### CHAPTER 8

DRAINAGE AND DRAINAGE SYSTEMS

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8.1 GENERAL CONSIDERATIONS

Drainage is an essential element to be considered in the maintenance of a highway system. The purpose of a highway drainage system is to convey water away from the road as quickly as possible to prevent erosion of the roadway and saturation of the subgrade, and to prevent standing water or ice on the roadway surface. An efficient highway drainage system provides for the disposal of surface water from the roadway section and the elimination or control of subsurface water.

Included in a surface drainage system are the roadway crown, shoulder, curbs, gutters, drop inlets, storm drains, ditches/swales and pipes/culverts. A surface drainage system is provided to permit water to flow from the roadway surface as rapidly as possible and away from the highway.

Subsurface drainage systems include pipe underdrains, pavement base drains and combination storm sewer and underdrain. Examples of these are shown on Publication 72M, Standard Drawing RC-30M. The objective of a subsurface drainage system is to convey away any water that gets into base material. Subsurface drainage is a practical and economical way of maintaining firm, stable subgrades and structure foundations, eliminating saturated ground and preventing or reducing frost heave.

All drainage facilities should be maintained in operating condition to work as designed, with special attention given to fall cleaning so that structures will be ready to handle spring and summer rains. This requires year-round maintenance with emphasis on side ditch cleaning in the fall and early cleanup in the spring.

Properly cut shoulders allow water to drain away from the road surface and to flow to the nearest inlet or swale. Side dozing operations (removal of accumulated material from beneath guiderail) on unpaved shoulders and side approaches provides efficient drainage. Pub. 23, Chapter 5 contains additional information concerning shoulders.

Routine maintenance of drainage systems should consist of periodic inspections, to include pre and post storm inspections, and drainage cleaning activities. Regular inspections should be conducted to confirm that satisfactory conditions exist and to evaluate needs for cleanup and repair.

Maintenance of drainage systems and inspections are essential to preservation of the pavement and the prevention of stormwater pollution. Refer to PennDOT MS4 Individual Statewide Permit.

Marked settling of an area or part of a roadway (usually with pavement breakups or cracks) during or following the wet season is generally an indication that a drainage problem may exist.

In summary, proper drainage can keep water from collecting on and under a pavement. Keeping the subsurface properly drained will insure stability and minimize maintenance costs. Exhibits 1 and 2, “Background for Storm Water Facilities Policy” and “Sources of Curb-to-Curb Maintenance Policy”, respectively, will be helpful as handouts and reference documents when interfacing with the public.

8.2 SURFACE WATER DRAINAGE

Two types of water courses that handle surface drainage are natural water courses and manmade water courses. Natural water courses consist mainly of rivers and streams but may be a valley or swale that directs water into a river or stream. An important part of drainage maintenance is the cleaning of obstructions such as trees, branches, boulders and sandbars from around bridge structures to ensure that stream flow is not directed toward bridge abutments.

All surface water should eventually lead to the groundwater and/or a natural watercourse. In order to accomplish this, manmade watercourses are constructed which include open drainage systems such as ditches, detention basins, swales and gutters, or enclosed drainage structures such as pipes/culverts, which cross under or run parallel to a roadway and outlet to a natural water course.

Ditches/swales are generally classified as parallel ditches, diversion ditches and inlet or outlet ditches. Parallel ditches are channels that are constructed parallel to the roadway for the purpose of carrying runoff coming from the pavement, shoulders and adjacent areas. They are usually open unless crossing under side roads, driveway or walkways. A parallel ditch may be lined with paving material in mountainous terrain to limit erosion or they may be sodded or in a natural state provided it is adequate to accommodate the design capacity.
Diversion ditches are constructed parallel to the top of a cut and are intended to intercept surface drainage from flowing over the face of the slope, thus preventing erosion and slides due to excessive moisture. They may be paved or unpaved, depending again on design capacity.

Inlet and outlet ditches serve primarily to carry water to and from cross pipes, are generally perpendicular or slightly skewed to the centerline of the road, and often extend from or onto private property. PennDOT’s responsibility to maintain these ditches extends only as far as necessary to achieve free flow of drainage to and from the cross pipe, while avoiding excessive volume or velocity of water discharged onto private property.

Typical sections for parallel ditches and diversion ditches are shown on Publication 72M, Standard Drawing RC-10M.

Periodic inspections should be made, especially after heavy rains and in the spring after snow and ice melt. The inspection should include but not necessarily be limited to:

1. Checking ditch line for uniformity and obstructions.
2. Checking side slopes for erosion and possible need for protection of erosion.
3. Checking condition of ditch paving materials.

Ditches, swales and drainage channels should be maintained to the line, grade, depth and cross section to which they were constructed or subsequently improved. They should be kept reasonably clear of weeds and obstructing materials which may restrict the normal flow of water. Presently approved herbicides (discussed in Publication 23, Chapter 13) are effective and may be used for this purpose. Paved ditches should be maintained in a condition to ensure a smooth and impervious surface to prevent underflow of water. Cracks and joints in asphalt or concrete paved ditches and paved gutters should be repaired as necessary and the joints sealed.

Gutters are channels or curbs used along the side of a roadway surface to collect and control the flow of water and direct it to an inlet or outlet ditch, a catch basin or shoulder drain leading the water into a nearby stream or other natural watercourse.

All ditches, swales and drainage channels should be kept clean of debris and trash. Any settlement should be corrected and repairs of broken or eroded surfaces should be made with appropriate materials.

Refer to Publication 113, Highway Maintenance Foreman Manual, Activity Numbers 711-7311 and 711-7312-01 for additional information concerning activity requirements and production and planning units.

8.3 AUTHORIZATION TO ENTER PRIVATE PROPERTY FOR DRAINAGE ACTIVITIES

The purpose of this section is to clarify procedures for the Department or its authorized representatives to enter upon any property if entry is necessary to correct, maintain or restore existing drainage facilities.

Section 417, State Highway Act of 1945, P.L.1242 supports the Commonwealth’s position and the following policies and procedures discussed in this Chapter concerning this subject.

This policy applies in all cases where work is to be done by PennDOT Maintenance Forces or by contractors which have been engaged by PennDOT.

Drainage problems usually result from either a natural impairment (e.g., growth of weeds or siltation) or a physical blockage (intentional or not) by the property owner. In the case of a natural impairment of drainage facilities requiring entry onto private property, the first step should be personal contact with the property owner to explain the problem and our plan to correct it. The District Right-of-Way Unit has “RW” forms that can be used in this situation. PennDOT’s representative should request the property owner to sign an RW-397 “Authorization to Enter (Non-Waiver of Claim)” or an RW-397A “Authorization to Enter (Waiver of Claim)” for PennDOT’s protection. However, refusal of the property owner to sign the form does not prevent PennDOT from taking necessary corrective action. If the property owner refused to allow PennDOT to enter the property to correct the problem, he should be sent a certified letter informing him of the problem, our plan to correct the problem and the date we intend to enter. The corrective work should then be performed on the date indicated.
NOTE: If a dangerous condition exists on the highway because of natural impairment, the Maintenance Manager should act as soon as possible to correct the problem. Although the preceding steps are not required, personal contact should be made when and where possible.

In the case of a physical blockage caused by the property owner, the first step is also personal contact with the property owner. The property owner should be told the action is in violation of the law and that he must correct the problem within a reasonable time. If the property owner fails to correct the problem within a reasonable time he should be sent a certified letter detailing the problem, indicating that he is in violation of state law, and demanding correction within a reasonable time in consideration of all the circumstances, (generally, 30 days). If the property owner still does not correct the problem, the District Executive may choose to do the work if it is feasible and bill the property owner per Section 8.5 (the property owner must be informed beforehand in writing). There are scenarios in which the blocked enclosed surface water drainage facility is feasible to reopen and scenarios in which the enclosed surface water drainage facility is unfeasible to reopen. Legal action may become necessary for the Commonwealth to enforce its legal drainage rights, as further explained below.

In cases where increased stormwater from nearby land development resulted in installation of a new drainage system or modification to an existing drainage system, the land developer would be responsible for obtaining appropriate permits and paying for the work. If these systems require further maintenance, the Maintenance Manager should check with the District Permit Manager to determine maintenance responsibilities under the permit. Suggested letters notifying the property owner that the ditch must be opened are included at the end of this Chapter, indicated as Exhibits 3 and 4.

Again, if a dangerous problem exists on the highway because of a blocked enclosed surface water drainage facility, PennDOT should act immediately to correct the problem and the preceding steps are not required. The responsibility for insuring that authorization to enter has been obtained rests with the Maintenance Manager.

DEFINITIONS

“Feasible”: The enclosed surface water drainage facility is easily accessible either in PennDOT right-of-way or on private property, and will not impact buildings or dwellings on the property.

“Unfeasible”: The enclosed surface water drainage facility is not easily accessible, or opening it will cause harm to the property. Examples include a pipe that is buried under a building, or the opening of a pipe will release water into a property owner’s garage.

ENCLOSED SURFACE WATER DRAINAGE: FACILITY THAT IS BLOCKED AND FEASIBLE TO REOPEN

Caution should be exercised on private property to prevent damage to any trees, shrubs, etc. when reestablishing drainage facilities. Ditches should be dug only as deep, as wide and as long as necessary to assure flow to or from the pipe invert. Appropriate erosion and sedimentation control measures must be taken. The placement of additional pipe on private property is not permitted. The property should be left in a clean and well-graded condition.

When opening the pipe under adverse circumstances, ask the property owner if he wants the excavated material. Do not, under any circumstances, leave it piled next to the excavated ditch. Leaving the material in a pile next to the ditch has in the past resulted in legal actions against the Commonwealth. If the owner wants it placed on another portion of his property, oblige him. If he insists that you leave it next to the ditch, remove the material and store it at the local PennDOT stockpile for a maximum of thirty (30) days. Because it is considered the property owner’s material, the material may need to be returned in the future.

When replacing pipes use the following guidelines:

1. The size of the pipe should be determined. If the pipe is in poor condition, it should be replaced with the same type, unless excessive acidity or alkalinity of water or surrounding soil appears to cause corrosion; then the pH value of the water or soil should be determined and the proper type of replacement pipe chosen.
2. Guidelines concerning the size of replacement pipe are discussed in Section 8.6 of this Chapter.

3. Pipes should be replaced, if possible, at the same location, direction of flow, etc. If it is determined that an alternate location is more feasible, the pipe may be relocated at our discretion and with the property owner's approval. The outlet at the new location must empty onto the same owner's land as specified in the Deed of Release and Quitclaim (RW-319). It should be determined that the land needed for the new channel location is owned by the person giving the RW-319. All property owners must sign a Form RW-319 which may be obtained from the District Right-of-Way Unit. In this case, Authorization to Enter form(s) will not be necessary.

4. The outlet ditch should be located as shown on the plan, or in the absence of a plan, along the flow line of the existing pipe. The only exception to this is if the property owner has constructed an improvement in the direct line of flow of the pipe such as a home, garage, etc. The outlet ditch may be relocated to avoid the improvement, but should not be located to direct water toward the improvement or toward an adjacent property owner. The property owner must agree to sign an accurate "Deed of Easement", which can be provided by the District Right-Of-Way Unit.

5. Photographs should be taken at the area before the work is performed and after the work is completed. Identify the date, location and name of the person taking the photograph to provide important documented evidence if the property owner claims that damage occurred to shrubs or other parts of his property during the drainage work. Video documentation is permissible. (Video documentation strategy and instruction may be found in Publication 23, Chapter 15, "Weight Restrictions on Highways", “Inspection Procedures.”)

**ENCLOSED SURFACE WATER DRAINAGE FACILITY: DRAINAGE THAT IS BLOCKED AND UNFEASIBLE TO REOPEN**

If the blocked enclosed surface water drainage facility is not an immediate safety concern and unfeasible to reopen, send a letter to the property owner providing them with thirty (30) days' notice that they have interfered with a legal drainage easement and must reestablish drainage at this location (Exhibit 3). Where it becomes necessary to request Legal action by the Office of Chief Counsel, follow the process below:

1. Document the file. The file should include all information needed to establish the Commonwealth’s historic drainage rights at that location and explain the nature of the problem. This can include right-of-way plans, straight-line diagrams, aerial and other types of photos or videos, constructions plans and other maintenance records. Additionally, all correspondence with the property owner, their attorneys and any local municipality regarding the matter should also be included.

2. Coordinate with the District Right-of-Way Unit and have the Right-of-Way Administrator send the evidence with a memo to the Utilities and Right-of-Way Section Chief in Central Office asking him to initiate legal trespass actions by virtue of the property owner using PennDOT’s easement.

3. The Utilities & Right-of-Way Section will forward the package to the Assistant Counsel in-Charge, Right-of-Way & Environmental Section, for assignment of a trial attorney.

**8.4 DRIVEWAYS AND DRAINAGE PROBLEMS**

When an icing, debris or drainage problem is caused by an improperly constructed or maintained driveway, the following policies are established to define and clarify District Maintenance and Permit responsibilities:

Should a driveway introduce drainage onto the roadway, the District should notify the property owner to have the problem corrected as soon as possible. This is true even if the driveway was authorized by permit. It is not necessary to determine whether a permit exists before notifying the property owners.

Sections 421 and 420 of the State Highway Law of 1945, 36 P.S. §§670-421 and 670-420, as amended, and 67 Pa. Code Chapters 441 and 459 support PennDOT’s position in this matter. Section 420 empowers PennDOT to make reasonable rules and regulations governing the use of all State highways. 67 Pa. Code Chapters 441 (Access to and Occupancy of Highways by Driveways and Local Roads) and 459 (Occupancy...
of Highway by Utilities) are regulations promulgated under this authority.

Section 420(e) makes it a summary offense for any person to:

1. Violate any rule or regulation promulgated under authority of Section 420.

2. Willfully destroy, injure or damage any State highway by any method or device.

Section 421 makes it unlawful for any person to discharge sewage or drainage, except surface drainage, on or within the legal limits, of any State Highway. Any sewer outlet placed or located within the limits of a State Highway, or so located that the discharge therefore enters a State Highway, is a public nuisance under Section 421, and may be blocked or removed by PennDOT. Violation of Section 421 is also a summary criminal offense. See Pub. 282 (Highway Occupancy Permit Guidelines) on issuance of permits for drainage facilities.

Chapter 441 states: "All driveways shall be located, designed and maintained in such a manner as not to interfere or be inconsistent with the design, maintenance and drainage of the highway.” A driveway that is draining surface water onto the road surface or shoulders and is damaging the shoulder pavement or causing icing is not being maintained in a manner consistent with the highway’s drainage.

If a landowner refuses to correct a driveway drainage problem after he has been notified, he is violating Section 420(e) by willfully allowing the damage to continue, whether or not a permit exists. In some cases a permit may authorize drainage onto the highway. If the property owner should introduce the permit as a defense to any court action or revocation proceeding, it can generally be demonstrated that the drainage is a threat to safety and thus provides a basis for modifying the permit.

