



## SECTION 6.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION PLAN

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## 6.0 Illicit Discharge Detection And Elimination Plan

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### 1.0 INTRODUCTION

#### 1.1. Illicit Discharge Detection and Elimination Requirements

This Illicit Discharge Detection and Elimination (IDDE) Plan is managed by NDOR (the Department). Information provided in this Plan describes efforts to comply with specific requirements of the Municipal Separate Storm Sewer System (MS4) discharge permit issued to NDOR on January 19, 2007. Part III.B.3.c of the permit requires NDOR to “develop and implement a plan to detect and address non-storm water discharges, including illegal dumping.” NDOR complies with the MS4 Permit by implementing the practices described in this Plan and actively protects water quality by detecting and eliminating illicit discharges on an on-going basis.

#### 1.2. What is an Illicit Discharge?

Any discharge, including illegal dumping, to an MS4 that is not composed entirely of stormwater is an illicit discharge. Each illicit discharge has a unique frequency, composition, and mode of entry into the storm drain system.

Illicit discharges are classified into the following four categories:

- Spills are an incidental deposit of wastes and other prohibited non-stormwater discharges into the MS4. Spills could include anything from fuel to food-grade products, and a host of other transported liquid materials.
  
- Dumping is an incidental deposit of wastes and other prohibited non-stormwater discharges into the MS4. Sources of dumped material are generally illusive and could include anything such as trash and debris, waste fluids, and other materials that are left in the right of way, under bridges, or other locations that contribute to Waters of the State.
  
- Illicit Connection is a continuous or intermittent connection to the MS4 that has not been reviewed and/or permitted by NDOR. Connections may be illicit only when flow is piped or channeled. Sheet flow can not be considered an illicit connection. Sources of illicit connections may be sanitary sewer taps, wash water from laundromats or carwashes, footing drains, and other similar sources.
  
- Illegal Discharge is a continuous or intermittent release of sanitary sewage or other prohibited non-stormwater to the MS4 through a defined conveyance or through sheet flow. Illegal discharges may occur through both permitted and illicit connections. Some examples of illegal discharges include overland drainage from an adjacent carwash or dog park, industrial facility, sediment from construction activity, and other similar sources.

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### **1.3. What is an Allowable Non-stormwater Discharge?**

Some discharges may occur to stormwater outfalls that are not made up entirely of stormwater but may be allowable if they do not demonstrate impacts to water quality. Allowable non-stormwater discharges may be caused by any of the sources listed below:

- Irrigation water
- Foundation drains
- Footing drains
- Crawl space pumps
- Individual residential swimming pool and hot tub discharges
- Flows from springs, riparian habitats, wetlands and diverted streams
- Individual residential car or street washing
- Air conditioning condensation
- Discharges from potable water sources and water-line flushing
- Uncontaminated, pumped ground water
- Rising ground waters and infiltration to separate storm sewer
- Flow from emergency fire fighting activities

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### 2.0 MEASURABLE ACTIVITIES, IMPLEMENTATION, EVALUATION

Measurable activities for the IDDE Plan are maintained to comply with MS4 permit requirements and to protect water quality from illicit discharges to the maximum extent practicable. Permit compliance for the IDDE Plan is determined by evaluating measurable activities on an annual basis and identifying any necessary program updates or improvements. Measurable activities and implementation schedules can be adjusted after review by the Department and approval by Nebraska Department of Environmental Quality (NDEQ).

#### 2.1. Measurable Activities

Table 1.0 summarizes activities that will be implemented for the duration of the first MS4 permit term. At any point in time prior to the start of the next permit term these Measurable Goals and Implementation Schedules are subject to change after review by the Department and approval by NDEQ.

Table 1.0 IDDE Plan Measurable Activities	
Annual Measurable Activities	Schedule
Evaluate and revise program. Implement changes. (Sect. 2.1.1)	On-going
Conduct outfall monitoring. (Sect. 2.1.2)	On-going
Review plans for potential illicit discharges from all new connections to NDOR drainages within the MS4 boundary. (Sect. 2.1.3)	On-going
Take enforcement actions necessary to remove illicit discharges. (Sect. 2.1.4)	On-going

#### 2.1.1. Plan Updates

The IDDE Plan will be reviewed prior to the end of the first MS4 Permit term and updated if needed. Only changes to the Measurable Activity and Implementation Schedule must be submitted to NDEQ for authorization.

The following questions will allow the Department to evaluate compliance with this activity:

- Does the IDDE Plan need to be updated?
- Have any illicit discharges occurred that are not classified in the IDDE Plan?
- Did any of the Plan methodology or tools prove ineffective or inefficient in identifying and removing illicit discharges?
- Were adequate resources available and committed to implement this IDDE Plan?

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### 2.1.2. Outfall Monitoring

The Department maintains a unique MS4 boundary that intersects adjacent MS4s in a linear manner. Roadways typically cross over water bodies at intersections instead of the water body draining through the MS4 as is the case for communities and counties. The Department's boundary area is adjusted every time an MS4 area expands. Additionally, each MS4 – not the Department – is responsible for maintaining non-Freeway portions of the State Highway System within their boundary (Section 3.0) and is expected to implement the local IDDE Plan on those roadways. The Department has set the Measurable Activity of outfall monitoring to detect illicit discharges. Since the number of outfalls that the Department is responsible for is likely to change during the course of a permit term, an on-going implementation schedule has been established. At a minimum, the Department will monitor each outfall at least one time during the current MS4 Permit term. Section 5.0 describes the specific information of this effort in more detail.

#### What is considered an Outfall?

NDEQ Title 119 (and associated sections) defines an outfall as the point where a facility or municipal separate storm sewer system discharges to Waters of the United States and does not include open conveyances connecting to municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the State and are used to convey waters of the State.

(088) "Point Source" means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, or 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.

(125) "Waters of the State" means all waters within the jurisdiction of this state including all streams, lakes, ponds, impounding reservoirs, marshes, wetlands, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulation of water, surface and underground, natural or artificial, public or private, situated wholly or partly within or bordering upon the state.

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The following questions allow the Department to evaluate compliance with the Outfall Monitoring activity:

- Are there any changes to the number of outfalls with high illicit discharge potential?
- Are outfall monitoring tools effective?
- Is there any cause for adjusting the schedule and frequency for outfall monitoring?
- Is NDOR personnel and the general public adequately educated to identify illicit discharges in the field?

