

Section III - Investigation of Suspected Illicit Discharges (Part I.B(e)(3))

Investigating suspected illicit discharges is the next step towards eliminating illicit discharges from the MS4 system once an illicit discharge has been found. Investigation includes the follow-up activities from public reporting and ongoing field screening, and the tracking and enforcement actions that CDOT implements. This section includes procedures and methods used to report, investigate, track, and eliminate the discharge.

The following program elements are required under Section 3 of the permit, which requires CDOT to develop a program to investigate suspected illicit discharges.

- a) The program for the investigation of illicit discharges will be developed within existing authorities.
- b) CDOT will develop standard investigation procedures to be used to identify, report, and follow-up on the source(s) of illicit connections to the CDOT storm sewer system.
- c) CDOT will develop standard procedures for referring unresolved illicit discharges to the Division for further action.
- d) CDOT will report the number of illicit discharges investigated and the follow-up action taken as part of the Annual Report.

In order to effectively respond to all illicit discharge incidents, a comprehensive program was developed by the CDOT to work in conjunction with the Colorado Department of Public Health and Environment (CDPHE), which has the enforcement capabilities to fine or prosecute the violating entities, depending on the severity and regularity of illicit discharges from their facilities. The program incorporates the following components in accordance with the requirements of Section 3 of the permit.

1. Appropriate corrective actions including:
 - A trained water pollution response team (to respond and investigate reported non-hazardous discharges in to CDOT storm drains),
 - Identify the source of the illicit discharge, such as by tracing the discharge upstream,
 - Sampling of suspected illicit discharges if they are the responsibility of CDOT,
2. Defined follow-up procedures by CDOT where violating entities are first notified by CDOT of the illicit discharge and further coordination is required with the CDPHE.
3. Maintain a database that will aid CDOT in reporting the number of illicit discharges investigated and the follow-up action taken in the Annual Report.

This section of the program addresses procedures to be followed when reporting an illicit discharge, investigating a discharge, and following through on corrective actions. A summary of the general procedures is provided in the following sections and the specific procedures are included in Appendix III. CDOT intends to implement the standardized procedures over a 6-month period, which includes training of personnel.

Reporting of Illicit Discharges

A comprehensive outline of the illicit discharge reporting process entails more than simply providing a phone number for CDOT staff or members of the public to call. For instance, CDOT staff and the public need to know what constitutes an illicit discharge prior to being able to report it, as well as what number to call. Educating the public on the identification of an illicit discharge, and the existence of a hotline is a major undertaking and is addressed in Section V, Educational Activities.

Whether an illicit discharge is suspected as a result of dry weather screening or through public reporting (via hotline number, web site, or other public reports), it is the responsibility CDOT to follow through with an investigation. Once CDOT staff receives a report of a possible illicit discharge, the appropriate action level will be determined. CDOT will either mobilize their water pollution response team or directly call CDPHE for immediate action in the case of a hazardous material or unidentified material spill.

All reports of illicit discharges will be directed to the CDPHE Emergency Management Program (EMP) within 24 hours and a written notification will be sent within 30 days to the CDPHE-EMP. Correspondence information will be sent to the Spill Coordinator. The EMP staff will then forward a copy of the report to the county District Engineer in the Water Quality Control Division (WQCD).

Phone Hotlines

A phone hotline has been developed by CDOT in order to provide a way for the public and field staff to report an illicit discharge. The hotline number is 303-512-4H20 (4426). Calls received from the public and internal personnel are treated equivalently. Appropriate CDOT staff will be properly trained to effectively respond to hotline calls and ensure the efficient and cost effectiveness of the program. The CDOT staff member that receives a call from the public will record all information relevant to the report, including location, description of the suspected illicit discharge, and any other site-specific relevant information (Form-A, Appendix III). The CDOT staff member receiving the call will be equipped with a list of options so that they may mobilize an appropriate response team, redirect the call to a more appropriate agency, or in the event the reported information is inconclusive, dispatch an inspector to the site.

Illicit Discharge Identification

The vast majority of illicit discharges may be detected visually. Warning signs include discoloration of the storm water, presence of surface scum, oil sheen, turbidity, and sanitary sewer evidence. Other visual clues include the presence of stains, oils, residues, or debris adjacent to CDOT roads and inlets. A pungent odor emanating from any part of the storm drain system is also evidence of an illicit discharge. CDOT staff and the public will be educated

to identify illicit discharges based on the visual and odor clues identified above. Tracking forms for CDOT staff will be available for reporting suspected discharges in the field (Form-B, Appendix III). Field screening and educational activities are discussed in detail under Section II, Ongoing Field Screening and Section V, Educational Activities, respectively (see Appendix III for more information on field investigation procedures).