If a drainage problem causes a clear and present danger to the driving public, i.e., icing, immediate action should be taken to correct the situation, regardless of whether a permit does or does not exist.

Permit Managers should be notified about any drainage problems related to driveways, but it is not necessary to routinely refer drainage problems to the Permit Manager for resolution. Permit Managers are responsible for enforcing the terms of the driveway permit. Maintenance Managers are responsible for resolving and correcting all drainage problems within the right-of-way.

8.5 DRAINAGE MAINTENANCE RESPONSIBILITIES CONCERNING MUNICIPALITIES

Storm water system maintenance has proven complex and contentious throughout PennDOT’s history. Commonwealth statutory and common law has proscribed shared responsibility for the land constituting the State highway right-of-way, which includes shared storm water system responsibility. These responsibilities vary among municipality types as specified in the law.

This policy statement is intended as guidance to PennDOT maintenance staff, not as a binding norm. Statements made herein about the maintenance responsibilities of PennDOT and municipalities are not intended to admit or acknowledge ownership of storm water facilities by PennDOT or any municipality and any such admission or acknowledgement is hereby expressly disclaimed.

See Exhibit 1 “Background for Storm Water Facilities Policy.”

DEFINITIONS

“Capacity”: The maximum expected quantity of water, created by the peak design storm that can be accommodated at a particular location (inlet, ditch, etc.). Capacity design standards are located within Chapter 10 of Design Manual Part 2, Publication 13M.

“Structural Conditions”: An enclosed surface storm water facility’s strength, structural integrity, plasticity, and fracture toughness. Structural conditions for maintenance purposes include natural deterioration, structural failure, and exceeded design life.

“Surface drainage”: surface or sheet flow.

“Surface water drainage”: Water from rain that lies or flows on the surface of the earth.

“Subsurface water drainage”: Water from beneath the surface of the earth. See Section 8.7 of this Chapter, entitled “Subsurface Water Drainage”.

of the driveway permit. Maintenance Managers are responsible for resolving and correcting all drainage problems within the right-of-way.
“Surface water drainage facilities”: Roadway crown, shoulder, curbs, gutters, drop inlets, storm drains, ditches/swales and pipes/culverts.

“Open surface water drainage facilities”: Ditches, swales, gutters, roadway crowns, shoulders, and curbs. See Section 8.2 of this Chapter, entitled “Surface Water Drainage.”

“Enclosed surface water drainage facilities”: Storm water cross pipes/culverts and parallel pipes/culverts including any attached inlets, headwalls, and end walls. See Section 8.6 of this Chapter, entitled “Pipes, Culverts, Inlets, Endwalls.”

“Subsurface water drainage facilities”: Pipe underdrains, pavement base drains, subgrade drainage, and combination storm sewer and underdrains. PennDOT is generally responsible for these facilities as identified in Section 8.7 of this Chapter, entitled “Subsurface Water Drainage”.

“Projected curblinel: The extension of an existing curbline across an intersection or short uncurbed section between curved sections.

LIMITED ACCESS HIGHWAYS IN ALL MUNICIPALITIES

Drainage facilities installed solely to remove storm water from limited access highways are PennDOT’s responsibility.

STATE-MAINTAINED BRIDGES IN ALL MUNICIPALITIES

PennDOT is responsible for bridge storm water facilities, except as provided by specific legislation, agreement or order of the Public Utility Commission.

HIGHWAY OCCUPANCY PERMITS IN ALL MUNICIPALITIES

Under sections 411 and 420 of the State Highway Law of 1945, any storm water facility installed under a highway occupancy permit (HOP) is the responsibility of the permittee to maintain. PennDOT does not assume responsibility for the maintenance of storm water facilities, curbing, or sidewalk installed by HOP. Detailed policy regarding storm water facility HOPs is located within PennDOT Publication 282. See also Section 8.4 of this Chapter, entitled “Driveways and Drainage Problems.”

AGREEMENTS IN ALL MUNICIPALITIES

Legal agreements may exist that establish maintenance responsibility for storm water facilities. These agreements may be for specific facilities or for all facilities within an area. Maintenance of such facilities is as assigned in the agreement. Be guided by Exhibits 7A, 7B, and 8 at the end of this Chapter when addressing planned (design) or unplanned (maintenance) projects and appropriate follow-up actions.

In cases where the Department would need to bill the property owner based on actual cost, cost collection should be handled through a Plant Maintenance work order and a WBS. Use of the work order would be site specific. The Plant Maintenance work order would be the event/site specific cost collector through the use of unique work orders. The WBS would be standard for the storm water effort. Use the following format for the WBS: T-0 STORM 09 WTR – xxxx – 612, where xxxx is the county code. Use revenue code 4453293 for billing purposes.

One type of legal agreement is an Agility Agreement based on intergovernmental cooperation language found in Act 57, 1998. PennDOT’s Agility Program Guidelines are found within Publication 23, Chapter 23.

The National Pollutant Discharge Elimination System (NPDES) program and other laws also support the ability to enter into legal agreements with local governments to maintain storm water facilities.

COMBINATION SYSTEMS IN ALL MUNICIPALITIES

Storm water facilities that incorporate any type of sanitary waste water treatment prior to discharging are the responsibility of the local government or other public or private owner to maintain. Some local governments may have combined storm water and sanitary sewer facilities as part of their storm water systems. With the exception of inlet grates forming part of a paved surface, PennDOT will not be responsible for maintaining a combined storm water and sanitary sewer facility under any circumstance.

INTERSECTING STATE AND LOCAL ROADS IN ALL MUNICIPALITIES

The following policy should be followed in maintaining and replacing enclosed surface water drainage facilities parallel to state highways within
state right-of-way at intersections with municipal roads. As noted below, there are three categories to be considered.

1. **Category One** involves an existing state road and a local government agency building or reconstructing a local road, or accepting a local road from a developer. Section 36 P.S. 670-420(b) clearly provides that "the Secretary may issue permits for the opening of streets and driveways onto state highways.... on terms and conditions established in department regulations...." If a newly constructed or reconstructed local road must traverse a drainage area to access a state highway, the drainage must be properly controlled and any changes in storm water runoff must be addressed. Accordingly, the HOP shall require the municipality to design, construct and maintain any and all affected storm water appurtenances subject to any agreement with the developer and in accordance with Publication 282

2. **Category Two** involves an existing local road and the construction or reconstruction of a state highway. If the state highway, for its proper drainage, requires the placement of a cross-pipe under the existing local road, PennDOT bears the responsibility for installing the cross-pipe and for maintaining it consistent with the policies outlined below on enclosed surface water drainage facilities in townships and cities, boroughs and incorporated towns, depending on the location of the facility.

3. **Category Three** usually involves two roads which were built by a local government and, by statute, the state assumed jurisdiction of one of these two intersecting roads. Under these circumstances there is joint jurisdiction and responsibility over the intersection area. The state right-of-way includes the paved cartway on the state road and the associated drainage swales. The local right-of-way includes the paved cartway on the local road and the associated drainage swales. The area where the two rights-of-way cross does not become the sole right-of-way of the state. If a cross-pipe serves both the state and local road and there exists joint responsibility for the maintenance of this cross-pipe, an agreement may be reached with the local government to cooperate in the joint maintenance of the cross-pipe under the Agility Program or by separate agreement.
OPEN SURFACE WATER DRAINAGE FACILITIES IN CITIES, BOROUGHS AND INCORPORATED TOWNS

PennDOT’s maintenance responsibility for open surface water drainage facilities is between curblines (actual or projected), including inlet grates in the roadway surface. PennDOT will not perform any maintenance beyond the curblines except to maintain the structural integrity of the highway, such as slopes, walls, etc. If the capacity of an open surface water drainage facility is compromised by upgrade surface water drainage not from the State highway, PennDOT reserves the right to take appropriate action against the private party or local government that caused or failed to prevent the capacity issue. See Section 8.9 of this Chapter, entitled “Inspection.”

OPEN SURFACE WATER DRAINAGE FACILITIES IN TOWNSHIPS

PennDOT will maintain all open surface water drainage facilities within the right of way, including inlet grates in the roadway surface. Districts are encouraged to use grass swales when possible rather than curbing. Curbing is not always necessary, particularly in areas of unrestricted right-of-way and topography. Depending on physical limitations, shoulders can be designed to accommodate pedestrians and bicyclists, if necessary, using wider, flatter areas and dedicated bike lanes. Sidewalks can also be set back from the roadway as to eliminate the need for curbing and its associated enclosed surface water drainage facilities.

When an enclosed surface water drainage facility is opened, the District must report the change to the Chief of the Maintenance Technical Leadership Division, Bureau of Maintenance and Operations (BOMO). BOMO will maintain a list of these changes. If the capacity of an open surface water drainage facility is compromised by upgrade surface water drainage not from the State highway, PennDOT reserves the right to take appropriate action against the private party or local government that caused or failed to prevent the capacity issue. See Section 8.9 of this Chapter, entitled “Inspection.”

WORK OUTSIDE PENNDOT LEGAL RIGHT OF WAY

PennDOT will not perform storm water maintenance activities outside the legal right-of-way, except to exercise rights granted under the “Ditch and Drainage Act,” 36 P.S. 670-417, to reestablish drainage flow. Once drainage flow is established, maintenance activities will cease, except for any continuing obligations imposed by environmental permitting. When performing activities off PennDOT right-of-way, employees or contractors must follow the procedures set forth in Section 8.3 of this Chapter, entitled “Authorization to Enter Private Property for Drainage Activities.”

ENCLOSED SURFACE WATER DRAINAGE FACILITIES IN CITIES, BOROUGHS AND INCORPORATED TOWNS

PennDOT does not maintain enclosed surface water drainage facilities within cities, boroughs and incorporated towns. This includes inlets below grates, cross pipes/culverts, parallel pipes/culverts, headwalls and endwalls unless PennDOT has assumed maintenance by agreement, or has installed facilities located in 1st or 2nd Class Cities.

Street cleaning and sweeping at and along curb lines (actual and projected) is considered to be a drainage function of cross and parallel pipes within the curb section. The Department, through past practice or agreement, may sweep these sections but is not obligated to do so.

If there is an emergency condition involving public safety where the integrity of the road surface has been compromised due to the failure of a local government to maintain an enclosed surface water drainage system, PennDOT may correct the condition and bill the local government for the cost of the work.

PennDOT’s discretionary authority to install enclosed surface water drainage facilities in 1st and 2nd Class Cities must be exercised in a limited manner and only if the City agrees to future maintenance, in writing.

ENCLOSED SURFACE WATER DRAINAGE FACILITIES IN TOWNSHIPS

Maintenance activities may occur under four circumstances: deficiencies relating to structural conditions; lack of capacity; routine maintenance; and emergency repairs. PennDOT will maintain
enclosed surface water drainage facilities of the state highway within townships for structural conditions, but not lack of capacity.

1. **Structural conditions.** PennDOT’s responsibility for deficiencies relating to structural conditions includes the repair and replacement of inlets below grates, cross pipes/culverts, parallel pipes/culverts, headwalls and endwalls for structural condition reasons unless the township has assumed maintenance by written agreement or HOP, a combination or system with treatment facilities is involved, or there is joint responsibility at intersecting roads. PennDOT may, where it is feasible and safe, remove, reconstruct, or replace deteriorated parallel pipes with appropriate grass or similar swales or other alternative drainage designs in accordance with all storm water management requirements. PennDOT will notify the Township in writing 30 days in advance of replacement, if feasible, in order for the Township to properly assess and comment. If the township does not desire the piping to be replaced by a grass swale, the township must assume complete maintenance responsibility for the parallel pipes by HOP or legal agreement. The abutting land owner can be a co-applicant on such an HOP. The complete maintenance responsibility assumed by the township will be limited to the facilities that PennDOT would have otherwise replaced with a grass or similar swale or other alternative designs. Both PennDOT and the Township will make every effort in good faith to resolve any disputes over the feasibility and safety of these alternatives.

Districts must determine enclosed surface water drainage facility replacement needs based upon safety concerns to the traveling public and the integrity of the surface of the highway; the willingness of the local government and abutting property owners to partner; and the priority of roadway resurfacing needs under the Transportation Improvement Program (TIP) and County Maintenance Surfacing Improvement Program.

2. **Lack of capacity.** Townships are responsible when cross or parallel pipes must be repaired or replaced due to lack of capacity. A repair or replacement due to lack of capacity shall mean the repair or replacement of enclosed surface water drainage facilities because the facility can no longer accommodate increased storm water flows from upstream development that occurred since the roadway was established and the storm water facility originally installed. The owners or occupiers of property abutting those facilities shall be required to maintain their storm water on their property or repair or replace the facility, thus requiring an HOP. Lack of capacity does not include failures that occur during storm events that exceed design intensity and duration standards as defined in Publication 13M. Such capacity issues usually arise when storm water issues are not properly addressed in the land development process or where a property owner has altered drainage courses on their property which cause a re-direction or increased flow towards the highway.

3. **Routine maintenance.** Routine maintenance involves, as necessary, removal of leaves and other obstructions from and at the enclosed facilities, and may involve street cleaning and sweeping. It does not include the repair or replacement of enclosed surface water drainage facilities for structural conditions.

Routine maintenance of enclosed surface water drainage facilities may be addressed under PennDOT’s Agility Program. If the Agility Program is not used, the past practice of the township and PennDOT with respect to those facilities will determine who is responsible for routine maintenance.

4. **Emergency repairs.** If there is an emergency condition involving public safety or where the integrity of the road surface has been compromised due to the failure of a township to maintain an enclosed surface water drainage system for which it is responsible, PennDOT may correct the condition. PennDOT reserves the right to bill the township for the associated costs if it gave prior notice to the township.

### 8.6 PIPES, CULVERTS, INLETS, ENDWALLS

Highway maintenance activities that are generally performed by PennDOT forces and are associated with pipes, culverts, inlets, and endwalls include the following:

2. Cleaning inlets and endwalls (Assembly 711-7311-01).

3. Repair and/or replacement of inlets and endwalls (Assembly 711-7321-01).

4. Replacement of pipes and culverts (Assemblies 711-7324-01 and 711-7324-02).

All activities can be found in the Highway Foreman Manual, Pub. 113. PennDOT’s objective is to maintain the above referenced structures in a condition to efficiently carry away collected surface and/or subsurface water.

Surface water that does not drain from the roadway surface and the shoulder or subsurface water that reaches the roadway during periods of freezing weather can accelerate pavement deterioration and result in ponding and icing. Chapter 4 provides guidance for treating and signing such locations as a temporary remedy.

Annual inspections should be made after the snow and ice season and routine inspections after heavy rains. PennDOT maintenance employees should watch for signs of drainage problems or failures whenever they travel the roadways.

Inlets and endwalls should be checked to determine if any structural repair work is necessary. Frames and grates should be properly seated. Pipe culverts should be checked for condition of pipe, alignment of inlet and outlet ditches and for blockages.