### **2.1.3. New Connections to the MS4**

All new drainage connections to the Department right-of-way are restricted without obtaining the proper access permits. The Department has therefore developed the Measurable Activity to review all new access permits for connections to the MS4. This process allows the Department to restrict access for illicit types of connections or for connections that will cause illegal discharges. Since the Department does not control when applications for new connections are submitted for review and approval, an on-going implementation schedule has been established for this Measurable Activity to review every permit application that is submitted. Section 3.0 describes the specific information of this effort in more detail.

The following questions allow the Department to evaluate compliance with this activity:

- Does the access permit application process allow NDOR to identify all new connections to the MS4?
- Is NDOR personnel and the general public adequately educated to know when a permit is required and what discharges the permit prohibits?

### **2.1.4. Detection and Enforcement of Illicit Discharges**

The most difficult aspect of any Illicit Discharge Program is the illusive nature of illicit discharges that occur within the MS4 boundary. NDOR daily activities along state highways is a benefit for detecting and identifying potential sources of pollution. Examples of these activities include regular mowing, highway maintenance and construction projects. In addition, programs such as Adopt-a-Highway provide a way for the general public to observe and report any issues. The Department will take all measures listed in this IDDE Plan to identify illicit discharges to the maximum extent practicable. Section 3.0 describes the specific information of this effort in more detail.

The following questions allow the Department to evaluate compliance with this activity:

- Are additional measures and/or contact information needed to improve the ability to remove illicit discharges identified within the MS4?
- Do any barriers exist that prevent certain illicit discharges from being eliminated?
- Is NDOR personnel and the general public adequately educated to make the correct contacts that will lead to elimination of illicit discharges and report them?

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### 2.2 Program Evaluation

The Department evaluates the IDDE Plan annually with the submission of the MS4 Annual Report to NDEQ. The effectiveness of this IDDE Plan largely depends on the tracking methods used by the Department. Attachment 1 provides information about the Department's outfall mapping procedures and Attachment 6 (notification and tracking form) provide the forms necessary to keep records of illicit discharge events and response efforts.

The Department currently utilizes a variety of methods to track elements that apply to the IDDE Plan. The current and anticipated future tracking methods are discussed in Table 2.0.

<b>Table 2.0 IDDE Plan Tracking Tools</b>		
<b>Tracking Elements</b>	<b>Existing Tracking Method</b>	<b>Potential Tracking Method</b>
Outfall Location	Highway number and mile post reference number	Geospatial Coordinates (GIS Database Development in Progress)
Outfall Image	Not tracked	Digital photograph that can be hyper-linked to a GIS Shapefile.
Name of Receiving Stream	Not tracked	Enter name into GIS Database
Contributing Land Use	Not tracked	Land use map that can be displayed in GIS
Outfall Characteristics	Falcon Database (Access or SQL)	Enter into GIS Database
Routine Field Inspection	Crew job cards	Event input into EAMS
Outfall Maintenance	Crew job cards	Event input into EAMS
Follow-up Monitoring	Not Tracked	Event input into EAMS
Illicit Discharge Event Location	Highway number with mile post reference number	Geospatial Coordinates that can be displayed in GIS
Illicit Discharge Notification	Entry record in District Incident Reporting Knowledgebase (DIRK) Form Dr176	Entry record in DIRK and Event input into EAMS
Illicit Discharge Event Resolution	Entry record in DIRK and recorded on Dr form 176 (Attachment 6)	Entry record in EAMS

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The Department began implementing a new asset management system within the Operations Division. The EAMS (Enterprise Asset Management System) has potential to provide Illicit Discharge tracking using a geographic reference platform and coordinated reference/query structure. A timeline for incorporating fixed assets, such as outfalls and Treatment Best Management Practice locations, into the EAMS structure has not been established to date. The Department continues to utilize the existing tracking methods and is currently developing a GIS Database to implement the IDDE Plan to the maximum extent practicable. The GIS Database has the potential to be incorporated with EAMS.

### **2.3. Public Involvement**

The Department will maintain a current IDDE Plan that is improved by gathering input from NDOR personnel and the general public. This input will help determine if the Measurable Activities are effective or when changes are needed in the field. Important input from Operations Divisions and Districts about standard procedures and illicit discharge event response efforts is gathered for each illicit discharge event. These individuals are also the most familiar with day-to-day activities within each District and can provide relevant feedback about the IDDE Plan's Measurable Activities.

Public feedback about the public reporting system is also obtained annually from the Department's Communication Division and the Nebraska State Patrol which may lead to improvements in the public reporting system. Input from the general public (adjacent MS4s, natural resources agencies, emergency response entities, and public citizens) also provides value to the Department IDDE Plan which will be considered when offered. All public feedback will be used to improve the ability of the Department to identify and eliminate illicit discharges.

### 3.0 RESPONSIBILITY AND AUTHORITY

#### 3.1. Legal Authority

The Department must maintain adequate legal authority to control illicit discharges that are found inside the MS4 boundary. Nebraska State Statutes provide the basis for authority over all activities that occur within the State Highway System. The following information describes how the Department distributes responsibilities for legal authority and maintains adequate legal authority for all types of illicit discharges.

##### **3.1.1. Responsibility of Adjacent MS4 Communities**

Stormwater routinely flows from areas outside of the jurisdictional MS4 boundary of the Department onto the State Highway System by overland flow, pipe, and open channel connections with an adjacent MS4 permit holder. Illicit discharges can be conveyed into, through, and away from the Department by any series of connections with adjacent MS4 communities. This situation of shared boundaries has important implications for the IDDE Plan.

The Department requires the maintenance responsibility for most highways within MS4 communities to be accomplished by the MS4 community. State Statutes §39-1339 and §39-1372 of Nebraska describe the responsibility of the Department for maintaining portions of the State Highway System inside certain communities. There the term “Maintenance” is limited to such things that are caused either by wear and tear of travel or by acts of God. Addressing illicit discharges does not meet these two criteria. For portions of the State Highway System described in these State Statutes, adjacent MS4 communities are responsible for all other maintenance requirements. The Department interprets this to include implementation of the local IDDE Plan in compliance with an MS4 Permit. Adjacent MS4s must maintain adequate legal authority to control illicit discharges along these portions of the State Highway System. The Department intends to enter into Memorandums of Understanding (MOU) with adjacent MS4s that outline the responsibilities of each party. See Attachment 6 (Memorandum of Understanding).

