



Stormwater Management Program (SWMP)

Town of Medway



EPA NPDES Permit Number # MAR0411132

June 28, 2019

Revised June 24, 2020

Background

Stormwater Regulation

The Stormwater Phase II Final Rule was promulgated in 1999 and was the next step after the 1987 Phase I Rule in EPA's effort to preserve, protect, and improve the Nation's water resources from polluted stormwater runoff. The Phase II program expands the Phase I program by requiring additional operators of MS4s in urbanized areas and operators of small construction sites, through the use of NPDES permits, to implement programs and practices to control polluted stormwater runoff. Phase II is intended to further reduce adverse impacts to water quality and aquatic habitat by instituting the use of controls on the unregulated sources of stormwater discharges that have the greatest likelihood of causing continued environmental degradation. Under the Phase II rule all MS4s with stormwater discharges from Census designated Urbanized Area are required to seek NPDES permit coverage for those stormwater discharges.

Permit Program Background

On May 1, 2003, EPA Region 1 issued its Final General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (2003 small MS4 permit) consistent with the Phase II rule. The 2003 small MS4 permit covered "traditional" (i.e., cities and towns) and "non-traditional" (i.e., Federal and state agencies) MS4 Operators located in the states of Massachusetts and New Hampshire. This permit expired on May 1, 2008 but remained in effect until operators were authorized under the 2016 MS4 general permit, which became effective on July 1, 2018.

Stormwater Management Program (SWMP)

The SWMP describes and details the activities and measures that will be implemented to meet the terms and conditions of the permit. The SWMP accurately describes the permittee's plans and activities. The document should be updated and/or modified during the permit term as the permittee's activities are modified, changed or updated to meet permit conditions during the permit term. The main elements of the stormwater management program are (1) a public education program in order to affect public behavior causing stormwater pollution, (2) an opportunity for the public to participate and provide comments on the stormwater program (3) a program to effectively find and eliminate illicit discharges within the MS4 (4) a program to effectively control construction site stormwater discharges to the MS4 (5) a program to ensure that stormwater from development projects entering the MS4 is adequately controlled by the construction of stormwater controls, and (6) a good housekeeping program to ensure that stormwater pollution sources on municipal properties and from municipal operations are minimized.

Small MS4 Authorization

- The NOI was submitted on September 28, 2019
- The NOI can be found on the Stormwater Management webpage under the link: [MS4 Notice of Intent \(NOI\)](#)
- Authorization to Discharge was granted on April 22, 2019.
- The Authorization Letter can be found Stormwater Management webpage under the link: [MA MS4 General Permit](#).

Stormwater Management Program Team

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MCM 1 Public Education and Outreach

Permit Part 2.3.2

Objective: The permittee shall implement an education program that includes educational goals based on stormwater issues of significance within the MS4 area. The ultimate objective of a public education program is to increase knowledge and change behavior of the public so that the pollutants in stormwater are reduced.

MCM 1: Public Education and Outreach Best Management Practices (BMP)

BMP 1: Brochures/pamphlets	
Document Name	
Document Location	
Description	Grass clippings and fertilizer management: update existing Medway brochure. Include landscape management, fertilizer use, and snow and ice removal.
Target Audience	Businesses, Institutions and Commercial Facilities
Responsible Party	Department of Public Works
Measurable Goal	Continual distribution of brochure at the following locations: Town Hall, Planning Office, ConCom Office, DPW Office; Mailing to top 20% (by parcel size) commercial property owners in Medway.
Beginning year of implementation	2018
Implementation Date	

BMP 2: Special events/festivals/fairs	
Document Name	Clean Water Begin with You
Document Location	
Description	Engage residents during annual Medway Pride Day. Explain MS4 permit and why it matters and how it relates to everyday life. Focus on pet waste, lawn care and fertilizer BMPs, septic system management, snow and ice removal, rain barrels, and GI.
Target Audience	Residents
Responsible Party	Conservation Agent
Measurable Goal	Staff a booth/table minimum once every 2 years.
Beginning year of Implementation	2019
Implementation Date	May 18, 2019

BMP 3: Brochures/pamphlets	
Document Name	
Document Location	
Description	Sedimentation and erosion control messaging.
Target Audience	Developers (construction)
Responsible Party	Planning and Economic Development Coordinator
Measurable Goal	Distribution of pamphlet at Planning offices to developers seeking permits through site development process.
Beginning year of implementation	2019
Implementation Date	

BMP 4: Brochures/pamphlets/direct mailer	
Document Name	
Document Location	
Description	Management of SW from metal roofs (Zone II related); proper maintenance of parking lot surfaces
Target Audience	Industrial Facilities
Responsible Parties	Department of Public Works
Measurable Goal	Mail to 100% of industrially zoned parcels.
Beginning year of implementation	2019
Implementation Date	

BMP 5: Electronic Messaging Boards	
Document Name	
Document Location	
Description	Rotating (seasonal) messages on grass clippings and fertilizer management, pet waste management, snow and ice treatments, and septic system management.
Target Audience	Residents
Responsible Parties	Department of Public Works
Measurable Goal	Message Boards placed at publicly accessible locations.
Beginning year of implementation	2020
Implementation Date	

BMP 6: Medway Matters monthly digital newsletter	
Document Name	
Document Location	
Description	Preventing SSO's through FOG program; highlighting impacts of FOG article.
Target Audience	Businesses, Institutions and Commercial Facilities
Responsible Parties	Communications Department
Measurable Goal	Achieve "open" rate of greater than 50% for edition of newsletter.
Beginning year of implementation	2022
Implementation Date	

BMP 7: Local Public Service Announcements; Medway Facebook page	
Document Name	
Document Location	
Description	Posting of PSA on FB page re: good site maintenance and LID techniques for residential development
Target Audience	Developers (construction)
Responsible Parties	Communications Department
Measurable Goal	100% response to questions or comments posted on the page in relation to PSA.
Beginning year of Implementation	2022
Implementation Date	

BMP 8: Newspaper Articles/Press Releases	
Document Name	
Document Location	
Description	Waste management best practices such as covering dumpsters, sweeping regularly, keeping inventory and waste within buildings or protected from SW.
Target Audience	Industrial Facilities
Responsible Parties	Department of Public Works
Measurable Goal	Mail to 100% of industrially zoned parcels.
Beginning year of Implementation	2022
Implementation Date	

MCM 2: Public Involvement and Participation

Permit Part 2.3.3

Objective: The permittee shall provide opportunities to engage the public to participate in the review and implementation of the permittee's SWMP.