Identifying an Appropriate Response Team

All illicit discharges, hazardous or non-hazardous, should be managed to protect water quality as well as worker and public safety. Depending on the circumstances of the illicit discharge, CDOT will have the response communication capabilities to coordinate with CDPHE, local municipalities, counties, and state or federal agencies, as appropriate, to best determine the cleanup approach and level of action required. CDOT's primary response will be from the Water Quality Program Manager. Additional response will be provided by the CDOT regional environmental representatives when necessary. The Water Quality Program Manager and regional environmental representative will compose the CDOT water pollution response team, which will be trained in sampling and identification of illicit discharges.

For non-hazardous discharges, the CDOT water pollution response team will make an effort to identify the discharge and provide remedial support. CDOT will work with municipalities, industries, or businesses that discharge to resolve the illegal discharge. If no illicit discharger is identified by CDOT, then CDOT will contact the CDPHE for assistance. CDOT will notify the CDPHE Water Quality Control Division (WQCD) at 303-692-3500 and report the illegal discharge to the District Engineer in whatever county the spill is located.

When a hazardous material illicit discharge is suspected or known, the CDPHE-EMP shall be contacted immediately. The CDPHE-EMP will coordinate further action levels with other entities such as local HAZMAT team and the National Response Center. Another alternative, when reporting hazardous discharges, would be to call 911, who would contact the appropriate response personnel.

The Property Management Group at the CDOT headquarter office in Denver, can be contacted to cleanup orphan spills in the CDOT right-of-way if the Colorado State Patrol cannot identify the source. These spills can also be illicit discharges, which originated as spills on the highway and spread into the nearby storm drain. The Property Management Group can hire contractors to help CDOT clean-up orphan spills on CDOT highways and facilities.

Corrective Actions

CDOT has the responsibility for determining the best course of action to protect their storm sewer system in the event that an illicit discharge occurs in one of their outfall systems. Following a report of an illicit discharge, the appropriate CDOT water pollution response team is immediately dispatched by the Water Quality Manager or regional representative to the reported location to attempt to contain and track the source of the illicit discharge. In the event that the illicit discharge is considered to be a spill on a state highways, procedures from CDOT's *Guide to Hazardous Materials Response on State Highways* should be followed in conjunction with the developed illicit discharge protocol (see Appendix III). The Water Quality Program Manager is responsible for completing a detailed tracking form documenting the illicit discharge (Form-C, Appendix III) and submitting it to the CDPHE-EMP.

Sampling of Suspected Illicit Discharges

Investigation of the suspected illicit discharge will focus on finding the source of the suspected illicit discharge. The investigation of the source should commence immediately upon the discovery of possible illicit discharge. The Inspector will trace the discharge upstream using appropriate methods and resources. Methods to track down illicit discharges include:

- Visual inspection of the watershed. The first step in the investigation is to determine if there is/are any obvious sources. For example, if foaming is noted, looking for someone washing a vehicle may be the first step.
- Inspect or sample manholes from downstream to upstream. If an obvious source is not noted, then it may be necessary to pop manholes and perform additional monitoring.

Sampling will be performed by the appropriate trained CDOT environmental representatives. The parameters that will be analyzed include: temperature, pH, phenol, total chlorine, copper, and surfactants. In addition, parameters like odor, color, or clarity can be used to quickly identify which sewer lines contain the illicit discharge. Specific procedures for field investigations are addressed in Section II, Ongoing Field Screening.

Sources of illicit discharges can be potentially identified by analyzing flows for specific chemical constituents, which may be further associated with specific industries. For example, the presence of high levels of total coliform, in the 1-10 million range, could be an indicator of an illegal sanitary sewer connection. Samples should be taken upstream at strategic locations in the watershed to identify these connections. A list of recommended testing procedures is included in the field data sheet Form-D, Appendix III.

Removal of Illegal Connections

Improper connections can be detected by utilizing a combination of the methods for investigation non-stormwater discharges, such as sampling, visual/TV inspection, and using dye tests. Observations can be made during dry weather at all discharge points for abnormal conditions. Sampling of key parameters can be performed to further identify the source of the illicit discharge. Furthermore, a dye test can be performed by releasing a dye into a suspected sanitary or other connection. A color change in the storm water system would indicate that these suspected sources are, in fact, illegally entering the storm drain system. Such illegal connections may be physically sealed with concrete if the offending party fails to prevent further illicit discharges. Illegal connections may best be prevented by implementing a comprehensive construction inspection plan.

Follow-up

If a determination is made on the source of the discharge CDOT will issue a letter stating the violation to the discharger. The letter should state what parameters were detected, the location and date detected. If corrective actions were taken, CDOT should state the costs for the clean-up. However, if CDOT cannot resolve the matter with the discharges by themselves, then CDOT shall notify the CDPHE-WQCD, who has the enforcement capabilities of issuing a summons, fines, and prosecuting the offending discharger(s). An example letter is presented in Appendix III.