The Department retains responsibility for maintenance along “Freeways,” their approaches and exit roads, and separation structures of any bridge situated overhead within an adjacent MS4. Freeways are defined in Nebraska State Statute §39-1302 to include any divided arterial highways, associated right-of-way, and grade separations at intersections where the Department has full control of access for through traffic. The Department is required to maintain adequate legal authority to control illicit discharges along these portions of the State Highway System.

Annual agreements with adjacent MS4 communities under Municipal Maintenance Agreements (MMAs) provide the basis for the Department to demonstrate where adjacent MS4s are responsible for implementing their local IDDE Plan. Adjacent MS4s with MMA’s are listed in

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Table 3.0. Where an MMA does not exist with the adjacent MS4, NDOR maintains responsibility for implementing the IDDE plan along the associated linear boundaries.

Table 3.0 Adjacent MS4s with Municipal Maintenance Agreements		
Adjacent MS4s with MMA		Adjacent MS4s without MMA
Beatrice	Lincoln	Boys Town
Bellevue	Norfolk	Dakota City
Columbus	North Platte	
Fremont	Omaha	Dakota County
Grand Island	Papillion	Douglas County
Hastings	Ralston	Sarpy County
Kearney	Scottsbluff	
La Vista	South Sioux City	
Lexington		

### 3.1.2. Illicit Connections and Illegal Discharges

If connections to the State Highway System are not approved (e.g. permitted) or are used for purposes not approved by the Department, they are considered illicit connections. More importantly, if these connections convey any discharge that is not composed entirely of stormwater, with specific exceptions (refer to Section 1.3.), it is considered an illicit discharge.

Adding to or modifying connections - including storm drainages - to Freeways along the State Highway System is controlled by the Department. The Department has the authority to regulate, and if necessary prohibit, any responsible party from the use of highway drainage facilities for private purposes without first obtaining written consent (§39-1360). Any connection discharging pollutants to the State Highway System is considered an encroachment for a private purpose that can be prohibited. The Department has the authority to issue a permit with an agreement from the permittee to comply with such “reasonable regulations” the Department feels necessary for such encroachments (§39-1361). When no encroachment permit exists, the encroachment is deemed to be illicit and may be removed. As such, the Department maintains adequate legal authority to control any stormwater connections and associated discharges of pollutants to the State Highway System.

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### **3.1.3. Illegal Dumping and Spills**

An illicit discharge occurs when pollutants are released, dumped, or spilled into the drainage system or storm drain in the State Highway System. The State Highway System is occasionally used for illegal disposal of materials and rubbish that can pollute stormwater. Additionally, materials spilled on the state highway can enter the drainage system or storm drain and pollute receiving waters. The Department must have adequate legal authority to prohibit materials from being dumped or spilled onto the State Highway System regardless of the intention of the responsible party.

The Department maintains authority to prohibit the use of the State Highway System for littering on any part of a roadway, in drainage ditches, or on the banks of drainage ditches (§39-310). Further, the person responsible for depositing any destructive or injurious material is responsible for having it removed (§39-311(2)). The Department makes no distinction between materials that are knowingly dumped and materials that are accidentally spilled. As such, the Department maintains adequate legal authority to prohibit illegal dumping and spills of pollutants to the State Highway System.

### **3.2. Access and Inspection Authorization**

The Department is only authorized by State Statute to access areas and conduct inspections within the State Highway right-of-way. This is the difficulty of sharing jurisdictional boundaries with adjacent MS4s. No statutory jurisdiction is provided to Department employees that would allow entrance onto adjacent property to investigate an illicit discharge for the purpose of enforcement.

When an illicit discharge drains into the right-of-way from an adjacent MS4, the Department must coordinate with and depend upon any one of four possible entities to access property and investigate the situation. The Nebraska State Patrol, adjacent MS4 representatives, the party responsible for the illicit discharge and/or the Nebraska Department of Environmental Quality must act at the request of the Department to investigate illicit discharges originating from outside the right-of-way. The Department must act in partnership with these entities to ensure these illicit discharges are resolved.

### **3.3. Enforcement Tools**

The Department relies upon a variety of long-established tools to enforce the newer illicit discharge elimination requirements of the MS4 Permit. Enforcement tools are summarized in Table 4.0 and are explained in the following sections.

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Table 4.0 IDDE Plan Enforcement Tools	
Illicit Discharge Enforcement Target	Enforcement Tools
Illicit Connections and Illegal Discharges	<ul style="list-style-type: none"> <li>▶ <i>Policy for Removing or Permitting Physical or Functional Encroachments, Structures or Uses of State Highway Right of Way</i> (Updated February 2001)</li> <li>▶ <i>Permit for Encroachment</i> (Updated May 2004)</li> <li>▶ <i>Permit to Occupy Right-of-Way</i> (Updated January 2007)</li> <li>▶ Nebraska State Statute 39-1362: <i>Cross or dig up highway; violations; penalty</i></li> <li>▶ Nebraska State Statute 81-2005(3) <i>State patrol; powers and duties enumerated</i></li> </ul>
Illegal Dumping and Spills	<ul style="list-style-type: none"> <li>▶ Nebraska State Statute 39-310: <i>Depositing materials on roads or ditches; penalties</i></li> <li>▶ Nebraska State Statute 39-311.2(5)&amp;(6): <i>Rubbish on highways; prohibited; signs; enforcement; violation; penalties</i></li> <li>▶ Nebraska State Statute 81-2005(3): <i>State patrol; powers and duties enumerated</i></li> <li>▶ Nebraska State Statute 28-523: <i>Littering of public and private property; penalty</i></li> </ul>

### 3.3.1. Illicit Connections and Discharges-Enforcement

The authority to control illicit connections and discharges is enforced by the Department using the *Policy for Removing or Permitting Physical or Functional Encroachments, Structures or Uses of State Highway Right-of-Way* (2/2001), the *Permit for Encroachment* (5/2004), and the *Permit to Occupy Right-of-Way* (1/2007). The Department has required that each municipality take enforcement action to remove any encroachments within their jurisdiction for encroachments found along highways within municipalities. This requirement does not apply to Freeways within municipalities.