MCM 2: Public Involvement and Participation Best Management Practices (BMP)

BMP 1: Public Review	
Document Name	Stormwater Management Plan
Description	SWMP Review; to be available through website redirect to stormwater page.
Responsible Party	Department of Public Works
Measurable Goal	Allow annual review of stormwater management plan and posting of stormwater management plan on website.

BMP 2: Public Participation	
Description	Public comment on SWMP.
Responsible Party	Department of Public Works
Measurable Goal	Allow public to comment on stormwater management plan annually.

BMP 3: Public Participation	
Description	Direct messages to support participation in Town's Household Hazardous Waste Day.
Responsible Party	Department of Public Works
Measurable Goal	Track volume of material collected and number of residents participating.

BMP 4: Public Participation	
Description	Direct messages to support participation in Town's "Clean Sweep" Day.
Responsible Parties	Department of Public Works
Measurable Goal	Track volume of material collected and number of residents participating.

MCM 3 Illicit Discharge Detection and Elimination (IDDE) Program

Permit Part 2.3.4

Objective: The permittee shall implement an IDDE program to systematically find and eliminate illicit sources of non-stormwater discharges to its municipal separate storm sewer system and implement procedures to prevent such discharges.

MCM 3: IDDE Program Best Management Practices (BMP)

BMP 1: IDDE Legal Authority	
Ordinance Name and link	Stormwater and Land Disturbance Bylaw
Responsible Parties for Enforcement	Department of Public Works, Conservation Agent, Community and Economic Development Department, Building Department
Completed by	

BMP 2: Sanitary Sewer Overflow (SSO) Inventory	
Document Name	
Description	
Responsible Party	
Measurable Goal	Annually track and report the following SSO information: the location; a clear statement of whether the discharge entered a surface water directly or entered the MS4; date(s) and time(s) of each known SSO occurrence; estimated volume(s) of the occurrence; description of the occurrence indicating known or suspected cause(s); mitigation and corrective measures completed with dates implemented; and mitigation and corrective measures planned with implementation schedules. Update inventory as needed.
SSO Reporting	In the event of an overflow or bypass, a notification must be reported within 24 hours by phone to MassDEP, EPA, and other relevant parties. Follow up the verbal notification with a written report following MassDEP's Sanitary Sewer Overflow (SSO)/Bypass notification form within 5 calendar days of the time you become aware of the overflow, bypass, or backup.
The MassDEP contacts are: Northeast Region (978) 694-3215 205B Lowell Street Wilmington, MA 01887 Central Region (508) 792-7650 8 New Bond Street Worcester, MA 01606 Southeast Region (508) 946-2750 20 Riverside Drive Lakeville, MA 02347 Western Region (413) 784-1100 436 Dwight Street Springfield, MA 01103 24-hour Emergency Line 1-888-304-1133	The EPA contacts are: EPA New England (617) 918-1510 5 Post Office Square Boston, MA 02109

BMP 3: Map of Storm Sewer System	
Document Location	Stormwater Map
Description	Update map as appropriate during IDDE program completion.
Responsible Party	Department of Public Works and GIS Coordinator
Measurable Goal	Map 100% of outfalls and receiving waters, open channel conveyances, interconnections with other MS4s and other storm sewer systems, municipally-owned stormwater treatment structures, waterbodies identified by name and indication of all use impairments, and initial catchment delineations within 2 years of the permit's effective date. Map 100% of outfall spatial locations, pipes, manholes, catch basins, refined catchment delineations, municipal sanitary sewer system (if available), and municipal combined sewer system (if applicable) within 10 years of the permit's effective date.
Phase I Completed (by year two)	
Phase II Completed (by year ten)	

Catchment Delineation Procedure

The approach to delineation was to use the topographic contours as the governing parameter, and where available, use mapped drainage infrastructure to adjust delineations. The approach used is conservative because it includes areas that contribute overland flow, in addition to piped stormwater, towards the outfall location. In some cases, this may help identify non-point sources of pollution to receiving waters, such as waterfowl or pet waste in parks- which can be addressed in other portions of the MS4 Permit required elements (e.g. Education and Public Participation).

1.1 Trace the Discharge

This section is intended to guide Medway’s MS4 authority through the process of **tracing** the source of an illicit discharge. If the existence of an illicit discharge is confirmed at an outfall or a junction manhole, the specific source of the discharge must be traced (located) and eliminated. The procedure proposed to trace the source of the discharge is a two-phase process:

Phase I – Working upstream from the outfall, use system maps (the paper map booklet or the GIS) and inspection of manholes, junction manholes, and catch basins to determine the approximate location of the source of the illicit discharge. Catchment delineations on the maps show the approximate limit of area contributing to each outfall.

Phase II – If necessary, use more advanced techniques, such as dye testing, smoke testing or TV inspection to locate the specific source of the discharge.

The tracing process should take place during dry weather conditions (less than 0.1 inch of rain in the prior 24 hours).