Follow up inspections are necessary to insure the offending party has discontinued discharging illegally into the storm drain system. Inspections should be conducted during both wet and dry weather for at least a year after the initial spill. If further contamination is detected from a previously identified source, CDOT can again issue another notice stating the violations. If the matter is not resolved, the CDPHE-WQCD should be contacted immediately in order to take definitive legal actions against the offending party. All CDOT complaints for follow-up inspection, notification, and/or enforcement action, should be addressed to the CDPHE-WQCD.

Annual Report

For information tracking and an efficient method to respond, report, and track the occurrence of illicit discharges, CDOT has developed a database of outfalls which are monitored under the Ongoing Field Screening procedures. The database will also be used to generate information for the annual report including: the number of illicit discharges reported, the follow-up procedures taken, and current status of the illicit discharge.

Illicit Discharge Reporting Procedures for CDOT Staff (Part I.B(e)(3)(b))

The following procedures identify actions and internal reporting responsibilities to be taken by CDOT employees in the event of an illicit discharge (ID) into CDOT's storm sewer system.

Reporting

When a CDOT employee encounters an illicit discharge:

- Step 1. They should be prepared to observe and report the following information:
- Location of incident.
 - Observe and size-up incident from safe distance
 - Try to recognize suspicious activities in area.
 - Possibly note names and contact information for people involved in incident.
 - Type of material. If the material cannot be safely identified, keep a safe distance from suspected illicit discharge and avoid contact.

In cases, where the average citizen reports a suspected illicit discharge, general questions should be asked about the illicit discharge such as the location and visual characteristics of the incident. CDOT will further investigate the incident to determine what further actions are necessary.

- Step 2. Call the CDOT Illicit Discharge hotline to report incident. The number is: 303-512-4H20 (4426).

The hotline person will fill out an initial tracking form with basic information provided by the reporting person. This information will include observational data from Step 1 above.

Incident Routing and Response

After the incident is reported to the hotline, the hotline person will route the call to the appropriate CDOT personnel for further action based on a series of questions addressed to the person reporting the incident.

The first set of questions to ask:

1. Is the material in the storm drain?
2. Is it just on the highway?
3. Or is the material both on the highway and in the storm drain?

If the person reports that the material is only in the storm drain, then it is categorized as an illicit discharge. Similarly, if material spilled on the highway is spreading from the highway surface into the storm drain, then it is also an illicit discharge. Further questions need to be asked to assess the type of ID and identify appropriate actions that need to be taken.

1. Is the ID a known hazardous material?
2. Is the ID a known non-hazardous material?
3. Or is the ID an unknown and it cannot be safely identified?

Material in the Storm Drain

If the material is in the storm drain and a known hazardous material, then:

- Step 1. The hotline person will immediately report incident to the CDOT Water Quality Program Manager, and if that person is unavailable, then the CDOT regional representative should be contacted. If both, the Water Quality Program Manger and CDOT regional representative, are unavailable to respond, call 911 or the CDPHE immediately (CDPHE 24-hour Environmental Emergency Spill Reporting Line 1-877-518-5608). The CDOT Water Quality Program Manager or regional representative will notify the Colorado State Patrol Dispatch (24-hour hotline: 1-303-239-4501), to address the problem until higher authority such as the CDPHE, or a remediation contractor, are at the scene of the incident.
- Step 2. The CDOT Water Quality Program Manager will fully document the ID in tracking form and send a copy to the CDPHE Emergency Management Program (EMP). The CDOT Water Quality Program Manager will report incident to the CDPHE-EMP within 24 hours and submit a written notification to the CDPHE-EMP within 30 days. The CDOT Water Quality Program Manager will notify the site or road supervisor where the illicit discharge occurred.

The CDPHE-EMP will report releases of petroleum products and certain hazardous substances listed under the Federal Clean Water Act (40 CFR 116) to the National Response Center immediately (24-hour hotline: 1-800-424-8802).
- Step 3. The CDPHE-EMP will notify downstream entities of the ID and the CDPHE Water Quality Control Division (WQCD) will take further follow-up action and, if necessary, enforcement action against offending parties.