Where illicit discharges are not enforced by an adjacent municipality or the source is a single land owner with a direct connection to the right-of-way of a Freeway, the Department has the authority to issue written notification to the violator. This notice would require removal of the illicit discharge and allow the Department to treat the incident as a Class III misdemeanor for each and every day that such a violation continues after written notification is issued (§**39-1362**). When requested, enforcement is provided by the Nebraska State Patrol to make arrests for misdemeanors or felonies (§**81-2005(3)**).

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### **3.3.2 Illegal Dumping and Spills-Enforcement**

In general, the offense of depositing materials on roads or ditches (i.e. littering) is managed at the local level of enforcement. The State Statutes relating to litter (§**28-523**) are interpreted by the Department to cover any form of illegal dumping or spills in the form of waste. Waste is considered any material appearing in a place or in a context not associated with that materials function or origin. Littering, illegally dumping waste, or spilling waste on the State Highway System is enforceable by parties other than the Department. This enforcement capability is adequate for MS4 Permit compliance, although removal and enforcement actions are not always reported back to the Department for tracking purposes. Communications between the Department and Nebraska Highway Patrol is necessary to facilitate reporting of enforcement responses for illegal dumping and spills within the MS4 boundary.

Illegal dumping and spills are classified as a misdemeanor offense and punishment becomes more severe with subsequent offenses (§**39-310**, §**39-311(6)**). The Nebraska State Patrol may make arrests according to violations relating to misdemeanors or felonies when requested (§**81-2005(3)**). Further, the Nebraska State Patrol officers, conservation officers, sheriffs, deputy sheriffs, and other law enforcement officers are extended the duty to provide enforcement for any violation of throwing or depositing materials onto the State Highway System (§**39-311(5)**). The Department retains qualified staff with the ability to respond to reports of pollution along the entire State Highway System, if necessary.

### 4.0 OUTFALL MAPPING

#### **Permit Requirement**

The Municipal Separate Storm Sewer System (MS4) permit requires the Department to develop a storm sewer system map that shows the location of all outfalls and the names and locations of all Waters of the State that receive discharges from those outfalls.

The Department has MCM 3.1(a) with the goal to complete outfall mapping within the MS4 boundary by the end of the first Permit term (2011).

The Department determines the priorities for seeking out potential illicit discharges based on a number of factors outlined in Table 5.0.

#### **4.1. Criteria for Selecting Outfalls to Map**

Evaluation of illicit discharge potential begins with good preliminary desktop analysis of outfalls, watercourses and adjacent land use/drainage. Baseline data generated by the initial outfall mapping process will allow the Department to evaluate and prioritize future monitoring efforts to focus on areas with the greatest potential for discharge.

#### ***Responsibilities***

Nebraska State Statutes require certain municipalities to take the responsibility for maintaining all highways - except freeways - and associated appurtenances located within their municipal boundary. This maintenance requirement has been interpreted by the Department to include the outfall mapping which will be completed according to local MS4 outfall mapping procedures. This situation prevents the creation of jurisdictional outfalls where stormwater flows from one MS4 boundary into another. The Department will not conduct outfall mapping under these circumstances unless an adjacent MS4 fails to meet their outfall mapping permit requirements. The Department will request current outfall data from each MS4 as needed to support the Illicit Discharge Detection and Elimination Plan and determine if outfall mapping along these highway segments is necessary.