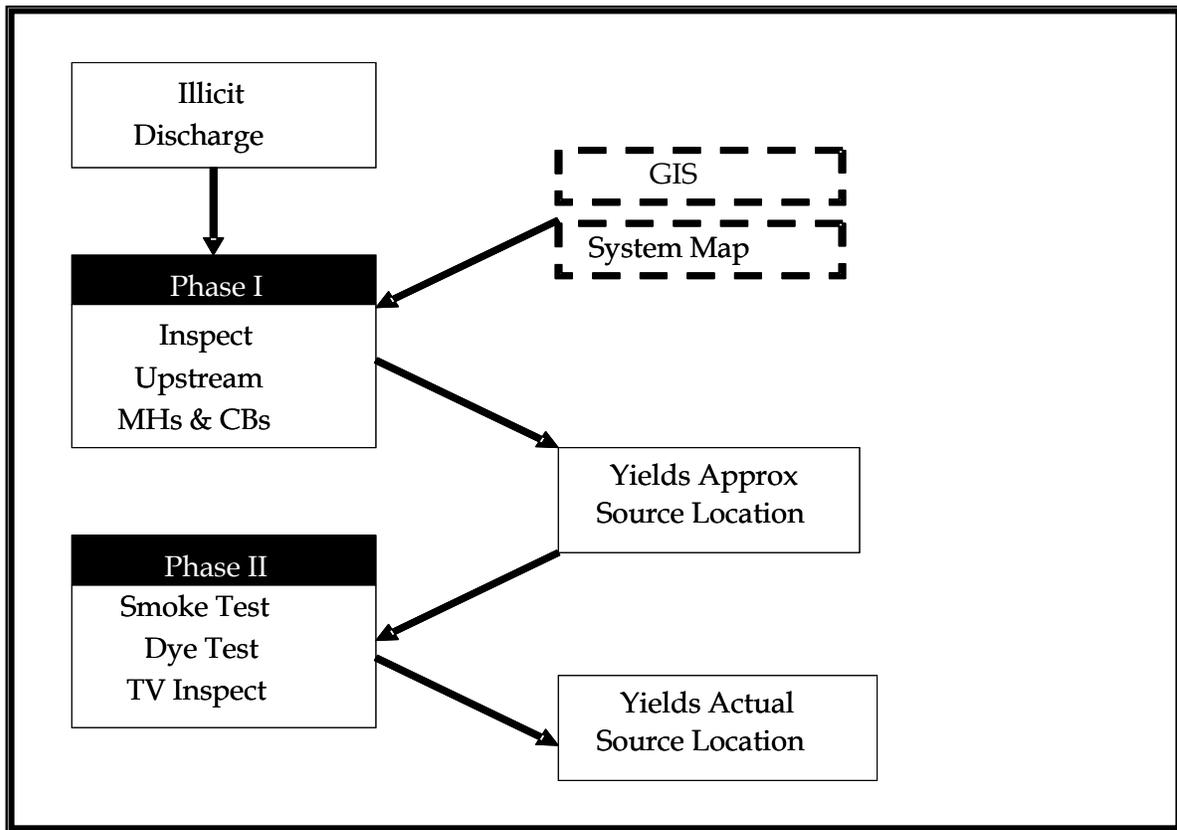


Figure 5-3: Flow Chart of ID Tracing Procedure

1.1.1 Dry Weather Flow Tracing – Locating Illicit Discharge Sources – Phase I

This section will describe in detail steps recommended to locate the approximate location (between two manholes) of a dry weather flow.

As described above, Phase I of the illicit discharge source location procedure is to locate the approximate location of the source. Following the steps described in this section will result in locating the source of an illicit discharge, with an accuracy of ‘between two manholes’. This is done using the following tools/methods:

- ❑ **Storm sewer Map Book & GIS** – Find the appropriate Map Book Tile or tiles corresponding to the outfall to be inspected. If the outfall catchment area is broken up over several map tiles, ArcMap users can open the GIS map file, recenter the view on the catchment, and re-print a map.

Using the map developed in the step above, the user can begin to study the catchment area upstream of the selected outfall. Having an understanding of the land use of the area is an important tool in locating the source of the illicit discharge. For example, the lab analysis of the

dry weather flow sampled at the outfall might show that there is oil in the flow. This could point to the potential of the source being a local garage.

- **Inspection of manholes and catch basins upstream of the outfall** – Having a map of the upstream storm sewer network, and an understanding of the catchment area, the user should then begin to inspect storm sewer manholes and catch basins – moving step by step, upstream from the outfall. Inspection should show that manholes downstream of a source show the same type of discharge as observed at the outfall, and manholes upstream of the source do not. Using this logic, by inspecting upstream into the system, an inspector will be able to flag the manhole where the evidence of the illicit discharge begins to be observed. A manhole upstream of this manhole should show no such evidence.

The figure below shows a graphical representation of a typical ‘Phase I’ illicit discharge source location.

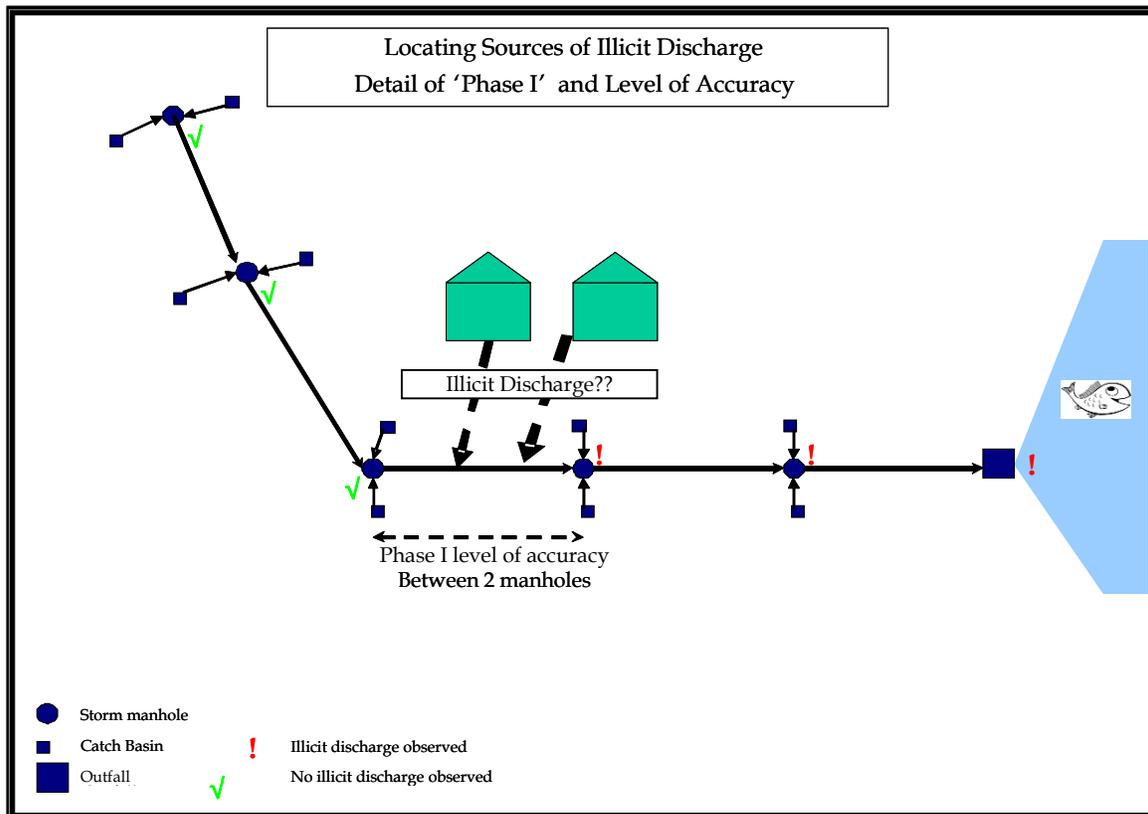


Figure 5-4: Tracing Procedure – Phase I Level of Accuracy

PHASE I ILLICIT DISCHARGE TRACING PROCEDURES

Step 1

Use the MS4 storm sewer system mapping to get a clear map of the outfall and the pipes, manholes and catch basins that are upstream from it. Find the appropriate Map Book Tile or tiles corresponding to the outfall to be inspected. If the outfall catchment area is broken up over several map tiles, ArcMap users can open the GIS map file, recenter the view on the catchment, and re-print a map.