Necessary repairs to concrete and masonry structures should be made as required to provide structurally sound units. Replacement of inlets and endwalls should be made in accordance with Section 605 of Publication 408 and Standard Drawings RC-31M, RC-45M and RC-46M.

Culverts should be kept reasonably clean and unobstructed. Obstructions and sediment deposits should be removed as quickly as practical. Inlet and outlet channels should be properly aligned and maintained so that culverts can function to capacity. Often the inlet channel needs realignment to prevent sedimentation. Areas around culvert inlets and outlets should be controlled to limit vegetation and permit free flow of water.

It may be necessary to clean debris from a channel or natural water course beyond the right-of-way line to keep rains from washing material into a culvert inlet. Written permission should be obtained from the property owner before entering private property to clean up debris. (Refer to discussion in Section 8.3 on “Authorization to Enter Private Property”). A permit may be required if channel, watercourse, or ditch was not designed as a stormwater conveyance and has a defined bed and bank.

Clogging of pipe by silt, leaves, or other debris is a common occurrence. The solution for the leaves and other debris is frequent cleaning. If silting continues to occur, consideration should be given to determining the cause or source of the erosion and stabilizing where appropriate to preclude the introduction of silt and debris to the drainage system.

Scour at inlet ends of pipe is caused by turbulence that results when more water is collected at the inlet than can rapidly be discharged by the pipe. When water collects at the inlet end of pipe culverts, the cause should be determined as soon as possible and the necessary correction should be made promptly to preclude culvert failure. If the ground is not protected a headwall, pipe end section, or riprap should be installed.

Scour at outlet ends of pipe is caused by fast, uncontrolled discharge of a volume of water into an outlet channel that is easily eroded or from a pipe whose discharge elevation is not complimentary to that of the drainage channel into which it discharges. Undermining and failure of the outlet head wall can result from such scouring. When scour occurs at the outlet end of a pipe culvert, the alternatives for correcting this condition are to build a concrete or stone apron on the spillway beneath the end of the pipe or to construct an energy dissipater in accordance with Standard Drawing RC-70M. It may also be necessary to line the bed of the outlet channel or where practical, change the outlet elevation of the pipe. Anti-degradation and thermal impacts should also be evaluated.

References to be reviewed when replacing pipe include the following:

1. Publication 408, Sections 601 to 605.

2. Standard Drawing RC-30. Excavation for pipe bedding and trench details are shown on this drawing.


5. Publication 584, “PennDOT Drainage Manual”

Before replacements are made, it is important to determine the causes of pipe failure. It may be necessary to complete a hydraulic design and to determine the pH value of the water or soil to determine the type and/or size of the culvert to accommodate the flow. The drainage system should be adequate to prevent flooding of pavement, shoulders, and adjacent property.

As discussed in Publication 408, the joining of individual pipe sections requires additional emphasis. If the sections are not joined properly, water will seep through the joints and into the bedding, thus causing erosion and settlement and additional associated maintenance problems.

The use of approved “pipe liners” should also be considered when the condition of the existing deteriorated pipe will allow the introduction of a "liner" without adversely constricting the flow. Primary candidates for this treatment may include cross drains located under significant depths of fill and/or in areas of heavy traffic where detouring is not an option and operational width is a concern.

Hydraulic reviews should be part of the decision making process when “pipe liners” are considered an option to completely replacing an existing deteriorated drainage system.

Excessive acidity or alkalinity of water or surrounding soil may exist and cause corrosion of metal pipes and deterioration of steel reinforced concrete pipes thus accelerating the need for the replacement of a pipe. The pH value of the water or soil should be determined before a pipe is replaced. Below is a guide for the selection of pipe types based on pH values of the water and the pH and resistivity values of the soil:

<table>
<thead>
<tr>
<th>TYPE OF PIPE WATER AND/OR SOIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>COATING</td>
</tr>
<tr>
<td>SOIL pH</td>
</tr>
<tr>
<td>RESISTIVITY Ohm-cm</td>
</tr>
<tr>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Aluminum Alloy (Uncoated)</td>
</tr>
<tr>
<td>4.0 to 8.5</td>
</tr>
<tr>
<td>&gt;1500</td>
</tr>
<tr>
<td>Concrete (Uncoated)</td>
</tr>
<tr>
<td>4.0 or Greater</td>
</tr>
<tr>
<td>All</td>
</tr>
<tr>
<td>Concrete (Epoxy Lined)</td>
</tr>
<tr>
<td>&lt;4.0</td>
</tr>
<tr>
<td>All</td>
</tr>
<tr>
<td>Plastic</td>
</tr>
<tr>
<td>All</td>
</tr>
<tr>
<td>Steel (Metallic Coated)</td>
</tr>
<tr>
<td>5.5 to 8.5</td>
</tr>
<tr>
<td>&gt;6000</td>
</tr>
<tr>
<td>* Steel (Polymer-Type B)</td>
</tr>
<tr>
<td>4.0 to 8.5</td>
</tr>
<tr>
<td>2000 to 6000</td>
</tr>
<tr>
<td>Steel (Polymer-Type C)</td>
</tr>
<tr>
<td>&lt;8.5</td>
</tr>
<tr>
<td>&lt;6000</td>
</tr>
<tr>
<td>* Steel (Fiber Bonded)</td>
</tr>
<tr>
<td>4.0 to 8.5</td>
</tr>
<tr>
<td>2000</td>
</tr>
<tr>
<td>* Stainless Steel</td>
</tr>
<tr>
<td>&lt;4.0</td>
</tr>
<tr>
<td>&lt;6000</td>
</tr>
<tr>
<td>* Not shown in DM-2</td>
</tr>
</tbody>
</table>

In areas where abrasive conditions exist, metal coated or uncoated pipe should have a paved invert, concrete pipe should be epoxy lined and plastic pipe should be double-walled, smooth-lined corrugated polyethylene pipe.

Maintenance and repair includes slip lining or clearing the structure of blockages of sediment or debris.

Replacement implies that the structure will be replaced at the same location with the same size or equivalent size pipe or culvert. For parallel stormwater pipes, no increase in pipe diameter is permissible for a replacement pipe. For cross pipes or non-stormwater pipes, a maximum increase of six (6) inch in diameter is permissible for a replacement. Replacement pipes for stream or tributary should be depressed six inches to allow sediment to build up in the pipe bottom and enhance the aquatic organism passage in accordance with RC-30.

The Department of Environmental Protection 25PA Code, Chapter 105 Regulations, (Dam Safety and Waterway Management) may require that a Water Obstruction or Encroachment permit or
approval be obtained prior to maintenance, repair, replacement, or removal activities as well as prior to installation of a new or larger structure involving waters of the Commonwealth (streams or wetlands). See Figures 8.1 through 8.3 to determine what type of approval or permit is required for the project. Figure 8.1 is for repair and maintenance projects to existing culverts. Figure 8.2 is for replacement or removal of existing culverts. Figure 8.3 is for installation of a new culvert where one did not exist before or where a larger or smaller structure is needed to accommodate the discharge. The estimated time frames for review assume that the application contains no deficiency and includes review time for the County Conservation District (CCD). These time frames are from the DEP Permit Review Process and Permit Decision Guarantee Policy (2012) where applicable. Figures 8.1 through 8.3 are to be used as a guideline for determining which Water Obstruction and Encroachment (per Chapter 105) permit types are most likely to be required. However, the Figures cannot account for every restriction of the use of General Permits or Exx-9999 approvals. For example, GP 11 cannot be used if the side length increase to structure will be greater than 12 feet on each end or if there will be a significant change in the roadway approaches. After using Figures 8.1 through 8.3 to determine which permit type is most applicable, read the permit criteria for that permit type to make sure that the project will comply with all of the criteria. When using these figures, note that BMPs outlined in Publication 464 should be used on-site during construction. For assistance, contact the District Permits Coordinator.

When using the flow charts, a “higher level” permit can be obtained if the District feels it may be advantageous to obtain. For example, the District may decide that obtaining a GP 11 rather than a Waiver 2 or a GP 7 may save permit application review time. For the GP 11 permit for a project that does not require an independent US Army Corps of Engineers (USACE) review, Department of Environmental Protection (DEP) reviews the E&S Plan and also issues the USACE authorization without coordinating with the other agencies, which may avoid delays. The decision to obtain a higher level permit should be made by the District on a case by case basis.

The E&S requirements that have been put in the O&E flow charts will apply to the majority of the situations that will arise for the maintenance staff. The E&S Plan/Permit requirements per DEP’s Chapter 102 are identified separately in Table 8.1 in Section 8.8. If a situation arises for a project where the E&S requirements in Table 8.1 are inconsistent with the E&S requirements in Figures 8.1 through 8.3, the E&S requirements in Table 8.1 are to be followed.

Coordination for permits with the USACE is normally done by DEP, except in the case of Waiver 2 (under DEP’s Chapter 105.12 (a)(2)) and waivers under DEP’s Chapter 105.12(b)(7). Waiver 2 applies to repair and maintenance projects or replacement projects with drainage area less than or equal to 100 acres with no wetland impacts. Waivers under 105.12(b)(7) apply to repair and maintenance of existing structures built before July 1, 1979 with drainage areas less than or equal to 5 square miles. If any work is proposed, Chapter 105.12(c) requires the Districts to send notification of intent to use the E41-9999 for repair/maintenance of even those structures built prior to 1979. The USACE does not recognize these DEP waivers, so coordination with the USACE may be required for work performed under them. The applicable USACE office listed in Exhibit 5 should be contacted to initiate coordination with USACE for permitting. If the project involves replacing an existing pipe less than or equal to 48 inches in diameter with a pipe not more than 6 inches larger in diameter and the pipe length less than or equal to 250 feet, a permit from the USACE is not required. Otherwise, the USACE District Office must be contacted to determine the permit requirements for replacement of an existing pipe or culvert done under these DEP waivers. In addition, when dewatering structures, such as cofferdams or temporary crossing, are used for a project qualifying for a DEP waiver, the USACE must be contacted to determine if a permit is needed.

Hydrologic and Hydraulic (H&H) computations and an H&H Report are required for projects with drainage areas greater than or equal to 0.5 sq mi per DM 2 Chapter 10.1.A.16 and 20.

When applying for GP11 permits, Small Projects permits, and Individual O&E permits, the application must be submitted to DEP electronically using the Joint Permit Application (JPA) system.

In accordance with the DM 2 Chapter 10.3.C.1, the minimum diameter pipe should be eighteen (18) inches.
A file should be maintained in the District Office on all pipes or culverts with diameters greater than forty eight (48) inches (or equivalent).

If an O&E permit is required (Exx-9999, GP 7, GP11, Small Project permit, Individual O&E permit) and the stream is listed as a trout stream by the Pennsylvania Fish and Boat Commission (PFBC), construction will not be allowed in the stream during certain times of the year. Refer to the Permit Conditions to determine when in-stream construction work is prohibited. Construction may continue during those times as long as the construction work does not occur in the water.

Each District has an Exx-9999 permit issued by DEP, where xx represents the county number of the District office. For example, E22-9999 permit is issued to District 8 in Dauphin County. The Exx-9999 permit can be used for maintenance work performed throughout the District using the following policies:

1. Bridge clearance, channel improvement, and bridge rehabilitation projects dated 01/08/2010
   A. Channel cleaning
   B. Minor pier/abutment repairs
   C. Superstructure maintenance that does not alter the hydraulic opening


FIGURE 8.1 OBSTRUCTION AND ENCROACHMENT PERMIT REQUIREMENTS FOR REPAIR AND MAINTENANCE OF EXISTING STRUCTURE

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*These E&S requirements may apply to a majority of the situations that will arise for the maintenance staff. If a situation arises for a project where the E&S requirements in Table 8.1 of Section 8.8 are inconsistent with the E&S requirements in Figures 8.1 through 8.3, the E&S requirements in Table 8.1 are to be followed.**

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**EVS = Exceptional Value waters as per Chapter 93 Water Quality Standards Listing
DEP = Department of Environmental Protection
PFB = PA Fish & Boat Commission
CCD = County Conservation District

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Each proposed project to be used under the Exx-9999 permit must be approved by DEP prior to the start of the maintenance work. Requests for approval should be submitted to DEP, the Pennsylvania Fish and Boat Commission (PAFBC) Division of Environmental Services, and the CCD at least 30 days prior to the start of the work. Although DEP will review and approve the request, the requests must also be submitted to PAFBC and so that they are aware of activities occurring within their jurisdiction.

PennDOT is often faced with emergency conditions. An emergency condition exists when

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**FIGURE 8.2 OBSTRUCTION AND ENCROACHMENT PERMIT REQUIREMENTS FOR REPLACEMENT OR REMOVAL OF EXISTING STRUCTURE**

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*An E&S Plan is required if the total earth disturbance is 5,000 sq. ft. or more OR has the potential to discharge to a water classified as a high quality or exceptional value water under Chapter 93.

**EV** = Exceptional Value waters as per Chapter 93 Water Quality Standards Listing

CCD = County Conservation District
received from PennDOT. PNDI search results are not needed to request an emergency permit from DEP; however, a PNDI search and clearances must be obtained as soon as practical after the emergency permit is approved. Stream work restrictions, such as on trout streams, do not apply when working under a DEP Emergency Permit. E&S BMPs must be used at all times even when working under an Emergency Permit (see Section 8.8). If the earth disturbance area is greater than or equal to 5000 square feet, a written E&S Plan must be kept on-site. Emergency Permits are valid for 30 days and can only be renewed once for an additional 30 days.

DEP Emergency Permits may contain a special condition requiring that the appropriate after-the-fact permit be applied for within a certain timeframe. For instance, the special condition may read, “Within 60 days of this permit approval date, apply for a General Permit 11.”

DEP will often issue the USACE approval along with the DEP Emergency Permit. If DEP does not issue the USACE approval, coordination with USACE will be required before emergency work can begin. For extreme flooding events such as devastating hurricanes, the USACE may issue a Public Notice which provides a streamlined approval process for emergency work related to that storm. If such a Public Notice is issued, the procedures described in the Public Notice should be followed to obtain USACE approval.

**FIGURE 8.3 OBSTRUCTION AND ENCROACHMENT PERMIT REQUIREMENTS FOR INSTALLATION OF NEW STRUCTURES OR REPLACEMENT STRUCTURES WHICH WILL HAVE LARGER OR SMALLER HYDRAULIC OPENINGS (THAN THE EXISTING STRUCTURE)**

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* An E&S Plan is required if the total earth disturbance is 5,000 sq. ft. or more OR has the potential to discharge to a water classified as a high quality or exceptional value water under Chapter 93.

** (EV) = Exceptional Value waters as per Chapter 93 Water Quality Standards Listing
Requests for emergency permits should be timely. In other words, a request should be made shortly after the emergency condition is discovered. Requests submitted for an emergency permit many months after the emergency condition is discovered will likely be denied by DEP.