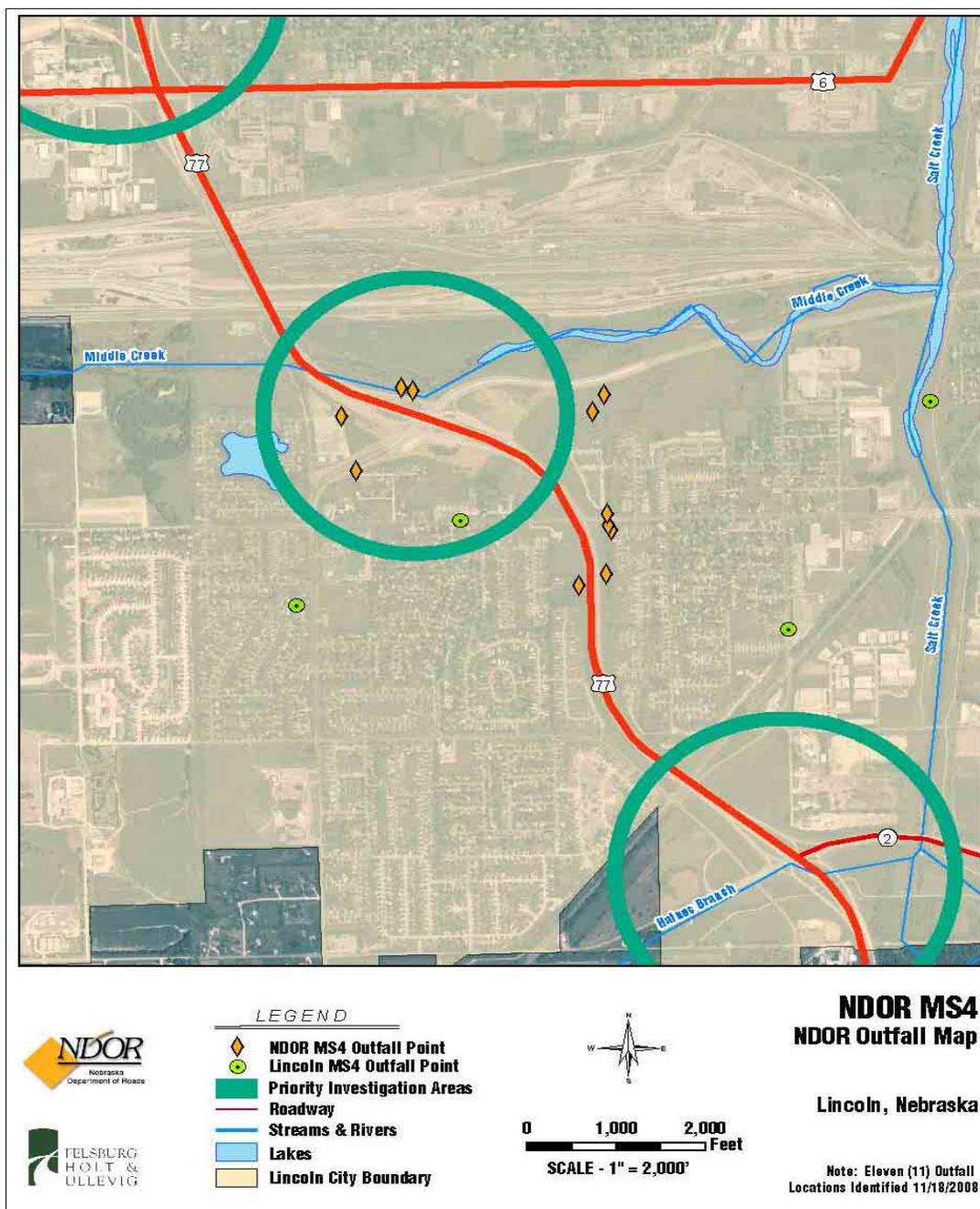
#### **4.2. Desk-top Analysis**

Factors that strongly influence the determination of illicit discharge potential include past experience with water quality issues or discharges at a given location, adjacent land use, and the potential for a direct discharge to a receiving waterbody.

For initial mapping and future monitoring efforts, the Department considers a few basic factors that help focus efforts on the outfalls with the highest potential for illicit discharges. These factors are described in Table 5.0 (under section 5.1). If necessary, additional criteria can be added to desktop screening efforts in the future. These screening factors may require some coordination with adjacent MS4s and other regulatory agencies such as NDEQ and EPA.

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Figure 1.0 Example Outfall Map



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**5.0 OUTFALL MONITORING**

Monitoring at priority stormwater outfalls allows the Department to detect illegal discharges, illicit connections, spills, and illegal dumping that can contaminate waterways. Monitoring is conducted on a routine and complaint-driven basis to determine if illicit discharges are occurring or have occurred. The following section describes the efforts made by the Department to monitor stormwater outfalls.

**5.1. Outfall Monitoring-Criteria and Frequency**

The frequency of dry weather monitoring in conjunction with daily NDOR activities along State Highways provides the Department with reasonable assurance that illicit discharges are not occurring.

Categorizing specific outfalls as high priority allows the Department to focus efforts where they are needed most. The Department defines a stormwater outfall as high priority if it meets at least one of the factors on the following table:

<b>Table 5.0 IDDE Priority Outfall Monitoring Factors</b>	
<b>Discharge Screening Factor</b>	<b>Factor Definition</b>
Past Notifications	Frequency of past discharge complaints, public reports, and spill responses per outfall drainage. Any drainage with a history of a discharge complaint in a given year is designated as a high priority outfall.
Past Dry Weather Monitoring Results	Frequency of individual outfall reports during dry weather monitoring or discovery generate illicit discharge notification procedures within NDOR, with Nebraska State Patrol, adjacent MS4's.
Adjacent Land Use	Context of land use(s) or population that would reasonably be expected to elevate the potential of pollution sources of concern.
Direct Discharge to Receiving Waterbody	Any outfall discharging directly to a receiving water body will be categorized as high priority.

The following monitoring schedule is used by the Department during a time of year when dry weather or base-flow conditions are anticipated.

- Every outfall is monitored the first time it is mapped and the Outfall Monitoring Data Sheet (Attachment 3) is completed at each outfall location.
- Every outfall that receives a complaint or notification of an illicit discharge is screened within 24 hours of receiving the complaint or notification. When a visual confirmation is



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obtained from the field or after an investigation determines an illicit discharge or connection exists then the Illicit Discharge Notification and Tracking Form (Attachment 6) is completed.

- Outfalls designated as high priority will be monitored annually.
- Outfalls not designated as high priority will be monitored once every 5 years.

### ***5.2. Dry Weather Monitoring Procedures and Indicators***

The vast majority of illicit discharges may be detected based on visual assessments. Warning signs include discoloration of stormwater, presence of surface scum, oil sheen, turbidity, and evidence of sanitary sewer discharges (grey water). Other visual clues include the presence of stains, oils, residues, or debris adjacent to the Department's roads and inlets. A pungent odor emanating from any part of the storm drain system is also evidence of a potential illicit discharge.

The Outfall Monitoring Data Sheet (Attachment 3) is used by the Department's initial inspection team to determine if an illicit discharge during the first monitoring event is present. The Outfall Monitoring Data Sheet (Attachment 3) in conjunction with the District Incident Knowledge and Reporting System and Dr form 176 (Attachment 6) will be used for future tracking, reporting and follow-up activities. The following sections describe the outfall field screening procedures the Department uses to investigate potential for illicit discharges.

#### **5.2.1. Desktop Data Preparation**

Notify the District Engineer of the field screening schedule at least one week in advance and coordinate any traffic safety plans and transportation assistance needed from the District. Gather all available information about the drainage location such as outfall maps, previous screening data, local emergency response contacts and adjacent MS4 contacts. The Outfall Data Request Letter in Attachment 2 can be used to request information available from adjacent MS4s. Download aerial photography and relevant shapefiles onto a hand-held computer unit with GPS capabilities (such as a Trimble® Unit) that will be taken into the field.

#### **5.2.2. Outfall Monitoring Data Collection**

NDOR personnel will record all information included on the Outfall Monitoring Data Sheet (Attachment 3). Information recorded during the mapping and monitoring processes will be transferred to an electronic database compatible with a GIS format. A GPS handheld unit is used to collect coordinates in the field. Digital photos of each outfall are taken as needed.

In general, the Department monitors each outfall for physical and visual indicators of illicit discharges. These indicators may include deposits, staining, and/or the presence of trash. If a dry weather flow is present, the flow rate is estimated, and the flow will be observed for visual and physical characteristics such as odor, color, clarity, and/or the presence of floatables. An

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initial determination of whether a potential illicit discharge exists will be made by the inspection team based on this information. If physical and visual indicators suggest the potential for an illicit discharge to exist, the Department will coordinate water quality sampling and testing with a qualified contractor.

### 5.2.3. Follow-up

All field data and the initial determination of findings are immediately returned to the Operations Division Highway Environmental Program Specialist for tracking, and follow-up when necessary. If a potential illicit discharge has been identified in the field, the Department will either take steps to verify the discharge is illicit or take steps to eliminate the discharge (Section 6.0). All forms and information obtained during field screening events are maintained by the Department in an outfall tracking database or electronic file storage system for future reference and annual reporting.