Step 2

Revisit outfall and confirm that dry weather flow is still running. Illicit discharges may be intermittent and a flow observed one day may not necessarily be observed the following day or at a different time. An illicit discharge will be most easily traceable if it is active during the follow up procedures.

(Revisiting the outfall is not necessary if follow up procedures are already being undertaken due to signs of previous illicit discharge at the outfall, but it can often be useful to allow the inspector get a better 'lay of the land'.)

Step 3

Begin inspecting manholes and catch basins moving upstream and away from the outfall. Inspect each structure, specifically looking out for similar characteristics as were observed at the outfall.

If there is no evidence of those characteristics at the first set of manholes and catch basins upstream of a flowing outfall, it is likely that the source of the illicit discharge is located somewhere between the outfall and these structures. >>>Skip Step 4, Move to Phase II.

If there is evidence in the first upstream manhole/catch basins of those characteristics observed at the outfall, it is likely that the source of the illicit discharge is located somewhere upstream of this point.

Step 4

Repeat Step 3, continuing to move upstream and away from the outfall, to inspect manholes and catch basins for the same flow characteristics that were observed at the outfall.

Junction Manholes (JMHS)- A junction manhole is a manhole or structure with two or more inlets accepting flow from two or more MS4 alignments. Manholes with inlets solely from private storm drains, individual catch basins, or both, are not considered junction manholes. Key JMHS shall be opened and inspected for visual/olfactory evidence of ID. If visual/olfactory evidence is present, it shall be recorded. If flow is present, it shall be sampled for

As soon as the inspection process yields a set of manholes/catch basins where the outfall characteristics are not observed, stop the inspection process. At this stage, it can be reasonably determined that the source of the illicit discharge is somewhere between this set of manholes/catch basins, and the set of structures immediately downstream of there.

Move directly to Phase II procedures, if necessary.

On completion of Phase I source location activities, the inspection team should know, with an accuracy of 'between two manholes' where the illicit discharge is entering the storm sewer system.

Additional notes on source location

- ❑ **Notification** - It is important for the inspection team to notify local MS4 authorities, and the local police department regarding the location and times of inspections. This is important for the safety of the inspection team and for the information of the general public. Based on the potential locations (busy roads) the police department may determine that it is appropriate to have a police detail accompany the inspection team to safeguard the safety of the team and to direct traffic on busy roads. Public notification is also a key factor in a successful tracing program – see Appendix D for an example public notification form.
- ❑ **Multiple Discharges** - In some instances, multiple illicit discharges may be flowing to one outfall. In cases such as these a manhole inspection might show a reduction in, but not absence of flow compared with a downstream manhole. This likely means that there is one illicit source downstream of the manhole, and an additional source or sources upstream of the manhole. In a case such as this the inspection team should take detailed notes and inspection records and continue inspecting upstream storm structures until no flow is observed. The inspection team will then know that there are multiple sources between that point and the outfall, and Phase II activities should be implemented on that portion of the system.

1.1.2 Dry Weather Flow Tracing – Locating Illicit Discharge Sources – Phase II

The Phase I source location procedures will give the inspection team a length of storm sewer system, (between two consecutive manholes for a single source, a longer stretch of storm system for multiple sources). At this point, simple inspections of storm system structures may not be sufficient for locating specific sources. The following set of phase II procedures will assist the inspection team in locating specific sources. The following illicit discharge detection methods are described and discussed below:

- ❑ Smoke testing
- ❑ Dye testing
- ❑ Television inspection

Public notification is an important part of all of these Phase II procedures. Property owners should be notified in advance that activities such as smoke testing, dye testing or TV inspection are planned for their street/area, and a specific DPS contact name should be made available to them so that they can discuss any concerns they might have. Sample notifications are included in Appendix D.

Phase II procedures will target more specific sections of the storm system, and will typically end up highlighting specific properties. In many cases, the owners of those properties may not be aware that there is an illicit discharge source on or close to their property. This may cause some concern to the property owners. The inspection teams and should communicate clearly and openly with the owners so that the sources are identified. If sources are identified, the DPS will work with the owners, within the parameters of local bylaws and regulations, to remove the source(s) of the illicit discharge.

The figure below shows a graphical representation of a typical 'Phase II' illicit discharge source location.

