section 7.
- If none of the parameters are outside of the acceptable range, proceed to Section 6.

Section 6: Data Collection for Lab Testing

Determine if the Village's Waste Water Treatment Plant (WWTP) has adequate staff capacity to analyze the samples.

- If the WWTP has adequate staff capacity, collect grab samples and provide them to the WWTP. Note the location of the sample. Label the sample with the outfall ID number. Proceed to Section 7 while in the field and complete the remainder of Section 6 after the lab results are available.
- If the WWTP does not currently have adequate capacity, determine if Sections 3 or 4 of the inspection form suggest an illicit discharge.
  - If Sections 3 or 4 suggest an illicit discharge contact and outside lab to perform the testing. Proceed to Section 7 while in the field and complete the remainder of Section 6 after the lab results are available.
  - If Sections 3 or 4 do not suggest an illicit discharge, note the outfall ID number. Place the outfall on the follow-up inspection log and proceed to Section 7 of the form. Re-inspect and sample the discharge when the WWTP has adequate capacity.

Sample Location: The location of the sample is noted. Additionally, the sample is labeled with the outfall ID number. Use the insert MS4 type's sampling procedures and refer to Chapter 3.3.B.7.b. for test kit safety information. . The following additional items are noted.

1. When you collect any samples you must fill out an ***Outfall Sampling Report*** **(Appendix 5.4).** The report must document time you arrive on location, take the sample and get to the plant to drop off the sample.
2. A 500-ml glass bottle sample is used to collect the sample. If you are collecting a sample that has grease 2-250ml samples taken with a glass container are required.
3. If you use the sampling container that is on a rope, it must be washed with soap and water after every use.

Parameters: Grab samples and lab testing is performed. After lab results are available enter the results here.

- If any parameter is outside of the "acceptable range" then an illicit discharge has likely been found. The tracing procedure should be immediately implemented.

- If none of the parameters are outside of the acceptable then the investigation can be closed.

Section 7 Any Non-Illicit Discharge Concerns

Any problems or unusual features are to be entered here. If the outfall appears to be potentially impacted by inappropriate discharges, this can be recorded here. This section is to be completed even if no flow is observed.

Outfall Sampling Report

Structure ID #	Date:
Outfall ID #	Time of Sample:
Sampled By:	AM PM

Glass Bottle Size:	250 ml	500 ml	32 ml

Tests requested:	Flouride	Potassium	Fecal Coliform

Relinquished By:	Date:
Comments:	Time:
Received By:	Date:
Comments:	Time:
Relinquished By:	Date:
Comments:	Time:
Received By:	Date:
Comments:	Time:

APPENDIX 20

Detention Pond Checklists

Detention/Retention Pond Checklist

Inspected by:	**Date:**	
	Weather Conditions:	

Number	**Name/Location**	**Flood Height** *(low/medium/high)*	**Condition** *(Good / Fair / Poor)*	**Comments**
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

Detention/Retention Pond Checklist

Inspected by:	**Date:**	
	Weather Conditions:	

Number	Name/Location	Flood Height *(low/medium/high)*	Condition *(Good / Fair / Poor)*	Comments
1				
2				
3				
4				
5				
6				
7				
8				
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11				
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APPENDIX 21

Pre-Construction Meeting Forms

Village of Harwood Heights

Christopher B. Burke Engineering, Ltd.