### 5.2.4. Water Quality Sampling

If basic outfall monitoring activities identify a potential illicit discharge of an unknown substance, additional water quality sampling may be needed before the discharge can be eliminated. The Operations Division Highway Environmental Program Specialist will contact a qualified contractor to identify the target pollutant. The Department will determine appropriate follow up measures based on sampling results and include results with annual reporting information.

Field measurements that are recommended for determining the presence of a potential illicit discharge include: temperature, pH, turbidity, conductivity, hardness, ammonia, chlorine, color, copper, surfactants, phenols, *E.coli*, fluoride, total organic carbon and dissolved oxygen. Guidance available from other sources (EPA, CWP, Ohio EPA, etc.) can be used by the Department to direct discharge sampling of potential illicit discharges. Contractors must demonstrate the capability to conduct discharge sampling according to approved EPA sampling and analytical methods (40 CFR Part 136). A list of qualified contractors is maintained in the NDOR Waste Manual.

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### 6.0 ILLICIT DISCHARGE ELIMINATION

The Department is responsible for addressing illicit discharges or overseeing the removal of illicit discharges once they are identified. Multiple stakeholders may be involved in the elimination of an illicit discharge. Some events may be resolved by the Department while other events may require the Department to rely on the Nebraska State Patrol, adjacent MS4s, or other responsible parties. In all cases, the Department needs to identify the source of the illicit discharge so that appropriate enforcement actions can be taken. The following section describes the efforts made by the Department to notify appropriate individuals when illicit discharge events occur and to take steps to remove the illicit discharge.

#### 6.1. Notification Procedures

The Department receives notification when illicit discharges, spills, or incidences of dumped material have occurred along the State Highway System. In some cases the Department may not be notified that an illicit discharge has occurred until after the event has been resolved by other parties. Notification can come from a variety of sources including, but not limited to Department personnel, the general public, Nebraska State Patrol, city or county officials, and/or environmental resource agencies. The Department has the necessary resources to receive and record notices from all potential sources.

The primary goals of the notification procedures are to enable appropriate individuals to make a timely response, protect public safety and water resources, and to comply with environmental regulations for reporting incidents of illicit discharge. Information provided in this section addresses a complex challenge for the Department, which is to ensure that reported information is delivered to the appropriate response personnel. For emergency notification procedures, the Department follows the November 2007 NDOR "Emergency Notification and Reporting Procedures for Highway-Related Incidents" provided in Attachment 4 of this document.

##### **6.1.1. Telephone and Website Notification from the Public**

The Department currently utilizes a variety of methods to receive information from the public concerning illicit discharges. "Nebraska 511" is a phone and web service sponsored by the Department and the Nebraska State Patrol that is used to report road conditions. Any illicit discharge that impacts transportation safety can be reported to the 511 system. Additionally, calls may be directed to the main Department switchboard (402-471-4567) during regular business hours. It is also probable that the public may contact a District Office depending on the location of an incident. Callers reporting an illicit discharge to the switchboard after standard business hours are directed to the Nebraska State Patrol Highway Help Line (1-800-525-5555) to ensure that public safety can be maintained at all times.

The Department also has the ability to receive notifications of general concerns, including illicit discharges, using their website link [www.transportation.nebraska.gov/report-concern.html](http://www.transportation.nebraska.gov/report-concern.html).



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The Department has developed an Illicit Discharge Notification and Tracking Form (Attachment 6). Additionally, the Department will use the current District Incident Reporting Knowledgebase (DIRK) to report illicit discharges and notify the appropriate response entities. In the event of an emergency, all complaints will be directed to the Emergency Notification and Reporting Procedures for Highway Related Incidents (Attachment 4).

### **6.1.2. In-field Notification from Department Staff**

A large number of Department employees continually work to operate and maintain the State Highway System which includes the associated storm drain system. These individuals are the eyes in the field for the IDDE Plan and may identify illicit discharges on a day-to-day basis. Additionally, annual outfall monitoring activities (Section 5.0) are used to identify illicit discharges at high priority outfalls; and all other outfalls every 5 years. Appropriate information about each illicit discharge incident must be collected and forwarded to the Operations Highway Environmental Programs Specialist within 24-hours of the initial discovery of the incident.

When an illicit discharge is identified in the field, Department personnel and public safety must be protected at all times. If the material cannot be safely identified, a safe distance from suspected illicit discharge is kept and contact is avoided. The following information is to be observed and recorded via DIRK and the Illicit Discharge Notification and Tracking form, from a safe distance.

- Location of incident
- Name and location of nearest receiving waterbody
- Any suspicious activities in area related to the incident
- Names and contact information of people involved in the incident
- Type of materials involved (if known).
- General movement of material into the storm drainage system

When Department personnel identify an illicit discharge in the field during day-to-day activities, it is likely that information collected about the illicit discharge will be directed to the Maintenance Facility Supervisor where the employee works. The Maintenance Facility Supervisor provides formal notification to the Operations Division Highway Environmental Program Specialist (HEPS) either by phone (402-479-4656), via the Illicit Discharge Notification and Tracking Form (Drform176) or through DIRK. If the HEPS is unavailable, the information may be provided to the Operations Division—Maintenance Support Switchboard (402-479-4567). After standard business hours, calls must be directed to the Nebraska State Patrol Highway Help Line (1-800-525-5555).

### **6.1.3. Recording Notifications**

When notification of an illicit discharge is provided to the Department, all information relevant to the illicit discharge, including location, physical description of the suspected illicit discharge, and any other relevant information listed on the Illicit Discharge Notification Tracking Form

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(Attachment 6) will be recorded. This form is available for use to inform other personnel and response agencies about the illicit discharges, to track the types of illicit discharges, to record response procedures to eliminate the illicit discharge, and track historical information about reoccurring problems. Original copies are maintained by the Operations Division Highway Environmental Program Specialist (402-479-4656). This information is kept on file for at least three years as part of the Department compliance record.