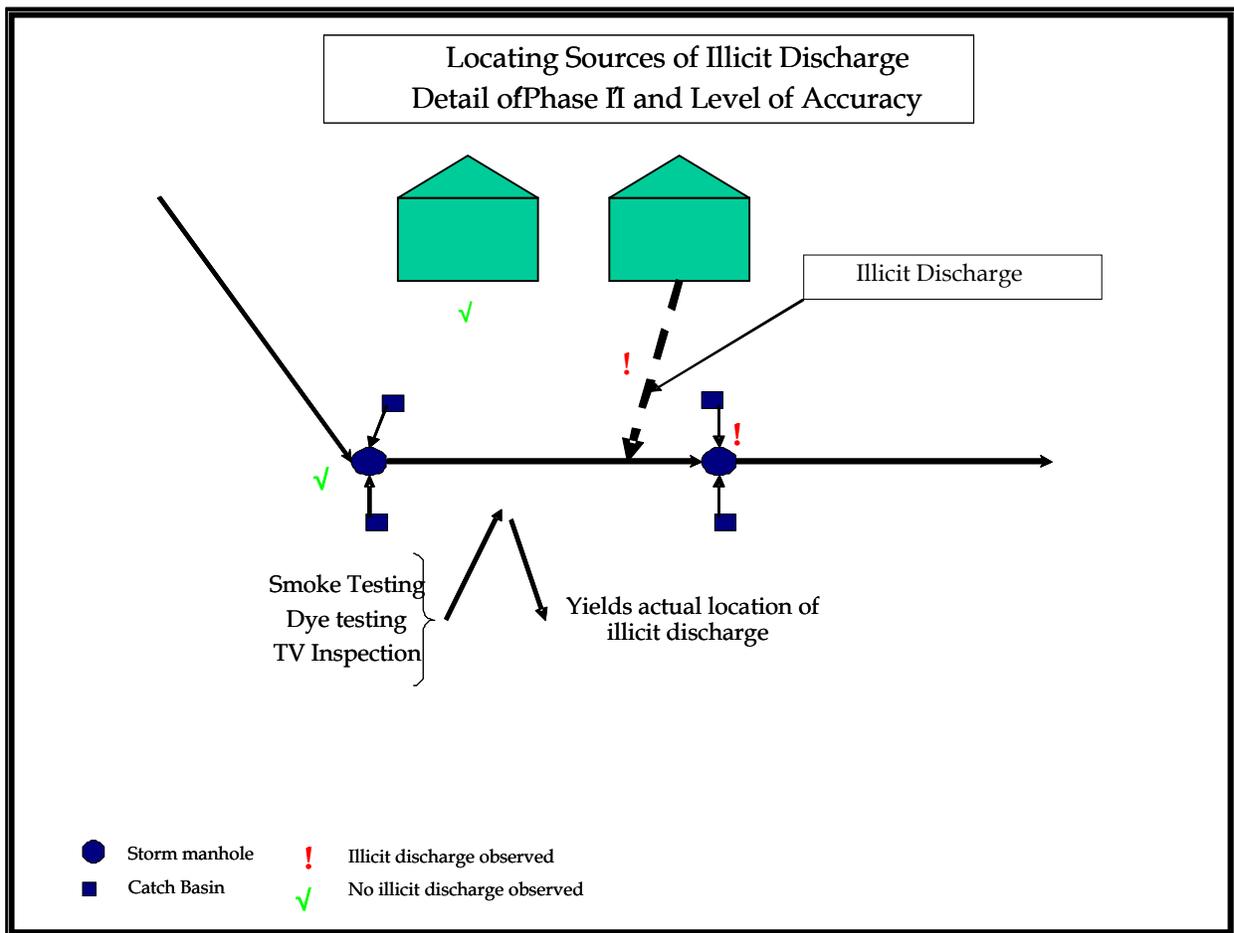


Figure 5-5: Phase II Source Location

1.1.2.1 Smoke Testing

Description – Blowing smoke, under pressure, into an isolated section of storm sewer system that has been plugged (by sand bags, beach balls, or other types of plug) at all ends. The pressurized smoke will not be able to exit via the plugged manholes/catch basins, and will therefore seek the path of least resistance to exit the system. If there are other connections to the system, such as roof leaders or floor drains, the smoke will flow up these connections and exit the system this way. Inspector should look out for smoke coming out of roof leaders or basements for a positive test. A dye test (see below) is typically used to confirm the results of a positive smoke test.

Smoke testing is useful for determining inflow sources such as roof leaders, cellar, yard, and area drains, foundation drains, abandoned building sewers, faulty connections, illegal connections, and cross connections with the sanitary sewers. **Smoke testing does require specific equipment (mechanical blowers etc) and training.** If it is determined that smoke testing is the most appropriate tracing method to be used, a local contractor should be contacted to undertake the work, unless the MS4 has the appropriate equipment and personnel.

Smoke testing is a multiple source method – one setup of smoke testing may flag up multiple potential sources.

Appropriate uses – smoke testing is most appropriately used when there are multiple potential sources between consecutive manholes or along a stretch of several manholes.

Notes – Because of the use of smoke, coordination with the public is particularly important when undertaking smoke testing. The local fire department should be alerted about where and when the testing will take place, as they will likely get calls from residents who see smoke and believe there is a fire emergency. In some communities, the local fire department will send a detail to attend the smoke testing. The smokes used are generally harmless, but may in some cases cause aggravation to those with previously existing breathing difficulties.

1.1.2.2 Dye Testing

Description – Pouring dyed water into a suspected source (roof leader, floor drain) and monitoring the downstream manhole for appearance of the dye. If the dye poured into a suspected source is observed in a downstream manhole or catch basin shortly after, this will confirm that the source is connected into the storm system.

Dye testing is a single source method – each dye test setup will confirm only one source.

Appropriate uses – Dye testing is best used on a source that is strongly suspected of being connected to the system, because it is part of the only property contributing flow to a suspected portion of storm system, or because it is a high-risk property.

If there are multiple properties along a suspected section of storm system, it may be more efficient to conduct smoke testing, as multiple dye tests along a single section of storm system can be time consuming and can yield confusing results.

Notes –Dye testing **does not require** specific training or equipment, and can typically be undertaken by DPS employees. The dye that is used in this process is generally made of vegetable dyes, and is harmless. Ultimately, dye that is introduced into the storm sewer system will flow out of the outfall, and will likely

cause discoloration of the water in the vicinity of the outfall. This can cause concern to local residents, and the Town should notify the appropriate departments so that these concerns can be put to rest.

Dye Testing – positive dye test result.



1.1.2.3 Television Inspection

Description – Television inspection consists of a robotic TV camera that is mounted on wheels and is placed within the suspect pipe. The camera has an odometer on it to measure distance. The camera travels down the pipe and records the pipe condition while being watched by a technician from above. The technician can adjust the focus and camera direction from up top. If an illicit discharge source is found, the technician can then stop the travel of the camera and focus in on the source. TV inspection is used to follow a trunk line to determine the location of an illicit discharge from within the pipe itself. TV inspection will also yield a measurement from the camera entry point to the illicit source, making it easier to locate the source on street level when it is time to eliminate the illicit connection. The TV inspection method will also yield the direction of the illicit connection entering the pipe (left or right of the robot), which can be very useful to determine the source of the flow.

Appropriate uses - TV inspection is most appropriately used when there are multiple potential sources between consecutive manholes or along a stretch of several manholes. The camera can pinpoint a connection and still see if there is any flow upstream of that connection telling the camera operator to continue upstream until there are no dry weather flows in the pipe.