This guidance does not cover all permitting requirements under the different permits (Exx-9999, GPs and included permits) that may occur during maintenance projects. For example, in the unlikely event that a DEP individual O&E permit is required, an environmental assessment relative to the stream and wetland impacts must be submitted as part of the permit application. As another example, if federal funds are used for a maintenance project, the project must adhere to the National Environmental Policy Act. For assistance with these or any other unusual situation, contact the District Permits Coordinator and consult PennDOT Publication 584 PennDOT Drainage Manual for more information.

8.7 SUBSURFACE WATER DRAINAGE

In addition to providing facilities for draining water from surface areas of the highway, it is also important to provide drainage for the removal of water from beneath the surface. Subsurface water conditions can be more damaging than surface water conditions. Subsurface water can soften the subgrade of a pavement causing weakness and eventual failure of the pavement. Roadside problems such as sink holes, landslides, and rock falls can also result from excessive amounts of subsurface water.

All subsurface water must be drained away from the highway. Subsurface drains should have free flowing outlets, and should be located to direct water to some type of surface watercourse such as a parallel ditch or flume. Properly functioning drainage will prevent subsurface water from collecting under the roadway or reaching the surface of the roadway.

The following types of subsurface drains are shown on Standard Drawing RC-30M and are specified in Sections 610 and 612 of Publication 408:

1. Pipe Underdrain
2. Pavement Base Drain
3. Subgrade Drain
4. Combination Storm Sewer and Underdrain

Also noted are subsurface drain outlets that serve the purpose of outletting the underdrain.

Pipe underdrains are generally used for the following purposes:

1. To drain springs and cut off seepage in the original ground either under an embankment, or along benches where the highway is located on the side of a hill.
2. To lower the ground water level so that it will be below the surface of the subgrade.
3. To provide an outlet for water that gets into the base and subbase.

Subgrade drains are designed to handle water from springs or seepage that cannot be cut off before it gets to the subgrade or water that may get to the subgrade from the surface of the road.

Frequent inspection of subsurface drains is very important. Subsurface drains should have outlets and these outlets should be kept open. Otherwise the subsurface drain acts as a reservoir for water and does more harm than good.

Information concerning pipe size and proper spacing of outlets can be found in the Design Manual, Part 2, Chapter 10.

All repair and replacement work of subsurface drains should be done in accordance with the associated Roadway Construction Standards and Publication 408 Specifications previously referenced in this section.

8.8 EROSION AND SEDIMENTATION CONTROL

The PA Clean Streams Law authorizes the regulation of activities that create or have the potential to create pollution in the waters of the Commonwealth. DEP Administrative Code 25, Chapter 102 (Erosion and Sediment Control) regulates earth disturbing activities such as highway maintenance to prevent accelerated erosion and the resulting sediment pollution. The requirements of Chapter 102 are outlined in Table 8.1. In general, an NPDES permit is required for projects that involve 1 acre or more of earth disturbance activities. Road Maintenance Activities which result in less than 25 acres of earth
disturbance are exempt from obtaining a permit. Road Maintenance Activities are defined in Chapter 102 as earth disturbance activities within the existing road cross section or railroad right-of-way including the following:

A. Shaping or restabilizing unpaved roads.
B. Shoulder grading.
C. Slope stabilization.
D. Cutting of existing cut slopes.
E. Inlet and endwall cleaning.
F. Reshaping and cleaning drainage ditches and swales.
G. Pipe cleaning.
H. Pipe replacement.
I. Support activities incidental to resurfacing activities such as minor vertical adjustments to meet grade of resurfaced areas.
J. Ballast cleaning.
K. Laying additional ballast.
L. Replacing ballast, ties, and rails.
M. Other similar activities.

The existing road cross-section consists of the original graded area between the existing toes of fill slopes and tops of cut slopes on either side of the road and any associated drainage features.

For a more detailed description of Road Maintenance Activity, see Publication 584 Appendix E. Appendix E contains many common examples of PennDOT maintenance work along with descriptions of what disturbed areas are considered Road Maintenance Activities (not to be included as earth disturbance area for NPDES permitting purposes). It also provides clarification regarding what disturbed areas are not considered Road Maintenance Activities and must be included to determine whether 1 acre will be disturbed, and thus, an NPDES permit will be required. Note that any project that disturbs 25 or more acres regardless of whether that disturbance includes Road Maintenance Activity will require an Erosion and Sediment Control Permit.

E&S Best Management Practices (BMPs) must be used for all projects regardless of whether or not an Erosion and Sediment Control (E&S) Plan or permit is required.

The Maintenance Manager shall arrange to meet with the County Conservation District once in the spring to review the proposed work plan. Additional meetings may be conducted as required.

For projects where a written E&S Plan is required, the E&S Plan should contain the project name, municipality, county, project plan (showing streams, wetlands, and BMP locations), name and address of person responsible for the E&S controls, and the name, address, phone number and signature of the person who prepared the E&S Plan. Details of each BMP should be attached as part of the E&S Plan. Refer to Publication 464 (Maintenance Field Reference for Erosion and Sediment Control) for information on BMP details. Additional information can be found in DEP’s Erosion and Sediment Pollution Control Program Manual (Technical Guidance Number 363-2134-008) or Chapter 12, Appendix E or the PennDOT Drainage Manual (Publication 584). In cases where there are technical questions relative to the design and implementation erosion and sediment control BMP’s, the District Environmental Permits Coordinator or the District E&S Coordinator should be consulted. The County Conservation District (CCD) may also be consulted.

Figure 8.4, page 8-21, outlines the erosion and sedimentation control procedures for the Maintenance Manager to follow when planning and implementing maintenance activities involving earth disturbances. This procedure provides maximum flexibility by allowing management personnel to select and implement additional erosion and sedimentation control BMP’s only where they are needed. In cases where there are technical questions relative to the design and implementation of erosion and sedimentation control BMP’s, the District Environmental Manager shall be consulted. The County Conservation District may also be consulted.
In order to ensure that erosion and sediment control BMP’s are properly implemented, the CCD (and/or DEP) will periodically inspect Department maintenance activities and forward inspection reports to the Maintenance Manager. If deficiencies are noted and corrective measures are necessary, a mutually agreed upon deadline will be given to correct the conditions. Re-inspection will be conducted by the County Conservation District and/or DEP. In the event a problem cannot be resolved at the county level, the Assistant District Executive for Maintenance (for the District Executive) and the appropriate DEP Regional Office will receive a copy of the inspection report from the County Conservation District. These parties will initiate coordination to satisfactorily resolve the problem. If resolution cannot be reached at this level, the District will contact the Director of the Bureau of Maintenance and Operation (for the Deputy Secretary for Highway Administration) to resolve the problem.

In instances where transportation facilities are affected by erosion and sedimentation from outside the Department right-of-way, the Maintenance Manager should notify the County Conservation District or DEP Regional Office of the problem and request that appropriate action be taken.

### 8.9 Inspection

The NPDES regulations require that publically owned municipal separate storm sewer systems (MS4) in designated urbanized areas develop processes to detect and eliminate illicit discharges. PennDOT’s storm water systems located in urbanized areas are subject to these requirements. Urbanized areas are defined by the U.S. Census. PennDOT’s 2005 and 2011 MS4 permits utilize the 2000 census to identify the urban areas; PennDOT’s next MS4 permit is expected to utilize the 2010 census. The following link will help identify the urbanized areas in the various PennDOT Districts:


<table>
<thead>
<tr>
<th>Earth Disturbance Area</th>
<th>Stream</th>
<th>Requirement</th>
<th>Additional Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 5000 sq. ft.</td>
<td>Not in HQ or EV stream</td>
<td>No E&amp;S Plan required; but BMPs must be used</td>
<td>N/A</td>
</tr>
<tr>
<td>&lt; 5000 sq. ft.</td>
<td>In HQ or EV stream</td>
<td>Written E&amp;S Plan required and must be kept on-site</td>
<td>N/A</td>
</tr>
<tr>
<td>≥ 5000 sq. ft.</td>
<td>N/A</td>
<td>Written E&amp;S Plan required</td>
<td>If no O&amp;E permit is needed from DEP, keep E&amp;S Plan on-site; no approval is required from DEP or CCD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>If GP 7 is needed, submit E&amp;S Plan to CCD to obtain an Adequacy Letter (GP 7 Condition 20)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>If GP 11 permit is needed, submit E&amp;S Plans to DEP for approval with the GP 11 application</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>If a Small Project permit is needed, submit E&amp;S Plan to CCD for approval. The approval letter does not need to be submitted to DEP.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>If an Individual O&amp;E permit is needed, submit E&amp;S Plan to CCD for approval and then submit the approval letter from CCD to DEP. DEP will review the Individual permit application concurrently with the CCD’s review of the E&amp;S Plan.</td>
</tr>
<tr>
<td>≥ 1 acre</td>
<td>N/A</td>
<td>NPDES Permit required; EDA does not include area of Road Maintenance Activities and area covered by O&amp;E permit in 100-year floodplain</td>
<td>General Permit PAG02 is generally needed (30 review days).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Individual NPDES permit is required if any of the following occur (107 review days):</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• stream is EV or HQ</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• stream is impaired where proposal will change volume, rate, or quality of stormwater discharge</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• threatened or endangered species is present</td>
</tr>
<tr>
<td>≥ 25 acres</td>
<td>N/A</td>
<td>E&amp;S Permit required; EDA includes area of Road Maintenance Activities</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Illicit discharges are defined as any discharge to PennDOT’s MS4 that is not composed entirely of storm water and are not permitted pursuant to another type of NPDES permit (e.g. NPDES permit for industrial activities). PennDOT’s MS4 system is conveyance.

PennDOT’s NPDES MS4 Permit is intended to minimize contamination entering the highway/bridge storm water system in urbanized areas and discharging into the Waters of the Commonwealth. The Permit’s Minimum Control Measure # 3: Illicit Discharge Detection and Elimination requires PennDOT to conduct inspections of outfalls located within regulated urbanized areas and to report any dry weather, illicit discharges to the PA Department of Environmental Protection (PADEP) for enforcement. The permit defines “outfall” as a “Point Source’ at the point where an MS4 discharges to surface water of this Commonwealth.” Exhibit 20 outlines the Potential Illicit Discharge Detection and Elimination Reporting Process.

This reporting requirement is required of all PennDOT and Consultant personnel acting on PennDOT’s behalf. All personnel that have occasion to observe field conditions, whether in a construction inspection, maintenance, design field view, or any other capacity, should report Potential Illicit Discharges (PIDs) into systems owned and/or operated by PennDOT which are designated or used for collecting storm water associated with PennDOT’s roads, highways, bridges, and related structures when observed during their normal job duties. If PennDOT or consultant personnel detect a PID, the following response actions should be taken:

- Observe the dry weather characteristics of the discharge including color, odor, turbidity, sheen/scum, flow (steady or intermittent), presence of debris or sewage, and the conditions of the surrounding and impacted vegetation.
- Make reasonable efforts within PennDOT’s authority to trace the discharge to determine whether the source is the result of improper dumping or from a property owner with an improper physical connection to PennDOT’s storm sewer system.
- Attempt to identify the property owner.
- Document the situation using photography and/or videography.

The results of these efforts should be documented on the Illicit Discharge Reporting Form (Exhibit 17). These forms are available at all County Maintenance offices, Welcome Centers, and Safety Rest Areas, and at BOMO’s Stormwater webpage. PennDOT personnel should send completed forms to their District SEMP Manager; the SEMP Manager will then forward the information to BOMO SEMP staff by emailing the completed form to mailto:pdot-idde@pa.gov. Consultant personnel should submit the forms to their PennDOT direct report person, the District SEMP Manager, or directly email the form to mailto:pdot-idde@pa.gov. The BOMO SEMP staff will prioritize the PIDs detected and determine whether the PID occurs in an urbanized area. BOMO SEMP staff will submit to the District the list of illicit discharges that must be followed up with a letter to the property owner.

If it is determined through observations that a PID exists in an urbanized area and PennDOT has information regarding the property owner of the source of the PID, the District will send a notice to the property owner requesting the elimination of the discharge. The District should copy the BOMO SEMP staff with the notice. The property owner will be given 30 days to respond to PennDOT. If the property owner refuses to eliminate the discharge or fails to respond to the notice within 30 days, the District should contact the BOMO SEMP staff. The BOMO SEMP staff will report the PID to the Clean Water Program of the appropriate PADEP regional office for enforcement.

Exhibits 18 and 19 are two template letters that can be used as a guide in drafting the notices to the property owners. Exhibit 18 is for situations involving a PID with an unauthorized connection to the Department’s drainage system. Exhibit 19 is for situations involving a PID with an authorized (or no) connection to the Department’s drainage system. The letter should be sent to the property owner by way of certified mail, return receipt requested to the property owner. If the certified letter is returned undelivered, resend the letter to the property owner by way of regular mail.

If it is determined through observations that a PID exists but PennDOT is unable to determine the source of the discharge, BOMO’s SEMP staff will report the potential illicit discharge to the Clean Water Program in the appropriate PADEP regional office for enforcement. PennDOT’s report to the PADEP regional office should include: the location
of the discharge, nature of the discharge, immediate observable environmental impacts, and whether the discharge needs to be eliminated for a PennDOT maintenance or construction project. If the PID was detected and needs to be eliminated for a PennDOT maintenance or construction project, BOMO’s SEMP staff will also telephone the contact for the Clean Water Program in the regional office to relay this information to identify the discharge as a priority. This will help PADEP regional staff to prioritize and address the PID if multiple PIDs have been reported to the regional office.

PennDOT’s responsibilities under its NPDES MS4 permit for a PID are satisfied once the PID is reported to PADEP’s Clean Water Program. The requirements of PennDOT’s MS4 permit do not apply to discharges in non-urbanized areas. These procedures should, however, be applied in non-urbanized areas to eliminate illegal connections when needed for maintenance or construction projects, or where other immediate recognizable environmental concern exists.

Additional MS4 background information can be found on BOMO’s web site.
FIGURE 8.4 - EROSION AND SEDIMENTATION CONTROL PROCEDURES FOR DEPARTMENT OF TRANSPORTATION MAINTENANCE ACTIVITIES

Erosion and sedimentation activities identified by Maintenance Manager

Site review and evaluation by Assistant County Maintenance Manager

Potential erosion control problem areas identified by Assistant County Maintenance Manager

Alternate and preventative treatment considered by Assistance County Maintenance Manager with assistance from CCD if required

ESC procedures explained to Foreman by Assistant County Maintenance Manager

Specific ESC measures developed for work area by the Assistant County Maintenance Manager

Maintenance activity performed by Foreman

INSPECT ESC OF PROJECT BY CCD OR DEP

Satisfactory?

Yes

Approve and prepare inspection report

No

Prepare inspection report

Corrective action determined by Maintenance Manager or Assistant County Maintenance Manager in consultation with CCD if necessary

Corrective measures installed by Maintenance Foreman

Satisfactorily approved by CCD or DEP?