Preconstruction Meeting Agenda Items

Date: _____
Location: _____
Start Time: _____
Adjourn Time: _____

Project: _____
Building Permit #: _____
Developer: _____

Attendees: See Attached "Sign In Sheet"

Development Coordinator:		24 hr. Emergency Contact:	
Address:		Address:	
City:		City:	
Zip Code:		Zip Code:	
Cell Phone #:		Cell Phone #:	
Office Phone #:		Office Phone #:	
Fax #:		Fax #:	
Email address:		Email address:	

( ) 1. Certificate of Insurance
- ( ) A. Completed By DEVELOPER/CONTRACTOR as requested by the Village
- ( ) B. Required from DEVELOPER/CONTRACTOR prior to Notice to Proceed and/or Building Permit
- ( ) C. Submitted (YES) (NO)
- ( ) D. Additionally Insured to be listed
  - ( ) i. The Village of Harwood Heights
  - ( ) ii. Other _____

( ) 2. Contractors
- ( ) A. All Contractors Named
  - ( ) i. Sub #1_____(Underground)_____
  - ( ) ii. Sub #2_____(Paving) _____
  - ( ) iii. Sub #3_____(Earthwork) _____
  - ( ) iv. Sub #4_____(Street Lighting)_____
  - ( ) v. Sub #5_____(Other) _____

Village of Harwood Heights

Christopher B. Burke Engineering, Ltd.

Preconstruction Meeting Agenda Items

( ) 3. Engineer's Authority
- ( ) A. Furnish DEVELOPER all desired assistance in interpreting plans and specifications.
- ( ) B. Assistance does not relieve the DEVELOPER and/or CONTRACTORS of any responsibility for the Work. Faulty work must be corrected by the DEVELOPER and/or CONTRACTOR.
- ( ) C. ENGINEER does not have control over or charge/supervision of, nor be responsible for construction means, methods, techniques, sequences, procedures or controls, or the safety precautions or programs in connection with the Work.
- ( ) D. Village Contacts:

( ) 4. Drawings
- ( ) A. APPROVED FOR CONSTRUCTION ENGINEERING
- ( ) B. APPROVED FINAL PLAT
- ( ) C. ENGINEER'S SURFACE DRAINAGE WATER CERTIFICATE (signed)
- ( ) D. CONTRACTOR'S CERTIFICATE (NPDES)
- ( ) E. DEVELOPER / CONTRACTOR to field verify for accuracy of all Drawings pertinent to this project. Any discrepancies found shall be brought to the attention of the VILLAGE/OWNER immediately.
- ( ) F. Construction set of Drawings provided to Village
- ( ) G. Additional Drawings requested by Village: _____
- ( ) H. Electronic Copy of drawings provided to Village

( ) 5. Responsibilities of DEVELOPER / CONTRACTORS
- ( ) A. Work schedule to be submitted prior to Start of Construction
- ( ) B. Existing Utilities: Joint J.U.L.I.E. meeting to be coordinated by CONTRACTOR prior to Notice To Proceed
  - ( ) i. Date of Joint J.U.L.I.E. meet _____

( ) 6. Submittals
- ( ) A. Required Submittals
  - ( ) i. NPDES Documentation (ILR10 or Letter of Coverage)
  - ( ) ii. IEPA Operating Permits
    - (1) Sanitary
    - (2) Water
  - ( ) iii. Shop Drawings for Street Lighting System (publicly maintained system only)

Village of Harwood Heights

Christopher B. Burke Engineering, Ltd.

Preconstruction Meeting Agenda Items

( ) 7. NPDES – Sediment & Erosion Control
- ( ) A. Inspections by Developer Forwarded to Village via email to george44@harwoodheights.org
- ( ) B. Developer Contact = _____ email = _____

( ) 8. Mobilization and Demobilization
- ( ) A. Date of Mobilization _____
- ( ) B. Access

( ) 9. Project Progress/Coordination Meetings
- ( ) A. Bi-Weekly: every other _____
- ( ) B. First meeting to be held on _____

( ) 10. Working Hours per Village Ordinance
- ( ) A. Weekdays 7AM – Dusk
- ( ) B. Saturdays 8AM – Dusk
- ( ) C. Sundays 8AM - Dusk