### **6.1.4. Routing Notifications**

After an illicit discharge event is reported, the Operations Division Highway Environmental Program Specialist is responsible for routing the information to the appropriate response entity and/or Department personnel for investigation and elimination. This decision is dependant upon the type of material and the source of the discharge and may include a Department District Maintenance Facility, Nebraska Highway Patrol and/or emergency response agency, adjacent MS4 representative, or a definitive property owner. The Department maintains response records and follow-up actions in the DIRK database or on the Operations server.

## **6.2. Source Investigations and Elimination**

After the Department has been notified of an illicit discharge, the effort to investigate the source can take a number of potential paths depending on the type and source of the illicit discharge that has occurred. The primary goal of all investigations is to identify the discharge source so that appropriate corrective actions – including enforcement – can be taken. In-depth investigations can be time consuming and expensive, require special staff training and expertise, and may require coordination with local representatives of adjacent MS4s or emergency management officials. The following information provides direction for the Department to ensure that each identified illicit discharge is eliminated.

### **6.2.1. Spills and Dumping**

A spill is the most routine type of illicit discharge identified within the State Highway System. Significant spills that occur are most often associated with vehicle accidents and the Nebraska State Patrol (and usually the Department) is typically notified of the situation. After arriving on-site, responding officers notify the appropriate emergency response personnel and obtain information about the potentially responsible party. Many times, the situation is resolved and any spills are cleaned up without Department involvement. The Nebraska State Patrol needs to provide spill information to the Operations Division Highway Environmental Program Specialist otherwise the event will go unrecorded.

The Department is likely to be alerted of smaller spills and isolated dumping events first. In these situations, the Department generally dispatches field crews to maintain the right-of-way. Depending on the severity of the spill and the expense of the clean-up effort, the Nebraska State Patrol and/or Nebraska Department of Environmental Quality can be contacted to make the decision whether a source investigation is necessary. The Department may request or assist the State Patrol in an investigation in order to identify the discharge source. If the spill or



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dumped material is located along a portion of the State Highway System maintained by an adjacent MS4, the Department will notify the adjacent MS4 representative of the situation so that they can implement their IDDE procedures.

### 6.2.2. Discharges/Connections

Any connection to the state highway storm drainage system has the potential to carry polluted illegal discharges.

Once such an illegal discharge has been identified, the Department determines the location of the pipe or conveyance where the discharge is occurring. The Department may contact any, or all, of the following entities to identify the exact source of the discharge occurring from outside of the Department right-of-way: the responsible MS4, responsible land owner, Nebraska State Patrol, and/or Nebraska Department of Environmental Quality. The Department will coordinate with these entities to ensure that the illegal discharge is eliminated.

When an illicit discharge/connection is identified in the field, the following procedures are implemented to eliminate the illicit discharge/connection:

- If the investigation confirms that an illicit discharge/connection does exist and the probable source of the discharge is identified, then the owner of the discharging facility is sent a letter by certified mail, with a return receipt requested (Attachment 7, Letter A). If the investigation does not confirm the probable source of the discharge, Example Letter C (Attachment 7) shall be sent to the owner of that portion of the storm water conveyance that connects to the Department storm drain system and appears to be conveying the illicit discharge to the Department storm drain system. The letter and form should be signed by the appropriate District Engineer or his/her authorized representative. The notice shall describe the violation, provide specific response dates, compliance dates and provide a penalty section.
- If the owner responds indicating that some other party is the owner of the storm water conveyance in question, a letter as indicated above will be sent to that party as outlined herein. If the owner responds in a timely fashion to the notice, indicating a desire to comply with the conditions indicated in the notice, the Department will follow the **compliance procedures** to eliminate the illicit discharge as described below.
- If the owner does not respond to the notice, or indicates their intent not to comply with the conditions indicated in the notice, a second letter and notice should be sent, certified mail, return receipt requested (Attachment 7, Letter B). If there is no response to the second notice or the respondent indicates it will not comply, the Department will follow the **enforcement procedures** to eliminate the illicit discharge as described below.

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The following **compliance procedures** will be used after an illicit discharge/connection is confirmed or when the property owner voluntarily indicates an illicit discharge exists and desires to correct or eliminate the situation:

- If the property owner desires to correct the violation by eliminating the discharge, they should be asked to provide a timetable by which they will eliminate the connection or discharge that is causing the violation in a manner that will prevent its reconnection or resumption. If the illicit discharge/connection can be resolved by issuance of an encroachment permit (Attachment 8), Department staff will explain how the permit can be obtained and process any submitted permit application. If no timely permit application is submitted, removal of the illicit discharge/connection must be pursued as described herein.
- Once correction of the illicit discharge/connection is completed the property owner must submit written documentation describing the correction. If such correction requires excavation or other work within Department right of way, a permit must first be obtained from the Department through the normal utility permit process before such work may commence.
- Documentation of all actions taken to resolve these illegal discharges/connections is maintained by the Operations Division Highway Environmental Program Specialist and reported to NDEQ annually.

The following **enforcement procedures** are used when there is no response to the second certified letter and requests to remove encroachment, or the owner indicates that no voluntary compliance actions will be taken, or if the owner fails to submit a timely utility permit application (if that compliance option was made available).

- If the illicit discharge/connection is within the Department right of way, all documentation of discovery, investigation and remediation efforts and responses, if any, from the owner of the discharge/connection shall be forwarded with a memo from the District Engineer to the Operations Division Highway Environmental Program Specialist requesting the matter to be referred for enforcement. The Operations Division Highway Environmental Program Specialist will take steps to coordinate the referral with the Assistant Attorney General and Nebraska State Patrol, requesting that they file an action under the appropriate Nebraska State Statutes or other legal authority as appropriate to enforce removal of the encroachment. If the Assistant Attorney General determines that a

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referral is not appropriate for their office to file litigation, this will be documented and the matter referred to the appropriate adjacent MS4 authority and/or NDEQ for enforcement.

- If the illicit discharge/connection point originates from an area outside of State Highway System right-of-way that the Department is responsible for maintaining and the responsible party will not voluntarily comply, a third letter will be prepared to refer the matter to the appropriate local government, the local health department and the appropriate NDEQ Water Division District Supervisor for enforcement. The owner/owners of the discharge/connection in question will be copied on this letter (Attachment 7, Letter C).