Yes

No

Prepared inspection report

Problem resolved by Assistant District Executive for Maintenance and DEP Regional Office Soils & Waterways Engineer

If not resolved, refer problem to Director of Maintenance and Operations and DEP Regional Office Soils & Waterways Section Chief

Inspector report sent to Assistant District Executive for Maintenance and DEP Regional Office

Legend

ESC – Erosion and Sedimentation Control
CCD – County Conservation District
DEP – Department of Environmental Protection
EXHIBIT 1

Background for Storm Water Facilities Policy

The Department has historically implemented a curb-to-curb maintenance policy as to State highways based on the provisions of the State Highway Law of 1945, 36 P.S. §670-101 et seq., relating to designation of local roads as State highways. Responsibility was divided between the Department and the local government through which the State highway traverses. The underlying legal provisions are tied to the type of municipality in which the State highway is located (i.e. a city, borough, town, or township). The State Highway Law refers to State highways in townships as the Rural State Highway System.

The statutory provisions in the State Highway Law of 1945 can be summarized as follows:

a. **Cities of the 1st and 2nd Class:** Section 542 of the State Highway Law of 1945, 36 P.S. §670-542, provides that the Department’s maintenance responsibility does not include “the curbing and footways” of any adopted State highway or the responsibility “to remove snow or keep streets clean.” In addition, “repairs and maintenance shall be of such type as shall be determined by the secretary.” If necessary, the Department, pursuant to section 543 of the State Highway Law, 36 P.S. §670-543, can elect to construct “storm water conduits, drains and gutters, culverts, bridges, viaducts and retaining walls, curbing and recurbing...excepting water pipe and sanitary sewers.” Because items installed pursuant to the Department’s discretionary authority will be the Department’s future responsibility to maintain, the Department has always exercised that authority in a limited manner, and the policy has always been that storm water drainage facilities should not be installed unless the City has agreed to future maintenance, in writing.

b. **Cities of the 2nd A and 3rd Class:** Section 522 of the State Highway Law of 1945, 36 P.S. §670-522, provides that the Department’s maintenance responsibility is limited to the areas “between curb lines as established at the time of the passage of the act by which the street was designated a state highway” or where the Secretary of Transportation otherwise designates the curb lines. “Repairs and maintenance shall be of such type as shall be determined by the Secretary.” Also, according to section 521 of the State Highway Law, 36 P.S. §670-521, in these cities the Department’s responsibility does not extend to “maintenance, construction, reconstruction or resurfacing of said streets other than the base and surface courses” or to “any structure of any kind or character whatsoever,” including “storm and sanitary sewers.”

c. **Boroughs and Incorporated Towns:** Section 513 of the State Highway Law of 1945, 36 P.S. §670-513, gives the Secretary of Transportation the power to determine the width and type of maintenance activities the Department will perform. The Department’s maintenance policy has therefore always excluded maintenance of storm and sanitary sewers in boroughs.

d. **Townships:** Section 502 of the State Highway Law of 1945, 36 P.S. §670-502, gives the Secretary of Transportation the power to determine the width, type, and location of any state highway it constructs or improves, and to determine the types of maintenance activities the Department will perform. The Department’s policy in townships has been to limit maintenance responsibility for municipal storm and sanitary sewer systems to the greatest extent possible, maintaining systems necessary only to support the function of the highway.
The control of storm water within their jurisdictions has long been a function of local governments. Legal authority for the construction and maintenance of storm water drainage facilities, including highway storm water drainage facilities, has traditionally been separate from the legal authority that enables construction and maintenance of roads themselves. For example: (a) the Act of May 24, 1901, P.L. 294, and the Act of April 28, 1899, P.L. 104, both related to municipal construction of sewers and drains; (b) the Act of June 13, 1836, P.L. 551, related to establishment and maintenance of drains and ditches necessary to carry water off roads; and (c) 53 P.S. §57401 et seq., of the current First Class Township Code, and 53 P.S. §§67320 and 67701 et seq., of the current Second Class Township Code relate to storm water facilities. Storm water is addressed in the Municipalities Planning Code, 53 P.S. §10503, and is part of all municipal planning and private land development approvals. In addition, the Storm Water Management Act, 32 P.S. §680.1 et seq., was enacted in response to the impacts of accelerated storm water runoff resulting from land development in the state. It requires counties to prepare and adopt watershed-based storm water management plans and requires local governments to adopt and implement ordinances to regulate development consistent with these plans.

In 2007, the Pennsylvania State Transportation Advisory Committee (TAC), consisting of members from the legislature, the public and state agencies, studied and issued a report entitled Storm Water Facilities on State Highways. The TAC report recognized that the management of storm water on state highways is a complex issue. Legally, cities and boroughs have the responsibility for maintenance of storm water facilities along State highways, and Department policy requires townships to maintain storm water systems as well. It also recognized that the Department’s policies for the maintenance of state highways have their roots in the State Highway Law of 1945, which is the basis of the Department’s curb-to-curb maintenance policy.

The TAC report recommended that the General Assembly enact legislation to enable the establishment of special purpose municipal authorities to allow for the collection of appropriate fees to adequately maintain storm water facilities along State highways. Key attributes such as ease of fee collection, maintenance and administrative capabilities and other factors should be considered in establishing such entities. Legislation furthering the recommendations of the TAC report has not been introduced to date.

The Department’s drainage maintenance policy is reflected in Appendix C to Chapter 7 of this manual, page 5 through 7 of the findings in the TAC report, and the Department’s Drainage Manual. The 2011 modifications to Section 8.5 of this manual are not intended to alter the Department’s legal interpretations as reflected in these documents or the Department’s policies relating to municipalities other than townships. The 2011 modifications were implemented only to alter the types of maintenance activities the Department will perform in townships.

The assumption of responsibility for the structural condition of most enclosed facilities in townships does not alter the requirement that local governments must be the applicant for and responsible for the maintenance of enclosed surface drainage facilities under Highway Occupancy Permits issued pursuant to the State Highway Law and PennDOT Publications 170 and 282, as revised by Strike-off Letter 470-10-3, dated June 24, 2010. This is required in view of Section 421 of the State Highway Law, 36 P.S. §670-421, and the local government can address responsibility with the abutting landowner as part of the land development process. A model agreement between a local government and property owner for maintenance responsibilities in relation to facilities within State highway right-of-way is located on PennDOT’s website and can also be requested from PennDOT’s Bureau of Highway Safety and Traffic Engineering’s Central Permit Office (717)-787-7350.
EXHIBIT 2

Sources of Curb-to-Curb Maintenance Policy

Policy
PennDOT’s curb-to-curb maintenance policy can be found in Circular Letters E-2211 and RM 93-04, Chapter 8.5 of the Maintenance Manual, and Appendix C to Chapter 7.

Cities – First and Second Classes
Section 542 of the State Highway Law of 1945, 36 P.S. §670-542, provides that PennDOT’s maintenance responsibility does not include “the curbing and footways” of any adopted state highway. The City of Philadelphia was found to be responsible for a sidewalk in the city along a state highway in White v. City of Philadelphia 712 A.2d 345 (Pa. Cmwlth. 1998).

Cities – Second Class A and Third Class
Section 522 of the State Highway Law of 1945, 36 P.S. §670-522, provides that PennDOT’s maintenance responsibility is limited to the “curblines as established at the time of the passage of the act by which the street was designated a state highway” or where the Secretary of Transportation otherwise designates the curblines. PennDOT’s curb-to-curb maintenance policy was upheld as in conformance with this section in Wallace v. PennDOT, 701 A.2d 307 (Pa. Cmwlth. 1997).

Boroughs and Incorporated Towns
Section 513 of the State Highway Law of 1945, 36 P.S. §670-513, gives the Secretary of Transportation the power to determine the width and type of maintenance activities PennDOT will perform. PennDOT’s curb-to-curb maintenance policy was upheld as in conformance with this section in O’Brien v. Borough of Jeannette, 128 Pa. Super. 443, 194 A. 314 (1937).

Townships
PennDOT’s policies on maintenance vary based upon the type of local government. These variations are based upon the State Highway Law of 1945 and in some cases have been confirmed by appellate court decisions. Section 502 of the State Highway Law of 1945, 36 P.S. §670-502, gives the Secretary of Transportation power to determine the width, type, and location of any state highway PennDOT constructs or improves, and to determine the types of maintenance activities PennDOT will perform. There is no reported case law in Pennsylvania reviewing PennDOT’s policy in townships, which does allow for maintenance beyond curblines in certain circumstances.
IN REPLY REFER TO
___________________________________________County
S.R., Seg., Offset
______________________________________________Township/Borough Blocked Drainage
TO: ____________________________________________

Dear ____________________________________:

The Department of Transportation has been experiencing drainage problems at the above referenced location. Our drainage facility at this site is blocked and must be cleaned and reopened.

It is apparent that recent earthwork on your property altered the existing drainage facilities and drainage courses in this area.

The blockage of any highway drainage facility is a violation of the Pennsylvania Highway Law, 1945, Section 417. Therefore, please be advised that you are hereby ordered to reopen the above referenced highway storm water facility on or before _________________. Failure to do so will subject you to legal action under the above referenced section of the highway law.

The drainage facility in question is a legal Commonwealth drainage easement and is shown on sheet ___ of the plans for the above referenced route. These plans were signed by Governor ________________ on [Date] and recorded in __________________________ County Book, _______, pages _______ to _______. The road in question is legally described in __________________________ County Road Docket _______, Page(s) ____, ____. The road became a state highway by Act of the Legislature, Public Law _______________________, ____________________ [date].

A copy of this plan is available for your review at our _______________________ County Office, between the hours of ________ to ________.

[NOTE: If the plans are old they may not have been recorded in the local court house. If this is the case, omit this paragraph.]

Should you have any questions concerning this matter, please contact me at __________________________.

Very truly yours,

______________________________________________

cc: Chief, Maintenance Technical Leadership Division

[NOTE: Send certified mail, return receipt requested.]
EXHIBIT 4

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

IN REPLY REFER TO
___________________________________________County

S.R._______, Seg._____________, Offset_______
______________________________________Township/Borough Blocked Drainage

TO: _______________________________________

Dear ____________________________________:

The Department of Transportation has been experiencing drainage problems at the above referenced location. Our drainage facility at this site is blocked and must be cleaned. When the drainage facility is reopened, the water will enter upon your property. The drainage facility in question is a legal Commonwealth drainage easement and is shown on sheet ________ of the plans for the above referenced route. These plans were signed by Governor ______________________ on ___[Date]___ and recorded in _________________ County Book, _____________, pages _________ to ___________. A copy of this plan is available for your review at our _________________ County Office, between the hours of ____________ to ____________.

[NOTE: If the plans are old they may not have been recorded in the local courthouse. If this is the case, omit the last sentence.]

Please be advised that on __________________________, the Commonwealth of Pennsylvania Department of Transportation will enter your property at the above referenced location solely for the purpose of reestablishing drainage.

Our authority to enter your property to reestablish drainage is contained in the State Highway Law, Section 417, which states in part: "The Department shall have authority to enter upon any lands or enclosures and cut, open, maintain, and repair such drains or ditches, inlets, or outlets through the same as are necessary to carry the waters from roads, highways, or within, at the top, or base of, slope areas, constructed or improved at the expense of the Commonwealth or under its supervision."

Should you have any questions concerning this matter, please contact me at ________________________.

Very truly yours,

____________________________________________

cc: Chief, Maintenance Technical Leadership Division

[NOTE: Send certified mail, return receipt requested.]
### EXHIBIT 5

**RESOURCE AGENCY ADDRESSES AND PHONE NUMBERS**

<table>
<thead>
<tr>
<th>DEPARTMENT OF ENVIRONMENTAL PROTECTION REGIONAL ADDRESSES</th>
<th>COUNTY RESPONSIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>REGIONAL OFFICE</strong></td>
<td><strong>COUNTY RESPONSIBILITY</strong></td>
</tr>
<tr>
<td>Southcentral Regional Office 909 Elmerton Avenue, Second Harrisburg, PA 17110</td>
<td>Adams, Bedford, Berks, Blair, Cumberland, Floor Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Mifflin, Perry, and York</td>
</tr>
<tr>
<td>Southeast Regional Office 2 East Main Street ) Norristown, PA 19401</td>
<td>Bucks, Chester, Delaware, Montgomery, and Philadelphia</td>
</tr>
<tr>
<td>Southwest Regional Office 400 Waterfront Drive Pittsburgh, PA 15222-4745</td>
<td>Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, and Westmoreland</td>
</tr>
<tr>
<td>Northwest Regional Office 230 Chestnut Street Meadville, PA 16335</td>
<td>Butler, Clarion, Crawford, Elk, Erie, Forest, Jefferson, Lawrence, McKean, Mercer, Venango, and Warren</td>
</tr>
<tr>
<td>Northeast Regional Office 2 Public Square Wilkes-Barre, PA 18711-0790</td>
<td>Carbon, Lackawanna, Lehigh, Luzerne, Monroe, Northampton, Pike, Schuylkill, Susquehanna, Wayne, and Wyoming</td>
</tr>
<tr>
<td>Northcentral Regional Office 208 W. Third Street, Suite 101 Williamsport, PA 17701</td>
<td>Bradford, Cameron, Centre, Clearfield, Clinton, Columbia, Lycoming, Montour, Northumberland, Potter, Snyder, Sullivan, Tioga and Union</td>
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<tr>
<th>FISH AND BOAT COMMISSION REGIONAL ADDRESSES</th>
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<tbody>
<tr>
<td><strong>OFFICE</strong></td>
<td><strong>COUNTY/RESPONSIBILITY</strong></td>
</tr>
<tr>
<td>Division of Environmental Services 450 Robinson Lane Bellefonte, PA 16823</td>
<td>For permitting questions across the state, contact the Division of Environmental Services.</td>
</tr>
<tr>
<td>Northwest Region - Regional Manager 11528 Highway 98 Meadville, PA 16335-7320</td>
<td>Butler, Clarion, Crawford, Erie, Forest, Lawrence, Mercer, Venango, and Warren</td>
</tr>
<tr>
<td>Southwest Region - Regional Manager 236 Lake Road Somerset, PA 15501-1644</td>
<td>Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, and Westmoreland</td>
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### FISH AND BOAT COMMISSION REGIONAL ADDRESSES (CONTINUED)

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<tr>
<td><strong>Northcentral Region</strong> - Regional Manager</td>
</tr>
<tr>
<td>P.O. Box 5306</td>
</tr>
<tr>
<td>Pleasant Gap, PA 16823</td>
</tr>
<tr>
<td>Phone: (814) 359-5250</td>
</tr>
<tr>
<td>Cameron, Centre, Clearfield, Clinton, Elk, Jefferson, Lycoming, McKean, Montour, Northumberland, Potter, Snyder, Tioga and Union</td>
</tr>
</tbody>
</table>

| **Southcentral Region** - Regional Manager |
| 1704 Pine Road |
| Newville, PA 17241 |
| Phone: (717) 486-7087 |
| Adams, Bedford, Blair, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lebanon, Mifflin, Northumberland (Mahatango Creek in Jordan and Lower Mahanoy Townships only), Perry, and York |

| **Southeast Region** - Regional Manager |
| Box 8 |
| Elm, PA 17521 |
| Phone: (717) 626-0228 |
| Berks, Bucks, Chester, Delaware, Lancaster, Lehigh, Montgomery, Northampton, Philadelphia, and Schuylkill |

| **Northeast Region** - Regional Manager |
| P.O. Box 88 |
| Sweet Valley, PA 18656 |
| Phone: (570) 477-5717 |