TV inspection is also useful within areas sensitive to public concern. The TV inspection method does not produce any visual effects on the water bodies, such as dye testing. TV inspection also does not produce any visual effects within the air space of a sensitive property like a nursing home or hospital, such as smoke testing. It is also useful when a property owner will not allow access to their property to confirm a suspected source of inflow.

Notes - Because of the need to have access to the storm sewers and the need to park a TV inspection vehicle in the street to conduct the inspection it is necessary to coordinate all activities with the DPS inspector and the local police department. Having a parked vehicle in the road while conducting an inspection may require a police detail to direct traffic. Alerting local residents of these activities will also reduce the phone calls to Town departments from concerned residents.

1.1.3 Safety Considerations

Safety of personnel is of the utmost importance, so a discussion summary of safety issues is provided below:

MANHOLE / CATCH BASIN INSPECTION: IMPORTANT SAFETY INFORMATION
<p>The underground structures that form a stormwater collection network (catch basins, manholes etc) are part of a dangerous environment, and it is vital that all appropriate safety precautions are taken. Some examples of the safety issues that can occur when working with a storm sewer network are:</p> <ul style="list-style-type: none"><input type="checkbox"/> Inhaling poisonous gases that can accumulate inside the piping system.<input type="checkbox"/> Falling into a manhole and being swept down a storm drain pipe.<input type="checkbox"/> Being struck by traffic while inspecting catch basins or manholes on the street.<input type="checkbox"/> Falling while accessing outfalls with unstable banks.<input type="checkbox"/> Infection from raw sewage or chemicals.<input type="checkbox"/> Poison ivy. <p>In most cases, any of the activities that are necessary as part of an inspection of a catch basin or manhole, undertaken as part of dry weather flow follow up, can be performed from the street or ground level. For example:</p> <ul style="list-style-type: none"><input type="checkbox"/> Flow depths can be measured using long sticks<input type="checkbox"/> Samples can be taken by bottles held by extension holders<input type="checkbox"/> Visual inspections can be performed using flashlights or mirrors <p>If for some reason entry into the system is deemed necessary, it is extremely important to note the following</p>
<p>NO INDIVIDUAL, UNDER ANY CIRCUMSTANCE, SHOULD ENTER INTO ANY PART OF THE STORM SEWER SYSTEM, UNLESS THAT INDIVIDUAL HAS RECEIVED COMPLETE OSHA CONFINED-SPACE-ENTRY TRAINING, AND IS FULLY QUALIFIED TO OPERATE IN A CONFINED SPACE ENVIRONMENT. NO INDIVIDUAL, TRAINED OR NOT, SHOULD ENTER CONFINED SPACE WITHOUT ADEQUATE SUPPORT FROM ADDITIONAL PERSONNEL AND APPROPRIATE EQUIPMENT.</p>
<p>If an inspector is unsure whether he/she is qualified to enter into a confined space, it is likely they are not qualified. Review the following website for additional information, or speak with the MS4 authority to clarify any safety issues. http://www.osha.gov/SLTC/confinedspaces/</p>

MANHOLE / CATCH BASIN INSPECTION: IMPORTANT SAFETY INFORMATION

Other common-sense safety issues to be aware of include, but are not limited to:

- ❑ **Danger from passing traffic** – check with local police department to determine if a police detail is needed on streets where the storm system may be inspected.
- ❑ **Communication** – Inspectors should ensure that they carry walkie-talkies or cell-phones to enable them to stay in contact with the MS4 authority. No inspector should go into the field without letting the MS4 authority where they will be and when they expect to be finished.

Inspectors should plan carefully for field work and should make themselves fully aware of any site-specific condition they may encounter.

- ❑ **Weather Conditions** – As in conducting outfall inspections, it is important to conduct dry-weather-flow source location tracing activities during dry weather flow conditions.

Seasonally, the best times of year are late spring and early fall when there is little vegetation to camouflage the outfalls and the ground water tables are low prohibiting infiltration into the system. Tracing should be conducted at least 48 hours after any significant rainfall event to minimize the impact of delayed storm flow on inspections.

1.2 Eliminate the Discharge

: Upon detection of an illicit discharge, the permittee shall eliminate an ID as expeditiously as possible. The MS4 shall identify all responsible parties and notify them in writing to require immediate cessation of improper disposal practices in accordance with legal authorities. Where elimination within 60 days is not possible, an expeditious schedule shall be established; with enforcement action taken within 6 months of notifying responsible parties, if the ID has not been eliminated.

BMP 4: IDDE Program	
Description	Create a written program to systematically find and eliminate sources of non-stormwater discharges to the MS4 and implement procedures to prevent such discharges.
Responsible Party	Department of Public Works
Measurable Goal	Conduct 100% of outfall screening on High and Low Priority Outfalls within 3 years of the permit's effective date. Complete catchment investigations for 100% of the Problem Outfalls within 7 years of the permit's effective date. Complete 100% of all catchment investigations within 10 years of the permit's effective date.
Completed	April 2014
The outfall/interconnection inventory, initial ranking, dry weather outfall, interconnection screening, and sampling results can be found in Table 4-2 of the IDDE Program plan.	

BMP 5: Employee Training

Description	Provide annual training to employees involved in the IDDE Program including how to recognize illicit discharges and SSOs.
Responsible Party for Enforcement	Department of Public Works
Measurable Goal	Annual training.
Completed	

BMP 6: Implement revised IDDE program	
Description	Implement catchment investigations according to program and permit conditions.
Responsible Party for Enforcement	Department of Public Works
Measurable Goal	Complete 10 years after effective date of permit.

BMP 7: Dry weather screening	
Description	Conduct in accordance with outfall screening procedure and permit conditions.
Responsible Party for Enforcement	Department of Public Works
Measurable Goal	Complete 3 years after effective date of permit.

BMP 8: Wet weather screening	
Description	Conduct in accordance with outfall screening procedure and permit conditions.
Responsible Party for Enforcement	Department of Public Works
Measurable Goal	Complete 10 years after effective date of permit.

BMP 9: Ongoing screening	
Description	Conduct dry weather and wet weather screening (as necessary).
Responsible Party for Enforcement	Department of Public Works
Measurable Goal	Complete ongoing outfall screening upon completion of IDDE program.

MCM 4 Construction Site Stormwater Runoff Control

Permit Part 2.3.5

Objective: The objective of an effective construction stormwater runoff control program is to minimize or eliminate erosion and maintain sediment on site so that it is not transported in stormwater and allowed to discharge to a water of the U.S. through the permittee's MS4.