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### **7.0 PUBLIC EDUCATION**

The Department maintains a Public Educational Program in compliance with MS4 Permit Part III.B.3(d). The program focuses on the big-picture aspect of communicating the existence of the permit, its importance, and its significance to the Department. The Department's communications and education efforts have also sought to create awareness of the various program measures, including the IDDE Plan. The educational program includes outreach efforts that take advantage of existing forums and materials as well as identifying new mediums necessary to deliver the appropriate educational message.

The Department will document in the Annual Report the number of educational activities undertaken to promote public reporting of illicit discharges and improper disposal, as well as activities to promote proper management and disposal of waste materials. In addition, the Department will provide a narrative that describes each of the educational activities and activities planned for the upcoming year.

#### **7.1. Promoting the IDDE Plan**

The educational focus of the IDDE plan is primarily on Department employees. As the program develops further, other audiences may be targeted, such as contractors who do business with the Department, professional contractor associations and to a limited extent, the general public. The general public can be reached through distribution of educational material at Department facilities and other state offices. The magnitude of the program will depend upon funds available and the magnitude of illicit discharges that occur.

At minimum, the Department staff education program includes:

- Information about the impact of illicit discharges to waterways and public health;
- Guidance for monitoring procedures and identifying illicit discharges;
- Procedures for reporting illicit discharge; and
- Procedures for responding to illicit discharges.

Various communication tools have been, and will continue to be, used to provide awareness, increase knowledge, and develop necessary skills for identifying and eliminating illicit discharges. These tools will be updated and new communication techniques will be implemented as necessary.

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### **7.2. General IDDE Plan Education Tools**

The Department program includes, but is not limited, to the development and distribution of the tools described in this section.

#### **7.2.2. Posters**

Illicit discharge posters will be developed and distributed to promote the identification of illicit discharges by Department employees and to advertise appropriate reporting procedures for illicit discharges. The first poster headline might read; “Prevent Pollution to Nebraska Waterways, Don’t Dump Down Road Drains.” This poster would warn against dumping certain materials into road drains and indicates that pollution impacts aquatic life, wildlife and people who recreate and fish. The Department reporting procedures and phone number should be printed prominently on the poster. Posters should be distributed to Department facilities across the State.

#### **7.2.3. Bulletins/Newsletters**

Various bulletins for IDDE and stormwater topics will be developed and distributed. A bulletin highlighting IDDE issues should be distributed to all Department employees, and would be available on the Department website, along with other information regarding stormwater quality. The bulletin should cover information about the Department’s role in helping to control pollutants from being dumped into storm drains. It should also alert readers to the tell-tale signs of an illicit discharge so they are more knowledgeable about what could be a problem. Finally, it outlines what information to collect in order to properly report, and whom to report, an illicit discharge. Updates and reprints of the Illicit Discharge Bulletin should be distributed, as appropriate, in the future.

#### **7.2.4. Wallet and Visor Cards**

Wallet and visor cards may serve as a potential supplement to other educational tools in an effort to reinforce actions that are desired by Department maintenance personnel. These cards could be distributed at all Department maintenance sites, as well as in conjunction with any Department-sponsored training or conferences. Wallet and visor cards are intended to be quick reference guides for personnel in the field. The cards should summarize the most important information about detecting, reporting, and eliminating an illicit discharge.

#### **7.2.5. Website**

The Department website includes information related to the MS4 Permit and water quality. Information is included under the “Doing Business – Environmental Info” section of the website, and more specifically, under the “Stormwater” pages of the Environmental section. The website address is: <http://transportation.nebraska.gov/environment/swppp.htm>

The relevant pages of the website include general information about water quality, and will provide specific information relevant to illicit discharges in the future. In the future, a “Frequently

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Asked Questions” section may be developed to include information helpful for reporting illicit discharges as well as tips and guidelines for other environmentally related issues.

### **7.2.6. Maintenance Conference**

The Maintenance Conference is an ongoing element of the Department’s educational program. Each year at the Maintenance Conference opportunities are taken to promote awareness of the Department MS4 programs, including the IDDE program.

Messages and materials at the conference will encourage reporting of illicit discharges and promote proper disposal of motor vehicle fluids and/or toxic materials, as well as, addressing other Department stormwater programs. For example, at the 2008 conference there was a session entitled: “Illicit Discharges and MS4 Good Housekeeping”. This session covered topics about the responsibility of the Department to control pollutants from entering storm drains by discussing illicit discharge, pollution prevention, and best management practices. Specifically, conference attendees were informed about the definition of an illicit discharge and that a new program is being developed to deal with illicit discharge issues. In the future, conference attendees will receive written copies of conference presentation materials as a supplemental education tool.

### **7.2.7. Web-based and Classroom Training**

The Department will continue to provide and add to the web-based and classroom training opportunities available to all Department employees. Some relevant classes currently include:

- “Cleaning up Small Chemical Spills,”
- “Flammable and Combustible Liquids,”
- “Housekeeping on the Job,”
- “Materials Handling and Storage,” and
- “Spill Prevention, Control, and Countermeasures.”

As part of the presentation materials, handouts are distributed in tandem with existing or scheduled training exercises, such as those conducted through Headquarters. Another cost-effectively employed method of training by the Department includes “piggy-backing” training topics into weekly or regularly scheduled safety meetings or hazardous materials training. Training for the IDDE part of the NDOR MS-4 permit will be more focused as the Department develops new Supervisory training classes in conjunction with the Operations Division, Human Resources as well as the field offices.

### **7.2.8. Facility Runoff Control Plans (FRCP)**

The FRCP Program is tool which encourages maintenance facility employees to focus on good housekeeping and pollution prevention measures. Many of the Best Management Practices included in the FRCP Program apply to identifying and preventing pollutants that can impact

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water quality. Department staff is also educated about the proper management of waste materials, such as toxic materials or motor vehicle fluids, which subsequently promotes the educational goals of the IDDE Plan.

### **7.2.9. “Adopt-a-Highway” Trash Clean-up and No Litter Signs**

The existing Adopt-a-Highway Program is a hand-on, general public activity for ensuring that not only trash, but other materials that could potentially pollute stormwater are removed from roadside areas and waterways. The program involves volunteers who select an approximately 2-mile stretch of highway, and who clean-up that roadside area about four times a year. Adopt-a-Highway coordinators are designated for various areas around the state. The Adopt-a-Highway program is promoted through Department roadside signs, the Department Web site, a newsletter, and various other means.