### US ARMY CORP OF ENGINEERS DISTRICT/FIELD OFFICE ADDRESSES

<table>
<thead>
<tr>
<th>DISTRICT/FIELD OFFICE</th>
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</thead>
<tbody>
<tr>
<td><strong>Carlisle Regulatory Field Office</strong></td>
</tr>
<tr>
<td>Baltimore District, US Army Corp of Engineers</td>
</tr>
<tr>
<td>401 East Lourher Street, Suite 205</td>
</tr>
<tr>
<td>Carlisle, PA  17013</td>
</tr>
<tr>
<td>Phone:  (717) 249-9457</td>
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</table>

| **Philadelphia District** |
| US Army Corp of Engineers |
| Wanamaker Building, 100 Penn Square E |
| Philadelphia, PA  19107 |
| Phone:  (215)-656-6515 |

| **State College Regulatory Field Office** |
| Baltimore District, US Army Corp of Engineers |
| 1631 South Atherton Street, Suite 101 |
| State College, PA  16801 |
| Phone:  (814) 235-0570 |

| **Pittsburgh District Office** |
| US Army Corp of Engineers |
| 2200 Williams Moorhead Federal Building |
| 1000 Liberty Avenue |
| Pittsburgh, PA  15222-4186 |
| Phone:  (412) 395-7500 |
### COUNTY CONSERVATION ADDRESSES

<table>
<thead>
<tr>
<th>Conservation District</th>
<th>Address</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adams Conservation District</td>
<td>670 Old Harrisburg Road, Suite 201, Gettysburg, PA 17325-3404</td>
<td>(717) 334-0636</td>
<td>(717) 337-0730</td>
</tr>
<tr>
<td>Cambria Conservation District</td>
<td>401 Candlelight Drive, Suite 229, Ebensburg, PA 15931</td>
<td>(814) 472-2120</td>
<td>(814) 472-0686</td>
</tr>
<tr>
<td>Allegheny Conservation District</td>
<td>400 N. Lexington St., Pittsburgh, PA 15208</td>
<td>(412) 241-7645</td>
<td>(412) 242-6165</td>
</tr>
<tr>
<td>Cameron Conservation District</td>
<td>20 East Fifth Street, Room 105, Emporium, PA 15834</td>
<td>(814) 486-2244 ext. 5</td>
<td>(814) 486-9392</td>
</tr>
<tr>
<td>Armstrong Conservation District</td>
<td>Armsdale Administration Building, 124 Armsdale Road, Suite B-2, Kittanning, PA 16201</td>
<td>(724) 548-3425</td>
<td>(724) 545-9012</td>
</tr>
<tr>
<td>Carbon Conservation District</td>
<td>5664 Interchange Road, Lehighton, PA 18235</td>
<td>(610) 377-4894 ext. 4</td>
<td>(610) 377-5549</td>
</tr>
<tr>
<td>Beaver Conservation District</td>
<td>156 Cowpath Road, Aliquippa, PA 15001</td>
<td>(724) 378-1701</td>
<td>(724) 857-1044</td>
</tr>
<tr>
<td>Centre Conservation District</td>
<td>414 Holmes Avenue, Suite 4, Bellefonte, PA 16823</td>
<td>(814) 355-6817</td>
<td>(814) 355-8696</td>
</tr>
<tr>
<td>Bedford Conservation District</td>
<td>702 West Pitt Street, Suites 3 and 4, Bedford, PA 15522</td>
<td>(814) 623-8099</td>
<td>(814) 623-0481</td>
</tr>
<tr>
<td>Chester Conservation District</td>
<td>688 Unionville Road, Suite 200, Kennett Square, PA 19348</td>
<td>(610) 925-4920</td>
<td>(610) 925-4925</td>
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<tr>
<td>Berks Conservation District</td>
<td>Agricultural Center, 1238 County Welfare Road, Suite 200, Leesport, PA 19533-0520</td>
<td>(610) 372-4657</td>
<td>(610) 478-7058</td>
</tr>
<tr>
<td>Clarion Conservation District</td>
<td>County Administrative Building, 330 Main Street, Room 9, Clarion, PA 16214</td>
<td>(814) 297-7813</td>
<td>(814) 226-7893</td>
</tr>
<tr>
<td>Blair Conservation District</td>
<td>1407 Blair Street, Hollidaysburg, PA 16648</td>
<td>(814) 696-0877 ext. 5</td>
<td>(814) 696-9981</td>
</tr>
<tr>
<td>Clearfield Conservation District</td>
<td>511 Spruce Street, Suite 6, Clearfield, PA 16830</td>
<td>(814) 765-2629</td>
<td>(814) 765-1336</td>
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<tr>
<td>Bradford Conservation District</td>
<td>301 Main Street, Towanda, PA 18848</td>
<td>(570) 265-1727</td>
<td>(570) 265-1729</td>
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<tr>
<td>Clinton Conservation District</td>
<td>45 Cooperation Lane, Mill Hall, PA 17751</td>
<td>(570) 726-3798</td>
<td>(570) 726-7977</td>
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<tr>
<td>Bucks Conservation District</td>
<td>1456 Ferry Road, Suite 704, Doylestown, PA 18901</td>
<td>(215) 345-7577</td>
<td>(215) 345-7584</td>
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<tr>
<td>Columbia Conservation District</td>
<td>702 Sawmill Road, Suite 204, Bloomsburg, PA 17815</td>
<td>(570) 784-1310</td>
<td>(570) 784-3247</td>
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<tr>
<td>Butler Conservation District</td>
<td>122 McCune Drive, Butler, PA 16001-6501</td>
<td>(724) 284-5270</td>
<td>(724) 285-5515</td>
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<tr>
<td>Crawford Conservation District</td>
<td>Woodcock Creek Nature Center, 21742 German Road, Meadville, PA 16335</td>
<td>(814) 763-5269</td>
<td>(814) 763-1585</td>
</tr>
<tr>
<td>COUNTY CONSERVATION DISTRICT</td>
<td>ADDRESSES (CONTINUED)</td>
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</tbody>
</table>
| **Cumberland Conservation District** | 310 Allen Road, Suite 301  
Carlisle, PA 17013  
Phone: (717) 240-7812  
Fax: (717) 240-7813 |
| **Huntingdon Conservation District** | 10605 Raystown Road, Suite A  
Huntingdon PA 16652-9603  
Phone: (814) 627-1627  
Fax: (814) 627-6831 |
| **Dauphin Conservation District** | 1451 Peters Mountain Road  
Dauphin, PA 17018  
Phone: (717) 921-8100  
Fax: (717) 921-8276 |
| **Indiana Conservation District** | 625 Kolter Drive, Suite 8  
Indiana, PA 15701-3571  
Phone: (724) 471-4751  
Fax: (724) 289-1506 |
| **Delaware Conservation District** | 1521 North Providence Road  
Media, PA 19063  
Phone: (610) 892-9484  
Fax: (610) 892-9489 |
| **Jefferson Conservation District** | 1514 Route 28  
Brookville, PA 15825  
Phone: (814) 849-7463  
Fax: (814) 849-0825 |
| **Elk Conservation District** | Elk County Courthouse Annex  
300 Center Street, P.O. Box 448  
Ridgeway, PA 15853  
Phone: (814) 776-5373  
Fax: (814) 776-5379 |
| **Juniata Conservation District** | 146 Stoney Creek Drive, Suite 4  
Mifflintown, PA 17059  
Phone: (717) 436-8953 ext. 5  
Fax: (717) 436-9128 |
| **Erie Conservation District** | 1927 Wager Road  
Erie, PA 16509  
Phone: (814) 825-6403  
Fax: (814) 825-6033 |
| **Lackawanna Conservation District** | 1038 Montdale Road  
Scott Twp., PA 18447  
Phone: (570) 281-9495  
Fax: (570) 281-9497 |
| **Fayette Conservation District** | 10 Nickman Plaza  
Lemont Furnace, PA 15456  
Phone: (724) 438-4497  
Fax: (724) 437-2914 |
| **Lancaster Conservation District** | 1383 Arcadia Road, Room 200  
Lancaster, PA 17601-3149  
Phone: (717) 299-5361  
Fax: (717) 299-9459 |
| **Forest Conservation District** | 526 Elm Street, Box 3  
Tionesta, PA 16353  
Phone: (814) 755-3450  
Fax: (814) 755-3960 |
| **Lawrence Conservation District** | Lawrence County Government Center  
430 Court Street  
New Castle, PA 16101  
Phone: (724) 652-4512  
Fax: (724) 657-2008 |
| **Franklin Conservation District** | 185 Franklin Farm Lane  
Chambersburg, PA 17202  
Phone: (717) 264-5499  
Fax: (717) 264-5482 |
| **Lebanon Conservation District** | Lebanon Valley Agricultural Center  
2120 Cornwall Road, Suite 5  
Lebanon, PA 17042-9788  
Phone: (717) 272-3908 ext. 4  
Fax: (717) 272-5314 |
| **Fulton Conservation District** | 216 North Second Street, Suite 15  
McConnellsburg, PA 17233  
Phone: (717) 485-3547  
Fax: (717) 485-4423 |
| **Lehigh Conservation District** | Lehigh County Agricultural Center  
4184 Dorney Park Road, Suite 102  
Allentown, PA 18104-5728  
Phone: (610) 391-9583  
Fax: (610) 391-1131 |
| **Greene Conservation District** | Fort Jackson Building, Mezzanine  
19 South Washington Street  
Waynesburg, PA 15370  
Phone: (724) 852-5278  
Fax: (724) 852-5341 |
| **Luzerne Conservation District** | 325 Smiths Pond Road  
Shavertown, PA 18708  
Phone: (570) 674-7991  
Fax: (570) 674-7989 |
<table>
<thead>
<tr>
<th>COUNTY CONSERVATION DISTRICT</th>
<th>ADDRESSES (CONTINUED)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lycoming Conservation District</strong>&lt;br&gt;542 County Farm Road, Suite 202&lt;br&gt;Montoursville, PA 17754&lt;br&gt;Phone: (570) 433-3003 Fax: (570) 433-3907</td>
<td>Philadelphia does not have a conservation district.</td>
</tr>
<tr>
<td><strong>McKean Conservation District</strong>&lt;br&gt;17137 Route 6&lt;br&gt;Smethport, PA 16749&lt;br&gt;Phone: (814) 887-4001 Fax: (814) 887-3234</td>
<td><strong>Pike Conservation District</strong>&lt;br&gt;556 Rt. 402, Suite 1&lt;br&gt;Hawley, PA 18428&lt;br&gt;Phone: (570) 226-8220 Fax: (570) 226-8222</td>
</tr>
<tr>
<td><strong>Mercer Conservation District</strong>&lt;br&gt;24 Avalon Court, Suite 300&lt;br&gt;Mercer, PA 16137&lt;br&gt;Phone: (724) 662-2242 Fax: (724) 662-3905</td>
<td><strong>Potter Conservation District</strong>&lt;br&gt;107 Market Street&lt;br&gt;Coudersport, PA 16915&lt;br&gt;Phone: (814) 274-8411 ext. 4 Fax: (814) 274-0396</td>
</tr>
<tr>
<td><strong>Mifflin Conservation District</strong>&lt;br&gt;20 Windmill Hill, Suite 4&lt;br&gt;Burnham, PA 17009-1837&lt;br&gt;Phone: (717) 248-4695 Fax: (717) 248-6589</td>
<td><strong>Schuylkill Conservation District</strong>&lt;br&gt;1206 Ag Center Drive&lt;br&gt;Pottsville, PA 17901&lt;br&gt;Phone: (570) 622-3742 ext. 5 Fax: (570) 622-4009</td>
</tr>
<tr>
<td><strong>Monroe Conservation District</strong>&lt;br&gt;8050 Running Valley Road&lt;br&gt;Stroudsburg, PA 18360-0917&lt;br&gt;Phone: (570) 629-3060 Fax: (570) 629-3063</td>
<td><strong>Snyder Conservation District</strong>&lt;br&gt;10541 Route 522&lt;br&gt;Middleburg, PA 17842&lt;br&gt;Phone: (570) 837-3000 Fax: (570) 837-7300</td>
</tr>
<tr>
<td><strong>Montgomery Conservation District</strong>&lt;br&gt;143 Level Road&lt;br&gt;Collegeville, PA 19426-3313&lt;br&gt;Phone: (610) 489-4506 Fax: (610) 489-9795</td>
<td><strong>Somerset Conservation District</strong>&lt;br&gt;6024 Glades Pike, Suite 103&lt;br&gt;Somerset, PA 15501&lt;br&gt;Phone: (814) 445-4652 ext. 5 Fax: (814) 445-2044</td>
</tr>
<tr>
<td><strong>Montour Conservation District</strong>&lt;br&gt;14 East Mahoning Street&lt;br&gt;Danville, PA 17821&lt;br&gt;Phone: (570) 271-1140 Fax: (570) 271-1327</td>
<td><strong>Sullivan Conservation District</strong>&lt;br&gt;9219 Route 487, Suite B&lt;br&gt;Dushore, PA 18614&lt;br&gt;Phone: (570) 928-7057 Fax: (570) 928-8258</td>
</tr>
<tr>
<td><strong>Northampton Conservation District</strong>&lt;br&gt;14 Gracedale Avenue – Greystone Building&lt;br&gt;Gracedale Complex&lt;br&gt;Nazareth, PA 18064-9211&lt;br&gt;Phone: (610) 746-1971 Fax: (610) 746-1926</td>
<td><strong>Susquehanna Conservation District</strong>&lt;br&gt;88 Chenango Street&lt;br&gt;Montrose, PA 18801&lt;br&gt;Phone: (570) 278-4600 ext. 280 Fax: (570) 278-9268</td>
</tr>
<tr>
<td><strong>Northumberland Conservation District</strong>&lt;br&gt;441 Plum Creek Road&lt;br&gt;Sunbury, PA 17801&lt;br&gt;Phone: (570) 495-4665 Fax: (570) 988-4488</td>
<td><strong>Tioga Conservation District</strong>&lt;br&gt;50 Plaza Lane&lt;br&gt;Wellsboro, PA 16901&lt;br&gt;Phone: (570) 724-1801 ext. 5 Fax: (570) 724-6542</td>
</tr>
<tr>
<td><strong>Perry Conservation District</strong>&lt;br&gt;31 West Main Street, P.O. Box 36&lt;br&gt;New Bloomfield, PA 17068&lt;br&gt;Phone: (717) 582-8988 ext. 4 Fax: (717) 582-3771</td>
<td><strong>Union Conservation District</strong>&lt;br&gt;155 North 15th Street&lt;br&gt;Lewisburg, PA 17837&lt;br&gt;Phone: (570) 524-3860 Fax: (570) 524-3873</td>
</tr>
<tr>
<td>COUNTY CONSERVATION</td>
<td>ADDRESS DETAILS</td>
</tr>
<tr>
<td>------------------------------</td>
<td>-----------------</td>
</tr>
</tbody>
</table>
| Venango Conservation District| 1793 Cherrytree Road  
Franklin, PA 16323
Phone: (814) 676-2832        |
| Westmoreland Conservation District| 218 Donohoe Road  
Greensburg, PA 15601
Phone: (724) 837-5271        |
| Warren Conservation District | 210 North Drive, Suite E  
Warren, PA 16365
Phone: (814) 726-1441        |
| Wyoming Conservation District| 21 Hollowcrest Complex  
Tunkhannock, PA 18657
Phone: (570) 836-2589        |
| Washington Conservation District| 2800 North Main Street, Suite 105  
Washington, PA 15301
Phone: (724) 705-7098        |
| York Conservation District | 118 Pleasant Acres Road  
York, PA 17402
Phone: (717) 840-7430        |
| Wayne Conservation District | Wayne County Park Street Complex  
648 Park Street  
Honesdale, PA 18431
Phone: (570) 253-0930        |
A. PROJECT NAME: ____________________________ DATE: ____________