MCM 4: Construction Site Stormwater Runoff Control Best Management Practices (BMP)

BMP 1: Site inspection and enforcement of Erosion and Sediment Control (ESC) measures	
Description	Complete written procedures of site inspections and enforcement procedures
Responsible Parties for Enforcement	Department of Public Works, Conservation Agent, Community and Economic Development Department, Building Department
Measurable Goals	Maintain current procedures and document 100% of inspections.

BMP 2: Site plan review	
Description	Complete written procedures of site plan review and begin implementation.
Responsible Parties for Enforcement	Community and Economic Development Department
Measurable Goals	Complete update to existing review procedures (if necessary) within 1 year of the effective date of permit.

BMP 3: Erosion and Sediment Control	
Description	Adoption of requirements for construction operators to implement a sediment and erosion control program
Responsible Parties for Enforcement	Community and Economic Development Department
Measurable Goals	Maintain current procedures and document 100% of project close-outs of construction phase controls.

BMP 4: Waste Control	
Description	Adoption of requirements to control wastes, including but not limited to, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes
Responsible Parties for Enforcement	Community and Economic Development Department
Measurable Goals	Maintain current procedures.

MCM 5 Post Construction Stormwater Management in New Development and Redevelopment

Permit Part 2.3.6

Objective: The objective of an effective post construction stormwater management program is to reduce the discharge of pollutants found in stormwater to the MS4 through the retention or treatment of stormwater after construction on new or redeveloped sites and to ensure proper maintenance of installed stormwater controls.

BMP 1: As-built plans for on-site stormwater control	
Description	The procedures to require submission of as-built drawings and ensure long term operation and maintenance will be a part of the SWMP
Responsible Parties for Enforcement	Community and Economic Development Department
Measurable Goals	Require submission of as-built plans for 100% of completed projects.

BMP 2: Target properties to reduce impervious surfaces	
Description	Identify at least 5 permittee-owned properties that could be modified or retrofitted with BMPs to reduce impervious areas and update annually
Responsible Parties for Enforcement	Department of Public Works
Measurable Goals	Analysis complete and properties identified; report annually on status of retrofit-candidate properties.

BMP 3: Green Infrastructure	
Description	Develop a report assessing existing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist
Responsible Parties for Enforcement	Community and Economic Development Department
Measurable Goals	Complete 4 years after effective date of permit and implement recommendations of report.

BMP 4: Street design and parking lot guidelines	
Description	Develop a report assessing requirements that affect the creation of impervious cover. The assessment will help determine if changes to design standards for streets and parking lots can be modified to support low impact design options.
Responsible Parties for Enforcement	Community and Economic Development Department
Measurable Goals	Complete 4 years after effective date of permit and implement recommendations of report.

BMP 5: Ensure any stormwater controls or management practices for new development and redevelopment meet the retention or treatment requirements of the permit and all applicable requirements of the Massachusetts Stormwater Handbook and MS4 permit (e.g. 1" retention from impervious area for new development).	
Description	Adoption, amendment, or modification to current regulation to meet permit requirements
Responsible Parties for Enforcement	Community and Economic Development Department
Measurable Goals	Complete update to existing mechanism (if necessary) 2 years after effective date of permit.

MCM 6 Good Housekeeping and Pollution Prevention for Permittee Owned Operations

Permit Part 2.3.7

Objective: The permittee shall implement an operations and maintenance program for permittee-owned operations that has a goal of preventing or reducing pollutant runoff and protecting water quality from all permittee-owned operations.

MCM 6: Good Housekeeping and Pollution Prevention for Permittee Owned Operations

PERMITTEE OWNED PROPERTIES

BMP 1: Parks and Open Spaces Operations and Maintenance Procedures	
Description	Create written O&M procedures including all requirements contained in 2.3.7.a.ii for parks and open spaces, buildings and facilities, and vehicles and equipment.
Responsible Parties for Enforcement	Department of Public Works
Measurable Goals	Implement the SOP listed above on 100% of the parks and open spaces.

BMP 2: Buildings and Facilities Operations and Maintenance Procedures	
Description	Create written O&M procedures including all requirements contained in 2.3.7.a.ii for parks and open spaces, buildings and facilities, and vehicles and equipment.
Responsible Parties for Enforcement	Department of Public Works
Measurable Goals	Implement the SOP listed above on 100% of buildings and facilities.

BMP 3: Vehicles and Equipment Operations and Maintenance Procedures	
Description	Create written O&M procedures including all requirements contained in 2.3.7.a.ii for parks and open spaces, buildings and facilities, and vehicles and equipment.
Responsible Parties for Enforcement	Department of Public Works
Measurable Goals	Implement the SOP listed above for 100% of vehicles and equipment according to the above document.

INFRASTRUCTURE

BMP 4: Infrastructure Operations and Maintenance Procedures	
Description	Establish and implement program for repair and rehabilitation of MS4 infrastructure
Responsible Parties for Enforcement	Department of Public Works
Measurable Goals	100% of infrastructure is maintained to ensure proper function in accordance with the procedures above.

BMP 5: Catch Basin Cleaning Program	
Description	Establish schedule for catch basin cleaning such that each catch basin is no more than 50% full and clean catch basins on that schedule
Responsible Parties for Enforcement	Department of Public Works
Measurable Goals	Clean catch basins on established schedule and report number of catch basins cleaned and volume of material moved annually.

BMP 5: Street Sweeping Program	
Description	Sweep all streets and permittee-owned parking lots in accordance with permit conditions
Responsible Parties for Enforcement	Department of Public Works
Measurable Goals	Annually sweep 100% of all streets and 50% of all municipal parking lots in accordance with the schedule listed above.

BMP 6: Winter Road Maintenance Program	
Description	Establish a Snow and Ice Removal Policy.
Responsible Parties for Enforcement	Department of Public Works
Measurable Goals	Evaluate at least one salt/chloride alternative for use in the municipality.

BMP 7: Stormwater Treatment Structures Inspection and Maintenance Procedures	
Description	Establish and implement inspection and maintenance procedures and frequencies.
Responsible Parties for Enforcement	Department of Public Works
Measurable Goals	Inspect and maintain 100% of treatment structures to ensure proper function.

BMP 8: SWPPP	
Description	Create SWPPPs for maintenance garages, transfer stations, and other waste-handling facilities
Responsible Parties for Enforcement	Department of Public Works
Measurable Goals	Develop and implement SWPPPs for 100% of facilities.