( ) 11. Temporary Construction Facilities
- ( ) A. Detours
  - ( ) i. Route & Signage Per Approved Plan
  - ( ) ii. Notification to public (CC: Village)
    - (1) School Districts
    - (2) Fire & Police & Sheriffs Departments
    - (3) USPS
- ( ) B. Maintenance of Traffic Control
  - ( ) i. Name of Traffic Control Sub:_____
  - ( ) ii. Responsible Traffic Control Contact:_____
  - ( ) iii. Phone #:_____
- ( ) C. Maintenance of Erosion Control
  - ( ) i. Name of Erosion Control Sub:_____
  - ( ) ii. Responsible Erosion Control Contact:_____
  - ( ) iii. Phone #:_____

( ) 12. Street Cleaning – Daily if needed

( ) 13. Approved Material List

( ) 14. General Subdivision Ordinance Requirements

( ) A. Items listed below **do not constitute all requirements** as listed in the Village's Subdivision Ordinance.

( ) B. All Subcontractors should be made aware of the following general requirements included in the Village Subdivision Ordinance.

( ) C. SANITARY

( ) i. *Sewer Depth.* Min. depth of 3½ feet to the sewer invert shall be required. Max. depth of 25 feet.

( ) ii. Prior to pipe laying and jointing, the trench shall be sufficiently dewatered to maintain the water level in the trench at or below the base of the bedding.

( ) iii. Manholes shall be no less than 48 inches in dia. and shall be constructed with an external chimney seal in accordance with the sanitary manhole detail.

( ) iv. Allowable service materials are ductile iron and PVC.

( ) v. The contractor shall keep a record of the location of branch fittings, riser pipes, and service lines by measurement to the nearest downstream manhole. Location information shall be included on record drawings.

( ) vi. Testing Requirements

(1) Low Pressure Air Test
(2) MH Vacuum
(3) Mandrill
(4) Videotaping

( ) D. WATER DISTRIBUTION

( ) i. Fire Hydrants

(1) Hydrants shall be installed no closer than 3 feet to the face of the hydrant, steamer port (pumper nozzle), nor further than 8 feet from the back curb.
(2) No hydrant shall be installed within 4 feet of any obstruction, nor shall any obstruction be placed within 4 feet of a hydrant.
(3) FLAGS – to be installed on lower portion of bonnet & on opposite side of steamer port

( ) ii. Valves - All valves 12 inches and larger shall be butterfly valves iron body rubber seat type. All valves shall open counter clockwise with non-rising stem (except hand valves).

( ) iii. Vaults

(1) All valves proposed to be placed under pavement shall be installed in precast concrete vaults as specified in the valve vault detail.
(2) Vaults shall be constructed with an external chimney seal.
(3) All other valves and auxiliary valves shall be installed within cast iron valve boxes fitted with a valve box stabilizer.
(4) Vaults and boxes shall not be allowed within driveway limits.

( ) iv. Pipe - All plastic water main shall be installed with a minimum ten (10) gauge solid copper tracer wire. The wire shall be continuous through valve vaults and boxes and shall be accessible up to the inside top of all vault frames and/or valve box covers.

( ) v. Water Service Lines
- (1) Service lines shall be continuous with no splices or change in material between either the corporation and the curb stop or the curb stop and the house meter.

( ) vi. Testing Requirements
- (1) Static Pressure
- (2) Leakage
- (3) Chlorination - (results to be delivered to McHenry Analytical by CONTRACTOR

( ) E. COMBINATION CONC C&G
- ( ) i. All C&G shall be continuously reinforced using two No. 4 bars.
- ( ) ii. Stamped with "W" indicating the location of a water service & Stamped with "S" indicating the location of a sanitary sewer service.