1. LOCATION: __________________________________________
   (Municipality) (County)

2. PERSON(S) RESPONSIBLE FOR CONSTRUCTION AND MAINTENANCE OPERATIONS
   AND EROSION AND SEDIMENT POLLUTION CONTROLS:
   Note: List all responsible positions if duties are assigned to more than one party.
   __________________________________________
   (Name)
   __________________________________________
   (Address)
   __________________________________________
   (State) (Zip)
   __________________________________________
   (Signature)
   Telephone #: ( _____ ) _____________________________

3. EROSION AND SEDIMENTATION PLAN PREPARER:
   __________________________________________
   (Name)
   __________________________________________
   (Address)
   __________________________________________
   (State) (Zip)
   __________________________________________
   (Signature)
   Telephone #: ( _____ ) _____________________________

This permit is valid for the following dates: ____________ through ________________
4. **MAPS:** Attach to this plan those maps necessary to show the length of road to be maintained and general topographic features of the area through which the road travels. At a minimum, all streams and other waters of the Commonwealth crossed or located in close proximity to the road must be identified. Type 3 or municipal road maps may be used for this purpose and kept in the County Office. Complete the applicable sections of the following checklist:
   - Work Plan includes projects for the activities noted below.
   - The reference project map is made part of this plan.
   - The location (or road section) of culvert replacement work, tail ditch repairs and similar work are shown on the work schedule.

5. **PROPOSED ALTERATIONS:** Regarding of unpaved shoulders and roadways, replacement of existing pipes, removal of sediment from roadside ditches, restacking of stone endwalls, etc., shall adhere to Department of Transportation performance standards. Maintenance activities under the plan include the following:
   - 711-7112 Unpaved Roads - Shaping
   - 711-7113 Unpaved Roads - Restabilization
   - 711-7136 Pavement Widening
   - 711-7212 Shoulder Grading
   - 711-7213 Shoulder Stabilization
   - 711-7215 Shoulder Cutting
   - 711-7216 Shoulder Upgrading
   - 711-7311 Inlet/Endwall Cleaning
   - 711-7312 Reshaping/Ditch Cleaning
   - 711-7314 Pipe Cleaning
   - 711-7324 Pipe Installation
   - 711-7332 Slope Stabilization
   - 711-7341 Emergency Damage

6. **THE AMOUNT OF RUNOFF FROM PROJECT:** This requirement does not apply to most road maintenance projects. If the project involves significant new areas of earthmoving, or if the maintenance activity is correcting an unstable site condition such as a culvert outlet or drainage ditch, refer to DEP’s Erosion & Sediment Pollution Control Program Manual for plan information and guidance necessary to meet this requirement.

7. **THE STAGING OF EARTHMOVING ACTIVITIES:** The sequencing of earthmoving activities associated with the maintenance project are detailed in the maintenance activity performance standard.
8. TEMPORARY CONTROL MEASURES AND FACILITIES FOR USE DURING EARTHMOVING:
Vegetated areas may be used to filter sediment from runoff from grading, ditch cleaning, and culvert replacements. The length of the vegetated areas must equal or exceed the minimum distance shown in the following table. Other measures, as indicated in the performance standards, must be used when adequate vegetated areas are not available.

<table>
<thead>
<tr>
<th>CROSS SLOPE</th>
<th>MINIMUM DISTANCE TO STREAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:1</td>
<td>50</td>
</tr>
<tr>
<td>5:1</td>
<td>65</td>
</tr>
<tr>
<td>4:1</td>
<td>85</td>
</tr>
<tr>
<td>3:1</td>
<td>105</td>
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<tr>
<td>2:1</td>
<td>125</td>
</tr>
<tr>
<td>1:1</td>
<td>135</td>
</tr>
</tbody>
</table>

Temporary measures may be removed when upstream areas are stabilized.

9. PERMANENT CONTROL MEASURES: Where above standards cannot be met or field conditions indicate severe erosion problems, permanent control measures may require on a site specific basis.

10. A MAINTENANCE PROGRAM FOR THE CONTROL FACILITIES INCLUDING DISPOSAL OF MATERIALS REMOVED FROM THE CONTROL FACILITIES OR PROJECT AREA:
Erosion and sediment pollution control measures and facilities will be checked periodically. Necessary maintenance work will be performed as required by the Performance Standards to keep the measure or facility in operating condition.

11. OTHER EARTH DISTURBANCE PERMIT:
DEP regulations require earth disturbance permits for projects involving more than 25 acres of earth disturbance. For example, 10.5 miles of unpaved forest roads, with an average of 19.5 feet would equal 25 acres. If the total length of unpaved road to be maintained results in more than 25 acres of earth disturbance, the project must be divided into sections of less than 25 acres. The limits of the sections must be shown on the attached maps. All work, including culvert replacements, tail ditch construction, etc., must be completed and any required interim stabilization measures or facilities must be in place before any work on an adjoining section may begin.
EXHIBIT 7B

Exhibit 7B – Townships/Property Owners

Process Flow Chart for the Installation and Replacement of Drainage Facilities

Are there one-time alternative dollars (Federal, State, Local, Private) that will install or replace the enclosed surface water drainage facility?¹

Yes

Is it necessary to install or replace the enclosed surface water drainage facility in order to complete project?²

No

Is it feasible to remove enclosed surface water drainage facility and replace with alternatives?³

No

Don't install or replace enclosed surface water drainage facility

Yes

Is the enclosed surface water drainage facility a safety² concern?

No

Don't replace enclosed surface water drainage facility

Yes

Is the enclosed surface water drainage facility a structural concern?⁴

No

There is a lack of capacity or concentrated runoff concern.

There is a lack of capacity or concentrated runoff concern.

Send Initial Notice and Intent to Bill (Exhibit 12 or alternate letters in Pub. 23) to property owner and letter to local government (Exhibit 14)

No

Will the property owner or local government fix at their expense?

Yes

Coordinate enclosed surface water drainage facility replacement

No

Send the Second and Final Notice and Intent to Bill and schedule the replacement (Exhibit 15)

See Exhibit 6 for billing process

Notes:

1. The District Executive, within early planning stages, has the authority to request local cost sharing
2. A safety concern is noted as a pavement surface condition requiring immediate attention
3. If safety concern is an emergency and within travel lanes, erect traffic control devices, reroute traffic, and replace
4. If a project includes a storm water basin, District Environmental Manager updates state-wide database
5. Alternative installations include grass swales, infiltration trench, etc.
**EXHIBIT 8**

**SURFACE WATER DRAINAGE FACILITY BILLING PROCESS**

**INPUT:**
- Phone call from property owner
- Phone call via 1-800-FIX-ROAD
- Discovered via routing maintenance trips
- Press office receives notification *(Note: By issuance of the policy the WBS charge code will get entered into the Foreman’s Manual)*

1. **District/County Maintenance Unit**
   - Receives input
   - Notifies District Office

2. **District Office**
   - Receives call/email
   - Performs field investigation
   - Determines responsible party for repairs
   - Meets with responsible party to discuss findings
   - Sends meeting follow up letter to responsible party (DE does this)
   - Follows up with notification provider

3. **Responsible Party**
   - Receives letter or exceeds required response time
   - Sends second letter to responsible party indicating PennDOT will complete repairs and bill responsible party *(Note: BOMO, BFM and County receive copy of letter)*
   - Notifies District Maint. Mgr. to schedule repairs

4. **District Office DE**
   - Receives call/email
   - Determines costs for repairs
   - Set up SAP Plan Maintenance work order.
   - Notifies DOFO via email costs to bill responsible party

5. **Assistant County Maintenance Mgr.***
   - Receives email
   - Completes FB 70 indicating SAP code from BFM
   - Completes invoice containing detail information including payment should be sent to Comptroller
   - Generates invoice
   - Mails invoice to responsible party for payment, starts 45-day dunning.
   *(Note: BOMO, (Chief, MTLD) receives copy of invoice)*

6. **District Office Fiscal Officer**
   - Receives email
   - Completes FB 70 indicating SAP code from BFM
   - Completes invoice containing detail information including payment should be sent to Comptroller
   - Generates invoice
   - Mails invoice to responsible party for payment, starts 45-day dunning.
   *(Note: BOMO, (Chief, MTLD) receives copy of invoice)*

7. **Responsible Party**
   - Receives invoice
   - Sends payment to Comptroller

* Work completed during this phase.
EXHIBIT 8

SURFACE WATER DRAINAGE FACILITY BILLING PROCESS

1. Receives payment
2. Sends transmittal to Revenue
3. Updates SAP
   (Note: If payment not received
   BFM takes appropriate action
   via Dunning notice process)

Output: Invoice resolved

1. Receives transmittal
2. Processes transmittal

Revenue

1. Receives update
2. Processes update

SAP Plant
Maintenance

1. Determines payment
   past due (typically 45 days)
2. Dunning notice sent to
   responsible party on next
day and addresses
   delinquent bills at least
   thrice more in accord with
   the dunning cycle of
   45/90/120
3. After dunning cycle efforts
   have been exhausted, refer
   delinquent claims to OCC.

BFM

1. Receives delinquent claim
2. Meets with BOMO to
   discuss invoice resolution
   (Note: Resolution can be
   to write off costs,
   compromise amount due,
   or take legal action)

Output: Invoice
Paid

OCC

1. Receives delinquent claim
2. Meets with BOMO to
   discuss invoice resolution
   (Note: Resolution can be
   to write off costs,
   compromise amount due,
   or take legal action)

Write Off/
In Part

14 OCC

1. Prepare STD-199
   From and forward
   to OAG

NOTE: As part of the Quality Assurance process BOMO will
create a Business Warehouse Report for monitoring purposes

KEY:
BFM - Bureau of Fiscal management
BOMO - Bureau of Maintenance and Operations
DE - District Executive
DOFO - District Office Fiscal officer
OCC - Office of Chief Counsel
WBS - Work Breakdown Structure
OAG - Office of the Attorney General
EXHIBIT 8

SURFACE WATER DRAINAGE FACILITY BILLING PROCESS

MAP KEY

- A function within the control of the Department of Transportation
- A function outside the control of the Department of Transportation
- Electronic processing or input into an electronic system
- Electronic notification i.e. email

Hand-off Text
- The item transferred between functional groups. Hand-offs may take several forms as they move through the process

Key Control Point Text
- An action critical to the completion of the process. An action that determines if the process continues

A time reference; a task that must be completed within a certain time period

Note: The Unit Manager or Counselor must enter tentative approval date into IRSS within 3 days of approval
IN REPLY REFER TO

___________________________County
S.R.__________, Seg. ___________, Offset__________
___________________________Borough/City

Pavement Surface Condition Repair

TO: ____________________________________________

Dear ___________________________________

The Department of Transportation has identified a pavement surface condition caused by your drainage facility at _______________[LOCATION]________________. This condition presents a safety concern to the motoring public. Although the facility is located within State right-of-way, maintenance is your responsibility in accordance with the State Highway Law.

We therefore request that you repair the enclosed surface water drainage water facility by ___ [DATE]___. If you refuse, the Department may schedule the repairs and bill you for cost.

Please respond in writing with your intent by ___ [DATE]___, and contact the District Permit Manager at _________________ for any needed permits. We have also attached copies of the referenced State Highway Law. Should you have any questions concerning this matter, please contact the District Permit Manager.

Very truly yours,

__________________________________________

cc:    Chief, Maintenance Technical Leadership Division
[Optional: Send certified mail, return receipt requested.]
Attachments [attach Exhibits 1 and 2]
<table>
<thead>
<tr>
<th>EXHIBIT 10</th>
</tr>
</thead>
</table>

**NOTE: CITY OF PHILADELPHIA AND PITTSBURGH ONLY**

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

IN REPLY REFER TO
______________________________County
S.R.__________, Seg. __________, Offset__________
__________________________________________ City

Enclosed Surface Water Drainage Facility Repair

TO: ______________________________________

Dear ____________________________________:

The Department of Transportation is developing designs for ______ [PROJECT] ______ and is willing to replace the enclosed surface water drainage facility at ______ [LOCATION] ______. Since funding is available and allowable for pipe design and construction, the Department is prepared to replace the facility at no cost to ______ [CITY] ______. Although this is a Department project and within State right-of-way, the future maintenance is the City’s responsibility in accordance with the State Highway Law. You must respond via written communication by ___ [DATE]___ accepting future maintenance of the enclosed surface water drainage facility in order for the Department to replace the enclosed surface water drainage facility as part of this project. Should you choose not to respond or do not accept future maintenance responsibility, the enclosed surface water drainage facility will not be replaced, and the Department will reallocate funding accordingly

Please see the attached documents outlining the maintenance responsibilities found within the State Highway Law. Should you have any questions concerning this matter, please contact the District Permit Manager at ________________________.

                                  

Very truly yours,

____________________________________________

cc: Chief, Maintenance Technical Leadership Division
[Optional: Send certified mail, return receipt requested.]
Attachments [attach Exhibits 1 and 2]
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

IN REPLY REFER TO
___________________________________________County
S.R._________, Seg. ___________, Offset__________
______________________________________ Borough/City

Pavement Surface Condition Repair
SECOND AND FINAL NOTICE

TO: ____________________________________:

Dear ____________________________________:

Our letter dated ____[DATE]____ notified you that the pavement surface condition caused by your drainage facility at _______[LOCATION]_______ is a safety concern due to its condition. In that referenced letter, we requested that _______[MUNICIPALITY]_______ repair it. Maintenance is your responsibility under the State Highway Law even though the facility is located within State right-of-way. To date, you have not made the needed repairs.