Attachment 1: Permittee-Owned Facilities Inventory

Name	Address	Category
Idylbrook Park	99 Kimberly Dr, Medway, MA 02053	Parks and Open Space
Winthrop Street Playground	Winthrop Street	Parks and Open Space
Iarussi Way Open Space	Iarussi Way	Parks and Open Space
Medway Community Farm	50 Winthrop St, Medway, MA 02053	Parks and Open Space
Medway High School	88 Summer Street	Parks and Open Space
Choate Park Trail	1 Choate Park Road	Parks and Open Space
Choate Park Complex	1 Choate Park Road	Parks and Open Space
Cassidy Fields	13 Winthrop St	Parks and Open Space
McGovern School	9 Lovering Street	Parks and Open Space
Grand Army of the Republic Memorial	315 Village Street	Parks and Open Space
Ohnemus Picnic Area	Village Street	Parks and Open Space
Henry Garnsey Canine Recreation Park	298 Village Street	Parks and Open Space
Memorial School	16 Cassidy Lane	Parks and Open Space
Medway Middle School	45 Holliston Street	Parks and Open Space
Charles River Amphitheatre	Sanford Street	Parks and Open Space
Matondi Park	Holliston and Village Street	Parks and Open Space
North Street Park	North Street	Parks and Open Space
Oakland Street Park	82 Oakland Street	Parks and Open Space
Bresnahan's Landing	Village Street	Parks and Open Space
Deerfield Street Pond	20 Deerfield Street	Parks and Open Space
Town Hall	155 Village Street	Buildings and Facilities
Police Station	315 Village Street	Buildings and Facilities
Fire Station #1	44 Milford Street	Buildings and Facilities
Fire Station #2	155 Village Street	Buildings and Facilities
Senior Center	76 Oakland Street	Buildings and Facilities
Highway Barn	46 Broad Street	Buildings and Facilities
Recycling Center	46 Broad Street	Buildings and Facilities
McGovern School	9 Lovering Street	Buildings and Facilities
Medway Middle School	45 Holliston Street	Buildings and Facilities
Memorial School	16 Cassidy Lane	Buildings and Facilities
Medway High School	88 Summer Street	Buildings and Facilities
Industrial Well	Industrial Street	Buildings and Facilities
Populatic Well	Water Street	Buildings and Facilities
Oakland Street Well	Oakland Street	Buildings and Facilities
Village Street Well	Village Street	Buildings and Facilities
Highland Tank	Highland Street	Buildings and Facilities
Lovering Tank	Lovering Street	Buildings and Facilities
Water Department	Water Street	Buildings and Facilities

FORD	ECONOVAN	Vehicles and Equipment
FORD	F350	Vehicles and Equipment
INTERNATIONAL	4400	Vehicles and Equipment
HORT	603I	Vehicles and Equipment
INTERNATIONAL	700SER	Vehicles and Equipment
CHEVROLET	C4V042 AMBULANCE	Vehicles and Equipment
FORD	F350	Vehicles and Equipment
FORD	F350	Vehicles and Equipment
FORD	F350 BUCKET	Vehicles and Equipment
FORD	F550	Vehicles and Equipment
FORD	F550	Vehicles and Equipment
FORD	F550 AMBULANCE	Vehicles and Equipment
E-ONE	LADDER TRUCK	Vehicles and Equipment
KME	TRUCK	Vehicles and Equipment
EMERGENCY	TYPHOON	Vehicles and Equipment
FORD	F350	Vehicles and Equipment
CATERPILLAR	430E-IT	Vehicles and Equipment
INTERNATIONAL	4900 DUMP	Vehicles and Equipment
INTERNATIONAL	7400 DUMP	Vehicles and Equipment
INTERNATIONAL	7400 DUMP	Vehicles and Equipment
INTERNATIONAL	7400 DUMP	Vehicles and Equipment
CATERPILLAR	938	Vehicles and Equipment
HOLDER	C992	Vehicles and Equipment
HOLDER	C992	Vehicles and Equipment

FORD	F250	Vehicles and Equipment
FORD	F350	Vehicles and Equipment
FORD	F350	Vehicles and Equipment
FORD	F350	Vehicles and Equipment
FORD	F350	Vehicles and Equipment
FORD	F350	Vehicles and Equipment
FORD	F350	Vehicles and Equipment
FORD	F350 DUMP	Vehicles and Equipment
FORD	F550	Vehicles and Equipment
INTERNATIONAL	HV507 DUMP	Vehicles and Equipment
INTERNATIONAL	HV507 DUMP	Vehicles and Equipment
JOHN DEERE	LOADER	Vehicles and Equipment
CEMENT	MIXER	Vehicles and Equipment
ELGIN	PELICAN NP SWEEPER	Vehicles and Equipment
MACK	RD690S	Vehicles and Equipment
BOBCAT	S70	Vehicles and Equipment
FREIGHTLINER	TRUCK	Vehicles and Equipment
INTERNATIONAL	4700 DUMP	Vehicles and Equipment
FORD	F250	Vehicles and Equipment
FORD	F350	Vehicles and Equipment
FORD	F350	Vehicles and Equipment
FORD	F350	Vehicles and Equipment
FORD	F350	Vehicles and Equipment
FORD	CROWN VIC	Vehicles and Equipment

FORD	EXPLORER	Vehicles and Equipment
FORD	F250 PU	Vehicles and Equipment
FORD	INTERCEPT-SEDAN	Vehicles and Equipment
HARLEY DAVIDSON	FLHTP	Vehicles and Equipment
KAWASAKI	KLR250	Vehicles and Equipment
HARLEY DAVIDSON	MOTORCYCLE	Vehicles and Equipment
FORD	F250	Vehicles and Equipment
FORD	F250	Vehicles and Equipment
FORD	ECONOL VAN	Vehicles and Equipment
FREIGHTLINER	M2106	Vehicles and Equipment
FORD	TRANSIT VAN	Vehicles and Equipment
CATERPILLAR	430F-2	Vehicles and Equipment
INTERNATIONAL	4700 DUMP	Vehicles and Equipment
FORD	F250	Vehicles and Equipment
FORD	F350	Vehicles and Equipment
FORD	F350	Vehicles and Equipment
FORD	F350	Vehicles and Equipment
FORD	F550 DUMP	Vehicles and Equipment