If the material is in the storm drain and a known non-hazardous material, then:

- Step 1. The hotline person will immediately report incident to the CDOT Water Quality Manager, and if that person is unavailable, then the CDOT regional representative should be contacted.
- Step 2. The CDOT Water Quality Program Manager will fully document the ID in tracking form and send a copy to the CDPHE-EMP. The CDOT Water Quality Program Manager will report incident to the CDPHE-EMP within 24 hours and submit a written notification to the CDPHE-EMP within 30 days. The CDOT Water Quality Program Manager will notify the site or road supervisor where the illicit discharge occurred.
- Step 3. The CDPHE-EMP will notify downstream entities of the ID.
- Step 4. The CDOT Water Quality Program Manager will dispatch the CDOT water pollution response team. The team will perform sampling to determine the nature of the ID.
- Step 5. The CDOT Water Quality Program Manager will issue a letter of violation to the upstream offender. If the offender cannot be identified by CDOT, then CDOT shall contact the CDPHE-WQCD for further assistance.
- Step 6. Follow-up inspections should be performed by the CDOT Water Quality Program Manager to determine if the offending party has cleaned up the ID and discontinued discharging into CDOT's storm sewer system. If no action or response has been made by the offending party, then CDOT will contact the CDPHE-WQCD.
- Step 7. The CDPHE-WQCD will take further enforcement action, if necessary.

If the material is in the storm drain and is unknown or cannot be safely identified, then:

- Step 1. The hotline person will immediately report incident to the CDOT Water Quality Program Manager, and if that person is unavailable, then the CDOT regional representative should be contacted. If both, the Water Quality Program Manager and CDOT regional representative, are unavailable to respond, call 911 or the CDPHE immediately (CDPHE 24-hour Environmental Emergency Spill Reporting Line 1-877-518-5608).
- Step 2. The CDOT Water Quality Program Manager will dispatch the CDOT water pollution response team to determine if the ID is a hazardous or non-hazardous material. Additional assistance from trained personnel may be necessary for this step. If the material is identified as hazardous, then follow procedures steps for hazardous materials in storm drains. If it is a non-hazardous material, then follow procedures for non-hazardous material in storm drains.

Materials on the Highways

If the reported material is just on the highway and can be clearly seen as solely being on the highway and not spreading into the drainage pathways where it possibly may enter the waterway or storm drain, then the incident is classified as a spill on the highway. Appropriate

existing CDOT guidelines will be followed to take action for spills on highways. These guidelines are outline in the Colorado Department of Transportation *Guide to Hazardous Materials SPILL RESPONSE on State Highways* (August 2000) and are located in Appendix IV. CDOT should take no further action beyond emergency response assistance and notification. However, if CDOT finds an orphan spill for which a responsible party cannot be found, then the CDOT Property Management Group should be contacted.

Non-hazardous spills on highways should be reported to the regional Maintenance Supervisor and/or the Colorado State Patrol. Hazardous spills will be directed to the Colorado State Patrol (42-hour hotline: 1-303-239-4501). All spills will be reported to the CDPHE-EMP. In addition, written notification documenting the spill incident will be provided to the CDOT Water Quality Program Manager.

The role of CDOT employees in a hazardous materials incident is one of support only. CDOT can block access to roads when instructed by state patrol and CDOT must be ready to block drainage of the hazardous material into a waterway. In incidents where the material that has spilled on the road is spreading into the drainage waterway, CDOT personnel shall be prepared to block the spill according to the CDOT hazardous material spill guidelines.

Materials on the Highway and in the Storm Drain

If the material is both, present on the roadway and can be clearly seen in the storm drain/waterway, then:

- Step 1. The hotline person will immediately report incident to the CDOT Water Quality Program Manager, and if that person is unavailable, then the CDOT regional representative should be contacted. If both, the Water Quality Program Manager and CDOT regional representative, are unavailable to respond, call 911 or the CDPHE immediately (CDPHE 24-hour Environmental Emergency Spill Reporting Line 1-877-518-5608). The CDOT Water Quality Program Manager or regional representative will notify the Colorado State Patrol Dispatch (24-hour hotline: 1-303-239-4501), to address the problem until higher authority such as the CDPHE, or remediation contractor, are at the scene of the incident.
- Step 2. The CDOT Water Quality Program Manager will dispatch the CDOT water pollution response team. The team will perform sampling to determine the nature of the ID.
- Step 3. Follow procedures for hazardous or non-hazardous materials in storm drains as well as procedures for materials on highways.

Documentation

It is important for all the different components of the Illicit Discharge Program to be well documented. This information should be kept on file for 7 years as part of the CDOT compliance record as well as providing historical information that allows CDOT to identify reoccurring areas that have illicit discharge problems. The number of illicit discharges reported, the follow-up procedures taken, and current status of the illicit discharge will be included in the Annual Report.

Annual Reporting

Specifically, CDOT will report, on an annual basis in the Annual Report, the number of instances when possible illicit discharges were found to be actual illicit discharges. The non-illicit discharges will be characterized (i.e. permitted discharge, irrigation return flow, stormwater). Finally, the number of possible illicit discharges which were forwarded to CDPHE will be reported.