We have therefore elected to make the repairs and bill you for the cost in order to protect the integrity of the highway and preserve public safety. [PICK ONE STATEMENT: “This project has been contracted and _______[MUNICIPALITY]_______ is responsible for the total contract cost.” OR “This project will be completed by Department forces and will be billed to _______[MUNICIPALITY]_______ based on actual cost.”] Repairs are schedule to begin on ____[DATE]____.

Should you have any questions concerning this matter, please contact the District Permit Manager at ______________________.

Very truly yours,

____________________________________________

cc: Chief, Maintenance Technical Leadership Division
[Optional: Send certified mail, return receipt requested.]
IN REPLY REFER TO
________________________________________County
S.R.________, Seg. __________, Offset________
_________________________________________ Township

Concentrated Storm Water Runoff Problems

TO:____________________________________________

Dear ____________________________________:

The Department of Transportation has identified serious drainage problems at the above-referenced location requiring your immediate action. We have determined that resulting concentrated runoff directed onto the State right-of-way causes flooding during rain events, which in turn creates a potentially unsafe condition for the traveling public.

It is apparent that earthwork on your property altered the existing drainage facilities and water courses in this area. (If applicable: The earthwork creates a hazard to public safety as confirmed by the Department records, including crash summary history revealing that [NUMBER] reportable crashes occurred in the area during snow or wet conditions.) Directing runoff other than sheet flow onto a State highway without first obtaining a permit is a violation of the Pennsylvania State Highway Law, 1945, Sections 417, 420 and 421, and Department regulations found at 67 Pa. Code Chapter 441. Specifically, you may not alter the flow of water to or from a State highway without authority of the Department under a Highway Occupancy Permit (HOP), and it is unlawful to direct the discharge of drainage onto or within the legal limits of a State highway.

Therefore, you must remedy the above referenced violation on or before ____[DATE]____ as stated in the attached citation. A HOP issued by the Department is required to conduct the required work within the legal limits of the State highway.

Failure to inform _______[MAINTENANCE CONTACT]______, of your plan within 30 days and apply for and obtain a HOP if work is required within the right-of-way may subject you to legal action.

Moreover, on or after ____[DATE]____ if you have not obtained a HOP to remedy this situation, the Department may elect to perform the minimum essential work in the State highway and on your property to abate and remedy the situation at your sole cost and expense. You will be invoiced for all the Department’s costs, expenses and overhead.

Very truly yours,

____________________________________________

cc: [LOCAL GOVERNMENT]
Chief, Maintenance Technical Leadership Division
[Optional: Send certified mail, return receipt requested.]
IN REPLY REFER TO
___________________________________________County
S.R.___________, Seg. ______________, Offset___________
______________________________________ Borough/City
Enclosed Surface Water Drainage Facility Replacement

TO: ______________________________

Dear ______________________________:

The Department of Transportation is preparing plans for ______[PROJECT]_______ and will be replacing the enclosed surface water drainage facilities along ______[LOCATION]________. Funding for this project utilizes appropriated funding for design and construction - no money will be available for future maintenance of these facilities. Although this is a Department project and within State right-of-way, the future maintenance is the responsibility of the local government in accordance with the State Highway Law.

For your reference, please see the attached documents outlining the maintenance responsibilities found within the State Highway Law. These responsibilities can also be confirmed within the 2007 Transportation Advisory Committee Report on Storm Water Facilities on State Highways (ftp://ftp.dot.state.pa.us/public/Bureaus/Cpdm/TAC/, then click on Storm Water Facilities on State Highways Final Report). Should you have any questions concerning this project, please contact the District Permit Manager at ________________________.

Very truly yours,

____________________________________________

cc: Chief, Maintenance Technical Leadership Division
[Optional: Send certified mail, return receipt requested.]
Attachments (attach Exhibits 1 and 2)
IN REPLY REFER TO  
  _____________________________County
  
S.R._________, Seg. _____________, Offset___________
  _____________________________ Township/City/Borough

Concentrated Storm Water Runoff Problems

TO: ________________________________

Dear ______________________________:

This letter is to inform you of concentrated storm water runoff problems at the above location. The Department has informed the property owner, _______[PROPERTY OWNER]_______, of the issue. It is apparent that earthwork on the property altered the existing drainage facilities and water courses in this area. The direction of runoff other than sheet flow onto a State highway is a violation of the State Highway Law, 1945, Sections 417, 420 and 421, and Department regulations found at 67 Pa. Code Chapter 441. Specifically, a property owner may not alter the flow of water to or from a State highway without authority of the Department under a Highway Occupancy Permit (HOP), and it is unlawful to direct the discharge of drainage onto or within the legal limits of a State highway.

The property owner has been directed to correct the problem before ____[DATE]____ through the Department’s HOP process. Should you have any questions concerning this matter, please contact the District Permit Manager at ________________________.

Very truly yours,

____________________________

cc: Chief, Maintenance Technical Leadership Division
[Optional: Send certified mail, return receipt requested.]
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

IN REPLY REFER TO
___________________________________________County

S.R.___________, Seg. ____________, Offset____________
_____________________________________________ Township/Borough/City

Concentrated Storm Water Runoff Problems
SECOND AND FINAL NOTICE

TO: ________________________________________

Dear ____________________________________:

Per our letter dated ____[DATE]____, the Department of Transportation has notified you of a pavement surface condition at _______[LOCATION]______ as a safety concern due to its condition. It is apparent that earthwork on your property altered the existing drainage facilities and courses in this area. The Department on [DATE] requested you remedy the situation and since you have not acted upon this request, the Department will perform the essential work in the State Highway Right-of-Way and on your property and you will be billed based on actual cost. Repairs are scheduled to begin on ____[DATE]_____. Should you have any questions concerning this matter, please contact the District Permit Manager at ____________________________.

Very truly yours,

____________________________________________

cc: [LOCAL GOVERNMENT]
Chief, Maintenance Technical Leadership Division
[Optional: Send certified mail, return receipt requested.]
IN REPLY REFER TO
__________________________________________County
S.R.___________, Seg. ____________, Offset___________
_________________________________________ Township

Future Maintenance Responsibilities of Enclosed Surface Drainage Facility

TO: ________________________________________

Dear ____________________________________:

Through previous correspondence, PennDOT has expressed interest in removing the enclosed surface water drainage facility at ______[LOCATION]_______ and replacing it with an alternative installation to eliminate maintenance responsibilities. This letter is to inform you of your maintenance responsibilities of the enclosed surface water drainage facility since you preferred to have these facilities installed rather than utilize alternative installations. Although the facility is within State right-of-way, the maintenance is the Township’s responsibility in accordance with the State Highway Law.

Should you have any questions concerning this matter, please contact me at ________________________.

Very truly yours,

____________________________________________

cc: Chief, Maintenance Technical Leadership Division
[Optional: Send certified mail, return receipt requested.]
Attachments [attach Exhibits 1 and 2]
## ILLEGAL DISCHARGE REPORTING FORM

### Inspector Information

**Name:**

**Contact Phone Number:**  
Date and Time Discharge Discovered:

### Discharge Information

<table>
<thead>
<tr>
<th>PID Identification Number:</th>
<th>COUNTY</th>
<th>SR</th>
<th>SEGMENT</th>
<th>OFFSET</th>
</tr>
</thead>
</table>

#### (1) Owner Name/Address:

City/Boro/Twp:  
Nearest Intersection/Landmark:

GPS location, if known:

**Lat:**

**Long:**

#### How Long since Last Rainfall:

- [ ] Raining Now
- [ ] 0-2 Days
- [ ] 3 or more Days

#### Nature of Discharge or Flow:

- [ ] Solid (Continuous)
- [ ] Intermittent (Occasional)
- [ ] Pulsing (Fluctuating)
- [ ] Transitory (Prior Spill)

#### If possible, identify the source of the discharge*

- [ ] Pipe Outfall
- [ ] Gutter
- [ ] Sanitary Sewer
- [ ] Ditch
- [ ] Septic System
- [ ] Spill
- [ ] Storm Sewer
- [ ] Other:

* Add descriptions of discharge/source to Field Photograph Log Sheet

#### Potential for Discharge to enter into:

- [ ] Stream/Water Body
- [ ] Wetland
- [ ] Storm Drain

#### Was water flow observed?  
- [ ] Yes
- [ ] No

#### Direct Connection to pipe/inlet?  
- [ ] Yes
- [ ] No

#### Was a photo taken?  
- [ ] Yes
- [ ] No

If yes, attach photos.

#### (2) Describe Odor:

- [ ] None
- [ ] Musty
- [ ] Rotten Eggs (Sulfur)
- [ ] Rancid/Sour Milk
- [ ] Sewage
- [ ] Gas/Petroleum
- [ ] Cooking Oil
- [ ] Other:

#### (2) Describe Clarity:

- [ ] Clear
- [ ] Cloudy
- [ ] Opaque
- [ ] Sheen
- [ ] Gray

#### (2) Describe Color:

- [ ] Red
- [ ] Yellow
- [ ] Brown
- [ ] Green
- [ ] Gray
- [ ] White
- [ ] Other:

#### (2) Solids/Floatables:

- [ ] Garbage
- [ ] Sewage
- [ ] Tissue
- [ ] Oil Sheen
- [ ] Suds
- [ ] Scum
- [ ] Iron Sheen
- [ ] Unknown

Additional Information to assist in the Investigation (Vegetation Impacts?):

Describe Upstream/Source Origin/Land Use:

- [ ] Forest
- [ ] Ag
- [ ] Res
- [ ] Farmstd
- [ ] Com
- [ ] Ind
- [ ] Vac
- [ ] Inst
- [ ] Muni
- [ ] Mng

SEMP Mgr. Send completed form to:  
Pdot-idde@pa.gov

### Follow-up Investigation (to be completed by BOMO staff)

<table>
<thead>
<tr>
<th>Outfall Location:</th>
<th>Within UA?:</th>
<th>Y / N</th>
<th>County</th>
</tr>
</thead>
</table>

**FIELD ANALYSIS:**

- **Odor:** Solids/Floatables:  
- **Clarity:** Sheen/Scum:  
- **Color:** Condition of Vegetation:  
- **Comments:** (Immediate Environmental Concern? Y / N)

**DATE:**  
**Inspection Name:**  
Additional notes to file:

Follow-up with Complainant:  
Send Confirmed ID Elimination/Removal Letter:
WHAT IS AN ILLICIT DISCHARGE:
An illicit discharge is any discharge into the highway storm sewer system that is not composed entirely of stormwater. Examples:
- Dry weather discharges of wastewater into the storm sewer system from illegal dumping; spills and other non-stormwater pollution sources
- Discharges of pollutants, contaminants or illicit materials into storm drainage/sewer systems (oil, grease, solvents, metals, nutrients, toxics, viruses, bacteria)
- Improper antifreeze, oil disposal from vehicle maintenance, service stations
- Vehicle washing wastewaters
- Plating shop waste water
- Manufacturers waste water
- Private service agencies waste water
- Wholesale/retail est. waste water
- Sanitary wastewater/connections
- Mobile rug cleaning waste dumping
- Laundry waste waters
- Disposal of auto/household toxics
- Vehicular/accidental spills
- Dairy barn waste waters
- On-lot disposal system- sewage effluent.

WHAT IS NOT AN ILLICIT DISCHARGE:
The following non-stormwater discharges are not illicit discharges:
- Discharges from firefighting activities
- Potable water sources including dechlorinated waterline and fire hydrant flushings
- Irrigation drainage
- Lawn watering
- Water from individual residential car washing
- Dechlorinated swimming pool discharges
- Water from crawl space pumps
- Uncontaminated water from foundation or footing drains
- Routine external building wash down which does not use detergents or other compounds
- Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless spilled material has been removed) and where detergents are not use
- Air conditioning condensate
- Springs
- Uncontaminated groundwater

(1.) Property Owner Information:
Determine property owners name, if available, and street address of the discharge source in the event that follow-up action or elimination is required. If unable to determine owner, write in “undetermined”.

(2.) Description of Discharge for source identification/verification.
- Odor: Determine which odors apply.
- Clarity: How clear is the discharge?
- Color: Discharge color and colors in swale, pipe, ditch, etc. (Document if red/green deficient)
- Solids/Floatables: Identify indicators of source.
- Description of Solids/Floatables: Iron vs. Oil Sheens: Iron leaches from soils forming a breakable sheen on stagnant water surfaces when poked with a stick. Oil sheens will conform around and coat the surface of the stick.

INSTRUCTIONS TO COMPLETE ILLICIT DISCHARGE (PID) REPORTING FORM

EXHIBIT 17
SENt REGULAR AND CERTIFIED MAIL

[Insert Name and Address of Property Owner]

Re: Unlawful Discharge

Dear [Mr. and/or Ms. Property Owner]:

The Department has detected a discharge via an unauthorized connection to the State highway’s drainage system. This discharge appears to be originating from your property onto property owned by the Commonwealth. [Include a description of the location of the discharge and the characteristics of the discharge.]

This discharge violates provisions of the Pennsylvania Clean Stream Law and the U.S. Clean Water Act. The Department is requesting that you eliminate the unauthorized connection to the State highway’s drainage system and the discharge immediately.

You have fifteen (15) days from the date of this letter to remove the unauthorized connection to the State highway’s drainage system and eliminate the discharge or to respond to this letter with a plan for the prompt removal of the connection and elimination of the discharge. If you fail to respond to this letter, refuse to eliminate the connection and discharge, or fail to promptly eliminate the connection and discharge, Department is obligated to refer this matter to the Pennsylvania Department of Environmental Protection (DEP) and other appropriate authorities for enforcement under the applicable environmental laws.

As PennDOT is required to maintain documentation, please respond in writing of your intentions to [Insert address].

Sincerely,

District Executive

cc: [ADE Maintenance]  
[Central Office SEMP]  
[District SEMP Coordinator]
SENt REGULAR AND CERTIFIED MAIL

[Insert Name and Address of Property Owner]

Re: Unlawful Discharge

Dear [Mr. and/or Ms. Property Owner]:

The Department has detected a discharge which appears to be originating from your property onto property owned by the Commonwealth. [Include a description of the location of the discharge and the characteristics of the discharge.]

This discharge violates provisions of the Pennsylvania Clean Stream Law and the U.S. Clean Water Act. The Department is requesting that you eliminate the discharge immediately.

You have **fifteen (15) days** from the date of this letter to eliminate the discharge or to respond to this letter with a plan for the prompt elimination of the discharge. If you fail to respond to this letter, refuse to eliminate the discharge, or fail to promptly eliminate the discharge, the Department is obligated to refer this matter to the Pennsylvania Department of Environmental Protection (DEP and other appropriate authorities for enforcement under the applicable environmental laws.

As PennDOT is required to maintain documentation, please respond in writing of your intentions to [Insert address].

Sincerely,

District Executive

cc: [ADE Maintenance]
    [Central Office SEMP]
    [District SEMP Coordinator]
PennDOT MS4 Potential Illicit Discharge Detection and Elimination Reporting Process