( ) F. DRIVEWAYS / APPROACHES
- ( ) i. No manholes, inlets, valve vaults or other types of structures shall be allowed to be constructed in a driveway or driveway approach unless approved by the Director of Public Works
- ( ) ii. Constructed with air-entrained Portland Cement – 4% to 6% in accordance with the IDOT "Standard Specifications". The concrete mix shall be a min. of six bags of Portland Cement per CY of concrete and shall use fiberglass reinforcement additives. The use of welded wire fabric is prohibited.
- ( ) iii. The final surface of all concrete driveway approaches shall have an appropriate sealant applied in accordance with the IDOT "Standard Specifications".
- ( ) iv. When the subgrade has been prepared & no sooner than 24 hours prior to placing concrete, the contractor shall notify the Village Inspector that forms are in place and the subgrade is ready for inspection. No concrete shall be placed until the subgrade has been inspected and approved
- ( ) v. *Cold Weather Requirements.* No concrete shall be placed when the air temperature is below 40° F. or is between 40° and 45° F. and falling unless approved by the Village Engineer. In no case shall concrete be placed on frozen subgrade.

( ) G. *SIDEWALKS*
- *( ) i. MATERIAL* - All sidewalks shall be constructed of PCC Concrete & shall be at least a 6 bag mix. 4% to 6% air- entrained & Slump of not less than 2 inches or more than 4 inches. Fiberglass reinforced additives shall be used on all sidewalks extending through driveways.

( ) *ii.* *SUBGRADE PREPARATION* When the subgrade has been prepared and no sooner than 24 hours prior to placing concrete, the contractor shall notify the Village Inspector that forms are in place and the subgrade is ready for inspection. No concrete shall be placed until the subgrade has been inspected and approved.

( ) *iii.* *COLD WEATHER REQUIREMENTS – Same as for C&G and Driveways*

( ) iv. When the temperature of the air is expected to drop below 40° F. within 24 hours after placing the concrete shall be protected with 9 inches of loose, dry straw and a layer of burlap, or other acceptable material, for a period of at least five days.

( ) H. STREET LIGHTING

( ) i. Street lighting systems shall be guaranteed from date of acceptance for a period of 3 years.

( ) ii. Submit for review Shop Drawings / Catalog Cuts to Village for review (poles, luminaries, conduit, controller, foundations, etc.)

( ) iii. Streetlights shall be no closer than 8 feet away from any fire hydrant.

( ) iv. SPARE POLES, LUMINARES & LAMPS - The Village shall be provided with spare poles and luminaries for streetlight installations in the ratio of 1 for every 20 in the system to be installed. A payment in lieu of spare poles and luminaries, at the unit cost of a said streetlight installation, can be made when determined by the Director of Public Works that a sufficient inventory of the same type of pole and luminaries exists at Public Works.

( ) I.WIRE/CABLE REQUIREMENTS

( ) i. All wire and cable installed for street lighting system from the power source to the lighting poles, shall be contained in either three conductor 1¼ inch minimum diameter unit-duct manufactured from high density smooth wall polyethylene electrical plastic duct or heavy-walled galvanized steel conduit.

( ) ii. All wire, cable and unit-duct to be furnished are to be installed with a min. burial of **30 inches** in locations on the right-of-way side of the front set-back limit and are to be installed with a min. burial of **48 inches** in locations on the rear yard side of the front set-back limit.

( ) iii. All circuits shall be tested in the presence of the Village Electrical Inspector.

( ) iv. Cable slack shall be provided such that there is a min. of 3 feet of slack at the base of all light poles.

( ) v. When passing under concrete or asphalt surfaces, rigid galvanized steel conduit not less than 2 inches in diameter shall be used for raceways for unit-duct.

Village of Harwood Heights

Christopher B. Burke Engineering, Ltd.

Preconstruction Meeting Agenda Items

( ) J. Wetland Improvements
- ( ) i. Annual Reports – To be forwarded to the Village for review (george44@harwoodheights.org)

( ) K. FINAL ACCEPTANCE
- ( ) i. Request in writing prior to August 15th directed to Village Engineer
- ( ) ii. Punch list work completed and re-inspected prior to Oct. 1st
- ( ) iii. One year Maintenance Period

( ) L. OTHER ITEMS